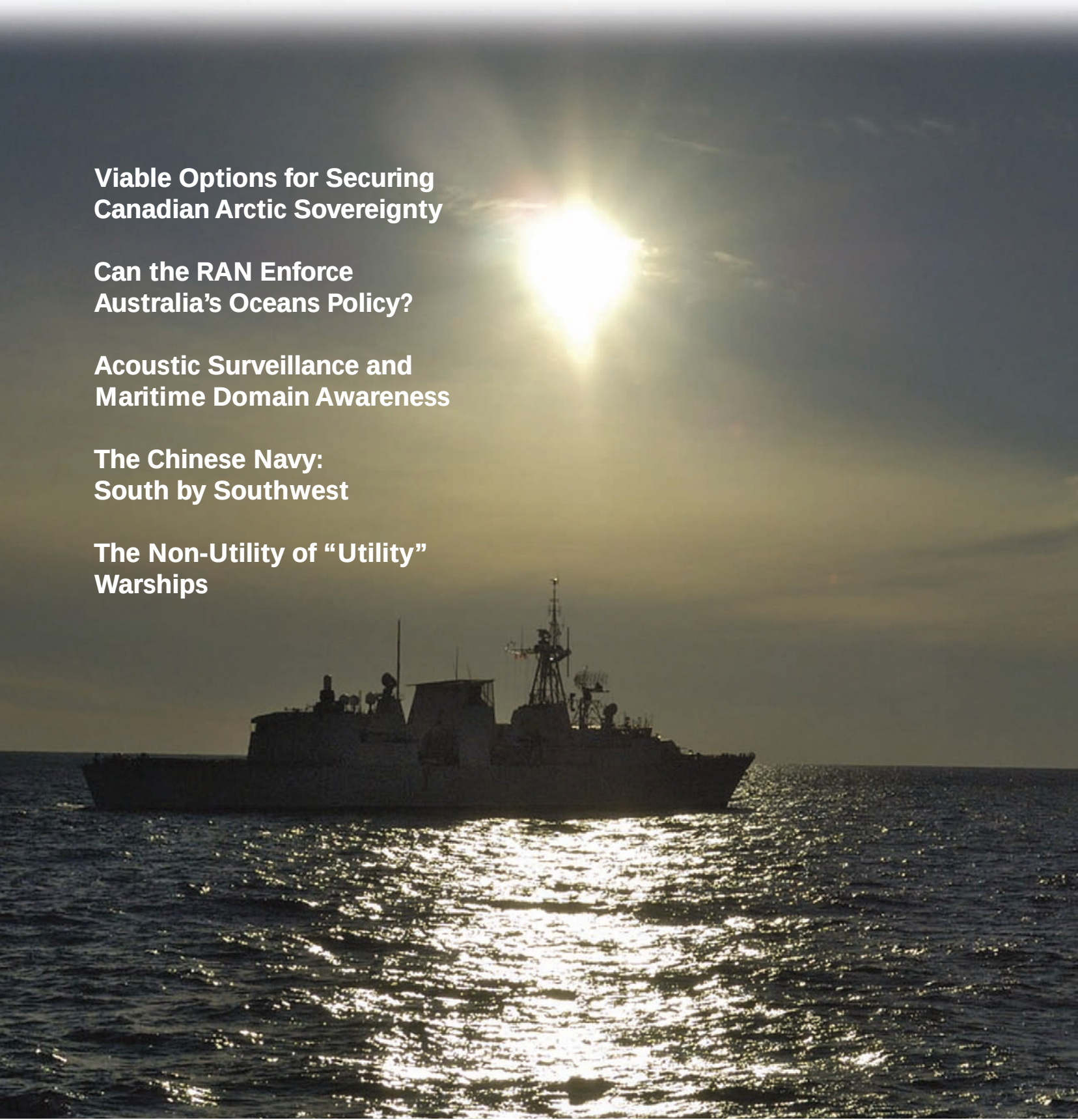
CANADIAN NAVAL REVIEW

VOLUME 3, NUMBER 1 (SPRING 2007)



Viable Options for Securing Canadian Arctic Sovereignty

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The editorial offices of the *Canadian Naval Review* are located at the Centre for Foreign Policy Studies, 6299 South Street, Henry Hicks Building, Dalhousie University, Halifax, Nova Scotia, Canada B3H 4H6

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The *Canadian Naval Review* is published quarterly by the Centre for Foreign Policy Studies (CFPS) at Dalhousie University. It is a professional journal examining a wide range of maritime security issues from a Canadian perspective. In particular it focuses on strategic concepts, policies, historical perspectives, procurement programs and operations of the Canadian Navy, and national security in general. This initiative brings together members of the Canadian defence and academic communities and is a component of the CFPS's Maritime Security Program.

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Photo: Cpl Peter Reed, Formation Imaging Halifax

*November 2006, HMCS **Halifax** heads into the sunset the night before launching Sea Sparrow missiles for the first time in almost a decade.*

Contents

EDITORIAL: THE NEED FOR BALANCED CAPABILITIES 2
ERIC LERHE

BRUCE S. OLAND ESSAY COMPETITION 3RD PRIZE ESSAY 4
VIABLE OPTIONS FOR SECURING CANADIAN ARCTIC SOVEREIGNTY
J. MATTHEW GILLIS

CAN THE RAN ENFORCE AUSTRALIA'S OCEANS POLICY? 8
COMMANDER SIMON BATEMAN

ACOUSTIC SURVEILLANCE AND MARITIME DOMAIN AWARENESS 14
LIEUTENANT-COMMANDER DAVID FINCH

THE CHINESE NAVY: SOUTH BY SOUTHWEST 17
JOSEPH VARNER

THE NON-UTILITY OF "UTILITY" WARSHIPS 22
PETER T. HAYDON

MAKING WAVES
WHY IS NO ONE MAKING WAVES? 26
REAR-ADMIRAL (RETIRED) DAVID MORSE
LEARNING FROM OUR PAST 27
AMPHION
COMMENT ON "SHIPBUILDING AND INDUSTRIAL PREPAREDNESS" 30
ROBERT H. THOMAS
MARITIME PATROL AIRCRAFT: YES OR NO? 30
POSEIDON
PHOTO CAPTION CORRECTION 31
DARRIN J. HOPKIE

INTRODUCING *BROADSIDES* 32

WARSHIP DEVELOPMENTS: AIRCRAFT CARRIERS GREAT AND SMALL (PART 1) 33
DOUG THOMAS

PLAIN TALK: A MISSED OPPORTUNITY 35
SHARON HOBSON

BOOK REVIEWS 37

Editorial: The Need for Balanced Capabilities

Two disturbing elements are entering the debate on future defence trends. First, navies are being cut – both the Royal Navy and the US Navy face potentially severe cuts. Second, 'boots on the ground' are being touted as more relevant and, more importantly, as bringing greater influence and credit in Washington than other assets. I, however, will argue here for balanced capabilities.

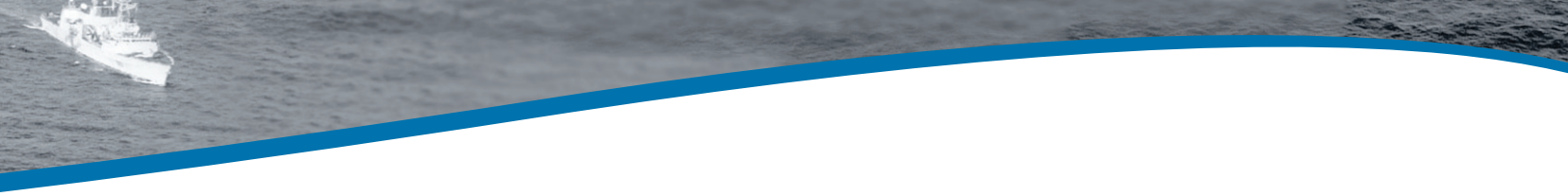
The fact is, states have interests. They do not have permanent friends and few have long memories. As a result, claims that a particular military contribution provides for greater influence than another or that one can generate more credit or gratitude are doubtful. James Eayrs reviewed Western foreign policy and completely discounted the notion of gratitude or credit for past contributions. His saddest example is that of New Zealand and the Common Market's efforts in the early 1960s to eliminate the duty free entry of its goods. France famously asked "what obligations have we towards New Zealanders?" and "Why are we bound to do anything for them?" dismissing the Belgian's foreign minister's reply that "twice in our lifetime their men have come over to be killed for freedom."[1] At the end of the day those sacrifices mattered not.

