

ADF TRAINING
IN AUSTRALIA'S
MARITIME
ENVIRONMENT

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ADF TRAINING IN AUSTRALIA'S MARITIME ENVIRONMENT

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

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

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Papers in Australian Maritime Affairs

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

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Foreword

The aim of the 2004 Maritime Studies Seminar on Australia Defence Force (ADF) Training in Australia's Maritime Environment was to provide participants with a better understanding of:

- environmental legislation and ADF capability requirements affecting maritime training
- the impact of legislation on the nature of ADF training
- how the impact of ADF training on the environment can be minimised
- the potential for further work in these areas.

Jervis Bay was chosen as a case study to encourage discussion about how Defence activities can be successfully conducted with due regard for the values and constraints of marine and terrestrial national parks, and the needs and aspirations of the local community. Jervis Bay is a most complex location in terms of environmental management. Lessons learned there from managing Defence activities in an environmentally sustainable manner will provide important guidance for the sustainable conduct and improvement of ADF training and exercise activity management in other regions.

Speakers and participants included representatives from other government departments and agencies, legislators and administrators, academics and interest groups. In order to ensure the objectivity of the proceedings, the seminar program was arranged by the Centre for Maritime Policy (CMP) at the University of Wollongong, with the Sea Power Centre - Australia sponsoring the Seminar and providing support and coordination of Defence activities.

Even with rigorous debate and discussion of the above issues, there are still more questions than answers on how Defence activities may impact on the maritime environment in the future and how this can, and should, be dealt with. The issue of protecting the maritime environment is going to become increasingly important for both the RAN and the wider community both nationally and internationally. The insights obtained during this Seminar should therefore be regarded as a starting point for ongoing analysis in the coming years.

Captain Richard M. McMillan, CSC, RAN

Director

Sea Power Centre - Australia

October 2006

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Acknowledgments

The chapters in this book originated from the Royal Australian Navy's Maritime Studies Seminar held at University House, Australian National University, Canberra on 22 October 2004.

The opinions expressed in this book are entirely the views of the individual authors. They do not represent any official position of the Department of Defence or the Royal Australian Navy.

Chapters 2 - 9 inclusive are formal papers based on the presentations given by the respective authors at the Seminar, while the remaining chapters are adapted from transcriptions of the actual presentations.

In addition, the editors would like to thank the Australian Conservation Foundation, David Kidd and Mark Farrell for allowing their photographs to be included in this work. The image on page 56 was provided by the NSW Marine Parks Authority. All other images were provided by the Department of Defence and the Royal Australian Navy.

Abbreviations

ACF	Australian Conservation Foundation
ADF	Australian Defence Force
AQIS	Australian Quarantine & Inspection Service
CMP	Centre for Maritime Policy
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DMO	Defence Materiel Organisation
DSTO	Defence Science & Technology Organisation
EAXA	East Australia Exercise Area
ECC	Environmental Certificates of Compliance
EEZ	Exclusive Economic Zone
EMP	Environmental Management Plan
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
ESD	Ecologically Sustainable Development
GBRMPA	Great Barrier Reef Marine Park Authority
GBRMPA Act	<i>Great Barrier Reef Marine Park Authority Act 1975</i>
ha	hectare
HMAS	Her Majesty's Australian Ship
HMS	Her Majesty's Ship
IFAW	International Fund for Animal Welfare
IMO	International Maritime Organization
IMPs	Introduced Marine Pests
IUCN	The World Conservation Union
IUU	Illegal, Unregulated and Unreported (fishing)
JBMP	Jervis Bay Marine Park
JBRF	Jervis Bay Range Facility
km	kilometre
KNP	Kakadu National Park
LCH	Heavy Landing Craft
MARPOL	Maritime Pollution
MOU	Memorandum of Understanding
MPA	Marine Parks Authority
NEPM	National Environment Protection Measures

NGO	Non-government Organisation
NSW	New South Wales
OOW	Officer of the Watch
POM	Plan of Management
RAAF	Royal Australian Air Force
RAN	Royal Australian Navy
RN	Royal Navy
SAS	Special Air Services
Sea Dumping Act	<i>Environment Protection (Sea Dumping) Act 1984</i>
SPC-A	Sea Power Centre - Australia
TBT	Tributyl Tin
UK	United Kingdom
UN	United Nations
USN	United States Navy
UNCLOS	United Nations Convention on the Law of the Sea
WAXA	West Australia Exercise Area
WBACC	Wreck Bay Aboriginal Community Council
WDSC	Whale and Dolphin Conservation Society

Notes on Contributors

Mr Grahame Byron is the Manager, Coast and Marine Conservation Branch, Department for Environment and Heritage, South Australia. His previous position was as the Manager, Jervis Bay Marine Park, NSW Marine Parks Authority. He has over 20 years experience in marine protected area management, including 14 years in connection with the Great Barrier Reef working for both Commonwealth and State governments. Grahame has had considerable international experience in establishing and managing marine parks in Vietnam, Malaysia, Indonesia, the Seychelles and Kenya.

Ms Frances Clements is the Marine Park Ranger for Jervis Bay Marine Park. Before moving into marine protected area management, Frances' background was in national park management, mainly around Sydney Harbour. She has been at Jervis Bay since the inception of the marine park in 1998.

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

Dr Marcus Haward is Head, School of Government at the University of Tasmania, Hobart. Dr Haward also holds a position in the Institute of Antarctic and Southern Ocean Studies, and is a Program Leader, Policy Program, Antarctic Climate and Ecosystems Cooperative Research Centre, University of Tasmania. Dr Haward's research interests include fisheries management and marine and oceans policy and governance. His current research includes work addressing illegal, unregulated and unreported (IUU) fishing and the role of trade and market instruments in fisheries management. He has authored, co-authored or edited seven books and over 75 papers and book chapters.

Professor Stuart Kaye is Dean of the University of Wollongong's Law Faculty. He has studied at the University of Sydney, winning the Law Graduates' Association Medal, and Dalhousie University, where he completed a doctorate in 1999. He has previously worked at James Cook University and the University of Tasmania. He is admitted as a solicitor of the Supreme Court of New South Wales, a barrister of the Supreme Courts of Tasmania and Queensland, and of the High Court of Australia. He is on Editorial Boards of *Ocean Development and International Law* and the *Antarctic and Southern Ocean Law and Policy Occasional Papers*. He is also a member of the advisory board of the Asia-Pacific Centre for Military Law at the University of Melbourne, and is a legal

officer in the Royal Australian Navy Reserve. Stuart has an extensive research interest in the law of the sea and international law generally, and has published extensively in those areas. In 1995 he was appointed to the International Hydrographic Organisation's Panel of Experts on Maritime Boundary Delimitation. He has undertaken consulting work in the public and private sectors in the context of both living and mineral resource exploitation, navigation and marine environmental protection, and in 2000 he was appointed by the Australian Government to the List of Arbitrators under the 1991 Madrid Protocol to the Antarctic Treaty.

Commander Charles McHardie, RAN graduated from the Royal Australian Naval College in 1987. He then served in HMA Ships *Jervis Bay*, *Stalwart*, *Parramatta*, *Tobruk* and *Hobart*. He subsequently served as navigation and seamanship instructor at HMAS *Creswell* before being posted to the United States Naval Academy in 1993. While on exchange he graduated with distinction from the US Naval War College Command and Staff Course in 1995. He then undertook Principal Warfare Officer training at HMAS *Watson*, graduating as a surface warfare officer. After warfare postings in HMA Ships *Sydney* and *Perth* as a lieutenant commander, he joined Maritime Headquarters as Fleet Communications Officer until September 2001, when he was appointed as Executive Officer of HMAS *Sydney*. This posting included two operational deployments to the Arabian Gulf in support of Operations ENDURING FREEDOM and IRAQI FREEDOM, during which time he was promoted to commander. He then rejoined Maritime Headquarters in November 2003 as Commander Plans and subsequently graduated from the University of New South Wales with a Masters of Science (Information Technology) degree in December 2004.

Captain Richard McMillan, CSC, RAN is an Anti-Air Warfare sub-specialist, having completed the Royal Navy's Principal Warfare Officer course in 1983. He commanded HMAS *Sydney* between December 1993 and July 1995. His shore postings have included service on the Directing Staff of the RAN Tactical School (Sydney, 1986), as Fleet Direction Officer in Maritime Headquarters (Sydney, 1987–88), and, on promotion to Commander, as a Deputy Director in Operations Division, Headquarters Australian Defence Force (Canberra, 1990–93). Commander McMillan served as the *Anzac* class Operational Test Director in late 1995 before returning to Canberra to attend the Joint Services Staff College in the first half of 1996. He served as Deputy Director Capability Analysis and then Director Maritime Support Development in Defence Headquarters, before being posted as Staff Officer (Operations) to the Vice Chief of the Defence Force from December 1998 to May 2000. On promotion to captain, he served as Chief of Staff of the Submarine Capability Team before attending the Defence and Strategic Studies Course in 2001 and attaining a Master of Arts in Strategic Studies through La Trobe University. Captain McMillan was the first Chief Staff Officer (Operations) of Australian Navy Systems Command from December 2001 until becoming Director of the Sea Power Centre - Australia, on 23 February 2004.

Rear Admiral Rowan Moffitt, AM, RAN was born and schooled in Sydney, and graduated from the Royal Australian Naval College, Jervis Bay, at the end of 1975. After seaman officer training and several postings at sea and ashore as a junior officer, he undertook specialist surface warfare and navigation training in England and Australia in the mid 1980s. This was followed by various postings aboard the guided missile destroyers HMA Ships *Brisbane* and *Hobart*, and as the Commanding Officer of the newly commissioned frigate HMAS *Newcastle* in mid 1993. He was then head of the Warfare Faculty at the RAN Surface Warfare School until promotion to captain at the end of 1995. As a captain he had a lengthy tour as the Fleet Operations Officer, a year of study for a Masters in Business Administration and a second period in command of HMAS *Brisbane*. He was promoted to commodore at the end of 1999 and served as the Director General Navy Capability Management in Navy Headquarters, then as Commandant of the Australian Defence Force Warfare Centre at RAAF Base Williamstown. Promoted to rear admiral in mid-2002, he was the Deputy Chief of Navy for two years before serving as Maritime Commander Australia. He was appointed a Member of the Order of Australia in the Queen's Birthday 2004 Honours List and assumed the position of Deputy Chief of Joint Operations at Headquarters Joint Operations Command in July 2005.

Mr Chris Smyth is the Marine Campaign Coordinator at the Australian Conservation Foundation (ACF) where he has focused on the establishment of marine protected areas, ecosystem-based regional marine planning and national legislative reform. Prior to working at the ACF, Chris spent three years at the Victorian National Parks Association, coordinating its campaign for marine national parks in Victoria.

Mr Scott Suridge is currently the Park Manager of Booderee National Park (Jervis Bay). Prior to this he held two positions in Kakadu National Park (KNP) for a period of six years: one as the officer in charge for field operations for the southern section of KNP, the other as Chief Ranger for the Jim Jim Falls District. Scott has 20 years experience working with Aboriginal organisations, principally in connection with protected area and conservation management. His main interest is in capacity building and the development of local communities, and continuing to support and develop the park management aspirations of the local Wreck Bay Aboriginal Community at Jervis Bay. His qualifications include a Bachelor of Applied Science (Parks and Conservation Management).

Mr Colin Trinder is the Director, Environmental Stewardship in the Department of Defence. He has worked in a variety of operational and policy areas of government for more than 23 years – principally in environmental and resource management fields. Prior to joining Defence he worked for the Great Barrier Reef Marine Park Authority (GBRMPA) for 13 years in policy and management roles supporting the development of sustainable-use management concepts for the protection of the marine environment of the Great Barrier Reef. Since joining Defence in 2001 he has led the development of corporate level environmental policy and helped implement the environmental management program. Key achievements relevant to the marine environment have

included: raising the profile of environmental management within the Defence portfolio generally; the development of risk-based environmental plans and procedures governing the conduct of Defence activities in the marine environment; and the introduction of a Defence-wide system for obtaining approval for activities and exercises under the Federal *Environment Protection and Biodiversity Conservation Act 1999*.

Captain Greg Yorke, RAN began his Australian Navy service in 1974 and later completed the Royal Navy's Principal Warfare Officer course in 1984. He served a two-year exchange with the Royal Navy in HMS *Liverpool*, before returning to Australia in 1987 when he joined the directing staff of the RAN's PWO School at HMAS *Watson*. He then served in HMAS *Brisbane* as Gunnery Officer and has also commanded HMA Ships *Gladstone* and the *Anzac* class frigate, *Arunta*, for which he was the commissioning Commanding Officer in December 1998. He graduated with a Masters in Business Administration from the University of Southern Queensland in early 2000 and was promoted to Captain in March of that year. His subsequent shore postings included *Anzac* Capability Element Manager, Chief Staff Officer Operations and Director Navy Information Environment in Navy Headquarters.

Opening Remarks

Rear Admiral Rowan Moffitt, AM, RAN

Distinguished guests, ladies and gentlemen and colleagues, welcome to the 2004 Maritime Studies Seminar. This seminar on training in the maritime environment by the Australian Defence Force (ADF) really does hit on an important topic. You obviously do not need me to tell you that because if you did not think so, you would not be here. However for me, it is a very important topic, not just because I have a distinct responsibility for some of the work that the ADF is doing, but also to me personally as an Australian. And for that reason, as much as any other, I am pleased to see such a large gathering of people in the audience representing such a wide range of stakeholders. We in the ADF, as you would expect and certainly hope, are well represented in this audience today, but it is particularly pleasing to also see people from several other government departments, interested stakeholder groups, as well as from academia and our overseas friends. So thank you all for coming and may I extend to you all, a very warm welcome.

The maritime environment that will be focused on during the seminar today should be seen in its broadest sense. The water column obviously, and the sea bed necessarily, but also the land areas immediately adjacent and the air space above. In Australia, as you probably know, we tend to be quite attached to the sea, even drawn to the sea. That is obvious from looking at the distribution of our population, the majority of which lives close to the sea. We will all have widely varying reasons for our attachment to the sea and so our attitude to issues affecting the maritime environment will also vary. Speaking as a mariner, I think it is fair to say that we probably have not always respected or perhaps even understood the total maritime environment and the impact that we can have on it. And in the Royal Australian Navy (RAN), I would say, we have not been any exception to that either.

But in recent years, certainly in my time in the RAN, things have changed quite significantly, and one of the most profound things I think that has had an impact on us is the public concern for preserving the environment for the generations who will follow us, which has grown enormously. Improving how we, the military in Australia, do our training in the maritime environment in an environmentally responsible manner is now a significant imperative for us and everything that we do, abiding by the stringent and demanding rules that have come into force over the last decade or more, to protect the environment. Learning how we can do what we do better is really at the heart of what this seminar is all about.

The objectives today are four-fold: first, to improve our mutual understanding of environmental legislation; to discuss how this legislation may impact on the nature of ADF training; to discuss how the impact of ADF training on the environment can

be minimised; and finally, to provide a forum to identify requirements that we might have for further work in these areas.

Now a fundamental requirement for the ADF in being prepared to fulfil our mission to defend Australia and its national interests is the frequent and ongoing conduct of a wide variety of intensive and realistic training exercises. While the Service that usually has the biggest footprint when it comes to training activities in the maritime environment is the RAN, clearly the Australian Army and the Royal Australian Air Force (RAAF) are also frequently involved, and I am pleased to see the other two Services represented today as well. Thus we all share the responsibility for managing the impact of our activities, and to do that effectively we have to first understand the regulatory framework that exists to guide our efforts. I would like you to be in no doubt that we are committed at the very highest level in the ADF to doing our business in a way that promotes sound stewardship of the marine environment and recognises the principles of environmental sustainability. I think that we can show that we have performed quite well on this front generally speaking, in most cases, in recent years. But equally I am absolutely convinced that we can, and we must, do better.

The conference organisers have selected Jervis Bay as the case study today, and I think that is a particularly good choice. Many of us in the audience will be familiar with Jervis Bay, a very picturesque part of the world, as we have ourselves spent quite a bit of time there. And we probably are aware that it is one of the most complex locations in Australia in terms of environmental management. It is a richly diverse and complex natural environment in and around which we conduct a very broad spectrum of training activities, which we manage very carefully indeed in meeting the broad environmental protection requirements that we face in the area. For those of you who are not quite so familiar with Jervis Bay, it is 140 square kilometres of water area. It boasts an incredible diversity of wildlife – seals, resident dolphins, whales from time to time, penguins, kangaroos and more, and about 170 species of birds – and it is an area where this and its natural beauty have led to it being declared one of only three marine parks in New South Wales (NSW).

ADF activities in the Jervis Bay region date back to the earliest years of nationhood. The Naval College at HMAS *Creswell*, that some of us remember both happily and painfully for many reasons, is sited on the southern shore of the bay and inland from HMAS *Albatross*, the home of naval aviation. The seaward land mass of the bay, Beecroft Peninsula, is one of only three shore bombardment and live firing areas available to RAN ships in Australia, which is used as well by the other Services.

Offshore in the Tasman Sea, the East Australia Exercise Area (EAXA) is one of the two most important maritime exercise areas in Australia, widely used by the RAAF and the RAN. The value of that training area is accentuated by its proximity to major RAN and RAAF bases in NSW. And it is not just the natural environment in this area that is a challenge for us either. Community and commercial activities in the region are economically and culturally important as well, and do impact upon our activities.

This is a haven for tourism, fishing—both commercial and recreational—and other recreational activities, including dolphin and whale watching, diving, camping and bushwalking to name just a few.

For these reasons, the coastal human activity and similar attractions of this place have caused a significant increase in the size of the local population in the last 20 years. It is a pristine and a very high profile area in which we do a great deal of our routine work under constant and intense scrutiny by people who will take us to task in an instant for the slightest misdemeanour. That is part of the environment. It is not a subject that is necessarily going to be touched on in the seminar today, but it is part of the environment and one that I would ask you to keep in mind. Some of the work that we do elsewhere is not given such scrutiny. But in this particular area, we obviously need to ensure that everything we do is done correctly and with due regard to our environmental responsibilities. It is not just because we should, but because here perhaps more than anywhere else where we do our business, our very carefully nurtured reputation for sound environmental habits can come undone in an instant.

Jervis Bay, I think, is a very useful case study and I hope you get a lot out of it. It is a helpful case study on how ADF training can be both successful in and of itself and, at the same time, compliant with the requirement to preserve the environment while also meeting the needs and aspirations of a local community. So lessons learned from managing our activities in an environmentally sustainable manner in and around Jervis Bay can be important guides for the conduct and improvement of ADF training in other regions. But I would ask you to remember that Jervis Bay is one small part of the whole picture. We are obviously employed regularly in the protection of the environment against illegal fishing, both in our continental and offshore economic exclusion zones, including the very challenging Southern Ocean and a range of other activities as well. The objectives may be similar wherever we go, but the complications we face, both operationally and in an environmental sense, vary quite considerably.

We also help enforce Australia's quarantine barrier, which safeguards not only our public health, but also our agricultural industry and our natural biodiversity. These are all sensitive areas and we need to be capable of operating efficiently and responsibly when we become involved in such activities.

The recent focus on environmental impact management has caused us to make a number of significant changes. I will mention only a few: the phasing out of anti-fouling paints on ships' hulls that poison the environment; steps being taken increasingly to manage the consequences of our exposure in other parts of the world to aquatic invasive species and marine pests; and also having been called on to assist in significant research into marine mammal distribution. That just scratches the surface of the types of activities that we could not only find ourselves engaged in, but also the sorts of activities that will inevitably lead to evermore stringent requirements being levied upon us, which we must clearly understand.