Vimy gave Canada international recognition but not long-term credit. And, despite our pleading to the United States and the UK post-1945, Canada was not considered for a UN Security Council seat – our significant WWII contribution and losses notwithstanding. The same pattern holds true today. The UK committed division-size forces to Iraq and suffered corresponding losses for little discernible credit in Washington. Congress utterly failed to halt a highly questionable steel industry duty that was punishing to Britain and of only modest US benefit despite a personal request from Prime Minister Blair to President Bush.

Some Canadians have suggested that our commitment to Afghanistan should have resulted in more favourable US handling of the softwood lumber deal. But Christopher Sands, at the Center for Strategic and International Studies in Washington, has rejected the idea that the President could or would respond to such an attempt to 'cash in' on a Canadian military contribution.[2] Given that the US Constitution divides power between the President and Congress, even if he wanted to the President does not have that unilateral power. As well, many American leaders expect states to support the war on terror because it is in their national interest to do so not because it can provide economic benefits.

Hard calculations of national interests should also drive our views on the apparent decreased value of navies. While there is some pressure to reduce the large share of the US defence budget enjoyed by the US Navy and Marine Corps, they will still receive 27% of the defence budget, while lesser amounts go to the army and air force.[3] A linkage between attempts to reduce US Navy and the Royal Navy budget share and the ballooning costs of their endeavours in Iraq is hard to ignore. Canada's navy, on the other hand, typically enjoys just 17% of the total defence budget while the army usually consumes between 27-29% and the air force 24-27%.[4] With the smallest share, the navy can and will deliver on the following activities in direct support of Canada's national interests:

- Enforce our claims in the north with Russia and China, not the United States, providing the most direct challenge to our Arctic shelf claims.
- Provide surveillance, lift, helicopters, C4I and sustainment services to other government agencies in the Arctic and in our offshore areas.
- Enforce our offshore fishing zones in a world where all commercial species are under threat of extinction by 2050 unless vigorous protection schemes are put into place. The Turbot War will be replayed with more vigour and, potentially, more violence.
- Ensure the free movement of goods across the Canada-US border by eliminating the possibility of terrorist groups using our sea routes or transshipments to attack the United States.
- Track, monitor, protect, and, on occasion, inspect seaborne trade going to and coming from Canada.



- Contribute to the Proliferation Security Initiative that will interdict the transfer of nuclear weapon components between the proliferating states.
- Evacuate Canadian citizens abroad when commercial charter is not feasible.

The army and air force can probably claim to have their own unique contribution to tasks in direct support of the national interest. Those claimed contributions, however, should be as direct, as easily explained, as those above and not rely on the incantation of a 'boots on the ground'-like mantra.

In addition, there are military capabilities in *indirect* support of our national interest. Here institutions like NATO or the UN define interests. It is often in our indirect national interest to support them, but this is not always the case. Thus, they are discretionary.

Afghanistan is a case in point. It is very much in our national interest to restore stability to Afghanistan and be seen as an alliance member pulling its weight. Moreover, troops on the ground are by far the most relevant Canadian contribution to this particular mission. Yet doing so is not in Canada's *direct* national interest. When three of four political parties call for a massive reduction or elimination of our mission post-2009, and the party in power won't commit to an extension beyond that date, one very clearly senses the 'discretionary' nature of this type of national interest. *In contrast*, the mere suggestion that a single Atlantic coastal patrol might be cancelled for lack of naval funds produced uproar and the immediate reinstatement of this 'directly in the national interest' mission.

Yet Canada cannot, as a major trading state and G-8 member, eschew all expeditionary or 'discretionary' tasks. Moreover, if we have skilfully manned our NATO posts and UN positions, Canada can make sure the interests of those organizations more precisely match our own. This can only be achieved with sustained effort in a NATO environment and is exceedingly difficult in the usual badly run UN operations, but it can be done.

In these expeditionary tasks the navy's unique contribution will often be in direct support of the boots on the ground. At other times it will act independently of them. One thing will not change, however, and that is that the navy will continue to be the first force to deploy to any crisis. This was the case in the Korean War, the First Gulf War and the war on terror largely because of the navy's inherent readiness to deploy with all its sustainment supplies embarked. In this it is assisted by its ability to operate without having to seek over-flight clearances and or negotiate basing rights. Finally, a naval commitment can be withdrawn as easily as it is sent. Regarding other discretionary tasks, the navy will:

- be our main contribution to any crisis in the Pacific. This remains a maritime theatre.
- provide military sealift to our joint forces when commercial charter is unwise or unavailable (or board charter vessels that hijack the army's sealifted kit *à la* MV *Katie*).
- support the expeditionary forces ashore with initial logistics, C4I and fires.
- contribute ships to NATO missions in either a maritime or joint manner.
- contribute ships to UN missions in either a maritime or joint manner.

I will not argue that our recent troops on the ground have gone unnoticed in Washington and elsewhere. Today, our military representatives and diplomats probably enjoy better access and more sympathetic audiences. However, only sustained and balanced defence contributions executed within a focused foreign policy that enjoys the Prime Minister's personal engagement will produce long-lasting influence in Washington, London and Brussels. I would never expect 'credit' or attempt to 'cash in,' especially when the contribution is short term and not sustainable. More critically, the long-term defence of Canada and the need for a more secure world will require that we maintain an honest balance between services and between those tasks in direct support of our national interest and those that are expeditionary.

Eric Lerhe

Notes

1. Quoted in James Eayrs, *Right and Wrong in Foreign Policy* (Toronto: University of Toronto Press, 1966), pp. 39-40.
2. Christopher Sands, "The Forked Road for Canadian Military Cooperation with the United States," Center for Military and Strategic Studies Conference "Continental Defence: Policies, Threats and Architecture," 4-5 May 2006, Calgary, Alberta.
3. For fiscal year 2007, the US defence budget will be $471.5 billion. See US Government, "National Defence Budget Estimates" (Office of the Secretary of Defence, March 2006), at http://www.dod.mil/comptroller/defbudget/fy2007/fy2007_greenbook.pdf. The USN/USMC will receive $127.3 billion, the USAF $105.9 billion and the US Army $110 billion (the remaining money goes to supplementary allocations including the war in Iraq). See "The Army 'Budget – Fiscal Years 2006 and 2007," U.S. Army News Release, undated at http:/www.army.clm/aticlees/article_0305_militarybudget_FY2006-2007.html; and Mitch Gettle, "Air Force's FY 2007 budget released." Air Force Link, 6 February 2006 at http:/www.af.mil/news/story.asp?storyID=123016098.
4. The consistency of the Canadian Navy's 17% share is easily seen in the slides marked "Defence Expenditure by Service Line," in DND's annual briefing titled "Making Sense Out of Dollars FY_." What is interesting is the largest share – 27% – was expended on NDHQ, schools, and other non-service-related items. These reports for FY 2000-2004 are available at http://www.admfincs.forces.gc.ca:80/financial_docs/intro_e.asp. Regrettably the slides are no longer produced. With effort, the spending ratios can be extracted from the current year's Parliamentary Report of Plans and Priorities.

Bruce S. Oland Essay Competition 3rd Prize Essay

Viable Options for Securing Canadian Arctic Sovereignty*

J. Matthew Gillis

Photo: Master Corporal John Bradley

Members of 1 Platoon, A Company, Third Battalion, Princess Patricia's Canadian Light Infantry, on a sovereignty foot patrol in the Augustus Hills northwest of Cambridge Bay, Nunavut, March 2006.

Although usually relegated to the back of most Canadians' minds, the Arctic is much more important than the barren, frigid wasteland of popular portrayals. Abundant natural resources, strategic location close to the world powers of the United States and Russia, and valuable navigation routes have inspired other states to steadily stake their own claims in the Arctic and disregard Canada's. Since becoming an election issue in 2005, the Canadian claim to sovereignty of the Arctic is once again being scrutinized by Canadian politicians and the public alike. Numerous publications have examined the subject in the past, but viable options for securing Canada's Arctic sovereignty have greatly changed in recent years. What was advisable to establish a strong Canadian Arctic presence a decade or two ago may no longer be practical in 2007. In order to see which choices are available to Canada, we can proceed by asking why we should secure the Arctic, what options have been presented, and which options are still viable today.