For my part, I believe that we have an obligation to the Australian people to ensure that the RAN remains at the forefront of sustainable environmental management in everything that we do. Certainly that is where I personally, as an Australian, with children, would want us to be.

Ladies and gentlemen, it gives me great pleasure to open the 2004 Maritime Studies Seminar.

What is Driving Environmental Policy in Australia?

Dr Marcus Haward

The focus of this seminar is timely given that both the legislative and policy frameworks have developed considerably in the past few years. At the same time it is worth considering the key drivers of environmental policy, and how they impact on the activities of the Australian Defence Force (ADF) in general, and on the Royal Australian Navy (RAN) in particular. Understanding the influence and direction of policy drivers is one element in improving policy development and implementation. Another key element is improving the linkage between scientific advice and policy development. C.P. Snow's 1950s novels noted the problems caused by 'the two cultures', the gulf between science and administration and/or politics. This problem seems still to be fundamentally important, with the limitations of the 'science-policy gap' obvious. If we can bridge the contemporary equivalent of C.P. Snow's 'two cultures' in terms of linking scientific research into the policy process, that also addresses our legal obligations, then environmental policy and management will be even more effective.

What drives environmental policy? I argue that there are two major drivers. One is the domestic political agenda. Admiral Moffitt has identified the change in environmental consciousness in Australia that has led to vastly different practices today in relation to the environment than were practiced two or three decades ago. The fact that now it is not good enough just to believe that 'out of sight is out of mind' and that we are much more environmentally aware is due to public education, government initiatives and the work of a range of different groups. The second, and clearly not mutually exclusive, driver of environmental policy derives from Australia's participation in the development and ratification of international agreements, obligations and responsibilities.

Environmental concerns are clearly very important for the Australian public. In traditional models of public policy, public concern is seen as driving government action and policy directions. The model views the public as engendering action that creates a 'policy agenda'. This public interest is important and clearly can influence governments to act, but it is also important to note that government activity, including the work of the ADF and RAN, can in fact also be a driver for action – putting matters onto the agenda.

There is an increasing awareness of the scale of environmental problems related to the terrestrial environment, but also increasingly with those problems affecting the maritime environment. The last two decades have seen a range of international and national initiatives including attention to ocean policy and governance. National oceans policy initiatives have developed in a number of countries, with Australia, quite correctly, placing itself as one of the world's leaders in its attempt to provide integrated ocean management. *Australia's Oceans Policy* links ecological concerns with the use and management of the marine environment. These developments have

occurred because the marine environment is increasingly politically salient, attracting both domestic political action and international attention. The political salience of an issue attracts the attention of governments, which then leads to initiatives such as the Australian Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This legislation is an important policy framework for a whole range of areas but has major influence in marine policy and management.

Issue areas such as environmental policy are complex and often involve competing imperatives or demands. Managing the policy agenda is difficult, with different stakeholders having different perceptions of the 'problem'. At the same time, too, public attention to issues can be cyclic, as proposed in the concept of 'an attention cycle'. This concept was first popularised 30 years ago by Anthony Downs, an American writer who argued that issues go through a cycle where problems are discovered, or in many cases rediscovered, with calls for action urged.¹ The next stage of the cycle sees the public realising the cost of that action, but at the same time the initial issue is replaced – at the end of the cycle – by the next 'new' problem. Issues do not disappear completely, they in fact stay within the policy process, or the policy cycle, and policy solutions implemented at appropriate times. The issue attention cycle concept indicates to us that despite the 'cyclic' treatment of issues by the media, and the ways in which this influences public opinion, it is important to look behind the front page of the papers and note how complex issues are addressed by governments and other interested stakeholders.

The other major driver, of course, comes from the international environment with international obligations coming from a veritable alphabet soup of international instruments and initiatives that Australia is a signatory to, or party to. These instruments have been very significant in providing parameters for Australian environmental policy, particularly in the marine environment.

Australia has been a major actor in the development of the *United Nations Convention on the Law of the Sea 1982* as well as terrestrial and atmospheric environmental instruments.² There are two major impacts concerning the implementation of such instruments in Australia. First, the ratification of an international instrument by Australia, by definition, helps shape government policy; and second, the realities of the Federal divisions of power and responsibilities mean that while the Commonwealth can pose significant controls over domestic matters related to the implementation of international instruments, this is not a zero sum game. The Commonwealth's action in legislating to implement international obligations does not come at a win to the Commonwealth and a loss to the States. It more often than not leads to negotiations and arguably, a win for the environment, where you have increasing attention given to environmental issues from both levels of government.

The Federal system provides a framework for policy-making in Australia that is often criticised for duplication and overlap. Often the Federal division of powers and responsibilities creates a very messy web-like policy environment that critics argue could be simplified. An alternative view, and a view that I support, is that overlapping

responsibilities can increase policy responsiveness. Phillip Toyne, in a critique of Australian environmental policy a decade ago, noted the example of a turtle swimming in Australian waters, from Commonwealth to Queensland waters and crossing multiple management zones in its journey to the coastline.³ Critics of the Federal nature of Australian environmental policy argue that the complex management of waters is a negative. In opposing this view, I would argue that the fact that the turtle in the above example swims across so many zones and jurisdictions makes it more likely that more people are actually obliged to take an interest in that turtle's passage, a state of affairs that can only be good for the turtle.

The influence of international instruments, and the obligations that derive from them as environmental policy drivers, is not just concerned with the design of the instrument. How these instruments are actually implemented and managed, and the involvement of the States and local government – what American scholars term 'where the rubber hits the road' – has considerable significance. The EPBC Act reinforces this feature of Australian environmental management. This Act contains provisions that accredit State actions through bilateral agreements with the Commonwealth. But of course the EPBC Act is also important because it sets out national interests. It sets for the marine environment the Commonwealth's interests in 'Commonwealth marine areas', where the Commonwealth Minister for the Environment and Heritage has legally and quite clearly stated responsibilities.

The next focus of this chapter is a more abstract discussion about environmental policy drivers. Environmental policy is no different to any other public policy, where policy development is influenced by a number of factors. The political cycle – whether a government is newly elected, in mid term, or facing an election – can be a factor in determining the viability of policy proposals.⁴ At a similar scale is consideration of the economic cycle. Policy initiatives that are foreshadowed to cost significant amounts of money may be less supported in an economic downturn. The environment often does well when the economy is doing well too, because there is more money to be put into environmental programs. There are often many more solutions out there than there are actually problems to be dealt with at any one time by governments. This is the quite interesting concept of the 'garbage can theory' of policy-making.⁵ This approach notes that policy initiatives may not be acted upon immediately, but be shelved to be recycled when the 'time is right'. Just because something cannot be acted upon due to limitations arising from the budget or political cycles does not mean the problem cannot be managed or dealt with. What is important is to manage the agenda so that priority issues can be dealt with.

We actually can see something of the way we can influence our stakeholders in this agenda through the work of John Kingdon, an American writer, who focuses on the way in which the policy agenda is determined.⁶ Kingdon saw the policy agenda being influenced by three variables or streams: the problem stream, the policy stream and the political stream.⁷ In the policy stream, alternative solutions are developed and promoted. Committed advocates promote these alternatives. Kingdon made the point

that, in fact, key players – ‘policy entrepreneurs’ – could shape and bend the streams and create ‘policy windows’ where policy development could occur. The ability to shape and influence the policy agenda is particularly important when it is appropriate to target particular problems and bend the trajectory so the politics stream actually crosses over the other two streams. This is often related to timing, working out when it is appropriate to put proposals through the budget cycle to ensure the best chance of success.

The above discussion leads to the consideration that policy-making engages both the internal components of an organisation and also the external constituencies of that organisation.⁸ The ADF is a complex organisation, with a range of stakeholders monitoring its environmental management performance. Managing internal components may be complex, but needs to be seen as a critical element. Giving priority to environmental management in the RAN’s training programs and other day-to-day activities will help ensure consistency amongst ‘internal components’. If this happens, the external constituencies are relatively easy to manage, but it is important to remember that even the best work done internally will not get away from external criticism until that internal work is actually well advertised and promoted. So, best practice actually needs to be put out into the wider arena.

The environment itself, of course, is a major policy driver. Environmental security has emerged over the last ten years as part of the new discourse in security studies and security debate. Arguably, this debate and discourse has switched back to a focus on traditional forms of security after September 2001, but I reinforce the point that environmental security is important and a point of debate that will continue and increase in significance. Australia will have to consider responses to crises originating from concerns over environmental security. If, for example, we do have environmental impacts associated with climate change – such as sea level rise, increasing climatic variability and the extreme events that are predicted – we will have a range of problems that will need to be addressed.

The ADF, in general, and the RAN, in particular, because of its focus on the maritime environment, will have an important role in addressing responses to environmental security threats and problems. We have already heard the threats of invasive species, the importance of safeguarding Australia’s exclusive economic zone (EEZ) and its maritime estate. There are a number of issues that can emerge out of any discussion on environmental security that may be important drivers for the RAN and the ADF in the future.

Obviously, when we examine the ADF’s role in relation to environmental policy, there are a number of policy imperatives that shape responses. The ADF has a primary imperative related to national security. This is an important point that cannot be underestimated, despite the ADF’s important role in providing aid to the civil power in cases of environmental disasters or crises. The nexus between these roles is shown by the civilian constabulary roles performed by the RAN that address both ‘environmental’ and ‘traditional’ security. The RAN’s support in actions against illegal, unregulated and



A RAN Sea King helicopter fighting a fire at HMAS Creswell in December 2003 (RAN)

unreported fishing (IUU) in Australia's EEZ in its external territories, particularly in the Southern Ocean, is very important.⁹ This action reinforces Australian sovereignty, but equally has an environmental impact and benefit in reducing illegal fishing.

In conclusion, this chapter has attempted to identify key drivers in environmental policy and show how these drivers can influence environmental policy responses from the ADF. These responses can help shape obligations in a range of activities, including training. Environmental policy thus has to be seen as a framework affecting the core business of the ADF, which needs to be able to respond as the environmental security and environmental policy framework changes and evolves. The internal components within the ADF, and within the RAN in particular, need to be aware of their environmental obligations and take these as core activities. External constituencies can be important allies as well as critics. As was noted the RAN, as with other parts of the ADF, is under constant scrutiny. To conclude, it is appropriate that this debate about environmental policy and its drivers is taking place at a time when there is emerging change in discourses on security. We therefore see already that the new national research priority of 'safeguarding Australia' includes an explicit focus on environmental issues.

Notes

- ¹ A. Downs, 'Up and Down With Ecology - the Issue Attention Cycle', *The Public Interest*, No. 28, Summer 1972, pp. 38-50.
- ² J. Haward, 'IUU Fishing: Contemporary Practice', in A.G.O. Elferink and D.R. Rothwell (eds), *Oceans Management in the 21st Century*, Martinus Nijhoff Publishers, The Hague, 2004, pp. 87-105.
- ³ P. Toyne, *The Reluctant Nation*, ABC Books, Sydney, 1994.
- ⁴ P. Bridgman and G. Davis, *The Australian Policy Handbook*, 3rd ed, Allen and Unwin, Sydney, 2004.
- ⁵ M. Cohen, J. March, and J. Olsen, 'A Garbage Can Model of Organizational Choice', *Administrative Sciences Quarterly*, Vol 17, No. 1, 1972, pp. 1-25.
- ⁶ J. Kingdon, *Agendas, Alternatives and Public Policies*, 2nd ed, Little Brown, Boston, 1995.
- ⁷ Kingdon, *Agendas, Alternatives and Public Policies*.
- ⁸ G. Allison, 'Public and Private Management: Are They Fundamentally Alike in all Unimportant Respects' in R.J. Stilman II, *Public Administration: Concepts and Cases*, 5th ed, Houghton Mifflin Company, Boston, 1992.
- ⁹ Haward, 'IUU Fishing: Contemporary Practice'.

What are the Implications of Environmental Legislation in Australia?

Professor Stuart Kaye

This chapter explores the extent to which environmental legislation may impact upon Royal Australian Navy (RAN) operations.¹ However, it is first necessary to provide some constitutional background. This is because of Australia's Federal system, where there is more than one level of government with an interest in environmental matters and, accordingly, it is important to explain the extent to which other levels of government can impact upon what the RAN does. This is a core constitutional question, one that has loomed large in Australia's constitutional history over much of the last 80 years. Basically, the States and Commonwealth are wrestling with each other over who might control different aspects of the work of government agencies. The chapter will then address relevant Commonwealth legislation, especially the *Environment Protection and Biodiversity Conservation 1999* (EPBC Act), which has changed fundamentally the way Navy has to consider environmental legislation. Next, it will look at some State legislation that is relevant to RAN operations. Finally, it will draw all this together in a specific context by looking at the situation in Jervis Bay.

Constitutional issues

The traditional approach to the RAN regarding legislation is that, if an activity is not covered in the *Naval Defence Act 1910* or the *Defence Act 1903* and the like, the RAN can simply go ahead and do its job without legislative limitations. The traditional approach between countries is to treat navies as being the core expression of a government. Like a Head of State or an Ambassador, navies are effectively treated as being immune, as they are the legal expression of a government. Thus, a naval ship when it is visiting a foreign port is sovereign in that port. It must comply with the local law or it can be asked to leave, but the host country itself cannot enforce its own laws on board the ship without permission. That is the view taken by most of the world's navies, including notably the United States Navy (USN), which takes it very seriously. Domestically, we have also tended to say that government, while complying with the law, should be exempt in certain ways from some of the more distasteful aspects of the law. Australia traditionally has had a theory that the Crown, or agencies of the Crown, cannot commit criminal offences because it is the Crown that actually prosecutes criminals – it would be difficult, to say the least, to have the Crown prosecuting itself. Thus, from the perspective of dealing with these sorts of issues, the RAN as an expression (from a legislative point of view) of the Crown – of government – generally has been treated as being exempt from much of the operation of the law. That is different to policy issues, where there are policy reasons to comply with legislation. A good example of that can

be found in the *Navigation Act 1912*, which strictly speaking exempts government in terms of aspects of its operation.

A broader constitutional issue is the notion of binding the Crown. The Crown traditionally, in terms of statutory interpretation, is usually assumed not to be bound by its own legislation. It is explicitly bound if the legislation states the Crown is bound by this legislation, or if it is a necessary implication of the nature of the legislation itself. Because Australia not only has the Crown and right of the Commonwealth, but the Crown and right of each of its States, often this can be expressed in legislation in terms of: 'this Act binds the Crown'. Insofar as the parliament is constitutionally able, such legislation binds the Crown in all other capacities, which will be an attempt by the States or the Commonwealth to 'reach out' to make governmental agencies of the other level of government do what they are being obliged to do under the legislation. Commonwealth legislation will often state that the legislation binds the Crown, and this is indicative that organs of government, such as the Department of Defence, ought to comply with the legislation and are deemed to be compliant with it. But binding the Crown in other capacities, reaching out, is something that presents constitutional issues, because if it is an attempt by a State to make the Commonwealth comply with State legislation, the State may not have the constitutional wherewithal to actually reach out to the Commonwealth and make it comply with State legislation, or enforce such legislation within the courts.

One of the reasons a State will struggle to be able to do that is found in the Constitution itself and, as with any Federal system, it is necessary to deal with the implications of Commonwealth and State legislation that clash. The Australian Constitution is no exception. Section 109 of the Australian Constitution provides the solution to this very common conundrum: in situations where there is a conflict between a Commonwealth and a State law, the Commonwealth law ought to prevail and the State law will be invalidated to the extent of any inconsistency. This means that if a State tries to reach out to make the Commonwealth do things that the Commonwealth, from a legislative perspective, does not wish to do, then the State law may itself be invalidated even though it is attempting to reach out and bind the Crown in other capacities.

Commonwealth environmental legislation

The issue of clashing constitutional jurisdictions is not present in Commonwealth legislation, but for the RAN, the situation has become much more regulated than in the past. The Commonwealth has developed a number of marine-related legislation to fulfil Australia's international obligations and address domestic issues of community concern. The most important relevant legislation is the EPBC Act, which marked a landmark in terms of environmental legislation. Most notably, as well as explicitly binding the Crown, it is explicitly applicable to all Commonwealth employees and Commonwealth activities. It explicitly includes Commonwealth-owned or controlled ships, including vessels operated by the Australian Defence Force (ADF). It also

explicitly saves State law from being invalidated under Section 109 of the Constitution where possible, unless there is a clear clash or contrary intention in the legislation indicating that the clash can occur.

The EPBC Act provides for a range of different protections that can be undertaken. It can provide for marine protected areas, and it can look at preventing or regulating activities that are likely to have a significant environmental impact upon the marine environment. Therefore, any action that would have a significant impact on the marine environment now requires approval under the Act, potentially from the Minister for the Environment and Heritage. The Act also provides for the establishment of management plans for areas of environmental significance.

The Act does provide that the Minister can provide an exception for Defence or security-related activities, although notably, unlike most other pieces of legislation affecting the RAN, the Minister in this case is not the Minister for Defence, but rather the Minister for the Environment and Heritage. Accordingly, it may be that things cannot be kept in-house in terms of one department, but permission needs to be sought from another department. The Minister for the Environment and Heritage can effectively authorise a Defence activity, so if Defence wants to do something that might kill large numbers of fish or damage a particular ecosystem, that activity would have a significant impact and Defence might have to seek from the Minister for the Environment and Heritage explicit permission. Requests for permission may be required to be shaped pursuant to management plans that may constrain naval activities.

The EPBC Act sets up a national framework for the protection of the environment by focusing on protecting matters of national environmental significance and the conservation and protection of Australia's biodiversity. Amongst the many objects of the Act is the preoccupation to promote a cooperative approach to the protection and management of the environment, specifically involving governments, the community, landholders and indigenous peoples, and to assist in the cooperative implementation of Australia's international environmental responsibilities. Importantly, in the realm of Commonwealth/State relations, it is explicitly stated that this Act is not intended to exclude or limit the concurrent operation of any law of a State or Territory, except so far as the contrary intention is expressed within its provisions.

The EPBC Act establishes a general prohibition on all actions, which have or may have significant impact on certain areas of the environment. Such areas include world heritage property listings; Ramsar Convention (*The Convention on Wetlands 1971*) wetlands of international importance; nationally threatened species and communities; migratory species protected under international agreements; and the Commonwealth marine environment.

The Minister for the Environment and Heritage has issued administrative guidelines on whether an impact is likely to be significant. Actions, however, are permitted in a series of circumstances. The main exception involves specific circumstances where

the action must be consistent with an approval from another Commonwealth decision-maker under a management plan accredited by the Minister for the Environment and Heritage. Additionally, an action may not necessitate approval where certain criteria are met when the action is to take place in a State or Territory.

The Minister for the Environment and Heritage can also grant an exemption for a particular action that would otherwise require approval under the Act where it is in the national interest to do so; for example, in a national emergency. Thus, in a time of armed conflict, the RAN could get a blanket security exemption issued by the Minister, whereas in peacetime it might be withheld.

Actions that are likely to have a significant impact on a matter of national environmental significance are subject to a stringent and thorough referral, assessment and approval process. The Act's assessment and approval provisions apply to actions that are likely to have a significant impact on the environment of Commonwealth land (even if taken outside Commonwealth land) and actions taken by the Commonwealth that will have a significant impact on the environment anywhere in the world. In determining whether an action needs approval, the Minister for the Environment and Heritage will identify the provisions for which approval is required (for example, the Ramsar provision). If the Minister decides that an action needs approval, he or she must designate a proponent for the action. The proponent is responsible for preparing assessment documentation. Generally, the person proposing to take the action will be the proponent for the action. A decision that another person should be the proponent can only be made where both that person and the person proposing to take the action agree. If the Minister decides that an action does not need approval, the Act ensures certainty for proponents by providing that a person does not contravene the Act if he or she relies on the Minister's decision.