Given the image many people share of the Arctic – what John Honderich calls the "Mercator mind-set" in his book *Arctic Imperative*, referring to the style of map (see Figure 1) which places the Canadian Arctic in the upper left corner, far from anything of consequence[1] – it makes sense to ask first why the Canadian Arctic requires securing. The three important properties of the Arctic – natural resources, location close to major powers, and a possible alternative navigation route – make the Arctic a true treasure for Canada to possess.

The Arctic's resources include large, potentially lucrative oil and gas deposits (some studies estimate that the Arctic holds 25% of the world's remaining untapped oil), rich fishing grounds, fresh water supply, potential for hydroelectric generation, and a diverse Inuit culture. Additionally, the recent discovery of large diamond deposits has further raised the stakes of Arctic control.

The very location of the Arctic makes it key to strategic calculations. Over the Canadian Arctic is the shortest distance between Russia and the continental United States (see Figure 2). During the Cold War, the Arctic was the logical flight path for Soviet and American bombers and missiles if a conflict broke out between the two superpowers, and Arctic waters were routinely scoured by submarines from both sides. Being in the middle of the two superpowers did not, of course, give great comfort to Canadians and first brought Arctic security under consideration.

Yet it may be the navigation routes that will have the greatest impact on Canadian sovereignty. The Northwest Passage can potentially provide a new crossing between the Atlantic and Pacific oceans through the Arctic. This much sought-after seaway could become Canada's own Panama Canal as climate change affects sea ice blocking the passage, providing a shorter trip from Europe to Asia. The opening of the Northwest Passage may not be so far away, as recent studies suggest that Arctic sea ice will drastically retreat over the next few decades.

Canada's claim to these valuable aspects of the Arctic has come under increased fire in recent years. The ongoing

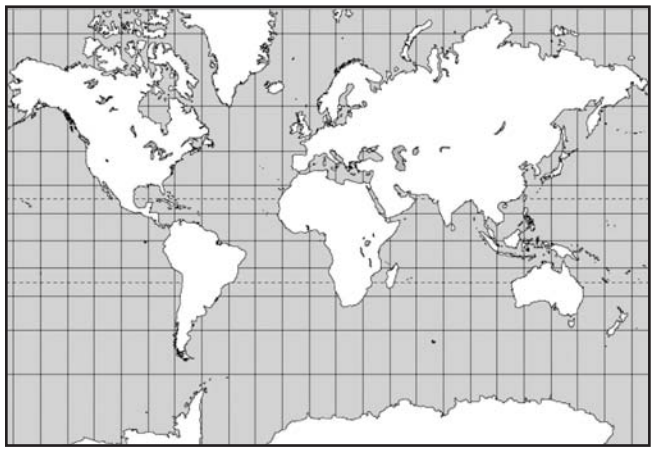


Figure 1. A Mercator Projection of the World.
Source: http://www.alexandria.ucsb.edu/other-sites/Earth.html

Hans Island dispute with Denmark, though centred on an insignificant piece of land, has larger repercussions on the control of strategically important Arctic waters near the Canadian coastline. Additionally, the United States has never acknowledged Canadian sovereignty over the Arctic waters; among the most recent claims to come out of the Pentagon is that Canada's Arctic claim is both "weak" and "tenuous." Unfortunately, we must concede that these remarks do hold some truth.

Beyond infrequent sovereignty patrols, Canada's grasp over the region has been slipping. With the abundance of natural resources in the region, it is no mystery why some states have a hard time taking Canada's Arctic claims seriously. The claims are further challenged by the fact that despite the end of the Cold War, foreign submarines – potentially outfitted with nuclear weapons – continue to transit through Canadian waters. This disconcerting matter in particular became a prominent topic in the 2006 federal election. The issue of navigation through Arctic waters is dormant for the time being, but as the viability of Arctic travel may not be too distant, the promise of an influx of sea traffic to the region is just over the horizon.

How can we establish the Canadian claim over the Arctic? *Fortification* of the region is not an option; the Arctic waters are too vast, the conditions too adverse, and polls indicate Canadians seem to prefer a more peaceful solution anyway. As trespassers often transit undetected and unchecked, the best option is to establish a strong *presence* in the Arctic. If we can tell who, where, and when our sovereignty is violated, we can subtly remind intruders of their location, aid in search and rescue missions, pursue international legal avenues and, if necessary, aggressively respond to such violations.

There have been a number of suggestions made about how to secure Canada's presence in the Arctic. In 1987, John Honderich suggested four possible ways to do this: patrolling the region with Canada's own submarines; building new icebreakers; implementing acoustic surveillance via the Sound Surveillance Under the Sea (SOSUS) system; and increasing air surveillance.[2] These suggestions were put forward during the Cold War, a time when the Arctic should have been a major concern. Are the viable options for securing Canada's sovereignty in the Arctic the same as they were in 1987? How relevant are Honderich's options today?

The same year Honderich published *Arctic Imperative*, a White Paper was released by the government of Brian Mulroney proposing the acquisition of up to 12 nuclear-powered attack submarines which would have the endurance necessary to patrol under ice. This was not pursued,

Figure 2. Circumpolar Map Illustrating the Strategic Location of the Arctic.
Source: http://www.lib.utexas.edu/maps/polar.html

Photo: Private Darcy Lefebvre, Formation Imaging Atlantic

*HMCS **Montreal** refuels from CCGS **Terry Fox** in Dundas Harbour in August 2006.*

and since then the Canadian government instead opted to purchase four diesel-powered submarines. Given the negative public reaction to the acquisition and performance of the *diesel* submarines, it seems exceedingly unlikely that any government could convince Canadian taxpayers to pay for new *nuclear*-powered submarines. These submarines cannot patrol under ice for any useful length of time due to limited battery capacity. Unless Canada's existing submarines are equipped with air-independent propulsion, the submarine patrol option for the Arctic is beyond reach.

Building or buying more icebreakers is another option suggested by Honderich in 1987. This may have been viable in 1987 but there are different circumstances now. At the time, plans existed to construct the $450 million *Polar 8* icebreaker but were not pursued. Although a CBC article from December 2005 included "three heavy-duty, armed icebreakers" as part of the Conservative Party's campaign promises, introducing new icebreakers or arming the Canadian Coast Guard's existing icebreakers today may be unrealistic given budget cuts to the Coast Guard in the mid-1990s.[3] As Dan Middlemiss said, "the coast guard is a broken organization and needs fixing badly … arming icebreakers is the last thing on their priority list."[4] In addition to these federal plans, the Canadian Forces have begun calling for their own armed Arctic-capable vessel. As of February 2007, however, both the government and the Canadian Forces are mum on details about any new Arctic vessels, holding out for a comprehensive Arctic plan to be released by the federal government later this year.

If the surface patrol option is pursued, what can we expect it to contribute to Canadian sovereignty claims in the Arctic? When breaking ice, these ships typically travel very slowly – below three knots – far too slow to participate in any interdiction action against a submarine transiting far below or a ship on the other side of a enormous pack of sea ice. An armed ship stuck fast in the ice is impractical to demonstrate a strong presence to Arctic intruders hundreds of miles away. For search and rescue missions in the Arctic, Canada's existing icebreakers will not require armament, only improved organization and funding to maintain readiness.

The acoustic surveillance (SOSUS) system is one that has been employed with great success in other theatres. The idea is to install underwater listening devices on the sea floor of the Arctic region which can detect and classify nearby vessels based on the sounds they produce. SOSUS arrays were installed and maintained by NATO across the Greenland-Iceland-United Kingdom (GIUK) gap and elsewhere during the Cold War to track Soviet submarines. Honderich claims that Canada has operated an experimental array across Lancaster Sound, although he does not provide specific details. The problem with SOSUS is that the detection equipment has difficulty separating submarine tonal sounds from background noise produced by compacting and shifting ice. Ice is not static and unchanging. Shifting, cracking, and rubbing against other pieces sometimes provides an extremely noisy acoustic environment. As well, sound refracting off the ocean floor and the ice makes judging ranges difficult. Although many details of the system still remain classified, Honderich claims these shortcomings are being negated by advancements in technology.

The initial investment for SOSUS can be steep – in 1999, Lockheed Martin was tasked to develop a system feasible in areas with high ambient noise like the Arctic to the tune of over $100 million. The system could be said to pay for itself through its long life and the fact that it requires limited personnel for monitoring and maintenance. Thus, for some, SOSUS networks monitoring the entrances to the Northwest Passage and other Arctic chokepoints is an idea worth pursuing. Indeed SOSUS was part of the Conservative Party election platform, but like the icebreaker issue there are few details on a SOSUS solution, with more expected in the forthcoming federal Arctic sovereignty plan.

Increased air surveillance is an option which would work best in tandem with SOSUS networks. SOSUS monitoring could complement the detection abilities of the aircraft. This pairing, employed often during the Cold War, would see aircraft responding to contacts detected by Arctic SOSUS arrays. The CP-140 Aurora – Canada's world-class maritime surveillance aircraft – has the endurance necessary to patrol the vast Arctic, however the aircraft are stationed in Greenwood, Nova Scotia, and Comox, British Columbia, both a distance of about 4,000 km from Canadian Forces Station (CFS) Alert on Ellesmere Island.


Photo: Lt Christine Bazarin, CAS, Ottawa

One of the new CH-149 Cormorant search and rescue helicopters flying over ice in the North Atlantic.

Despite the Aurora's impressive range, aircraft departing from these bases will be greatly restricted in time that can be spent loitering on station over the Arctic.

Air patrols could be viable if as many as three or four of the Canadian Forces' Auroras were to be permanently stationed closer to the Arctic region. If these aircraft were stationed in the north, they would save time and fuel flying to the area. The aircraft could remain aloft over the Arctic for hours, unrestricted by ice unlike their surface-bound counterparts. Auroras should not experience much difficulty shifting to the Arctic; supply aircraft routinely visit CFS Alert which is far more northerly than the Auroras would need to be stationed. Auroras themselves have functioned admirably in Arctic patrols in the past, but would possibly require additional 'winterizing' beyond the construction of new shelters in order to be permanently stationed there. These facilities would likely be cheaper to construct than the new deep-water Arctic port promised by the Harper campaign platform to accompany the new icebreakers.

If implemented, air patrols would establish a useful Canadian presence in the Arctic. Not only could they respond within hours to intrusions detected by SOSUS, performing low passes over vessels and deploying a variety of weaponry if necessary, but they could also greatly aid search and rescue efforts with air-deployable survival kits. The aircraft would provide a visible and definitive signpost for vessels and their governments intruding into the Canadian Arctic.

The government should be dissuaded from employing submarines and surface patrols in the Arctic. Unlike the 1980s when Honderich proposed submarines as solutions, in 2007 submarines are not seen as something Canada should have – certainly not nuclear-powered ones – and the purchase of the four submarines has been seen by the Canadian public in mostly negative terms, unfortunate victims of changing circumstances. The use of surface vessels in the Arctic should be relegated to supply and rescue operations. While icebreakers provide an Arctic presence in the literal sense, their role in frequent Arctic sovereignty patrols remains impractical due to their inability to reach far-away trespassers in order to establish presence in a more visible, incontrovertible manner.

Acoustic surveillance networks at Arctic chokepoints and projected air patrols remain viable. A SOSUS network would provide constant surveillance of Canada's northern waters, and aircraft can help to enforce the Arctic presence by responding to intrusions and to ships in distress. These two options work together to provide clear shows of presence to trespassers. Moreover, they are practical, available technologies. Rather than constructing multi-million dollar slow-moving icebreakers or pushing our submarines into this inherently dangerous theatre, these two options demand serious consideration.

The Canadian Arctic is valued for its natural resources and strategic location. If the climate continues to warm it could also see increasing importance as a shorter route for goods moving between the Atlantic and Pacific Oceans. Above all, however, Canadians think of the Arctic as a part of Canada – the true north, strong and free. The Harper government promised in its election platform that steps would be taken to ensure that it stays this way. It remains to be seen what shape these promises will actually take. However, among the suggestions about how to establish an Arctic presence thus securing Canadian sovereignty, only few are truly viable. Implementation of SOSUS networks and the projection of northern air patrols will ensure that Canadians are not left out in the cold over the control of this region.

Notes

* This article was revised and updated in the months since the 2006 essay competition.

1. John Honderich, *Arctic Imperative: Is Canada Losing the North?* (Toronto: University of Toronto Press, 1987), p. 9.
2. *Ibid.*
3. "Tories Plan to Bolster Arctic Defence," CBC News, 22 December 2005, available at <http://www.cbc.ca/story/canadavotes2006/national/2005/12/22/elxn-harper-dfens.html>.
4. Danford Middlemiss as quoted by Alison Auld, "Military Could Arm Coast Guard Ships for Arctic Sovereignty Mission: Admiral," CNews Canada, 22 March 2006, available at <http://cnews.canoe.ca/CNEWS/Canada/2006/03/22/1500557-cp.html>.

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Can the RAN Enforce Australia's Oceans Policy?

Commander Simon Bateman, RAN

> *A state that thinks of itself as a small power is self-confessedly dependent on external help even to protect its own territory. A state that knows itself to be a superpower, however massive its strategic preoccupations has at least the knowledge that militarily it can protect its interests unaided. But for the medium power, nothing is absolute.*[1]

Canada and Australia have much in common – they are both large states with relatively small populations, abundant resources and extensive maritime interests. Perhaps an examination of the situation relating to the Australian Navy would be useful to Canadian naval planners.

On 4 September 2001 the Royal Australian Navy (RAN) attracted worldwide attention when 354 asylum seekers were embarked from the MV *Tampa* into HMAS *Manoora* for their eventual transfer to an immigrant processing facility in Nauru, a small island state in the south Pacific Ocean. At precisely the same time the *Anzac*-class frigate HMAS *Anzac* was conducting maritime interdiction operations in the northern Arabian Gulf as part of the sanctions against Iraq, and HMAS *Adelaide* was visiting Singapore prior to involvement in Exercise Stardex 2001. This snapshot in time provides a perfect example of the dimensions within which a modern navy must work and what will probably be expected of it in the future.

The *Australian Maritime Doctrine*, a document produced by the RAN in 2000, includes these sorts of activities as the span of maritime operations,[2] which Ken Booth describes as the constabulary, military and diplomatic roles.[3] The multitude of tasks that result from these three roles can be quite daunting for a navy representing a country classified as a medium maritime power. The RAN's ability to conduct all these roles successfully, especially concurrently, is significantly limited both economically and geographically. Historically, the total defence budget has been limited to approximately 2% of Gross Domestic Product (GDP). Combine a relatively limited budget with a potential surveillance and enforcement area of 14.8 million square kilometres and the result is a challenging responsibility. To meet this challenge, medium maritime powers and their navies must be, as Rear Admiral J.R. Hill phrased it, "brave as lions and cunning as foxes because they do have some ability, some potential, and they have to choose how best to deploy it in their interest."[4]

While naval tasks are becoming increasingly varied, state maritime interests are becoming more specific to each country. Thus, countries have more maritime interests, but they may be different for different countries. Australia, for example, has only just realised the importance of its biologically diverse marine domain. This maritime interest has had to be added to the more traditional list of marine interests. The multiple interests were recognised with the publication of Australia's Ocean Policy (AOP), Volumes 1 and 2, in 1998. Volume 2 of this document outlines the Australian Defence Forces' (ADF) responsibilities for surveillance and enforcement.

Perhaps an examination of the situation relating to the Australian Navy would be useful to Canadian naval planners.

Here we will assess whether the RAN, as a navy representing a medium maritime power, has the capacity and capability to meet its enforcement roles as outlined in the ocean policy. After this, we will identify any possible changes to policy and/or capability which would allow the RAN to perform successfully as a medium navy in these roles. But first we must establish if Australia is a medium maritime power.

Australia: A Medium Maritime Power

In his treatise, *Maritime Strategy for Medium Powers*, Rear Admiral Hill provides a thorough examination of the factors that determine whether a country is a medium power. He notes:

> Superpowers are unlikely to suffer direct challenges to their territory, their political independence or their national welfare. Small powers, on the other hand, are unable to guard their own interests without some form of external support and guarantee. Medium powers fall between these two groups and they are most clearly identified not so much by any inherent characteristics as by their primary security objective.[5]

RAN Photograph

*A **Fremantle**-class patrol vessel at speed in Australian waters.*

Is Australia a medium power? National power consists of many elements, including: social and political cohesion; economic strength; depth and breadth of international relationships including alliances, agreements, membership and participation in international organisations, committees, etc.; military capability; historic and current absence of disputes; strategic location; quality of international contribution; and geographical size, resources, navigability of the coastline, nature of inland terrain, among other things. When all these are taken into consideration, Australia is a medium power on a world scale. The next question is, does Australia fit into the associated category of a medium *maritime* power? Once again there are a number of components. These include amount of external trade a country conducts, access (which is related to port facilities/infrastructure), a shipbuilding industry, the exploitation of natural resources and military power at sea. Given Australia's geography and that it has varying levels of all the above elements, Australia is also a medium maritime power.