As mentioned above, one of the certain areas from which actions having a significant impact are generally protected is the Commonwealth marine environment. It is stated that waters, seabed and airspace over the sea lying inside the seaward boundary of the Exclusive Economic Zone are considered part of the Commonwealth marine environment. However, those areas that are covered under the *Coastal Waters* State and Territory legislation and waters within the limits of a State or the Northern Territory, fall outside the ambit of Commonwealth Territory. Similarly, any waters over the continental shelf, or any seabed under or airspace over waters over the continental shelf, are considered part of the Commonwealth marine environment. Again, those areas covered by State legislation and defined as falling specifically within State and Territory areas are excluded from the Commonwealth marine environment.

Permits are required for an activity affecting or having affected protected species. Permits are necessary to engage in the following activities that may affect cetaceans:

- research, commercial and certain recreational activities in a Commonwealth park or reserve

- whale-watching (this includes whales, dolphins and porpoises) in Australian Commonwealth waters or outside Australian waters
- other activities that may affect cetaceans (whales, dolphins and porpoises) in Australian Commonwealth waters or outside Australian waters
- activities in Commonwealth areas that may affect listed species or ecological communities
- activities outside Commonwealth parks or reserves that may affect protected species in the Territories of Christmas Island, Cocos (Keeling) Islands or Coral Sea Islands and activities involving the movement of wildlife or product made from wildlife, into or out of Australia.

Notably, it is an offence to kill, injure, take, trade, keep or move with a cetacean or a member of a listed species or ecological community without a permit. Where an individual or other entity desires to carry out activities within the Great Barrier Reef Marine Park, a separate Great Barrier Reef Marine Park Authority permit is required.

Guidelines have been prepared with the objective of assisting proponents of offshore seismic operations to address certain obligations under the EPBC Act, which are relevant to interactions with whales and certain other larger cetaceans.² The guidelines are generally applicable only to larger cetaceans and they do not relate to interactions with small cetaceans (such as dolphins) or other marine species (such as turtles or dugong). In the following circumstances, a proposed seismic operation would be considered a 'controlled action' under the Act and so would require the approval of the Minister for the Environment and Heritage:

- where a proposed seismic operation, whether in Commonwealth waters or in coastal waters, would be likely to have a significant impact on any threatened or migratory cetacean species
- where a seismic operation in Commonwealth waters would be likely to have a significant impact on any cetacean species.

Seismic operations will be regarded as being likely to have a significant impact on a cetacean species (including threatened and migratory cetacean species) where the seismic operation is to be carried out in, or within 20 kilometres of, a feeding, breeding or resting area for a relevant cetacean species during the period when cetaceans are present. Proponents of an action should consider referring relevant proposed operations in or near migratory paths to the Minister for decision on a case-by-case basis. Factors that may be relevant include: whether the migratory species is endangered; whether the seismic operations would be in a migratory path adjacent to a feeding, breeding or resting area; whether young calves or pregnant females may be affected; and whether significant numbers (relative to the species or populations) of migrating cetaceans may be affected.

Commonwealth marine environmental legislation and the Crown

As noted in the first section of this chapter, the basic presumption with respect to the application of Commonwealth law to the Crown is that the Crown will only bind itself explicitly, or by necessary implication. There has also been a trend to treat the reach of what might be described as the Crown more narrowly. As such, various statutory authorities and similar organisations that might once have fallen under the ambit of the Crown are now treated as being outside it, limiting the reach of the protection available. As noted above, most Defence activities would clearly still fall under the definition of the Crown.

Another change that has occurred, along with the more expansive attitude to State power over the Commonwealth, has been a trend in Commonwealth statutes to a statement that the Crown will be bound. Increasingly Commonwealth statutes do purport to bind the Crown, and therefore explicitly apply Commonwealth law. A good example relevant to marine matters is the *Protection of the Sea (Prevention of Pollution from Ships) Act 1983*. Section 4 of the Act explicitly binds the Crown, and therefore would appear to apply the provisions of the Act to the RAN. However, the content of the Act purports to give affect to the Maritime Pollution (MARPOL) Convention, which grants naval vessels sovereign immune status. This means that given the application of the Act is to be consistent with the Convention, the Act will not apply to HMA Ships, even though it does explicitly bind the Crown.

Section 4 of the EPBC Act explicitly binds the Crown. Therefore, its provisions, insofar as they can be constitutionally applied to the Crown, will operate to affect HMA Ships and Establishments. This potentially has a tremendous reach on the operation of RAN assets, to ensure that RAN meets the objects of the Act in section 5. While the criminal penalty provisions cannot have any application to RAN, by virtue of the constitutional impossibility of the Crown prosecuting itself, there is still an obligation upon the ADF to comply with the EPBC Act's provisions.

Impact of naval waters and Defence practice areas

The *Defence Act 1903* and the *Control of Naval Waters Act 1918* both provide for the establishment of training areas for the use of the ADF. The provisions in relation to these areas are relatively straightforward. They provide for mechanisms for the ADF to close off certain areas in order to use them for training purposes. The provisions do not indicate the scope of the activities that might take place, but rather indicate the measures in relation to excluding individuals from the areas, and compensation payable for land resumed. These areas do potentially interact with other activities in ocean and land areas, but from an environmental point of view do not raise issues, except insofar as any Commonwealth activity is subject to the EPBC Act. The application of the EPBC Act for exercises will be relevant regardless of whether an exercise takes place in a Defence practice area or in naval waters, or outside these areas.

State legislation and naval operations

Each State government has the right to enact maritime legislation relating to its internal waters and the first three nautical miles of the territorial sea. Each State has enacted environmental legislation regarding discharge and emissions in its area of authority. As indicated in the introduction to Australian constitutional issues above, States have long sought the ability to affect the Commonwealth in a variety of ways. In the context of Defence, this has occurred on a number of occasions.

The leading case in the area of State law affecting the Commonwealth is *Re The Residential Tenancies Tribunal of New South Wales v Henderson ex parte The Defence Housing Authority 1997*. In that case, the Court held that the Defence Housing Authority was subject to the NSW legislation applicable to rental accommodation, and the immunity from State law expounded by the High Court in *Commonwealth v Cigamatic Pty Ltd (in liquidation) 1962* did not apply. The 'Cigamatic doctrine' severely limited the ability of the States to actually bind government agencies within the Commonwealth. Thus, prior to the *Defence Housing Authority Case*, the application of State law to the Commonwealth was essentially restricted to the so-called 'affected by' doctrine, where the Commonwealth was deemed to be behaving in accord with State law because it had voluntarily chosen to undertake some activity that was regulated by State law. The Commonwealth generally was deemed not to be subject to State law by virtue of the immunity conveyed under the *Cigamatic* doctrine. While the *Defence Housing Authority Case* did not overturn the *Cigamatic* principle, the decision substantially limited its impact.

It is evident, however, that the immunity from State law enjoyed by the Commonwealth extends to the exercise of executive power. Where the Commonwealth engages in activities ordinarily undertaken in the wider community, these ought not be categorised as exercises of executive power, and accordingly State law must be complied with.

In the present situation of State environmental law and ships' operations, it would be reasonable to distinguish the *Defence Housing Authority Case* on the basis that while renting property is an activity engaged in by the community as a whole, and is essentially incidental to the operation of the ADF, operating a warship is still an exercise of executive power, in its most pure form. Such a characterisation is implicitly supported by the Constitution, which, in section 68, vests command of the military forces of the Commonwealth in the Governor-General, thus indicating that the ADF's operation is from a constitutional perspective, an exercise of the prerogative of the Crown. Logically, the defence of Australia will, from time to time, require actions to be taken that are inconsistent with State law. The possession and discharge of weapons and firearms, the operation of tanks and armoured personnel carriers on public roads and the like, are examples that immediately spring to mind. The States ought not be able to restrict or prevent these activities, or cause substantial modification of them. If they cause damage or injury, then it is for the Commonwealth to establish a regime for liability, and for this to be determined under Commonwealth law. To do otherwise

would give a State the ability to affect military operations – an area of legislative power effectively denied to States by section 114 of the Constitution.

The protection that the *Cigamatic* principle provides to the Commonwealth as a whole should also be deemed to extend to the officers and sailors operating the vessel. It would be impossible for the Commonwealth to exercise its executive power to operate a warship without State interference, if there could be consequences under State law falling on to those individuals obliged by orders to physically carry out the Executive's will. While the executive power of the Commonwealth is required to be exercised lawfully by its servants, the assumption is that State law does not purport to restrict the Commonwealth from fulfilling its functions.

One difficulty in avoiding the application of State law is the High Court decision in *Pirrie v MacFarlane 1925* where Victorian motor traffic legislation was held to apply to a Sergeant in the RAAF driving a car while in the exercise of his duty. If applied to waterborne operations on the same basis, it would seem to make the relevant State regulations applicable to HMA Ships.

However, there are grounds on which *Pirrie v MacFarlane* can be distinguished. First, it related to the operation of a motor vehicle, which is an activity undertaken by the community at large. The operation of attack aircraft, tanks and warships are not activities that the community can undertake. Second, the nature of the activity was incidental to Defence rather than being directly associated with it. The operation of a warship more directly impacts upon national defence than the car trip of an individual member of the ADF. Finally, international law, and to a lesser extent domestic law, have recognised that warships have special status in terms of rights and obligations and the application of law to them. They are not treated in the same way as other vessels, in terms of a whole host of provisions, including registration, sovereign immunity when abroad, freedom from arrest and so on. None of these matters pertain to motor vehicles, for example, regardless of who owns them.

A final point to note is that State law has a limited operation extraterritorially. The States have jurisdiction out to three nautical miles, by virtue of the *Offshore Constitutional Settlement* and the *Coastal Waters (State Powers) Act 1980*, which in part implements it. For events that take place beyond three nautical miles, the State would need to establish a link between the event concerned and its territory. Activities that are geographically remote from the coast will be increasingly unlikely to be within State legislative competence, making a large proportion of RAN activities free from any State interference. The difficulties faced for a State are further increased when one considers the statutory presumption that legislation is not intended to operate extraterritorially, unless this is evident from its content, thus limiting the volume of State law applicable to naval or ADF operations.

The same legal principles applicable to HMA Ships also apply to RAN shore establishments, with the exception of extraterritoriality. Further, the scope of activities undertaken at an establishment are far more likely to fall foul of the *Defence Housing*

Authority Case, as they will encompass a greater range of matters that would not be regarded as directly related to Defence. In this regard, it could be anticipated that State environmental regulations for buildings, and possibly for ship maintenance, would apply.

In the event that in a particular case the impact of State law cannot be avoided, then the next question is whether the particular State law concerned can apply to the Crown in right of the Commonwealth. There is a statutory presumption that unless indicated, explicitly or by necessary implication, legislation does not apply to the Crown.

One mechanism that has been used to substantially erode the Commonwealth's immunity from State law has been section 64 of the *Judiciary Act 1903*. This section provides that the Commonwealth, in civil litigation, should be treated like an ordinary litigant, insofar as this is possible given the position it occupies in Australian law. In practical terms, it makes the Commonwealth subject to State law, but only in the context of civil litigation. This means that once litigation commences, the Commonwealth may be liable for failing to comply with State law, in the same way as any other individual, even though constitutionally, the State may have struggled under the *Cigamic* doctrine to bring the Commonwealth under the legislation.

There are a number of limitations with section 64 being used as a vehicle by a State to bind the Crown in right of the Commonwealth. Firstly, the reaching out of State law only occurs when civil litigation takes place, meaning that unless an action joining the Commonwealth as a party is brought, the Commonwealth is not affected under the section. Secondly, the provision only applies to civil matters. Therefore any State law that might have some form of penalty attaching to it would not be regarded as civil, and therefore does not fall within the ambit of the section. As such, a State prosecution of the Commonwealth for a hypothetical oil spill in Sydney Harbour would not succeed by virtue of section 64 of the *Judiciary Act 1903*, as it would not be civil in character. By contrast, an attempt to make the Commonwealth liable under a State-based compensation regime for environmental harm caused might well bind the Commonwealth, as it would be civil in character.

Jervis Bay case study

The Jervis Bay area includes the bay itself, the Commonwealth Territory of Jervis Bay (including Booderee National Park), and the surrounding territory under the jurisdiction of the State of New South Wales (NSW). The Commonwealth also owns land on Becroft Peninsula that is used for Defence training purposes. Commonwealth waters for the purposes of the EPBC Act include waters within Jervis Bay, although not necessarily all the waters because the bay is divided into two parts. This in itself is an interesting constitutional issue. The areas of the bay can be divided into State areas (including the NSW Jervis Bay Marine Park) and areas within the Booderee National Park.

Interestingly, parts of the RAN establishment, HMAS *Creswell*, actually extend into NSW, which makes for interesting times when you can actually journey from one

jurisdiction to another just by walking from one end of the wharf at *Creswell* to another. Another jurisdictional issue, by virtue of another little constitutional quirk in the way in which NSW handed the territory over to the Commonwealth before World War I, is that, aside from a few small areas, the Jervis Bay Territory has no sea areas under its control. This is the case because NSW seized everything from the high watermark up. And, because the High Court has confirmed that the States exist from the low watermark up, the result is that the inter-tidal zone right around the outside of the territory is a thin belt of NSW, entirely encapsulating the seaward edges of the Territory. This arrangement means that Commonwealth waters in the bay are separated from the Jervis Bay Territory by areas under NSW control.



Point Perpendicular (Neil Saunders)

The relevant issues, in terms of legislative application with regard to Jervis Bay, are: what are the impacts of having two marine jurisdictional areas? And, what are the implications if NSW tries to apply its legislation both to Commonwealth activities, and to the extent to which the Commonwealth, in terms of the EPBC Act, can regulate activities that take place within the Booderee National Park and, therefore, in the waters immediately adjacent to *Creswell* and the southern portions of Jervis Bay?

The relevant State legislation in the context of Jervis Bay is the *Marine Parks Act 1997*, which is applicable to the waters in the northern, approximately seven-eighths, of the bay itself. The *Marine Parks Act* does not explicitly bind the Crown. Thus, if NSW wished to assert the Act with respect to RAN activity, the fact that it does not explicitly bind the Crown creates a problem for the State. The legislation provides for quite substantial management regulations of activities taking place within a marine park (and, therefore, within the bay), and also can provide, to assist those endeavours, for closures for a period. Quite clearly, if a State were to purport to close a State marine park, and attempt to apply that to the Commonwealth, there could be substantial ramifications for RAN activities. Let us take a hypothetical example where part of the RAN's surface fleet is scheduled to conduct training activities in Jervis Bay just off *Creswell*. Because it would be impossible for those ships to navigate entirely within Commonwealth waters to get in and out of the bay (as the passage between Bowen Island and the mainland is far too shallow), navigation through the Jervis Bay Marine Park would become essential for those vessels to be able to reach *Creswell*. If NSW then purported to close the marine park to that sort of activity, there would be a direct clash between Commonwealth and State. The lack of explicit binding of the Crown, however, makes that unlikely in the circumstances, and it is likely that the State and the Commonwealth could thus avoid such a clash.

The *Control of Naval Waters Act 1918* does give Defence some options if a State decided to start throwing their weight around in Jervis Bay. It is not environmental legislation, but rather it gives the RAN the ability to be able to clear certain areas of water and regulate activities that take place in those areas in particular circumstances. Thus, were it in Defence's interest to ensure that Jervis Bay was clear of shipping at a particular time, the controller of Naval Waters for those waters can issue a declaration that effectively allows those waters and the surrounding sea areas to be vacated. If a State body was attempting to prevent a flotilla from entering Jervis Bay, the controller could proclaim the waters as Naval Waters and the State authorities would have to leave that area or they would be committing an offence. That would be an extreme situation, but it potentially would be an option to give Defence adequate control over areas in the vicinity of a shore establishment.

At a wider level though, the *Marine Pollution Act 1987* does explicitly bind the Crown and purports to do so in all capacities. The Act itself is an attempt by NSW to apply the relevant provisions of the MARPOL arrangements regarding oil spills and other pollution from ships. The potential impact of the Act is quite substantial because the application of these sorts of provisions to RAN activities might constrain what the RAN can do. From a policy perspective, this should not be a problem because RAN applies MARPOL standards voluntarily in any event.

There is also a question regarding Aboriginal tenure within the Jervis Bay Territory. The Territory is maintained under its own Act rather than under the *Native Title Act*, and significant grants to the Aboriginal community at Wreck Bay within the area have taken place, including areas of water that are within the National park. Accordingly,

the impact of that Aboriginal tenure on activities, from a legislative point of view, also raises issues. The Aboriginal community is directly involved, by virtue of the EPBC Act, in relation to management questions within the Booderee National Park, and therefore, in the formulation of management plans that may impact upon Defence.

Conclusion

This chapter has focused entirely upon legislative compulsion: to what extent can legislation compel Defence to be a good environmental manager? The EPBC Act can do that, although the exception may allow Defence to avoid some of the Act's rigours. However, Defence needs to be circumspect about how this exception will be utilised. Also, given that from a policy perspective Defence and, in particular, the RAN, has tried hard in terms of the marine environment to set a very high standard and has invested significant amounts of time and effort into being a good environmental manager, to be seen to be seeking an exception from the Minister would not necessarily be something that was consistent with those efforts. Accordingly, Defence has been reticent in terms of utilising those exceptions, although, from time to time, exceptions may be needed. Nevertheless, legislative impacts upon activity, particularly in the EPBC Act, are substantial for the RAN in terms of their operations. State legislation may, from a constitutional perspective, be able to be avoided in this context, although the EPBC Act will not assist in that process by conveniently invalidating the State legislation. But, in the longer term, these are questions that ultimately are not determinative of whether or not the RAN is a good environmental manager.

But none of the above removes from the options before the Minister for Defence, the Service Chiefs and the Chief of the Defence Force, the idea that, if from a policy perspective Defence wants to be a good environmental manager, they can set standards that may lead to or even exceed the requirements that either State or Federal legislation may impose. And, indeed, in a number of areas that appears to be the case insofar as very high standards have been set in place. From a policy perspective, environmental matters are treated with great seriousness, and those policy matters are issues that are very much within the control of Defence.

Notes

- ¹ Parts of this chapter are derived from G. Kerr and B. Snushall (eds), *Future Environmental Policy Trends to 2030: Impact on Ship Design and Operation*, Papers in Australian Maritime Affairs, No. 13, Sea Power Centre - Australia, Canberra, 2005, Annex B.
- ² Environment Australia, *Guidelines on the Application of the Environmental Protection and Biodiversity Act to Interactions Between Offshore Seismic Operations and Larger Cetaceans*, www.ea.gov.au/epbc/assessmentsapprovals/guidelines/seismic/index.html.

Defence Training and Environmental Management

Commander Charles McHardie, RAN

As Commander Plans at Maritime Headquarters in Sydney, I head up a small team that looks after all of the operations and exercises the Royal Australian Navy (RAN) undertakes; about 26 exercises at the moment and several operations ranging from Heard Island in sub-Antarctic waters to the Arabian Gulf. Thus, it is a fairly busy team with a full annual exercise and operations program.

The intention of this chapter is to outline the Department of Defence's mission and the RAN's mission and explain how we deliver the right forces at the right time through maritime training. The chapter will look at how we continue the training continuum once we have got our forces up to speed with exercise planning; and then look at environmental management, or the framework that ensures that we are compliant in all the training and exercise activities and operational activities that the RAN undertakes. So what does that mean from a RAN perspective when considering the environment? Our job is to protect Australia and its interests, and the environment is definitely part of that, both with activities and undertakings that we do as a navy, but also in protecting Australia from external influences that may seek to damage our environment as well.



HMAS Kanimbla at anchor off Cowley Beach, North Qld, conducting amphibious operations with HMAS Brunei conducting transfer operations, Exercise SEA LION 2004 (Defence)

In the environmental framework under which we operate, Commonwealth law governs all Australian Defence Force (ADF) activities, both in Australia and overseas, for all operations and exercises. National security and environmental protection issues should work together throughout any activity we undertake in the ADF, to serve that common national interest. Defence does not just look at compliance with laws and guidance from government, but adopts the spirit and principles of environmental compliance. If you had asked a junior sailor 10 to 15 years ago what environmental protection meant, the reply may well have been 'Don't ditch rubbish in the ocean', whereas today there is a much greater awareness about things like operating sonars and where we anchor our ships. Importantly, this awareness within Defence applies from the bottom level all the way up to the top.

What do we train for? Why do we need to train the RAN? The Maritime Commander's mission is to provide mission-capable maritime forces in the right place at the right time. Mission capable is a fairly complex term. It means a lot of things across all dimensions and it is particularly tough for the RAN because we operate in probably more dimensions than the other Services. In the air environment, we fly helicopters off our ships. From the surface we have ships that operate all around the oceans of the world. In the sub-surface environment, we have submarines and divers that also operate in the inshore zones with the Army for amphibious operations.

How do we undertake that mission? The way we do it is to take a whole group of disparate sailors and disparate units and train them at sea. We have a fairly busy training program throughout the year, which sees us involved in many exercises, some quite complex with some high-end partners and some fairly small. We have theatre-level combined exercises, which are high-end exercises all along the eastern seaboard with our American counterparts, such as the bilateral exercise called Exercise TALISMAN SABRE 2005. Operations occurred up and down the eastern seaboard all the way up to Darwin with carrier battle groups and an expeditionary strike force from the United States with somewhere between 30-40,000 personnel operating in very different environments. The RAN also undertakes a range of other combined exercises annually. The RAN's training and readiness exercises ensure that our core war fighting skills are honed and up to speed. They include combined maritime exercises with some of our regional neighbours, which range from low-end exercises – bilateral exercises with some of the smaller South West Pacific nations, where we send patrol boats under the Defence Cooperation Program – to high-end exercises like TALISMAN SABRE. Many exercises involve overseas deployments to places like Hawaii and the Arabian Gulf, where we have conducted exercises with the United Arab Emirates Navy.

To do this we need to undertake continual training, including the ships that may have been in refit or sitting alongside in leave periods, with sailors whose skill sets are not as honed as they should be, or ships that have spent a lot of time with systems down. All ships have an operating cycle that can extend from three to five years depending on the ship class, and throughout that period the ship can expect to be taken offline, have heavy maintenance and systems upgraded or totally replaced, and whole new

ship's companies posted in. Once a ship has completed its maintenance, we need to look at in-harbour training, setting the systems to work on the ship and conducting qualification trials for the weapon systems, engineering systems and the sailors themselves, in harbour and at sea. After this we end up with a readiness evaluation depending on what the ship is going to do in the near future: is it going to operate off the east coast of Australia doing some general maritime collective training? Or is it going off to the Arabian Gulf to be part of a coalition in a high threat environment? If that is the case, we tailor our training to make sure that the ship is ready to be put in harm's way and is fully operational. In the case of the Guided Missile Frigate upgrade program, for example, ships such as HMAS *Sydney* are receiving new weapon systems ranging from new sonars through to new radars and electronic support suites, and a whole new ship's company is gradually being posted on board. An important problem to be tackled is how to work the ship up correctly and use these new systems on board, and that is a fairly complex undertaking.

Insofar as training for the ships is concerned, we separate the training activities that they undertake, both in their work-up post re-fit periods, or post-availability periods, and indeed during exercises in these specific disciplines. Each of these disciplines can have a different impact on the environment involving air warfare, under sea warfare, surface warfare, amphibious warfare, mine warfare and general mariner skills, which involve us getting to sea safely in the first place, and tailored operations, such as operations in the Persian Gulf and boarding operations in the Southern Ocean.

Within the air warfare environment, some of the main impacts on the environment derive from utilisation of high-speed air targets for our weapons systems and weapons crews to track and conduct air defence exercises and towed unmanned air targets. A lot of these targets are generated within quite environmentally sensitive areas such as Jervis Bay. In missile and gunnery firings, we apply a whole myriad of missiles from areas adjacent to places such as Jervis Bay to test our weapon systems proficiency. High-speed low-flying aircraft such as the F-111 and the F/A-18 and high-speed warships manoeuvre to counteract that threat.

Undersea warfare involves hunting for submarines or, in the old parlance, anti-submarine warfare. This has a fairly significant impact on the environment. This is a topical issue at the moment, involving the use of active sonar transmissions, some fairly high-powered sonars, hull-mounted sonars, and dipping sonars operated by aircraft. During the RIMPAC exercises in Hawaii, there has been some debate generated that high-powered, hull-mounted sonars have possibly caused some deaths to whales near the RIMPAC exercise areas.

Pathothermographic probes, which are laid in the water and end up on the seabed, sonar buoys dropped from P-3C Orion aircraft and S-70B-2 Seahawk helicopters also end up on the seabed. We do endeavour to recover torpedoes, following torpedo firings, with a success rate in excess of 90 per cent of cases, but sometimes the firing goes awry and the torpedo is not located. We also employ towing decoys with active

transmissions through the water in order to find submarines operating in that sub-surface environment.

Surface warfare training involves ship versus ship scenarios, traditional gunnery and missile firings, where we tend to undertake surface gunnery firings against towed or high-speed unmanned targets and also against shore targets. The RAN's shore target ranges include Beecroft Range off Jervis Bay and Lancelin on the west coast. A lot of nations have nothing like this. The Royal Navy and the United States Navy (USN), for example, often need to resort to firings off the coast against stretches of water, with no actual land, using computer-generated targets because they just do not have the areas available to them to conduct surface firings or shore bombardment.

Much of the RAN's mine warfare training also occurs in Jervis Bay. The main impacts involve the placing of shapes or training mines on the ocean bottom for our divers and mine hunters to locate and deal with. Also, active sonar transmissions are generally of a higher frequency when looking for these shapes on the bottom. Diving operations are conducted in some environmentally sensitive areas in both Shoalwater Bay in Queensland and Jervis Bay. Towed sonar sweeps the water to find mines and, once located, the mines are disposed of using underwater explosions.

Amphibious warfare training, including large exercises such as TALISMAN SABRE in Shoalwater Bay, involved a large expeditionary strike group coming in from the United States (US). Going back several years, we used to conduct beach landings in Jervis Bay. Will we do this again? Probably not, due to concerns with the weed beds on the approach to the beach. Environmental impact studies will probably not allow that type of activity in the future. We also conduct helicopter landings up into the hinterland during amphibious exercises and the biggest footprint is the movement of assets off the beach, including tracked and wheel vehicles and thousands of men, and the impact that has on the beach.

Another general training activity that could pose a risk to the environment is replenishment. Warships undertaking high-speed operations do not exactly have long range, and a frigate will probably need fuel after about a week to a week-and-a-half, so replenishment for these ships at sea is ongoing.

The RAN has goals for maritime training and what we would like to get out of exercises and exercise areas. With regard to preparedness, we are directed by government to prepare for a number of missions ranging from high-end war fighting to less intensity operations such as the evacuation of Australian citizens. In preparation we tailor and adapt our exercises for any of those preparedness directives. To achieve this, we need to make sure that we have realistic scenarios, and to have realistic scenarios we need to have exercise areas and the freedom within those areas to undertake training activities as closely aligned to the real thing as possible. We also want exercise areas that are close to our main bases and we are quite lucky that the East Australia Exercise Area is close to Sydney and to a beautiful anchorage at Jervis Bay. The same thing pertains to the West Australia Exercise Area, which is closely aligned to our ships based at Garden

Island in the west and Air Force assets there as well. The Southern Exercise Area for our submarines has traditionally been close to where the *Collins* class submarines were built, which is good for undertaking trials and initial training.

Looking up to the north, the North Australia Exercise Area is where the RAN has undertaken a lot of its regional activities, in exercises like KAKADU, which are run every two years, involving a number of regional countries. The northern location reduces transit times for countries such as Papua New Guinea, Indonesia, Malaysia, Singapore, and Thailand, cutting down their fuel costs and the amount of time spent away from their homeports. It is also an excellent place for the ADF to stage its air assets and a good tactical environment as well.

Probably the crown jewel for the ADF from a joint and combined perspective is the Shoalwater Bay training area. More and more money is being directed at the Shoalwater Bay training area, particularly to help out with combined exercise training with the US in Exercise TALISMAN SABRE; an ideal venue to practise for amphibious operations.

How do we make these exercises come together? The key is good exercise planning and we generally undertake our exercise planning nine to twelve months in advance, looking at identifying key players for activities, and one of the important issues is to make sure our environmental stakeholders are involved early. A good example of that is TALISMAN SABRE. The environmental planners were involved right from the concept and development stage to do risk assessments to make sure that we could undertake certain high-risk activities, so that time and effort was not wasted setting up for evolutions that did not eventuate. Thorough planning of all movements is very important. TALISMAN SABRE 2005 occurred during the northern migration of the humpback whale and it was necessary to work out the placement of ships for submarine warfare activities in order to stay out of the way of the whales throughout that activity.

We also need to look at no-access areas. In places like Shoalwater Bay, there are areas where we do not want tracked or wheeled vehicles to operate. There are areas where we do not want nuclear powered submarines or nuclear powered ships to operate. Similarly, there are areas that we do not want certain warships to access due to sanitary limitations and their ability to deal with waste. Thus, a fairly complex plan is needed to make sure that we have got the assets in the right place. And, if something does go wrong, we need to have a damage control plan for these high-risk activities so that we can deal with it immediately. This also requires us to identify activities that require referral to the Defence environmental team early in the exercise planning cycle.

We are quite fortunate now that all of the exercises and activities that we conduct within the maritime exercise areas in Australia are covered under an Environmental Management Plan (EMP) that tells us what we can and cannot do in these areas. We can therefore get on with our day-to-day business, as long as we conduct activities that fall within the parameters of the management plan. The issue that we do need to

be cognisant of is high-risk activities and also activities that we undertake overseas. This does cause us some angst at times if, for example, we undertake activities in countries like Malaysia or Singapore, our Five Power Defence Arrangement partners, who have a very different approach to the way they deal with environmental problems. It is very hard sometimes for our sailors to understand the care that needs to be taken in the environment when there could be a ship from another country only 500 metres away ditching their rubbish into the ocean, or taking a very different approach to the RAN.

As far as involving the stakeholders throughout the planning cycle, there are some key players that we engage with. For example, the Department of Environment and Heritage, and the Australian Quarantine and Inspection Service (AQIS) are brought in during the early stages of exercise planning. The Queensland Parks and Wildlife Service is brought in, as well as the Great Barrier Reef Marine Park Authority (GBRMPA) – particularly in Shoalwater Bay – and also our ADF management groups.

To date, the four biggest issues we have had to deal with are underwater detonations, sonar buoy usage, high-speed boat transits close into the coast and erosion issues. We do seem to have improved in recent times with regard to active sonar transmissions and landing areas in places like Shoalwater Bay, and we are well and truly on top of the MARPOL issues, such as the ditching of oils and fuels and rubbish at sea.

Another high-risk activity that lies outside of the EMP are hulk exercises, where the RAN sinks old hulks off the coast. It is essential to make sure that hulks are prepared properly before they are sunk to avoid toxic fluid and old oils rising to the surface and causing environmental damage.

Whales have been a hot topic and a great deal of effort has been put in to make sure that we do not upset marine mammals during exercises such as TALISMAN SABRE. We now need to focus on ensuring that activities can take place in the presence of these marine mammals in all of our exercise areas in Australia. By 2010 it appears there will be a population of about 25,000 humpback whales, so the implications of this for RAN activities in the future will need to be carefully monitored.

Public perception is a big thing. We need to make sure in Defence that we are serious about strictly complying with the guidance from government and the relevant environmental authorities. Otherwise we may well find that the ADF loses access to these exercise areas with flow-on effects that include: longer transit times to more remote exercise areas, additional fuel costs in getting there, and less effective use of our limited training time as a consequence.

In conclusion, the RAN thus needs to ensure that it is a responsible custodian of the environment and the exercise areas in which it now operates, both within Australia and overseas, to not only guarantee long-term access to and enjoyment of these areas for Defence, but to preserve them for the benefit of future generations as well.

Balancing Defence Training and Operational Needs with Environmental Protection

Colin Trinder and Commander Steve Cole, RANR

The conduct of defence activities in the marine environment has both positive and negative impacts. Through the conduct of training, operations and research, the Department of Defence has been responsible for gathering much of the knowledge we now have about the sea. Looking from a historical perspective, the great voyages of exploration and discovery, probing the depth of the oceans, our knowledge of marine biology and the physical processes of the sea, all have their genesis in the activities of the military.

In Australia, Defence makes significant practical contributions to positive environmental, economic and social outcomes affecting the marine environment – through fisheries protection, maintenance of quarantine barriers, search and rescue efforts, charting for safe navigation and research.

On the other hand, the military forces of the world have, at times, also been responsible for serious environmental impacts. Adverse impacts have generally been unavoidable, resulting from accidents, acts of war, or due to a lack of knowledge. In an Australian context, overall, the contribution of Defence to adverse environmental outcomes in the marine environment has been relatively small. However, despite the low risk, the expectations of interest groups, regulators and the community regarding Defence's environmental performance continue to rise.

Defence clearly recognises that this is a challenge. Ensuring that people remain confident that the conduct of military training is not at the same time compromising the ecological integrity of the marine environment is critically important. This means that Defence must remain vigilant to ensure serious incidents, such as an oil or chemical spill, that can lead to serious environmental impacts do not also compromise confidence in the community about our overall performance as an environmental steward. Such an outcome could erode access to some areas for Defence training and lead to increasing inflexibility of the regulation of activities by external agencies. Recognising that Defence relies heavily on training areas in environmentally sensitive locations, such as Shoalwater Bay in the Great Barrier Reef Marine Park, makes it doubly important to demonstrate a clear understanding of environmental issues, a robust approach to managing impacts and constant vigilance in demonstrating best practice.

In recent years, steps have been taken to ensure that Australia's modern warships are either equipped with systems that minimise environmental impacts or are moving rapidly in that direction. Systems, such as those for managing wastewater, are now designed to minimise pollution from the outset, and are complemented by impact and

risk assessment procedures that consider all activities and mitigate identified impacts through adoption of improved operating procedures.

This chapter describes the Australian legislative and policy compliance framework that applies to environmental management of Defence activities conducted in the marine environment. It describes some of the positive contributions that Defence has made to ensure that the environmental consequences of our activities are considered and minimised, and it contemplates some of the challenges ahead.

Intuitively, many people would think that Defence's combat roles are such that its activities at sea and ashore are totally incompatible with protection of the environment. To the lay person, any discussion of military activity and environmental impacts, evokes a mental picture of the trench war battlefields of World War I (for which we have coined the term 'the Somme effect'). It is inconceivable to most people that Defence can conduct itself in peacetime in a way that is environmentally benign or be involved in stewardship initiatives aimed at environmental protection and biodiversity conservation. Such perceptions are reinforced by periodic media attention given to historical episodes of poor environmental management practices. Past examples include sea dumping of munitions, chemical warfare agents, and obsolete equipment, as well as contamination of soil and groundwater and unexploded ordnance in former training range areas. These are not legacies in which Defence can take pride, but they are symptomatic of less environmentally sensitive standards applying in an earlier era. Fifty or one hundred years ago, prevailing community attitudes and the regulatory climate of the time meant that environmental issues were barely recognised as management priorities – let alone priorities for Defence.

Since the 1960s, environmental awareness and interest has greatly increased. Certainly in Australia there is now widespread community understanding and acceptance of the need to manage the environment in a manner that will ensure sustainable use and the need for limits on activities that lead to long-term degradation. This fundamental shift in community values means that sustainable environmental management, including at sea, must also feature as a key interest for Defence in the pursuit of its mission.

Legislative and policy framework for managing Defence environmental impacts

Commonwealth legislation

The Australian Constitution (section 51(vi)) provides for Defence to do all things necessary to achieve the purpose of defending Australia. This broad provision is generally considered to be an 'elastic' concept that varies with operational tempo and provides little clear guidance on how this should be applied to environmental management in peacetime. *The Defence Act 1903* contains very little that could be considered relevant to management of environmental issues. Similarly, the *Naval Defence Act 1910* has little bearing on issues of environmental management within Defence.

Today, the activities that Defence routinely undertakes in the marine environment are influenced in one way or another by a plethora of environmental legislation, plans, agreements, policies and other instruments. Some of the most significant pieces of environmental legislation that affect the day-to-day operations of Defence in the marine environment are described below.

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the most significant and far-reaching environmental legislation yet enacted by an Australian government. Among other things, the EPBC Act binds all Commonwealth agencies, including Defence, to minimise impacts and deliver environmental best practice, regardless of operational location in the world. There are penalties that could be applied to Defence personnel under this Act where their activities have been reckless or negligent and have had a significant impact on the environment as a result.

The EPBC Act has the objective of promoting the concept of ecologically sustainable development (ESD) as a key factor in government decision-making. It promotes the conservation of biodiversity by providing strong protection for listed threatened, migratory and protected species (marine, avian and terrestrial), as well as the conservation of heritage and protected areas. Defence activities identified as having the potential for significant impact require formal consideration and approval from the Minister for the Environment and Heritage. Strict conditions may be imposed on when and how the activity can be conducted. These issues, and the timeframes involved in the approval process itself (which can take up to two years), need to be carefully considered and managed if serious impacts on the delivery of operational capability and training outcomes are to be avoided.

The *National Environment Protection Measures (Implementation) Act 1998* provides for accountability and reporting of environmental pollution or activities that may lead to environmental degradation, in accordance with National Environment Protection Measures (NEPMs). As part of a Defence-wide response to this legislation, the Royal Australian Navy (RAN) is participating in the development of a Defence Accountability Framework, and is reporting to the National Pollutant Inventory.

The *Great Barrier Reef Marine Park Authority Act 1975* (GBRMPA Act) impacts significantly on important RAN operations and training in the coastal areas of north Queensland. The GBRMPA Act is particularly relevant to the conduct of Defence activities because of the use of Shoalwater Bay Training Area for combined training exercises with the United States (US), such as the TALISMAN SABER series. The zoning plan developed under this legislation reflects the ongoing use of the area by Defence. It provides for a flexible and effective regulatory regime that facilitates important Defence training while protecting critical environmental, economic, social and cultural values of this World Heritage Listed area. Aside from training exercises, a number of other Defence activities in the Great Barrier Reef Marine Park also contribute to broader government policy objectives including interception of illegal foreign fishing vessels and vessels attempting to enter the country unlawfully; hydrographic charting; research

and oceanographic studies; plus ship transits and joint service training exercises in designated areas.