As a medium power Australia seeks to "create and keep under national control enough means of power to initiate and sustain coercive actions whose outcome will be the preservation of its vital interests."[6] In policy terms this could be described as autonomy or self-reliance. To preserve vital maritime interests, as a medium power navy the RAN must have sufficient capabilities with a maritime strategy to support it. Inherent in this strategy is joint operations. Medium powers can't afford duplication. A credible capability will increasingly depend on the integration of all the combat services.

Having established that Australia is a medium maritime power and the RAN is a medium navy, we can now look at Hill's discussion of medium powers. *In Maritime Strategy for Medium Powers*, Hill highlights a number of concepts and strategies for the medium power navy. The two most fundamental concepts are *levels of conflict* and *reach*. He divides conflict into four levels: normal conditions; low intensity operations; higher level operations; and general war. *Reach* is described as cutting across all these levels and is the distance from a home base that a navy can carry out operations. (We will discuss *reach* more in a moment.) While acknowledging that there are four levels of conflict, we will focus on peace-time responsibilities, or *normal conditions*. Hill defines normal conditions as a state in which "changes in international conditions occur in a controlled way aided by processes of negotiation; no use of force is taking place except at an internationally accepted constabulary level; and threats of force are confined to the normal process of deterrence."[7] A medium navy's constabulary duties are central to this as "these are, after all, what most of us in the fighting services are doing, most of the time."[8]


RAN Photograph

*The Australian Navy has both regional and domestic maritime security commitments. Seen here, HMAS **Anzac** (nearest) and INS **Tabar** exercise replenishment operations.*

To fulfil these duties it is necessary first to establish a medium maritime power's *vital interests*. For medium powers, as for virtually all states, these are generally seen to be territorial integrity and political independence. A medium power will have few resources to spare for the exercise of power beyond what is necessary to safeguard, or where possible further, these vital interests. With the introduction of the 200-mile Exclusive Economic Zone (EEZ) and the 1982 Law of the Sea Convention (LOSC), the area of responsibility for maintaining territorial integrity is now quite large for most maritime countries. It requires extensive surveillance, information gathering and a capability to board and if necessary, detain vessels in national waters – all within a framework of domestic law that conforms to international law.

For this capability to be a successful part of a medium power's maritime strategy then it must be both *ready* and *effective*. Hill states that *readiness* is a watchword for all medium powers. This is especially so in the context of constabulary operations, as it does not just address deployed readiness, but in some cases it would take the form of readiness in-being (i.e., being ready to go) and thus demonstrating intent. If it becomes obvious to a potential transgressor that a medium power is ready to enforce its sovereignty and rights, then it may prove to be a deterrent. The same can be said for *effectiveness*. If it were apparent that the medium power is materially efficient, well trained and organised, then this also could have a deterrent effect.

The final themes in Hill's discussion are *reach* and *presence*. *Reach* relates to a medium power's vital interest. How far does it need to go to protect its interest? This may not just extend to its maritime zones, but could expand to offshore territories or sea lines of communication (SLOC). Integral to reach is *sustainability*, or how long can reach be maintained. *Presence* could be considered a corollary to reach in that it is a visible demonstration of a country's ability to prove its reach.

Australia's Ocean Policy: The RAN's Responsibilities

Having briefly examined Hill's concepts, let us look at the Australian context. Australia has one of the most biologically diverse marine environments in the world. Compared to many other countries this environment is in a generally good condition, due in part to Australia's geographical isolation. However, there is increasing pressure being placed on ocean systems. This pressure comes from an escalating world demand for fish, expanding mineral and petroleum exploration activities, and tourism and recreation. In an attempt to plan for these increased pressures the Australian government released Australia's Ocean Policy (AOP) in 1998. This policy "sets in place the framework for integrated and ecosystem-based planning and management for all of Australia's marine jurisdictions."[9] In the case of Australia these jurisdictional areas are extremely large.

Medium powers can't afford duplication. A credible capability will increasingly depend on the integration of all the combat services.

As a signatory to the 1982 LOSC, Australia has sovereign rights to explore, exploit, conserve and manage the natural resources within its EEZ. It also has rights and responsibilities to the limits of the continental shelf. This is in addition to the sovereignty that it maintains over the contiguous zone and territorial seas. A fundamental aspect of a government policy that encompasses regulation and management are the enforcement measures to be implemented. Many of these measures lie within the purview of the ADF, and are addressed in the AOP in three sections under the main heading of "Protecting the National Interests." The sections are "Defence," "International" and "Surveillance and Enforcement."

Each of these sections is divided into three areas: "The Challenges," "Background" and "Response." In the Defence section the challenges are to protect Australia's national interests and sovereign rights, and to provide accurate, up-to-date hydrographic, oceanographic and navigation information within Australia's maritime jurisdictions. The Background section refers to Australia's "Strategic Policy" defining the defeat of attacks against Australian territory as "our core force structure priority" and the focus of all defence activities.[10]

The AOP gives the ADF the task of safeguarding marine jurisdictional areas, controlling maritime approaches

and of exercising and protecting Australia's sovereignty and sovereign rights. It also highlights the importance of joint operations between the navy and the air force (RAAF), and bilateral and multilateral agreements to facilitate operations and patrols in southeast Asia and the southwest Pacific. The Background section also lists a range of tasks that the ADF undertakes or contributes to, and that are directly relevant in the implementation of the ocean policy. These are:

- preparedness and contingency planning;
- maritime surveillance and response;
- fisheries law enforcement;
- search and rescue;
- hydrographic services; and
- the Australian Oceanographic Data Centre.[11]

The Response section expands on these tasks by providing a comprehensive list of activities that the ADF will do in support of the above tasks.

In the Surveillance and Enforcement section, the challenges are to ensure that Australia has an effective and efficient surveillance capacity for its marine jurisdictions, and that there is effective enforcement of national legislation throughout this area. Surveillance is important to identify legal and illegal activities in Australia's vast marine jurisdictions and must be coupled with effective enforcement action. This section highlights the many agencies involved with the national surveillance effort and notes that the defence forces are a major contributor. The ADF also provides the main contribution to fisheries enforcement through its patrol boats in the north and other units in the Southern Ocean. Other civil enforcement activities are conducted by the ADF including low-intensity policing tasks such as interdiction of people and drug smuggling.

The Response element of the Surveillance and Enforcement section expands on government requirements. These include specific details for the ADF including:

- ensuring the ADF continues to contribute fully to the National Surveillance program managed by Coastwatch, an organisation utilised by a number of federal departments namely, Customs, Immigration, Fisheries and Defence (Coastwatch provides a number of aircraft to maintain surveillance around the Australian coastline); and
- ensuring the ADF contributes fully to fisheries law enforcement activities, particularly in Australia's north and northwest but also within the EEZ of Australia's offshore territories.[12]

Australia's Ocean Policy versus Defence Policy

An analysis of the ocean policy highlights some inconsistencies with Australia's current defence policy document Defence 2000 (D2000), especially in the area of enforcement. D2000 refers to the role of patrol boats, surveillance aircraft and intelligence capabilities in the monitoring and policing of the maritime approaches, but emphasises that these roles should not detract from the core function of defending Australia from attack. It goes as far as to mention that a "civilian response may be more appropriate" when addressing non-military concerns.[13] This is incongruent with AOP which lists fisheries law enforcement as a defence task and states that "the Government will ensure the ADF contributes fully to fisheries law enforcement."[14] Despite these policy inconsistencies it is still possible to determine whether the RAN has the capacity and capability to fulfil its responsibilities under AOP.

As a medium navy, does the RAN have the capacity and the capability to achieve the tasks laid out for it in Australia's Ocean Policy?

The majority of the tasks that have been designated to the ADF in the ocean policy quite obviously affect the navy more than the other services. An analysis of the relevant sections of the AOP will illustrate a number of key terms and concepts that are common to Hill's theories for medium navies. The AOP refers either directly or indirectly to *interests*, *reach*, *presence* and *joint operations*, all integral components in a medium power's maritime strategy for *normal conditions*.

As a medium navy, does the RAN have the capacity and the capability to achieve the tasks laid out for it in the AOP? One of the fundamental elements of an enforcement capacity is satisfactory legislation. Hill acknowledges this when he says "Any state desiring an orderly basis for its marine constabulary [forces] has to evolve a framework of municipal [i.e., domestic] law within which it can operate."[15] AOP sets a task for government agencies to review the multitude of legislation currently required to enforce the policy. The ADF and Customs are the only two federal agencies that have the capability for enforcement at sea. The Australian Federal Police (AFP) and the state police established in every Australian state will at times make use of naval and custom agency assets as well as state police vessels. Generally the ADF will be used due to the wide range and flexibility of its assets.