Environment Protection (Sea Dumping) Act 1984

The *Environment Protection (Sea Dumping) Act 1984* (Sea Dumping Act) regulates the disposal of obsolete equipment and material at sea, and implements Australia's obligations as a signatory to the London Convention. The RAN complies with all directives relating to the Sea Dumping Act with regard to disposal of equipment and material at sea. This legislation is of increasing relevance to Defence, as the scuttling of decommissioned warships has become increasingly popular for recreational diving. There is also interest from recreational fishers in using ships in deeper water as artificial reefs for enhancing fish habitat.

State/Territory legislation and local government regulations

In Australia, Defence is committed to working cooperatively with State/Territory and local government to ensure that Defence activities do not have unintended environmental or other impacts. To the extent that laws are not inconsistent with overarching Commonwealth legislation, Defence seeks to comply with the intent of legislation in other jurisdictions.

International conventions

International agreements such as the International Maritime Organization's (IMO) ship-sourced pollution regulations (MARPOL 73/78) generally include an exemption for warships. Australia's *Navigation Act 1912* and the *Protection of the Sea (Prevention of Pollution from Ships) Act 1983* implement MARPOL for ship construction and operation, and reflect the general exemption for warships. This exemption not only recognises the unique attributes of these vessels, compared to merchant ships (e.g. purpose built, critical weight and space limitations), but also the traditional 'right' of these vessels to use the oceans 'unencumbered' by civil regulation. The weight of public opinion can occasionally erode the value of exemption for warships under international agreements such as MARPOL 73/78. The RAN voluntarily chooses to comply with all extant MARPOL 73/78 regulations pertaining to pollution discharge at sea, despite the exemption clause. In fact, in many instances RAN policy exceeds the requirements laid down by the Convention. This also satisfies obligations contained in the Defence Environmental Policy.

Oceans policy

Outside of agreements and legislation, Australia also has an overarching Oceans Policy that aims to deliver healthy oceans that are cared for, understood and used wisely for the benefit of all, now and into the future. The RAN maintains an effective dialogue with the National Oceans Office within the Department of Environment and Heritage to ensure that all activities conducted at sea are carried out in a manner consistent with the objectives of *Australia's Oceans Policy*.

Defence environmental policy

In December 2001, Defence launched its Environmental Policy committing the organisation to legislative compliance, prevention of pollution and continuous improvement of its environmental performance. The Policy recognises the importance of protecting the environment, and the need to ensure that best environmental practices continue to be implemented throughout Defence. Management of activities to minimise environmental impacts, and promotion of environmental sustainability, are key elements of the new policy.

Defence's response to the challenge of protecting the marine environment

In recent years Defence has responded strongly to the challenge of demonstrating sustainable environmental management. For example, Defence managers now overtly refer to the need to balance the need to train for war and warlike activities, with the need for sustainable environmental management.¹ This commitment is reflected in the instructions governing the conduct of major exercises such as TALISMAN SABER. In the marine environment this is also particularly evident in the RAN's commitment to implement measures to minimise environmental risks arising from training activities. This is effected through mechanisms such as Bridge Cards, which now include the operational procedures for ships (and aircraft) that take into account factors such as effects on marine mammals (see Figure 1).

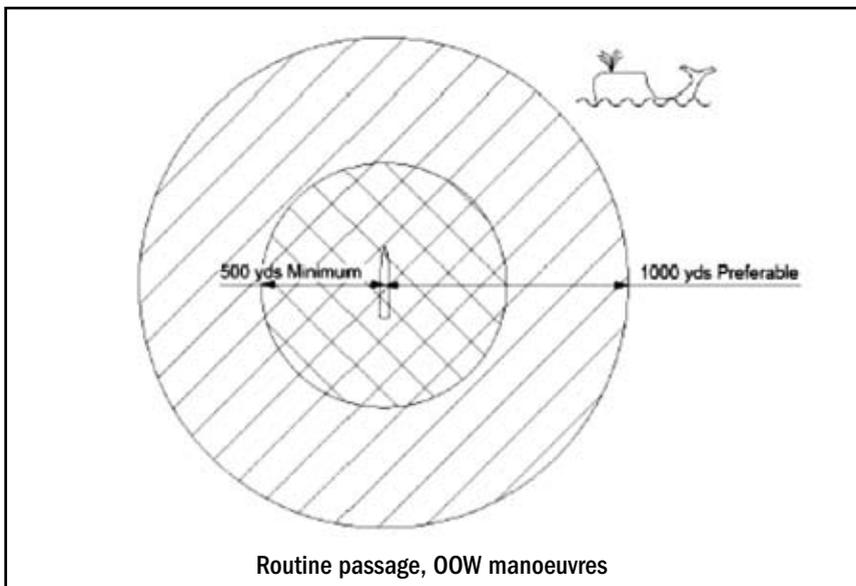


Figure 1: Example of RAN Procedure Card (PS1) – Guide to Officer of the Watch (OOW)
Routine Passage – stand-off distances for whales

Defence training activities generally occur near the coastline close to fleet bases. To be fully effective, training in peacetime must mirror conditions that may be encountered during genuine hostilities. When preparing to send personnel, ships and aircraft into harm's way, there is no substitute for rigorous and realistic peacetime training. This puts a considerable challenge on exercise planners to meet the need for exercise realism and extract the greatest training benefit, while avoiding adverse environmental outcomes. An example is the training strategies that have been developed for the RAN to ensure that whales and other marine life are not adversely impacted by ship strike, sonar transmissions or acoustic impulses generated by underwater explosions.²

Sound management of the terrestrial environment at major bases also means that sensitive coastal ecosystems are protected. These coastal environments are in turn a critical part of the life cycle of species found in deeper water offshore and demonstrate the interconnectedness of coastal and ocean marine environments. With regard to protection of coastal environments, Defence can point to a number of examples:

- HMAS *Stirling* (which includes Fleet Base West) and is located on Garden Island near Rockingham, Western Australia, is effectively a port, light industrial and residential area, but operates as the equivalent of a national park, abuts protected marine park and is listed on the Register of the National Estate for both its natural and cultural heritage values
- Defence operations in the Jervis Bay (New South Wales) area are conducted in sympathy with conservation of environmental values in three adjoining National Parks – Jervis Bay Marine Park (NSW), Jervis Bay National Park (NSW) and Booderee National Park (Commonwealth) – and on the adjoining Beecroft Peninsula Bombardment Range (also listed on the Register of the National Estate).

Broader environmental initiatives delivering positive outcomes for biodiversity protection have included:

- the conduct of rigorous environmental impact assessments for the adoption of new technologies and equipment (such as for the development and operation of new mine countermeasure training sites off the NSW coast)
- funding for research into the distribution and abundance of whale populations off the east and west coasts and for tracking critically endangered blue whales in the Indian Ocean off Western Australia
- development of ship mitigation procedures for use of sonar and explosives to avoid adversely impacting on cetaceans
- standardisation of ship fuel types, involving removal of heavy bunker fuel oils, and improved fuel efficiency of ships.

Defence is committed to continuous improvement through the adoption of management systems based on the ISO 14001 quality assurance standard. As environmental issues evolve and as scientific knowledge continuously improves, Defence accepts

that environmental practices will need to keep pace for it to remain a leader in environmental stewardship.

Management of current environment issues

As the environmental knowledge base increases, activities previously sanctioned by the community sometimes become less acceptable, particularly when methods to avoid or minimise potential damage become available. The challenge for Defence policy-makers and operators is to ensure that operational and training activities that may pose some environmental risk are managed carefully to preserve operational capability and to ensure compliance with environmental legislation and standards.

Protected species and marine protected areas

Operating in and adjacent to marine protected areas or those periodically populated with whales and other highly protected marine species will require careful management of activities identified as posing some environmental risk. The development of Environmental Management Plans (EMPs) for ships and maritime exercise areas, and adoption of the mitigation measures contained within these EMPs, will provide the management process whereby protection is ensured.

IMO phase out of single hulled tankers

The total loss of the tanker *Erica* off Brittany, France, from hull failure in high seas led to increased impetus for an IMO plan to phase out single hull tankers. The accelerated phase-out plan has been ratified by Australia, and its impact on future capability projects in the Defence Capability Plan is being reviewed. Despite the warship exclusion clause, Australia is replacing HMAS *Westralia* with the double hulled *Sirius*, and plans to replace HMAS *Success* with a compliant double hulled vessel when she is due for withdrawal from service. This is in line with decisions made by a number of other major navies.

Phase out of tributyl tin (TBT) antifouling paints

TBT antifouling paint is to be banned by the international community via a new IMO Convention. This ban is due to the paint's toxicity to non-target organisms and its tendency to accumulate in sediments and bio-accumulate in the food chain. The current timetable for the phase-out was a ban on new applications from January 2003 and a total ban on use by January 2008. The Defence Science & Technology Organisation (DSTO) has been researching the efficacy of replacement paint systems on behalf of the RAN for some years and has determined a suitable alternative using less toxic copper as the active constituent. Consequently, the RAN has commenced a program of withdrawal of TBT in line with the IMO Convention, notwithstanding the clause exempting warships.

Management of potential introduced marine pests

Introduced marine pests (IMPs) are recognised as a major threat to marine ecosystems worldwide. Recent examples of incursions include the black striped mussel in Darwin and

the green-lipped mussel in Cairns. In both cases Defence personnel assisted in survey, sample collection and clean up of the harbour areas as a community service.

Ballast water and hull fouling are recognised as the two most prominent vectors for the transfer of potential marine pest species. A ballast water reporting and management system has been developed and implemented by the Australian Quarantine & Inspection Service (AQIS). The RAN complies voluntarily with the requirements of the system in vessels equipped with dedicated water ballast tanks.

Hull fouling is increasingly being recognised as a potential source of IMPs. Due to the specialised design requirements for high speed and endurance, the hulls of naval vessels are kept clean, and with antifouling coatings in good condition. Hull coatings are renewed on average every five years.

Hull and system fouling have the propensity to create significant operational problems for warships due to the potential impact of reduced efficiency of cooling of engines and combat systems. Warships require larger cooling systems compared to merchant vessels, using salt water for cooling main engines, gearboxes, air-conditioning of combat systems and habitation spaces, fridge/freezers, and to provide water for firefighting systems. Water for these systems enters the ship's hull via complex valve and piping systems and sea chests, which can harbour IMPs. RAN-directed research by DSTO is seeking improved fouling control technology for these systems.

Consequently, the RAN has implemented pre- and post-deployment inspections of vessels for IMPs, and new vessels are being fitted with fouling control systems for internal pipework to ensure that fouling is minimised. Such measures are well in advance of any planned implementation in commercial vessels.

Ship generated waste management

Ship waste management protocols were developed by the IMO via MARPOL 73/78. These regulations were developed in response to the significant contribution of waste from shipping and boating to degradation of the marine environment. Warships are excluded from MARPOL 73/78; however, sovereign States are required to ensure that they act in a manner consistent with the objectives of the convention, without prejudicing operational capability. The RAN voluntarily complies with (and often exceeds) MARPOL 73/78 requirements.

Environmental management plans for RAN exercise areas and ships

RAN shore establishments and shore practice ranges have had EMPs for some years. These are currently being updated to ensure compliance with the Defence environmental policy and legislation. In parallel, EMPs have been developed for maritime exercise areas and ships.

Maritime exercise areas are used for a broad range of activities, and frequently by groups of vessels and aircraft. The EMPs have greatly enhanced Defence's ability to avoid environmental damage. The risks of not managing an exercise area in a sustainable manner could result in loss of public confidence, even loss of access and

use. The ship EMPs demonstrate due diligence and proactively consider environmental protection from shipborne activities anywhere in the world the RAN operates. However, it should be noted that the environmental impact of naval ships and aircraft conducting normal peacetime operations at sea is insignificant, and not dissimilar to commercial vessels in scope.

Scientific research

The RAN undertakes and supports research in environmentally related areas in collaboration with other elements of the Defence organisation, notably the Defence Materiel Organisation (DMO) and DSTO. The range of current research topics includes:

- modelling of underwater sound propagation characteristics
- impacts of underwater sound on marine life
- observation and reporting of the movements, behaviour and ecology of whales
- testing the efficacy of replacement antifouling paint systems and reducing the risk of introduced marine pests
- participation in management of introduced marine pest incursions
- ship waste management and pollution prevention
- use of environmentally benign components in maritime equipment.

Defence also has collaborative research programmes with other scientific institutions, including universities. These include a pygmy blue whale ecology, population distribution and abundance survey off the coast of Western Australia (in collaboration with a consortium of partners that include Curtin University, the Western Australian Museum and independent research scientists), and a marine mammal acoustic research programme proposed by the University of Queensland for the coastal areas of South East Queensland.

The RAN has recently flagged environmental issues as a focus area requiring increased scientific research by DSTO. An increase in Defence spending on environmental research will help considerably in providing balanced, scientific solutions to many of the marine environmental issues where knowledge is still limited.

Role of community engagement, environmental awareness, media and public perception

For the past 40 years environmental issues have been finding an increasing resonance with the aspirations of the wider Australian community. Awareness and expectations have grown and what was once acceptable may now be unforgivable. As far as Defence is concerned, government, regulators and interest groups, as well as the Australian community generally, are still prepared to draw distinctions between active, unusual or unique military operations, and the more routine operational tasks or training activities that Defence undertakes.

Compliance with environmental legislation now occurs as a matter of policy. Only in the most urgent extraordinary circumstances will activities that have the potential to compromise best practice environmental management outcomes be accepted as necessary; for example, during war or to save human life. As previously mentioned, the RAN has formally introduced mitigation procedures for its operations, to ensure that whales are avoided when conducting activities with the potential to cause harm, such as underwater explosions. Migration, feeding and breeding areas are specifically being avoided. This is the way of the future. It involves some compromises for Defence, but also obliges a degree of acceptance by the community that Defence is environmentally aware and trustworthy in its stewardship of the environment and in the conduct of its business. Defence plans to do more in future to improve public awareness of its good environmental record.

Defence also takes a leading role in regional environmental fora around Australia, where these are relevant. The RAN, for example, has been a key player in programs such as the Australia and New Zealand strategy to reduce impacts from shipping on the marine environment and in collaborative projects to study marine habitats. Another example is the multi-party Cockburn Sound Management Council established by the Western Australian Government. Membership of these groups demonstrates the RAN's credentials as an environmentally responsible corporate citizen, while simultaneously permitting public scrutiny of its environmental performance.

Challenges

Managing encroachment

Australia's Oceans Policy articulates the government's requirement that Defence must operate ships, submarines and aircraft throughout all areas of the marine environment. Submarines, in particular, need to take advantage of the full range of biophysical features that exist in the oceans to avoid detection. Conversely, it is also a critical requirement for surface ships and aircraft to train in the same areas to detect them. The implementation of marine plans, by all levels of government, has some potential to restrict or further regulate Defence access to traditional training areas. The absence of a robust planning framework for the marine environment leaves the door open for gradual encroachment on Defence's traditional training areas by potentially conflicting uses (for example, by fishing, recreation or oil exploration). Defence must actively participate in marine planning processes to ensure that plans do not unintentionally impact on critical Defence training. From a Defence perspective it is important that marine plans address the environmental risks associated with its activities rather than regulate or restrict access simply because an activity is being undertaken by Defence. Similarly, conditions imposed on the approval of Defence exercises have the potential to constrain training to areas that do not provide realistic training environments.

Minimising impacts on whale populations

A number of protected species, particularly cetaceans, use sound to navigate, hunt and communicate. While there is always ambient sound present in the oceans (and often

at high levels),³ a limited number of RAN activities are capable of producing levels of sound significantly above the background ambient levels.⁴

‘Active’ sonars (which transmit sound, as opposed to ‘passive’ sonars, which only receive) are used by warships of all nationalities in conducting anti-submarine or sea mine detection operations against threats to themselves or ships they are escorting. Commercial vessels and fishing boats all use forms of sonar for depth sounding, hydrographic survey and fish finding. Essentially this technology involves underwater sound transmission from the ship, and its detection after reflection from an object. Active sonar systems are necessary elements of a warship’s fighting role, and fundamental to successful detection, identification and destruction of submarines, mines and torpedoes. The detection of underwater objects using active and passive sonars requires considerable skill and regular training, which can only partially be met in shore-based simulators. Such activities are therefore a necessary and unavoidable part of RAN operations at sea. The challenge is to ensure that the peacetime training use of equipment capable of impacting on the marine environment is undertaken in a way that minimises the degree of environmental risk.

The destruction of sub-surface threats involves use of a wide range of weapons designed for detonation underwater. While these are rarely used in peacetime, underwater explosions are capable of generating high intensity sound, in addition to the shock wave caused by the explosion. The shock wave may affect not only the physical environment, but also biota within it. Fortunately the shock wave may be quite local in effect, frequently only a few tens of metres, depending on the size of the charge. In contrast the sound of an explosion, or high power active sonar, may propagate for many kilometres. Underwater sound levels and their impact on marine mammals is the subject of ongoing scientific debate,⁵ particularly with reference to shipping noise, seismic survey vessels,⁶ and high intensity active sonar and other Defence related activities.

In recent years the RAN has become acutely aware that training activities involving sonar or underwater explosive devices require careful management if potentially significant impacts (or the perception of impacts) are to be avoided. This is particularly the case noting the extensive use of Australian waters by migratory whale species such as the humpback whale (*Megaptera novaeangliae*). Not only do individuals of this species migrate the length of the east and west coasts, they also use the tropical waters of Queensland and Western Australia for breeding and resting purposes. Other species, including the blue whale (*Balaenoptera musculus*) and the pygmy blue whale (*Balaenoptera musculus brevicauda*), inhabit the west coast, and are known to congregate at certain times of the year in the West Australia Exercise Area (WAXA).⁷ The WAXA is used continually for operational exercises and training by ships and submarines based at the RAN’s nearby Fleet Base West at *Stirling*, near Rockingham.

Clearly, as populations of whales recover in line with the reduced impact of whaling, interactions between ships and whales will increase. The humpback whale population, for example, is estimated to be increasing at 10.9 per cent per year.⁸ Other species

recovery is slower, but still significant. It is possible that the humpback whale may in future occupy a broader range of ecological niches due to its speed of recovery, and the comparative lack of recovery in other species. A consequent increase in the humpback population, potentially above that which existed prior to the onset of whaling, would lead to significant congestion issues for seagoing vessels off the Australian coast. Mitigation of activities through application of strategies based on sound scientific research conclusions is fundamental to sustainable use of such areas, and maintaining the ability of the RAN to train and operate using active acoustic equipment. Current DSTO research projects are aiming to determine rates of sound attenuation, effects of sound on marine ecosystems, and design and operational use of alternative underwater sonar systems.

Recovery of whale populations in Australian waters also brings increased threat of whale collision with ships. Whale collision is recognised as a probable major cause of the lack of recovery of the northern right whale (*Eubalaena glacialis*), a species known for its slow swimming speed and limited response to surface threats. The RAN is concerned about collisions because not only is an equally vulnerable close relative, the southern right whale (*Eubalaena australis*), present in our waters, but such collisions can cause significant damage to warship hulls and systems. The rapid recovery of the humpback whale population will also add to the risk of collision. It is worth noting that the number of RAN ships at sea on each day of the year is relatively small compared with the number of merchant vessels trading around the coastline. Naval ships also tend to operate at significantly lower speeds (for reasons of fuel economy) than merchant vessels, and generally have more people keeping visual watch. Accordingly, the risk of whale collisions with merchant vessels is likely to be greater than for naval ships.

Conclusion

The management of real and perceived environmental impacts in the marine environment and elsewhere is an increasingly important issue for Defence. Defence activities are often the subject of close public, parliamentary, interest group and media scrutiny.

In the marine environment Defence is addressing this scrutiny by taking environmental management issues into account in all the phases of the development of exercise plans and in the development, acquisition and operation of weapons systems, equipment and platforms. Maintaining the confidence of the community and the regulatory agencies in Defence's systems for delivery of environmental management outcomes also remains a priority.

The use of sonar has been particularly closely scrutinised. Defence has concluded that the community will not tolerate any failures by Defence to conduct its peacetime training activities in a sustainable manner, consistent with the expectation that this must be done sustainably. This is particularly important in the case of potential impacts on rare and threatened species such as the great whales, which have acquired an iconic status.

So far the challenge has been met. Defence has delivered significant positive outcomes for environmental conservation in a number of areas. However, Defence needs to continually monitor and evaluate all activities that may be constrained or prevented by changes to Commonwealth legislation and international treaties, or in response to public pressure. Defence must also keep its young men and women safe. It does so by preparing them to the highest possible standards for the unfortunate possibility that one day they may find themselves in harm's way.

For marine environmental management, the challenge for Defence is to successfully balance sound environmental stewardship of the oceans with this overriding and critical requirement to train our people to provide for Australia's national security.

Notes

- ¹ N.J. Wark and F.J. Verrier, 'Australian Defence Organisation Environmental Management Initiatives – Shoalwater Bay Training Area', *Federal Facilities Environmental Journal*, Spring 2002, pp. 53–63.
- ² URS Australia, *Environmental Management Plan for Australian Maritime Exercise Areas*, April 2004, Vol. 2, Appendix P.
- ³ D.H. Cato, 'Ambient Sea Noise in Waters Near Australia', *J. Acoust. Soc. Am.*, Vol. 60, 1976, pp. 320–323.
- ⁴ H.M. Dotinga and A.G.O. Elferink, 'Acoustic Pollution in the Oceans: the Search for Legal Standards', *Oceans Development and International Law*, Vol. 31, No. 1, 2000, pp. 151–182.
- ⁵ D.H. Cato, 'The Biological Contribution to the Ambient Noise in Waters Near Australia', *Acoustics Australia*, Vol. 20, 1992, pp. 76–80. W.J. Richardson, C.R. Greene, C.I. Malm and D.H. Thompson, *Marine Mammals and Noise*, Academic Press, San Diego, 1995, p. 576. D.H. Cato, 'Low Frequency Component of Wind Dependent Noise', Paper presented at and incorporated into proceedings of US Office of Naval Research Noise Focus Workshop, Keystone, Colorado, August 1998. M.P. Simmons and S. Dolman, 'A Note on the Vulnerability of Cetaceans to Acoustic Disturbance', Paper submitted to the Scientific Committee of the International Waling Commission, IWC 51/E15, pp. 1–4. E.C.M. Parsons, I. Birks, P.G.H. Evans, J.G. Gordon, J.H. Shrimpton and S. Pooley, 'Possible Impacts of Military Activity on Cetaceans in West Scotland', *European Research on Cetaceans*, Vol. 13, 2000, pp. 128–133.

- ⁶ R.D. McCauley, M.N. Jenner, C. Jenner, K.A. McCabe and J. Murdoch, 'The Response of Humpback Whales (*Megaptera Novaeangliae*) to Offshore Seismic Survey Noise: Preliminary Results of Observations About a Working Seismic Vessel and Experimental Exposures', *APPEA Journal*, Vol. 38, No. 1, 1998, pp. 692-707. R.D. McCauley, C. Jenner, J.L. Bannister, D.H. Cato and A. Duncan, 'Blue Whale Calling in Rottneest Trench, Western Australia, and Low Frequency Sea Noise', Paper presented at the Australian Acoustical Society Conference: *Acoustics 2000*, Joondalup, Australia. 15-17 November 2000, pp. 1-6.
- ⁷ J.L. Bannister and C.L.K. Burton, *Investigation of Blue Wales off Perth, Western Australia: Aerial Survey 1999-2000*, Final Report to Environment Australia, by the Western Australian Museum, 2000, p. 10. P.C. Gill, 'A Blue Whale Feeding Ground off Southern Australia: Preliminary Findings', Paper presented to the 53rd Annual Meeting of the Scientific Committee of the International Waling Commission, July 2001, SC/52/OS 9:1-9.
- ⁸ R. Paterson, P. Paterson and D.H. Cato, 'Status of Humpback Whales (*Megaptera Novaeangliae*), in East Australia at the End of the 20th Century', *Memoirs of the Queensland Museum*, Vol. 47, No. 2, pp. 579-586.

Overview of Defence Activities in the Jervis Bay Area

Captain Greg Yorke, RAN

The Royal Australia Navy (RAN) and the Department of Defence have used the Jervis Bay area for quite some years. Predominantly, we are talking about the East Australia Exercise Area (EAXA) that encompasses the water space. The area extends from Sydney down the southern coast of New South Wales (NSW) to the Victorian border, from the coastline out to some one hundred miles off the NSW coast. Within that area, the RAN conducts a wide range of activities, from missile firings through to complex and sophisticated weapons systems engagements, to some of the more unsophisticated systems and older systems, into sub-surface activities and anti-air warfare. The Royal Australia Air Force (RAAF) also exercise in the area, using the ranges for missile firings, and the RAN obviously has lots of air activity providing support to units in and around the exercise areas.

While the tempo of submarine operations in the EAXA has reduced over the last four years, with the majority of RAN submarines now based in Western Australia, it is still a very good area for our submarine operations. Given that 50 per cent of our surface fleet is based on the east coast, the RAN still conducts many submarine activities in and around the EAXA. Jervis Bay is also used by submariners to exercise with Special Forces and conduct some activity with the Fleet Air Arm, such as wet winching. RAN helicopters use the areas for their weapon drops. Visiting ships that come to Australia often utilise the wide range of facilities that are available in the EAXA, predominantly these are from the Royal New Zealand Navy and the United States Navy, but the offer to use the area is there to any of the navies visiting the region.

The Jervis Bay Range Facility (JBRF) is an airfield located on the southern shore of Jervis Bay. Within JBRF, the RAN has the Ship Survivability School, with mock ship structures so that we can exercise firefighting and damage control activities in a realistic environment. JBRF is also used by the Army for training, particularly by 3 RAR (Parachute) and 4 RAR (Commandos). The RAAF use JBRF for some of their air defence units undergoing airfield defence training. Also resident in the JBRF is the Kalkara flight, which is the unmanned missile target aircraft used by Defence.

On the other side of the bay is the Beecroft Weapons Range. This is one of three weapons ranges in Australia where Defence conducts live fire bombardments onto the shore from the sea and air. The other two ranges are Townsend Island in the Shoalwater Bay training area in Queensland and Lancelin in Western Australia. This activity is obviously very important to the RAN, as was demonstrated during the war against Iraq in 2003 when HMAS *Anzac* was called upon for naval gunfire support in the Al Faw Peninsula in support of the Royal Marines. The training that *Anzac* conducted in and around Australia using these ranges led to the proficiency that allowed her to undertake that task with extreme accuracy. It also allows RAN warfare teams and Principal Warfare

Officers to improve standards. The unmanned aerial target, Kalkara, is actually fired from the Beecroft Range, even though the flight is supported out of the JBRF.

The whole Jervis Bay area is a critical training ground for the RAN. We use it particularly for mine warfare training. It provides variations in depth and is an excellent mine hunter training area. It facilitates both the laying and recovery of ground mines and the hunting of those mines; all in relatively sheltered waters with good conditions and clarity of water, which is hardly found anywhere else. This allows the RAN to fully utilise our remote-controlled underwater vessels to find the mines and to operate divers in the water to search for, and recover, those mines.

Jervis Bay plays host to other RAN activities, particularly navigation and shiphandling evolutions. Jervis Bay has a relatively narrow entrance that opens up into a large area that provides relatively unrestricted manoeuvring for most of the vessels the RAN operates. It also provides us with a great series of anchorages, available in almost all weather conditions. A ship can always find calm and sheltered water to conduct all forms of training. In the initial stages of working up a ship, the RAN conducts a lot of training for boarding operations, which it is focused on these days. Jervis Bay provides an excellent area where, in calm conditions, crews can train in benign conditions before proceeding into open water and more dangerous conditions.

Jervis Bay is equipped with a sound range facility that we use to measure the sound profiles of our ships. Ships can often be seen going up and down over that sound range. The RAN also conducts many other activities in and around this area. HMAS *Creswell*, which is adjacent to the southern shore, is an important base utilised to support our ships, land people to undertake the various activities and also to transfer stores for our ships. *Creswell* has a small wharf; not large enough for our major units, but a mine hunter-size ship can get alongside the wharf and be supported by the teams there.

Among the other, non-naval, activities conducted in Jervis Bay are Australian Army parachute drops. The Army conducts waterdrop training flying out of HMAS *Albatross*, dropping people into the waters of Jervis Bay. Special Forces are using the area more frequently to conduct some of their waterborne activity as well. Our divers frequently use Jervis Bay to conduct their search training; both bottom, ship and wharf type searches. *Albatross* is home to all RAN aircraft; therefore, a lot of aviation training is conducted in and around the Jervis Bay area. Activities like search and rescue training and some of the more difficult and unusual recoveries from various vessels are practised in the bay. There are four different types of aircraft based at *Albatross* and they utilise the Jervis Bay areas and the bay itself, and the environs for a lot of activity to train both over land and water. All four helicopter types use Jervis Bay, which is a very important area, particularly for the east coast-based fleet in the varying activities conducted there.

The Fleet environmental management system and the Environmental Management Plan (EMP) are used in the exercise areas off Jervis Bay to make sure that ships operate in a manner that is appropriate. The gazetted areas off Jervis Bay all have EMPs associated

with them and all exercise activity is done in strict accordance with those plans, using the RAN procedure cards.¹

Jervis Bay has a large number of Commonwealth nature reserves, marine parks and other sensitive areas associated with it. RAN and Defence activities are actively controlled in the area. The RAN, in particular, is cognisant of all the issues associated with operating in this environmentally sensitive area. We have been operating in this area for a long time. The area is still in a pristine condition and we like to think that this is because the RAN does maintain environmental stewardship and has a good 'green' culture right throughout the Fleet, but we can always do better in this.

The RAN recognises that to sustain this area there needs to be close communication and liaison with all the key stakeholders in the area. It is more than just the environmental issues – there is the cultural and indigenous importance of a large proportion of the area in which we operate. The RAN needs to maintain that open communication with all the key stakeholders so that our activity is not curtailed in the future, while maintaining the pristine conditions of Jervis Bay.

Notes

¹ For example see diagram on page 33 in Chapter 5 of this volume.

Defence Activities in the Jervis Bay Region: A Booderee National Park Perspective

Mr Scott Suridge

Introduction

The current level of cooperation between the Department of Defence, particularly staff at HMAS *Creswell* and Booderee National Park, is very good. The strength of the relationship is affected by some key issues. They include the membership of the Commanding Officer of *Creswell* on the Park Board, along with a commitment from staff in both organisations to interact and consult regularly. Additionally, the creation of the local Defence Environmental Officer position has further helped the relationship between the park and Defence to build significantly in the last five years. The success of the relationship will be determined by the willingness and commitment of senior managers and staff both at *Creswell* and the park to continue to engage meaningfully with each other, and at the same time consult with the local Jervis Bay Territory and Shoalhaven communities. Meeting the legislative requirements of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and other relevant environmental polices will improve the local environment. However, it will be the strength of the good neighbourly relationship that will really make a difference to the park and Jervis Bay region in the longer term.

Overview of park and objectives

Booderee National Park is located in the Jervis Bay Territory, some 200km south of Sydney and 250km east of Canberra. Established under Commonwealth legislation in 1992, the park comprises 6312ha (including the 51ha Bowen Island and 875ha of waters of Jervis Bay) while the gardens cover 80ha. The park area alone makes up over 85 per cent of the area of the Jervis Bay Territory.

Booderee is Aboriginal land under the *Aboriginal Land Grant (Jervis Bay Territory) Act 1986*. It is owned by Wreck Bay Aboriginal Community Council (WBACC) on behalf of the Wreck Bay Community. The land is leased to the Director, National Parks to be managed as a national park under the Booderee National Park Management Plan 2002.

The lease is for a term of 99 years, and requires the Director to discuss variations to the lease with WBACC every five years. Initial discussions commenced in October 2000 and a revised five-year lease was signed in October 2003. The joint management of the park is a cooperative arrangement that has a formal legal basis and is reflected in a shared commitment to an ongoing and strengthening day to day working relationship between the Commonwealth (Director of National Parks, Parks Australia) and Wreck Bay Community.

The Booderee Board of Management has 12 members, including seven representatives nominated by the WBACC. The Board oversees the management of the park and botanic gardens, and the preparation of management plans. The plan is an action required under the EPBC Act, and the park must be managed consistently with the plan.

Booderee receives approximately 400,000 visitors each year. Visitor activities include walking, swimming and other beach activities, fishing, camping, boating, sailing, picnicking, nature study, cultural education, photography, snorkelling and scuba diving. Camping is also popular for school and other large groups who undertake educational activities in Booderee. Demand for sites at the two main camping areas far exceeds availability during summer by approximately seven to one.

Booderee has a staff of 35 of which 50 per cent are Wreck Bay Community members. An additional 33 Community members are employed full-time by Wreck Bay's enterprise company undertaking contract services for the park.

The park provides significant habitat for a number of rare fauna and flora species. For example, the largest population of the endangered Eastern Bristle Bird occurs in the park, as does the ground parrot. Vulnerable or rare plant species include the Magenta cherry *Syzygium paniculatum* and *Grevillea macleayana*. Bowen Island provides nesting habitats for significant seabird species: including the Sooty Oyster Catcher, which nest on the ground near the high tide mark; three species of migratory shearwater; and a large and highly significant population of little penguins consisting of 10,000 birds. The Australian and New Zealand fur seal colony at Steamers Beach is significant in that it is the only mainland colony in NSW, and possibly Australia. During a current five-year major fauna joint study by the Australian National University and the park, the eastern chestnut mouse, a previously unknown species for Booderee, was discovered. The wide diversity of species known to occur within Booderee makes it significant for biodiversity conservation in a local, regional and national context.

Jervis Bay Territory is also heritage listed for both its Aboriginal and non-Aboriginal history. There are a significant number of cultural sites within the Territory. Some 70 known Koori sites to date have been identified and recorded in the Territory along with many other non-Koori sites, such as the Cape St George light house and naval residences at *Creswell*. The park has been assigned the World Conservation Union (IUCN) categories II and IV for the Botanic Gardens zone of the park.

The primary management objective as stated in the Booderee Management Plan 2002 is to conserve the biodiversity and cultural heritage of the park; to provide for the appreciation and quiet enjoyment of the park; and to benefit future generations of members of the Wreck Bay Aboriginal Community.

Defence cooperation and participation in park management

Defence participation in park management and broader protected area management occurs in many ways. Participation ranges from day-to-day good neighbourly liaison interactions to more formal representations on a wide range of local and regional

committees. Other ad hoc involvement may occur due to emergency operations such as wildfire suppression. Defence is the lead authority for marine oil spills in the bay.

The most recent and most significant Defence involvement relating to Booderee National Park is that the person holding the Commanding Officer position at *Creswell* is now a member of the Booderee Board of Management. This came into effect on 10 February 2003. Defence membership on the Board was fully supported by other Board members, particularly as Defence is a major stakeholder in the Jervis Bay Territory and Jervis Bay Region. As a member of the Board, Defence is able to provide input into the majority of park management matters. The Board's primary role is to oversee management of the park and gardens including preparation of plans of management. The Board meets four times per year, and more frequently during periods when the Board is preparing the management plan. The Booderee Management Plan is very prescriptive in relation to what activities, including Defence activities, may or may not occur within the park. The plan for example does not permit beach landing craft activities or the carriage of firearms within the park. The plan also requires park staff to consult with key stakeholders, such as Defence, on natural and cultural resource matters. There are up to 50 prescriptions and/or policy statements in the plan that directly relate to Defence activities in the park. The plan is monitored by the Board on an annual basis for progress. At the end of the plan's life an independent technical audit will be undertaken to review how well the plan was implemented against the 600 or so prescriptions and policies contained within.

Currently a Memorandum of Understanding (MOU) between the park and Defence is being finalised. The MOU will do several things. First, it will pull together all of the polices and prescriptions that relate to Defence that are in the plan and collate them into a smaller, more concise document. Second, it will set out communication protocols, which will assist senior managers from *Creswell* and the park to consult on both day-to-day and longer-term management issues. Third, it will provide a basis for the development of a Fly Neighbourly Agreement. Both the MOU and Fly Neighbourly Agreement are requirements of the park plan.

Defence appointed an Environmental Officer for the Nowra region in 1999–2000. Since that time an increased level of cooperation and consultation has occurred between the park and Defence. Examples of this cooperation include negotiating and cooperating on cultural heritage management strategies for both park and Defence areas within Jervis Bay Territory. An obvious benefit is the development of a consistent approach for indigenous cultural management strategies for both the Defence and park areas of the Jervis Bay Territory, which is in the interest of the local Wreck Bay Aboriginal Community. Another example of cooperation includes Defence staff attending fox control workshops and then committing to coordinated fox control programs. It is hoped that the coordination of this program will lead to a higher level of fox control in the region and more efficient use of resources by the affected land management agencies. The coordination of this control program originated from the Jervis Bay Integrated Management committee concept.

Fire management has been a key issue for most of the land managers in the Shoalhaven and Jervis Bay Territory. A large wild fire burnt 50 per cent of the park in the 2003 Christmas period and threatened life and property for park visitors as well as residents at *Creswell* and Wreck Bay. In previous years fire has also, on occasions, been a major threat to HMAS *Albatross* and Nowra. During these emergencies Defence, along with a range of other agencies, worked cooperatively and provided fire crews, vehicles and helicopters to assist in wild fire suppression and reconnaissance activities. In the Christmas 2003 fires, *Creswell* staff further assisted with a safe evacuation location, accommodation and catering for evacuees from the park. This assistance was critical to the successful outcome of the fire fighting operation; namely, that no life or property was lost during this extreme wildfire event.

Defence and Booderee National Park staffs have membership or observer status on a number of committees for both the Jervis Bay Territory and the Shoalhaven areas. These committees may directly or indirectly affect the management of Booderee National Park. Committees that have Defence and Booderee National Park representation include:

Jervis Bay Territory committees

- Booderee National Park Board of Management
- Jervis Bay Territory Local Liaison/Focus Group
- Jervis Bay Territory Local Emergency Management Committee
- Jervis Bay Territory Justice Issues Group
- Jervis Bay Territory Public Health and Environment Working Group

These committees are attended by *Creswell* staff.

Shoalhaven committees

- Jervis Bay Inter Governmental Coordinating Committee (Jervis Bay integrated management project)
- Shoalhaven District Bushfire Management Committee
- Shoalhaven District Bushfire Risk/Fuel Management Sub Committee
- Shoalhaven District Local Emergency Management Committee
- Jervis Bay Marine Park Advisory Committee
- Jervis Bay Moorings Committee

These committees are attended predominantly by Defence staff or contractors external to *Creswell*.

Other committees

- Eastern Bristlebird (NSW) Recovery Team.

Another recent example of Defence cooperation with the park was approval by Defence through an MOU (15 years) to locate the park radio system transmitters at the Bherwerre Trig and Beecroft Weapons Range areas.