The military has enforcement powers under a number of acts, which usually incorporate provisions for military personnel to be accorded 'authorised persons' status. These federal acts include:

- *Migration Act 1958*;
- *Petroleum (Submerged Lands) Act 1967*;
- *Fisheries Management Act 1991*;
- *Migration Act 1958*;
- *Customs Act 1901*;
- *Border Protection (Validation and Enforcement Powers) Act 2001*;
- *Quarantine Act 1908*;
- *Border Protection Amendment Act 1999*;
- *Environment Protection (Sea Dumping) Act 1981*;
- *Hazardous Waste (Regulation of Exports and Imports) Act 1989*.

Although this would appear to be an adequate framework it can often prove to be unwieldy. A case in point for the RAN would be the training of boarding parties. Legal training is now required for these parties on a variety of subjects as they are quite often tasked with a wide range of boarding circumstances. This training is required as there may be differences between simple fishery enforcement boardings under the *Fisheries Management Act 1991* and a boarding conducted under the *Migration Act 1958*.

In addition to these acts, Australia is party to a number of international agreements that may have an effect on the enforcement tasks of the defence forces in general and the navy in particular. These agreements include:

- LOSC 1982 Agreement for Management of Straddling Fish Stocks and Highly Migratory Fish Stocks;
- Convention for the Conservation and Management of the Highly Migratory Fish Stocks in the Western and Central Pacific Ocean;
- Convention on the Conservation of Antarctic Marine Living Resources 1980;
- Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation;
- Convention for the Protection of the Natural Resources and Environment of the South Pacific Region 1986 and Protocol; and
- Convention for the Prohibition of Fishing Long Driftnets in the South Pacific and Protocols.

With ratification of these treaties Australia declared its *interest* in the relevant matter or area. Now, not only is it responsible for the regulation and management of its own maritime zones it could also be called to contribute to distant enforcement operations. This has a significant impact on capability especially when *reach* and *presence* are required in such isolated areas as Antarctic waters.

Capability is the most important part of the enforcement equation. Without capable vessels and people, enforcement at sea will not occur. As has already been established, the RAN is the preferred agency for this activity. Despite the government fulfilling its AOP requirement and purchasing eight *Bay*-class patrol boats for the Australian Customs Service, a federal agency, there is still some doubt about enforcement effectiveness of the boats due to their lack of armament. Often vessels will not stop unless a warship is present to enforce the order. It has been acknowledged that enforcement is the weak point in the equation. In 1998 the Deputy Commissioner of the AFP noted "that while the surveillance might be adequate, the ability to respond to surveillance, to intercept and detain, to board and search, to enforce laws, and to effect sovereignty is entirely inadequate."[16] Coastwatch does an excellent job coordinating all the surveillance covering an area measuring 14.8 million square kilometres. However, it can only achieve a re-visit rate of once every 12 days with its available assets,[17] and has very limited response options including 15 RAN *Fremantle*-class patrol boats[18] and the 8 *Bay*-class Customs vessels.

Capability is the most important part of the enforcement equation. Without capable vessels and people, enforcement at sea will not occur.

The RAN undertakes the majority of responses in the north and northwest of Australia. This reliance on defence assets for enforcement was also demonstrated during the boarding of the MV *Pong Su*, a vessel suspected of importing drugs into Australia. After the attempts by the Victoria State Police and the New South Wales State Police to stop the vessel were unsuccessful, RAN assistance was sought in the form of a frigate and helicopter. These and other ADF units were used to board the ship and then hand over jurisdiction to the federal police and Customs officers.

Recommendations for a Medium Navy and Conclusions

This reliance on the ADF, and more specifically the navy, has obvious ramifications when it comes to capability development. Although this reliance is acknowledged in the *ocean* policy, it does not receive the same level of recognition in D2000, which incorporates the Defence Capability Plan, or 'shopping list.' It is accepted that these con-

stabulary roles should not detract from the ADF's core function of defending Australia from armed attack but if such a reliance is going to be placed on them in AOP then they should get more emphasis in the primary defence policy document. If the RAN is to be as "brave as a lion and as cunning as a fox" and be able to provide reach and presence along Australia's extensive coastline and distant offshore territories then there is probably a requirement for a larger class of offshore patrol vessel. To take this argument further there may even be a requirement for an ice-breaking capability as fish stocks diminish and fishermen illegally venture into Antarctic territories. There are other areas in which Australia could be a little more 'cunning' especially in the areas of maritime strategy and legislation.

... a new Defence White Paper should incorporate explicit reference to the Australia's Ocean Policy.

This article agrees with the conclusion of the Joint Standing Committee of Foreign Affairs, Defence and Trade inquiry into Australia's Maritime Strategy. The committee recommends that a new Defence White Paper should incorporate explicit reference to the Australia's Ocean Policy.[19] This would remove the disconnect that occurs between the current documents and provide a clearer explanation of government requirements for the ADF in its constabulary role. As for legislation, the government should continue with the review required by the AOP. There would certainly be utility in overarching legislation which would simplify the enforcement capacity of the ADF.

This article has argued that a modern navy plays a diverse number of roles. These have been encapsulated in Booth's triad of military, diplomatic and constabulary dimensions. The tasks that fall out of these dimensions are substantial, especially for a medium navy like the RAN. To be successful, a medium navy needs to be brave and cunning while creating and keeping under national control enough power to initiate and sustain coercive actions to preserve the state's vital interests. In the context of constabulary operations under normal conditions, these interests are those outlined in the AOP.

The ocean policy designates a number of substantial enforcement tasks to the ADF, or more specifically the navy, especially in the area of fisheries. The navy fulfils these tasks despite the fact that the tasks receive minimal exposure in D2000. As a medium navy the RAN should


RAN Photograph

*HMAS **Canberra** at sunset.*

be able to provide reach and presence to the areas of vital interest. Not only does Australia have significant areas of interest contained within its extensive maritime zones but Australia is party to a number of international agreements which extends interests to distant waters. To provide reach and presence to these areas requires a capability that Australia does not currently have.

To improve this situation, the requirements for the Australian Defence Forces outlined in Australia's Ocean Policy must be incorporated into future defence policy. As well, a review of the existing legislation should occur so as to streamline the current unwieldy process. And, finally, if the navy is to fulfil its AOP enforcement tasks then it requires larger and more numerous patrol craft. If all these recommendations could be achieved then the RAN would have the right balance and would be able to perform more successfully as a medium navy.

Notes

1. Rear Admiral J.R. Hill (Ret'd), "Maritime Forces for Medium Powers," *Naval Forces*, Vol. V, No. 2 (1984), p. 27.
2. Royal Australian Navy, *Australian Maritime Doctrine*, Canberra, 2000, p. 57.
3. Ken Booth, *Navies and Foreign Policy* (London: Croom Helm, 1977), p. 16.
4. Rear Admiral J.R. Hill (Ret'd), "Maritime Strategy for Medium Powers," *Journal of the Australian Naval Institute*, Vol. 14, No. 2 (May 1988), p. 37.
5. As quoted in Cdre J.V.P. Goldrick, "The Medium Power Navy in the 21st Century," *Journal of the Australian Naval Institute*, 2001, p. 21.
6. *Ibid*., p. 21.
7. Hill, "Maritime Strategy for Medium Powers," p. 88.
8. Read Admiral J.R. Hill (Ret'd), "Medium Power Strategy Revisited," Sea Power Centre Working Paper No. 3, Canberra, March 2000, p. 7.
9. Environment Australia, "Australia's Ocean Policy Volume 1," Canberra, 1998, p. 2.
10. *Ibid*.
11. *Ibid*.
12. *Ibid*., pp. 43-44.
13. Australia, Department of Defence, *Defence 2000. Our Future Defence Force*, Canberra, 2000, paras 2.15–2.20
14. "Australia's Ocean Policy Volume 2," p. 44.
15. Hill, "Maritime Strategy for Medium Powers," p. 99.
16. D.R. Mackinnon and J. Hinckley, "Report on Critical Issues Workshop: The Regulation and Enforcement of Crime in Australia's Maritime Zones," *Maritime Studies*, No. 104 (1999), p. 11.
17. Australia, National Audit Office, *Coastwatch Australian Customs Service*, Audit Report No 38, 1999-2000, Canberra, April 2000.
18. To be replaced by 11 *Armidale*-class patrol boats which will be multi-crewed and will provide 3,200 patrol days a year.
19. Joint Standing Committee of Foreign Affairs, Defence and Trade Inquiry, *Australian Maritime Strategy*, Canberra, 2004, p. xviii.

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Acoustic Surveillance and Maritime Domain Awareness

Lieutenant-Commander David Finch

In the changed security environment of the post-9/11 world, we must know who is using the waters off our coasts. Acoustic surveillance is one of the means that we can employ to accomplish this. The capability of the Canadian Forces in this regard is, however, lamentably little understood by Canadians.

The modern MDA acoustic mission is to search, identify, localize and track all acoustic signatures with the aim of providing timely and accurate information to defence, security and/or constabulary forces.

The focus in 2007 is 'maritime domain awareness' (MDA) and, unlike in the Cold War, we are now interested in the acoustic signature "of all things of, on, under, relating to, adjacent to, or bordering on a sea, ocean, or other navigable waterway, including all maritime related activities, infrastructure, people, cargo and vessels and other conveyances."[1] Not too long ago, these signatures were considered merely a by-product of the military need to detect and track Soviet nuclear submarines. The modern MDA acoustic mission is to search, identify, localize and track all acoustic signatures with the aim of providing timely and accurate information to defence, security and/or constabulary forces.

This current acoustic mission must be understood within the context of its historical development. World Wars I and II taught us that if we listened closely we could hear submerged submarines, a means of detection vital to countering an otherwise unseen target. The threat that submarines posed during WW II provided a catalyst for numerous long-term research and development initiatives to determine both the physics of acoustic transmissions and how to exploit this knowledge. These early

Author's photograph

*An **Oscar II** cruise missile-firing submarine similar to the **Kursk** that sank with all hands in the Barents Sea on 12 August 2000 after a torpedo exploded in the forward compartment.*

anti-submarine warfare (ASW) efforts, however, also revealed that the oceans were full of noise from natural and man-made sources which confused our classification efforts and hid the adversary. To find a submarine, ASW forces exploited technological developments that permitted them to winnow submarine signatures hidden within the haystack of noise.

After WW II, acoustics became part of the Cold War fight against the Soviet Union. Now, Soviet nuclear submarines were identified and tracked based on their acoustic signatures. The ability to do this relied upon years of experience and advances in technology. Acoustic signatures from other sources were also monitored in order to find submarines. Thus acoustic experts acquainted themselves with other man-made signatures, as well as sounds made by natural sources such as shifting ice or marine animals, but only to help find the submarines.

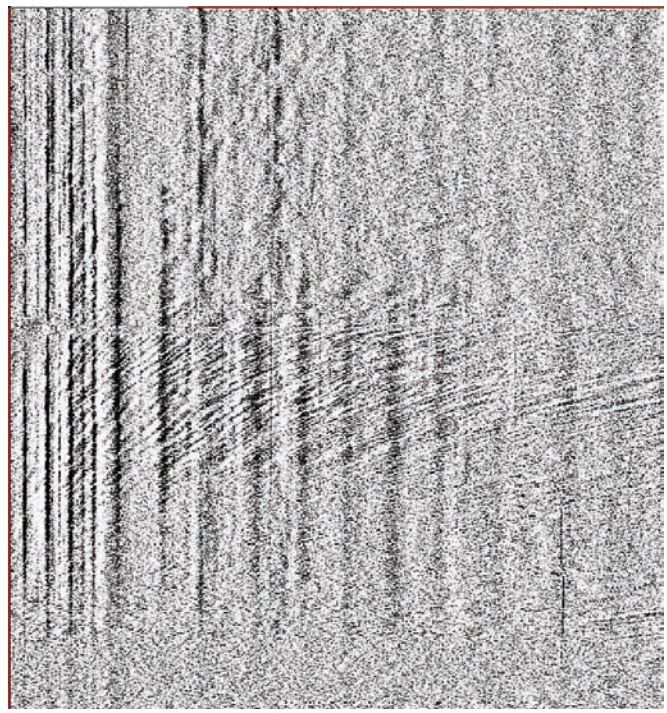
Tracking and identifying through acoustics is known as Acoustic Intelligence (ACINT). NATO defines ACINT as the military intelligence derived from the collection and processing of acoustic phenomena. The ACINT process led to the development of a "database so specific that it could be used to determine the location and identity of every Soviet sub at sea from its sound signature."[2] It

has taken generations of acoustic system operators and analysts to compile a vast database useful in providing a predictive tool to enable optimum tasking of operational forces.

The collapse of the Soviet Union at the end of 1991 meant many military departments needed a new focus, including those that had been detecting and tracking nuclear submarines by acoustics. A paradigm shift occurred in response to the US Navy's 1992 maritime strategy doctrine ...*From the Sea*.[3] With the adoption of this doctrine, listeners were to pay attention to the acoustic signatures of *all* potential threat submarines, not just Soviet (now Russian) *nuclear* submarines. The new doctrine resulted in attention being paid to a larger number of signature sources, enlarging ACINT databases, at a time when ASW resources were in decline because of the end of the Cold War.

It has taken generations of acoustic system operators and analysts to compile a vast database useful in providing a predictive tool to enable optimum tasking of operational forces.

The events of 9/11 led to another paradigm shift. We now faced a threat from unconventional enemies who were willing to use imaginative methods to attack us. Millions of cargo containers enter North American ports every year, and officials are concerned that cargo vessels could be a potential platform for another terrorist attack in the United States. After 9/11, therefore, the new mission was "to identify and track the world's 121,000 merchant vessels with the same persistence and precision that characterized the Navy's location, identification and tracking of Soviet submarines during the Cold War era."[4] So, acoustics were no longer only about identifying and tracking *military* vessels. The new relevance of merchant ships to the security picture simply codified what had been happening earlier as acoustic operators winnowed the acoustic spectrum to find the submarines. The security situation may have changed, but in terms of acoustic tactics and technology not much had changed except that there were now far more vessels of interest. Thus the third generation acoustician employs a wide variety of acoustic systems, some of which have existed since the early days of acoustic signature exploitation, to keep an eye on vessels of all sorts, necessitating data fusion with other surveillance capabilities.



Author's collection

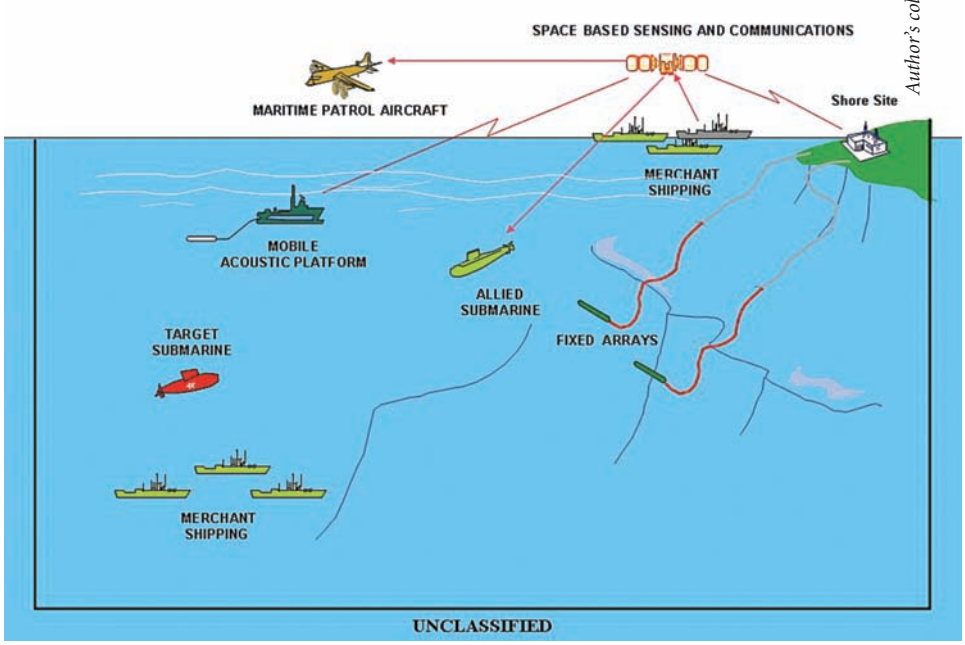
A recording of a merchant ship's propellor and other generated noise.