Defence management of activities

Defence activities in the park consist of the following:

- regular naval officer training activities run from *Creswell*, including use of the terrestrial component for bushwalking, mapping, navigation, physical training, leadership exercises, and use of the marine component for seamanship training. These are characterised by a high level of consistency for intended use of the park (defined in the Booderee National Park Management Plan), good level of understanding of park values, legislative requirements and sensitivities, high quality coordination, and good adherence to conditions
- Defence exercises from a wide range of external Defence organisations, such as Special Forces training (SAS, Commando), large coordination exercises and naval aggregations in the bay. These are sometimes characterised by inconsistencies of intended use of the park (e.g. carriage of weapons, which is not permitted under the EPBC Act); discharges; noise; conflicts with public use; a sometimes poorer level of understanding of conservation and cultural issues; poor coordination; and have led to breaches of conditions and legislation
- Defence research activities, including trials. These activities may potentially be inconsistent with intended use of the park (e.g. detonation of explosive devices, impact of military sonar on cetaceans during migration and breeding), and may also come into conflict with the EPBC Act, especially where they are carried out in Commonwealth areas. The frequency of these types of activities have generally diminished or been highly modified in recent years. Naval activities now have tighter controls imposed through policies on matters such as cetacean interactions
- Defence use of the Beecroft Weapons Range and associated management of buffer areas. These activities are generally inconsistent with the intended use of the park (i.e. quiet enjoyment)
- management of Defence infrastructure within or adjacent to the park, including the sound range, wharf and adjacent facilities, Naval Waters, access roads such as that to Bherwerre Ridge, and navigation and other markers. These activities are generally well coordinated and are consistent with intended use of the park.

In managing Defence land in the Territory, Defence and their contractors must manage a wide range of issues of environmental importance and consequence. Such issues include fire management, cultural sites (both Koori and non-Koori), ecosystems, pest plants and animals, water quality, public access and recreation. It is understood that Defence's environmental ethos and principles are based on the Commonwealth environment legislation and the concept of best practice. At least some of the contracts are narrow in their scope, and do not appear to cover the range of management activities required. For example, the fire management contract focuses on structural

assets within *Creswell*, and the types of skills and appliances are not suited to bush fire suppression and fire conservation management.

Communication between Defence and park managers

The major channels of communication with the park are through Defence membership on the Booderee Board of Management, and the Defence Environment Officer. At present senior managers and staff from both organisations are in regular contact. The development of an MOU between the park and *Creswell* will further enhance and formalise the communication between the two parties. It is envisaged that a regular meeting regime for senior managers will be one of the outcomes of the MOU process. Along with communication via local and regional committees, ongoing and regular communication is vital to the park meeting its required objectives of the management plan.

It is understood Defence activities are assessed internally through two primary mechanisms. Environmental Certificates of Compliance aim to relate all components of a proposed action to attributes of the environment and examine how the action can be managed or modified to reduce detrimental effects on the environment. And Environmental Management Plans (EMPs) provide the basis for environmental management for all Defence-controlled properties and major operational activities with particular environmental significance. These management and assessment procedures have emanated from the professional environmental management areas within the Defence organisation and fit well into park processes, provided they are well understood locally and adequate consultation occurs. The assessments are generally discussed with park management and supplied prior to activities occurring, providing an important consultative mechanism and cross check. The role of the regional Defence Environment Officer is crucial to the success of this process. The Defence Environmental Compliance Certificates have been a useful tool for the park in understanding and being communicated to regarding the extent of a proposed Defence activity and how the environmental aspects of the program have been dealt with.

Areas where Defence may improve management to better meet park objectives

The following are possible areas for improvement:

- planning processes for EMPs and fire management plans could be more inclusive of stakeholders. Under current practices park staff are consulted on the processes, but do not often get the opportunity to have meaningful input or see the draft plans before they are finalised
- with regard to fire operations, Defence's local capacity to manage wildfires and fuel within their lands appears to be limited by the narrow focus of the contract, namely structural and asset protection. If this contract is to remain, formal cooperative arrangements are needed and will be vital

- better planning and timing of Defence activities is needed to reduce the impact on the visiting public and the environment. An example would be to consider flight restrictions near Bowen Island during the breeding season of sensitive and easily disturbed species, such as the Sooty Oyster Catcher, or limiting marine operations involving sonar or explosives. While some of the noise and disturbance comes from activities at *Creswell*, the majority emanates from activities at the Jervis Bay Range Facility. Both park visitors and the Wreck Bay Community have been disturbed late at night by aircraft noise and overflights from activities at the Jervis Bay Range Facility and *Albatross*, Nowra. Further, the malfunction of the Kalkara pilotless planes from Jervis Bay Range Facility have led to crashes within the park. These could cause fire ignitions and/or injure park visitors, although to date no fire or injuries have occurred
- coordination of representatives on local and regional committees is required. There is a concern that outcomes from the meetings may not be widely communicated and distributed to other areas of Defence: that is, is the right person on the committee? And are actions or agreements followed through appropriately?
- induction programs for Defence personnel, contractors and visiting groups would provide a clearer understanding of the park operations and the requirements of the Plan of Management (POM)
- the introduction of one point of contact for Defence activity requests in and adjacent to the park. Recent communications suggest that *Creswell* staff have also been frustrated by the number of requests from other areas of Defence, which are often at very short notice or with no understanding of the conditions of the Jervis Bay area.

Developing Partnerships Between Conservation and Defence Activities – NSW Jervis Bay Marine Park Perspective

Mr Grahame Byron and Ms Frances Clements

Introduction

Jervis Bay Marine Park (JBMP) is approximately 180km south of Sydney and 20km south-east of Nowra, in the Batemans marine bioregion of New South Wales (NSW). The marine park covers an area of approximately 22,000ha and spans over 100km of coastline and adjacent ocean, extending from Kinghorn point in the north, to Sussex Inlet in the south, and including most of Jervis Bay. The marine park boundary extends from the tidal limit of creeks and estuaries and from the mean high water mark seaward to 1.5km from Beecroft Head, Point Perpendicular, Cape St George and St Georges Head.

The water south of a line from the northern tip of Bowen Island past HMAS *Creswell* and including the southern portion of Sailor's Beach are part of the Booderee National Park (Commonwealth), owned by the Wreck Bay Aboriginal Community Council and jointly managed by the Council and the Department of Environment and Heritage.

The Royal Australian Navy (RAN) has been associated with Jervis Bay for almost 90 years and uses Jervis Bay and surrounds for a variety of training activities. Admiralty charts show that the whole of Jervis Bay west of a line from Longnose Point to Bowen Island is declared Naval Waters. The Australian Defence Force (ADF) is exempt from NSW Marine Parks legislation; however, cooperative management strategies are in place through an agreement between the NSW Marine Parks Authority (MPA) and the Department of Defence.

Legislative obligations

JBMP is managed in accordance with the objectives of the *Marine Parks Act 1997* (NSW), which are:

- to conserve marine biological diversity and marine habitats by declaring and providing for the management of a comprehensive system of marine parks
- to maintain ecological processes in marine parks

and where consistent with the preceding objectives:

- to provide for the ecologically sustainable use of fish (including commercial and recreational fishing) and marine vegetation in marine parks

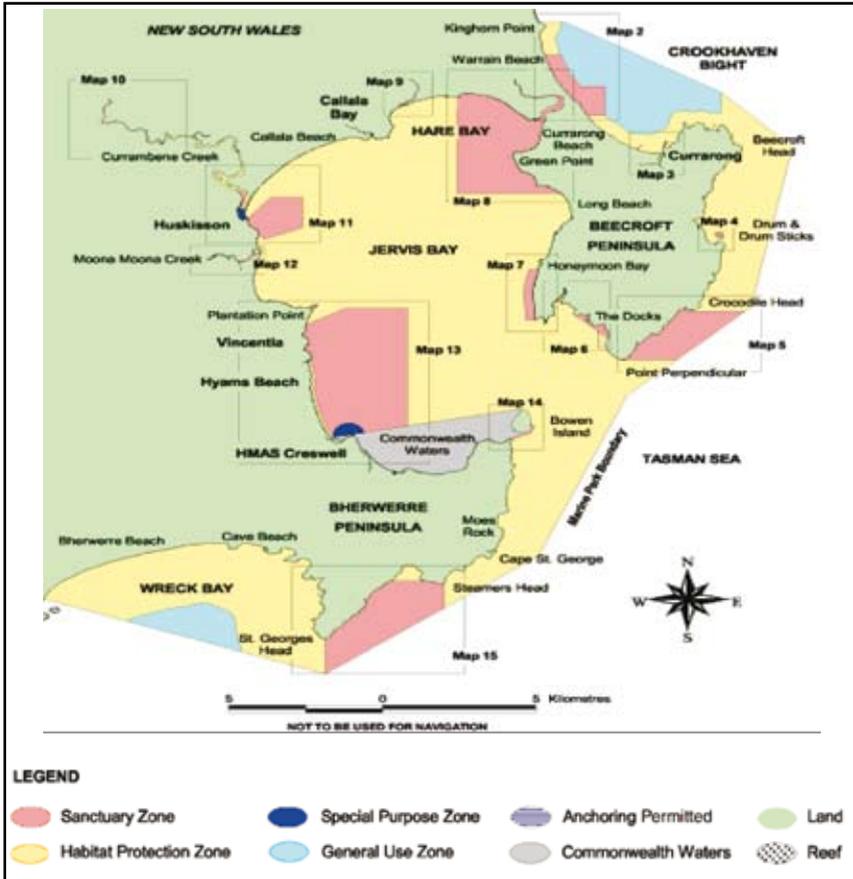


Figure 1: Jervis Bay Marine Park (NSW Marine Parks Authority)

- to provide opportunities for public appreciation, understanding and enjoyment of marine parks.

This legislation is quite different to national parks legislation. Marine parks in NSW are multiple use marine parks and so they have a dual function.

First, they have a function of conserving marine biodiversity and maintaining ecological processes, (i.e. conserving species and maintaining the ecosystem such that they can continue to feed, breed and interact). Second, where it is consistent with those objectives, the MPA encourages or maintains ecologically sustainable use. Consequently there are extractive activities such as commercial and recreational fishing and collecting, as well as aquaculture within NSW marine parks.

Zoning

There are quite a number of matters of mutual interest where the actions of the MPA in achieving its objectives, not only in Jervis Bay but also across the State, are influential on Defence activities. For example, the marine parks legislation provides for zoning and operational plans, a system of permitting certain activities and limiting others, and operationally there are requirements for marine infrastructure and environmental assessment of activities within the park.

Management agreement

The primary tool for cooperatively managing the disparate interests of conservation and Defence is a management agreement. Prior to the zoning of JBMP, a management agreement was negotiated between Defence and the NSW MPA. This agreement sets the framework for a broad variety of issues, from high-level decision-making through to planning and management regimes, day-to-day operations and consultation. More recently the Jervis Bay management agreement has grown to be a statewide agreement between the agencies. The MPA and Defence have a common base from which to operate wherever agency responsibilities overlap across the State.

Building relationships

Relationships between organisations are really no different to personal relationships. There are a series of phases to go through and the first one is to actually acknowledge that the other party exists. When planning began for JBMP, the MPA was quite cognisant of the fact that there was a naval base located at the southern end of the bay and the MPA recognised that there were some issues likely to arise from that.

Acknowledgement

The MPA and Defence in the first instance had to acknowledge the existence/presence of the other and that each bore a responsibility to the community. The primary starting point for this acknowledgment was an awareness of the legislation relating to both organisations.

The following legislation was considered to be relevant in this regard:

Commonwealth

- *Control of Naval Waters Act 1918*
- *Environment Protection and Biodiversity Conservation Act 1999*

New South Wales

- *Marine Parks Act 1997*
- *Fisheries Management Act 1994*
- *National Parks and Wildlife Act 1974*
- *Protection of the Environment Operations Act 1997*

In addition, the whole of the Jervis Bay region is listed on the National Heritage Register, which places obligations on government at all levels.

At the next level down, both Commonwealth and State governments have policies to define more clearly what is to be achieved through the legislation, the administrative arrangements to be developed and operational management of the agency. Similarly, departmental objectives can be met through policy rather than going through the onerous task of developing legislation.

Probably the most fortuitous thing that happened in the Jervis Bay region was that when the Environmental Management Plan (EMP) was being developed for the Defence training area, the zoning plan for the marine park was also being developed. This enabled both organisations to get quite closely involved in the development of each other's plans: both in terms of providing advice and considering common goals.

The MPA has two distinctly different planning instruments – a zoning plan and an operational plan. The zoning plan is similar to a town plan that indicates where you can locate industry, recreation and tourism. There are zones where you can 'look but not touch', areas where you can harvest species but you cannot interfere with habitat (e.g. dig up the bottom) and other areas where most activities are acceptable. The operational plans are more focused documents that give management directions (i.e. how to interpret the legislation and regulations and zonings to put them into effect). Both plans are released for public consultation.

In the case of the JBMP, however, generally the only people that commented on the operational plan were government agencies. There was some quite significant involvement from a variety of government agencies, and Defence was among them. The zoning and operational plans set the charter for the marine park for the next five years.

Acceptance

In developing the relationship, acceptance was the important next step. The more each organisation understood what the other was trying to achieve, the more it became obvious that there was commonality of purpose. Though each organisation had different objectives, they were pursuing similar outcomes. For example, both organisations provide security for the Australian population albeit in different social settings. Clearly Defence safeguards national security so as to ensure the wellbeing and personal safety of Australians in their everyday lives. Marine parks on the other hand are about providing environmental security. Through sustainability measures the MPA is providing security of resources to ensure that industries and communities reliant on these resources have a future, and that our marine recreational pastime is there to be enjoyed in the long term. MPAs are also trying to ensure that fishermen will be able to fish responsibly, that divers and dolphin watchers can enjoy a day's outing, and that parents will be able to take their children for a walk along the beach.

Both agencies are looking to the future and have a community mandate. Consequently there was some synergy in the acceptance of each other's roles and responsibilities, and it highlighted the potential for cooperative management.

Cooperation

The mechanisms for progressing cooperative management were identified in developing the management agreement. The agreement set the broad framework that the organisations would work within, and reinforced the development of protocols to ensure a cooperative partnership. As with any partnership it was all about moving forward together.

From the MPA perspective one of the most positive initiatives was being included as a referral agency for the Environmental Certificates of Compliance (ECC) relevant to the marine park. By being a part of the system and being able to work with local Defence staff in developing the ECCs, it provided the MPA with the best mechanism for:

- a clear understanding of what was going on and what the likely impacts were likely to be
- an input to the process so that it could be fine tuned, or slightly modified to make proposals a little more environmentally friendly
- justifying to the public MPA decisions to support or oppose various proposals.

Though Defence is the lead agency for Defence-related issues, in the public's eye and through the various core responsibilities, they are also shared by other government agencies in the area. If for some reason the MPA is involved in a discussion about a particular operation and has agreed that it should go ahead, the public is quite quick to criticise the MPA for supporting the activity. Involving the MPA in the development of relevant ECCs has provided an opportunity for staff to receive good briefings from Defence representatives, other agencies involved or the developing company, thereby making it easier for delegates to make an assessment and come to a decision.

The other significant area of cooperation has been referring permit applications for consideration. Under the *Marine Parks Act 1997*, there are a significant number of people who require permits to do certain things in marine parks. As part of the MPA assessment process, staff ensure that Defence is provided with an opportunity to consider what is being proposed and provide advice or opinion on activities. For example, one of the ongoing debates in Jervis Bay is the proposal for an aquaculture facility within the designated naval anchorage at Montagu Roadstead. What the MPA has been able to do is get guidance and a clear understanding of what Defence believes is reasonable in this area. Given the RAN has the largest ships utilising the area, transit lanes and anchorages are clearly very important to it. Overall this is a particularly useful process as issues arise that may affect Defence, MPA or both. Both organisations have thus been able to draw on each other's skills and abilities to get a more thorough assessment and consideration of the issues.

Communication

There are both formal and informal mechanisms of communication between Defence and the MPA. The management agreement highlights the need for regular meetings of senior officials to ensure appropriate legislative and policy direction and a local manager's group to discuss day-to-day management and operations at the local level.

There is also a cross agency managers forum that has representatives of all the government resource management agencies. Significant issues for the region are usually addressed through the Jervis Bay Region Integrated Management Committee. This Committee includes representatives of the MPA, Defence, Booderee National Park, NPWS/DEC, Department of Territories, NSW Tourism, Shoalhaven City Council and State Forests.

Defence is also represented at a senior level on the Jervis Bay Marine Parks Advisory Committee. Throughout the process of developing the zoning plan this Advisory Committee was the primary agent in developing issues and discussing options for the future of the marine park. The Advisory Committee was meeting every few weeks to re-consider, re-evaluate and re-think how the MPA could most efficiently develop a zone plan that met everybody's needs. Now, obviously it is not perfect; no plan ever will be. The MPA was extremely pleased that the RAN in particular, and Defence as a whole, had a substantial input into that process. The Committee helped to work through community issues and as two agencies with a very big stake in this game we were able to use our combined thought processes and needs analyses to help bring the community along together to achieve a significant outcome.

Across the agencies we have also established working groups and assessment panels. There are clearly some areas where the MPA's interest in a particular issue is probably equaled by the RAN's interest or that of another government agency. The moorings working group is a good example of this cooperative approach. The MPA felt a need to have public moorings in environmentally sensitive areas, as did Booderee National Park. Though the RAN did not want moorings in the way of large ships, it was quite keen to help us determine what were quality moorings and quality locations to meet this need. The working group had representatives of the MPA, RAN, Booderee National Park and Waterways, and developed a very sound assessment and tendering process. At the end of the process, which was quite open and transparent, the public could see the whole logical process we went through in deciding where public moorings should be placed, under what conditions and how they would be used, and as a group we were able to minimise any potential conflicts.

Collaboration

Collaboration is about achieving outcomes for one organisation by working closely with another. In the case of Jervis Bay that has been done quite effectively. Working together, Defence and the MPA have achieved 'bigger bang for the public buck' because the organisations have shared resources in a way that most would not believe possible.

As a joint entity we were able to financially lever additional resources to get better outcomes on projects when purchasing equipment. We jointly purchased and installed infrastructure and rationalised staff time and effort on assessment and evaluations processes. So the public as a whole has benefited from these efficiencies.

There have been a number of research projects identified that are of mutual interest to Defence and the MPA, and we have jointly sponsored and facilitated these projects. One of the best examples is the dolphin acoustics project. Within Jervis Bay there is a significant dolphin and whale watching industry, a substantial number of recreational vessels undertaking a variety of activities and a strong RAN presence, so from both agencies' points of view there was interest in assessing the acoustic impacts on dolphins. The agencies got together, worked up a brief, jointly funded and supervised the project, went into the detail of looking at how to ask the right questions in the first place, and then determining the right person to answer them. The project was put out to tender and it was a positive outcome in terms of appropriate information being provided to enable both agencies to manage their respective responsibilities. Similarly, there are ongoing discussions concerning a program investigating the whale migration paths in relation to training areas, and this is another area where both the MPA and Defence have interests at stake.

Probably the best example to date of a successful collaborative project has been the mapping project, and it is a fairly unique project because it was managed by MPA staff, primarily driven by the Australian Hydrographic Office, with the State Land Property Information Group and a private surveyor providing various components of the project. This project was critical for the management of the marine park because all the zones are bounded by difficult to define descriptors, such as mean low water mark or mean high water mark.

This has been a very good project in the sense that it gave us some excellent product outcomes. New charts were developed with the information developed from this program that included for the first time our marine park zones, thereby providing better advice to mariners. The MPA got clear definable boundaries for the legislation, and Land and Property Information Group established a network of survey marks across the marine park and are producing quality tourist maps based on the accurate survey.

Current situation

The current situation is that formal avenues of communication are well established through the management agreements, but they only represent the formal mechanisms. The informal mechanisms are working particularly well and referral procedures are also being used. Like all good relationships, however, you have to work at them, so the future from an MPA point of view is that we need to maintain the relationship, both formal and informal, and strengthen it where we can. As with any situation, there is always some room for improvement.

From the MPA perspective looking out to the future, there is one significant issue requiring improvement and that is internal communication across Defence. Internal communication within the larger Defence community has apparently not reached right across the Australian Defence Force. There appear to be quite a few people who are unaware that there are formal mechanisms and processes that have been agreed between the NSW MPA and Defence for activities taking place within the JBMP. There are designated contacts across both agencies yet some personnel still arrive with a day's notice and expect to be able to undertake a variety of activities wherever they please (e.g. beach landings on a major tourist beach). Obviously with Defence being such a large organisation this is an internal communication protocol that will take some time and effort to overcome. While the link between on-ground activities and the relevant advisory and consultation process can be difficult to comprehend at first, the procedures are documented and assistance is available if the individual preparing for the task takes this requirement into account.

Interest Group Position

Mr Chris Smyth

In attempting to provide some context as to what an interest group position might be in terms of Jervis Bay, I would like to start with some of the information that is used by the conservation sector. What are the issues in the oceans? They are not just something related to Jervis Bay, or New South Wales (NSW) State waters; they are Australian waters. But more than this, they span right across the globe, so we also have international non-government organisations (NGOs), such as the International Fund for Animal Welfare (IFAW) and Greenpeace involved. They may have a somewhat different context for their thinking than the Australian Conservation Foundation (ACF), or local groups around Jervis Bay. So all of these organisations come to the table with their own ideas, values and perspectives. I will touch on some of these issues, but will first look at some of the factors informing the marine conservation view on what we should be doing in our oceans and how we should be protecting them.



Marine Biodiversity (ACF)

The last 50 years have been pretty busy in terms of ocean exploration and ocean understanding, but also in terms of oceans' use, and so certainly the oceans are being impacted upon far more now than previously. We are at a very important point in the history of our oceans; if we do not make the right decisions in the next ten years or so, there may be many difficult things for us in the future in terms of looking after them and trying to restore them back to their original condition. Dead zones have increased, fisheries are under real stress, and there have been major reductions in catches of sharks and other large fish. In fact almost 90 per cent of these have been taken from the oceans. Coral reefs are in a pretty bad way, certainly in terms of habitat damage, but now we have the threat of global warming, which has serious consequences for

Australia. In the case of the Great Barrier Reef, Commonwealth Scientific and Industrial Organisation (CSIRO) research indicates that coral bleaching could create serious problems in the future if we do not do something about our fossil fuel consumption and greenhouse gas emissions.

We have heard a lot about over-fishing and the collapse of fisheries overseas, but certainly Australia has those issues as well. In Australia over the last ten years, the period in which we have been talking about ecologically sustainable development and improving the way we do things in the oceans, we have actually gone from five over-fished species to 16, and, in the case of those species we were uncertain about, it has gone from 12 to 34. Although we are slowly becoming more aware of the issues, there are still many things we need to do in order to reverse some of these trends. If we look at giant kelp forests in Tasmania, approximately 65 per cent of the East Coast kelp forests have gone, and in some localities it is around 90 per cent. In Moreton Bay there has been substantial areas of mangroves lost. In Western Port Bay a number of years ago, about 85 per cent of the sea grasses were lost to pollution and there is very little chance of recovery, so we need to learn from our mistakes as well as the mistakes of others.

Our ocean realm is large, very diverse and very different in what is found in the northern parts of Australian waters compared to the southern parts. The Southern Ocean features a high level of endemism; in terms of the numbers of species found there that are found nowhere else, compared with the tropics. Unfortunately, in the past the south has been largely ignored by marine research, but it is probably the most actively area used for marine-based industries. So there is a bit of catch-up necessary.

When considering the natural systems in our oceans, it is important to recognise that we are actually dealing with artificial boundaries in different sectors, such as fisheries, industries, oil and gas, Defence and recreation, for instance. There are also major jurisdictional issues in terms of the States and Commonwealth that have been canvassed by Professor Kaye in Chapter 3 of this volume. We need to better understand, plan and manage our oceans, and to look more closely at what really makes them tick, because although there has been a lot of research done, it has been somewhat skewed to the north. We need to start looking towards the south as well and instigate a more internationally focused research program at the same time.

Marine national parks are extremely important. In the south-east, there are no marine protected areas in the regional marine plan. There is still a process going on to endeavour to establish this. The regional marine plan was something of a disappointment in the south-east, and I will touch on that a little bit later. Community engagement is also very important and it is pleasing to see the efforts being made in Jervis Bay to ensure that does take place. Engagement, however, needs to be effective; we need to look very closely at the processes and how people can participate and be involved.

Australia's Oceans Policy was formed in the context of these serious global issues and it certainly is a world leading policy. Its key features involve integration, which is about

ecosystem planning and management; protecting biodiversity to ensure ecological sustainability; and also providing a certain degree of security for marine-based industries. Although it led the world at the time, unfortunately implementation of the policy has stalled more recently, and over the last six years only one regional marine plan was developed. While our national system of marine protected areas remains under development, one of the key problems found is the ineffective and fragmented single-sector and species oceans management approach, so there are still different fisheries management regimes for different species.

For instance, one pelagic fishery committee I am involved with concerns an area just south of Tasmania, South Australia and Victoria, and this fishery is divided into four zones. There are different management processes for each different zone and the committee is trying to bring those together. The super trawler *Veronica* was also looking at this fishery very keenly. The ACF recently had a hundred pieces of Commonwealth and State legislation reviewed, and the overall message, with a few exceptions, was that they did not provide the sort of legislative direction needed to encourage ecologically sustainable development and ecosystem-based management. That review has also underpinned the work the ACF is doing to develop a draft National Oceans Act.

Jervis Bay

Peter Garret once described Jervis Bay as ‘white beaches, clear waters, rich sea grasses, but nuclear powered’. I can remember the first time I visited the intended nuclear power plant site; Jervis Bay was just a large flat area of sand near the beach, plus a chemical complex and a naval base. But it is now also a national park, a suburb and a bombing range. It certainly has a lot of demands placed on it, and with all those demands and the collision of different values there is a need to be able to plan well. According to a tourism brochure downloaded from the Internet, Jervis Bay possesses ‘Beaches as white as ... [so you can add the terminology if you wish], birds as colourful as ... water as clear as ...’ and so on. The brochure also promoted Jervis Bay as the number one tourist destination in NSW. It has 109 beaches, a cosy climate just like Sydney, and it is described by the local council as ‘the jewel of the beautiful south coast’, with plenty of national parks and beautiful and charming towns.

In more technical terms, Jervis Bay is in an overlap between different climatic zones, and the variety of habitats creates a very rich wildlife. There is extensive sea grass, about nine square kilometres in all, which are very fragile areas. But it is not just about the water, as the land contains wet and dry heaths and forests. Marine conservation also looks at the coastal and the catchment areas and, in the bay itself, the bottlenose dolphins, the humpback whales and the seal colony. Some people regard the marine park as the southern alternative to the Great Barrier Reef. So these natural values are certainly very significant, but there are also important indigenous values.

The Jervis Bay area is said to be the birthplace of 13 south coast tribes. It is sacred to the Jeringa people and there are some sites of very great spiritual significance; indigenous people have occupied it for thousands of years. It also has economic



Dolphins (David Kidd)

values, and without listing them all, population growth is definitely a critical one. The population is growing in the area of catchment at about 2.2 per cent per annum, and we hear a lot about sea change and the effects it is having on coastal areas. Sea change is not really a new phenomenon, as people have been moving to the coast now for quite a long time. The only difference at the moment is that it is happening more quickly and in greater numbers. And Defence, in terms of wages and salaries, is worth about \$67 million to the region. Therefore, when looking at management and planning solutions for Jervis Bay, it is recognised by marine conservation groups, such as the ACF, that economic values, social values and environmental values do have to be taken into account.

What does this mean to Defence in terms of Jervis Bay? There are very clear values for Defence. There is a very suitable, deep, narrow entrance to the actual bay itself, providing some useful security aspects, which is very important to Defence. Again, those sorts of values have to be thrown into the mix; the marine park is a reflection of some of those environmental, social and economic values, because it is a multi-zoned park and it does cater for various activities of a social, environmental and economic nature.

In relation to environmental issues, I am not suggesting that Defence activities are the only ones causing an impact. They certainly are not. In fact, Defence activities are only one of many uses, and the impacts around the Jervis Bay area and catchment are also related to fisheries, forestry and agriculture. Something to be kept in mind, though, is that the impacts are cumulative. So while a simple activity in the marine park by itself may not have a major impact, if you add other things that are occurring in Jervis Bay and the catchment, there may be a very different type of impact. Examples include the effects of increasing population pressure, storm water pollution and land-based run-off. In one case, there has been a marina proposal at Huskisson that is causing

some concerns for conservation groups in the Jervis Bay area. Land development is another factor affecting some of the habitats there as well, and until recently Jervis Bay was on the list of nuclear waste dumpsites.



Whale Watching (Mark Farrell)

When we look at the conservation perspectives of these environmental issues, these are influenced a little by the nature of the group, its capacity and what it chooses to focus on. So regional groups are going to be looking at issues slightly differently to some of the national and international groups. For instance, you might not think that the Beecroft Bombing Range is having an impact from a national point of view on the loss of individual animals or plants, but to a local group trying to protect certain areas of their patch, they might see it as being very significant. Certainly the ACF is looking at things more nationally in terms of oceans policy, for example. If you look at Greenpeace, the Whale and Dolphin Conservation Society (WDCS) and IFAW, they are interested in the effects of sonar on whale migration and whale protection from a much wider perspective than local groups.

What are some of the things that have caused tension between Defence and conservationists in the area? Based on my research, it appears that there has been quite a bit of tension between Defence and conservationists over the years. Some of this goes back to the Hawke and Keating governments, relating to issues such as the Point Perpendicular tower, the Beecroft Bombing Range and Operation TERMITE SPRAY, for instance. When we look at some of those impacts, issues like destruction

of vegetation and sea grass arise. When talking about values and perceptions, they are sometimes based on emotion, but frequently also on logic, science, experience and research. Conservation groups in the Jervis Bay area have been concerned about waste disposal, leftover vehicles, fires generated from flares landing in the park and areas subjected to bombing. These are issues that have been a problem for local conservation groups and also indigenous communities in the past.

Regarding change and changing perspectives, there has certainly been recognition by conservation groups that the Defence presence in the region has actually helped to protect a large area of ground that might otherwise have been developed years ago. A similar example is Point Nepean at the entrance to Port Phillip Bay, an area that has been fenced off because of the presence of unexploded ordnance, enabling vegetation and some of the wildlife to return. Marine conservation groups in the Jervis Bay area also acknowledge that Defence is becoming increasingly aware of its environmental responsibilities. There is also a clear acknowledgment that more engagement and clarity of management now exists, such as through the Advisory Committee.

Now some of that may be because Defence thinks it has to do those things. I think this is pretty important in developing good relationships with marine conservation groups and NGOs. There is certainly a lot of goodwill developing there, and many opportunities. However, there are still going to be issues on which conservation groups are going to be somewhat critical of Defence activities. The Beecroft Bombing Range is certainly one that will continue to be an issue for local conservation groups, national groups and indigenous communities, with concerns about damage to that area and effects on the ground parrot and eastern bristlebird. The Department of Environment and Heritage recently introduced the bristlebird to the Cat Creek area and, because the habitat and impact areas are similar, it is likely that at some point the bird may start to recolonise the impact area, which will potentially create problems.

Other issues that come to mind include the Kalkara supersonic missile launcher. What effect will the sonic boom have on marine life? That is similar to the discussion concerning sonar and its effect on whales. These are issues that still require a great deal of research. One of the groups that has worked extensively on the effects of noise on marine life is the WDCS, who produced a book called *Oceans and Noise*. This book provides a great deal of information on the subject and in fact the impact of Defence activities only occupies about one and a half pages. There has been an increase generally in the amount of noise occurring in the marine environment, and there are a number of scientists now who are raising concerns about what effect this may have in terms of avoidance behaviour and of direct damage or injury, not just to whales, but also to other marine mammals. These are matters that we certainly need to do more research on.

It is pleasing to note that action is being taken with regard to transport of ordnance, introduced marine pests and anti-fouling paints. But as time goes by ship traffic, not just Defence traffic, but other ship traffic, is probably going to increase and that will bring

with it issues that will continue to be of concern to conservation groups. The mooring of ships in areas identified as being highly sensitive or significant, for instance, will be of particular interest to conservation groups in the Jervis Bay area.

In the big picture of future oceans policy, regional marine planning and what is happening in Jervis Bay, conservation groups would like to see enforceable ecosystem based regional planning in the area. For the east coast of NSW, it is intended to have all the regional marine plans completed by 2009. With respect to integrated catchment and coastal marine management, if we do not get these things working together, the activities that Defence wants to carry out, or other people want to carry out in the bay, could be seriously affected. Uses that might seem reasonable in the bay at the moment may be restricted because of damage caused by something else, which is indicative of the process of cumulative impact assessment. Looking at the ecological risk, CSIRO is doing some very interesting work in terms of ecological risk assessment in relation to fisheries. The conservation sector is very interested in that too, as it is a way of providing some objective scientific analysis of activities that go on in the marine environment. It underpins the more subjective process of management where stakeholders are actually involved in discussions – ‘these are the risks, what are the trade offs? What are the compromises?’ – if indeed there is going to be room for compromise. But if there is a very strong scientific framework, it is far easier to have a rational discussion about the type of things that are permissible.

There will be a continuing push to increase the area of no-take in the marine park. The National Parks Association of NSW has a policy of at least 50 per cent of the park being no-take. There is also a push, certainly from the ACF branch in Shoalhaven, to see the Beecroft Peninsula National Park expanded. There may even be some heritage organisations involved, with regard to some of the buildings at HMAS *Creswell*. Some of the older heritage buildings are in a little bit of disrepair so there are some groups who might like to see something done about that.¹

When we look at Jervis Bay just in terms of its timeframe, a thousand years ago only indigenous communities used it. A hundred years ago there were some areas where people were displaced and came down to Wreck Bay; there were also probably some fishers and farmers. Ten years ago, Jervis Bay was of interest to a lot more people, such as divers and sailors, retirees and tourists, and as this interest increases and more people move into the area, there is going to be even greater pressure on the activities that Defence and other sectors will be able to conduct there.

So what are we really looking for in terms of a future for Jervis Bay and Australia’s oceans? There needs to be a collaborative process that is well informed and robust, using scientific information, but also including social and economic data as well. It needs to be an adaptive process that takes on new knowledge, and includes new groups of people who actually want to be involved. They should be encouraged to do so because if there is going to be a long-term management and planning arrangement in Australia that is accepted by the community at large, and that truly encourages their participation, then it needs to be all these things.

Finally, the message the ACF would like to convey to Defence is that the conservation sector is very keen to work with Defence in the Jervis Bay area. Timely and effective consultation will remain important. It has been great to see the work that people in the Department of Defence are conducting now to improve their environmental performance and their reputation. The ACF is very keen to help that process and to work with people in Defence in the future in order to develop a good solution for Jervis Bay, and the rest of Australia's oceans.

Notes

- ¹ The government earmarked \$65.9 million in September 2004 for refurbishment of HMAS *Creswell*, including heritage buildings, to be spent during 2006-07 – Minister for Defence, 'Major Upgrade planned for HMAS *Creswell*', Media Release, Min 185/04, 17 September 2004.



Closing Remarks

Captain Richard McMillan, CSC, RAN

Thank you all for attending this seminar today. The Sea Power Centre – Australia (SPC-A) has five main roles and one of the most significant of these is to contribute to the public debate on maritime issues. You will have noticed that your packs contained our monthly newsletter, *Semaphore*, which is an important means by which the Centre fulfils this function for the Royal Australian Navy (RAN). In addition, the Centre's cooperative relationship with the Centre for Maritime Policy (CMP) at the University of Wollongong also makes a major contribution to our work of encouraging public debate on maritime issues, as well as providing those with like interests the opportunity to share their views and learn from each other.

I would draw your attention to the fact that there are several environmentally related publications that have been published by the SPC-A to stimulate public debate, and in particular, Paper in Australian Maritime Affairs No. 13 entitled *Future Environmental Policy Trends – Impact on Ship Design and Operation*, produced in collaboration with the CMP.

Today's seminar was intended as a learning experience for all, which is why those people with expertise on the environmental framework heard it again, while those experienced in maritime operations suffered a reprise on that subject. I hope you all agree that this common framework was essential to our mutual endeavour to understand the issues and indeed to explore other issues that might not otherwise arise. In preparing for this seminar we deliberately used the term 'Australian Defence Force' (ADF) in the title because all three Services have environmentally demanding training requirements, but I trust that it's become evident during the day that the safeguarding of the environment is a whole of Defence activity, in which the entire Australian Defence Organisation is very much involved. It's a core Defence activity, not only a core military activity, and I would make that distinction now, that it is clear to us all.

Looking back over the day, Rear Admiral Moffitt reflected on the changing emphasis that he's seen on the environment and its regulation and outlined a cross-section of maritime activities for which the ADF must train. The session involving Dr Haward was the first of several to point out that good environmental stewardship leads to continued access to those areas of the environment, or those areas such as Jervis Bay, which have sensitive environmental characteristics. He also discussed how a multiplicity of jurisdictions might complicate the management of any particular activity, and noted that this type of redundancy or duplication can actually be good for the environment. Professor Kaye then introduced us to the legal duplications, differences and complexities, with both presentations stimulating considerable questions and discussion, thus ensuring that the day got off to a good start.

Commander McHardie outlined the seven warfare areas in which ships operate and acknowledged the environmental impacts peculiar to each, in both training and operations. Colin Trinder spoke to us frankly of the challenges to Defence in implementing both the legislation and Defence's own policy requirements that are additional to the law, while Commander Cole took us on a more detailed journey through both the ship and offshore exercise area environmental management plans, as an illustration of how the RAN seeks to implement Defence's agreed practices. And he also looked ahead to managing the impacts and the policy outcomes that might face us in an even better preserved environment in the future, and I think we can all agree that that's actually a challenge we'd like to see. We would like a lot more whales out there and a lot less pollution, and we would welcome a much healthier environment to work in.

Captain Greg Yorke focused directly on the activities undertaken in and around Jervis Bay and Scott Suridge introduced us to the cultural, ecological and administrative diversity contained within Booderee National Park, before looking to areas he could see for improvement in Defence's management of its business there. Grahame Byron and Frances Clements brought attention to the complementary roles and aspirations of the NSW Marine Parks Authority and the Department of Defence, in providing a clear view of the State Parks' influence on ADF activities. Chris Smyth reminded us of the need to understand and manage our environment in accordance with its actual natural boundaries, rather than the artificial ones that most of the previous speakers had spent time describing to us, and particularly attempted to explain how interest groups work around and through them. He also stressed the cumulative effect of the values and uses to which all stakeholders put the Jervis Bay area, both up to this point and possibly in the future as well.

In closing what I hope you will agree has been a successful seminar, I want to thank in particular on your behalf, today's speakers as well as all of you for attending and helping to improve our mutual knowledge of the issues. To Professor Tsamenyi in particular, thank you, and I would also like to mention Miss Vanessa Bendle, Miss Linda Parslow and Lieutenant Guy Forsyth, staff of the SPC-A, all under the able management of Commander Keith Smith, for their assistance in organising the seminar today.

Ladies and gentlemen, thank you very much.