In the early days of acoustic intelligence, the primary ASW tactic was to catch the submarine approaching its target while surfaced. This meant there was an emphasis both on acoustics and, more often, on non-acoustic detection sources. Targets on the surface are detectable by a host of non-acoustic systems such as visual devices or electronic or communications emissions that can be exploited by electronic intelligence sensors (ELINT) and/or signal intelligence sensors (SIGINT). If vessels are not on the surface, however, then the only means of detection is through acoustics. This does not mean that they can escape detection – even under the surface a vessel cannot become invisible unless it stays in one place and makes no noise.

*After 9/11 ... acoustics were no longer only about identifying and tracking **military** vessels.*

Acousticians have always attempted to correlate acoustic information with other non-acoustic sources as but one means in the development of the 'common operational picture' (COP). The larger MDA mission requires a comprehensive network of information derived from a variety of sources. Using multiple sources enables acoustics to corroborate contacts held by other means and to initiate contact on targets not held by other sources.

Maritime Domain Awareness



Author's collection

A pictorial sketch of Maritime Domain Awareness relationships.

Until recently, acousticians predominately employed the technological systems, tactics, techniques and procedures of the Cold War. Some changes were made in the 1990s when mobile acoustic systems were developed that could be deployed into littoral environments to supplement the acoustic surveillance of fixed systems. With the new broader focus since 9/11, full-spectral acoustic analysis attempting to identify, classify and track all acoustic sources will require technological advances to support the reconfiguration and further development of fixed and mobile acoustic systems required to monitor the mission area.

If we are to have accurate data about the vessels that are approaching our coasts, then we must make sure that we are capable in acoustic systems.

The 21st century acoustician requires vast knowledge of the different sources of noise in a variety of mission areas in order to detect, localize and track vessels that travel on and below the waves. Complementing the experience and training of the practitioner has been the development of advanced sensor technology and display capabilities to provide more detailed information about the maritime domain. Changes in our surveillance capabilities have resulted in an alchemist transmutation of previously illegible acoustic signatures into gold.

If we are to have accurate data about the vessels that are approaching our coasts, then we must make sure that we are capable in acoustic systems. In this regard, the technological challenge is threefold. The first challenge is to figure out how best to exploit acoustics that are associated with traditional and legacy systems. The second challenge is to decide what new acoustic systems should be added to ensure gaps are covered. The third challenge is to make absolutely sure that all information sources are combined to provide a complete rendition of the operational situation.

It used to be that when we thought of security and the maritime approaches to the country, most of the vessels in our waters were considered unimportant – it was only certain military vessels that were of interest. This is no longer the case. In the post-9/11 world, information about both merchant and military vessels is now a critical component of the mission to provide timely and accurate data to operating and supporting forces. This mission is best accomplished when there are multiple sources of information to identify vessels operating on or in the world's oceans. The ensuing knowledge, supported by predictive tools, will enable optimum use of scarce resources to counter threats to Canada and North America.

Notes

1. Definition taken from US Department of Homeland Security/Department of Defense, National Plan to Achieve Maritime Domain Awareness for the National Strategy for Maritime Security, October 2005, available at www.whitehouse.gov/homeland/maritime-security.html.
2. David W. Munns, "121,000 Merchant Vessels," *Seapower*, Vol. 48, Number 7, July 2005, pp. 10-13.
3. In 1992 the US Navy-Marine Corps paper …*From the Sea* defined the strategic concept intended to carry the Naval Service – the Navy and Marine Corps – into the 21st century. It signalled a change in focus from operations on the sea toward power projection and the employment of naval forces from the sea to influence events in the littoral regions and areas within direct control of and vulnerable to striking power of sea-based forces, available at www.chinfo.navy.mil/navpalib/policy/from-sea/forward.txt.
4. Munns,"121,000 Merchant Vessels."

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The Chinese Navy: South by Southwest

Joe Varner

For some time now Western analysts and regional observers have questioned what is behind China's massive program of naval expansion and what exactly are its intentions. Opinion has largely fallen into two camps, those who believe that China is merely modernizing its forces and those who see China as a non-status quo power and a threat to the current world order.

In public policy research you tend to judge government by what it says and what it does with public money. With this in mind, one way to examine Chinese naval intentions is to look at three factors.

1. What has the Chinese government said about its naval policy?
2. What has it purchased to achieve its strategic naval objectives?
3. What has China done to promote its interests abroad?

Historically, China has had limited interest in high seas adventure. Thus, Cheng Ho's voyage in the 1400s was a mere 'historic blip' in a country that has traditionally only been interested in border and coastal defence. This is why international observers were taken by surprise when in late December 2006, Chinese President Hu Jintao gave a speech at a Communist Party forum on naval matters in which he called for a stronger "blue-water" navy with the ability to range far from China's home ports. He also said that China "should strive to build a powerful navy that adapts to the needs of our military's historical mission in this new century…. We should make sound preparations for military struggles and ensure the forces can effectively carry out missions at any time."[1] His speech was followed in a matter of days by a new White Paper on Defence.

White Paper on Defence 2006

The 2006 White Paper on Defence echoed Hu's speech in tone and gave more detail.[2] It noted that "the overall security environment in the Asia-Pacific region remains stable" but warned that "[t]here are growing complexities in the Asia-Pacific security environment." It cautioned that "China's security still faces challenges that must not be neglected. The growing interconnections between domestic and international factors and interconnected traditional and non-traditional factors have made maintaining national security a more challenging task." In a major departure from its last policy paper, the White Paper took a less hostile tone on Taiwan and said merely that "the struggle to oppose and contain the separatist forces for "Taiwan independence" and their activities remains a hard one."

Photo: http://www.sinodefence.com/navy/

*The Type 039 (NATO codename: **Song**-class) is intended to replace the ageing Type 035 **Ming**-class submarine based on a 1950-era Soviet design, but the project has been delayed by technical and design problems.*

> *China has traditionally had a land-oriented military culture. This White Paper, however, … called for a modern blue-water navy capable of taking on the United States and regional adversaries.*

In terms of naval policy, the White Paper said the aim was "gradual extension of the strategic depth for offshore defensive operations and enhancing its [the navy's] capabilities in integrated maritime operations and nuclear counterattacks." The navy is "working to build itself into a modern maritime force of operation consisting of combined arms with both nuclear and conventional means of operations." The White Paper also stated that information-driven warfare was a goal of its modernization and that "efforts are being made to improve


Photo: http://www.sinodefence.com/navy/

*The Type 054 (NATO codename: **Jiangkai**-class) is the new generation multi-role frigate for the PLA Navy.*

maritime battlefield capabilities, with emphasis on the construction of relevant facilities for new equipment and the development of combat support capabilities." The new policy direction also demanded that the navy develop "mobile maritime troops" and "strengthen its overall capabilities of operations in coastal waters, joint operations and integrated maritime support."

China has traditionally had a land-oriented military culture. This White Paper, however, placed "equal emphasis on land and sea, giving priority to defense, and integrating defense and administration." In short, the White Paper called for a modern blue-water navy capable of taking on the United States and regional adversaries. To do this the maritime forces would have to be given the same priority as the land component. This means that the massive investment in hulls will continue.

Navy Procurement

In terms of procurement, estimates now suggest that the People's Liberation Army (Navy) (PLAN) is expected to have 1,500 vessels by the end of 2006, including more than 50 new surface warships and nearly 40 new submarines combined with new C4ISR capabilities.[3] Chinese military developments have continually taken Western observers by surprise as indicated in the Pentagon's 2005 Annual Report to Congress entitled "The Military Power of the People's Republic of China."[4] The US Department of Defense noted the surprising pace and scope of the modernization of China's navy. The American assessment warned that PLAN was developing a naval strategy with a growing emphasis on anti-carrier operations and area denial as it moved from a 'brown-water' to a 'blue-water' force. As if to underscore this, a Chinese *Song*-class diesel attack submarine shadowed the USS *Kitty Hawk* task force undetected until it surfaced five miles from the task force on 26 October 2006 in waters off Okinawa, Japan. Unnamed US Department of Defense officials told the *Washington Times* in November 2006 that it is believed the Chinese submarine was conducting tracking and targeting manoeuvres on the US aircraft carriers. In its annual report to Congress, the Pentagon identified tracking and destroying aircraft carriers as the primary focus of PLAN given its emphasis on specific weapon platform acquisitions including long-range, precision-guided anti-ship cruise missiles, or "carrier killers."[5] Additionally, the report suggested that PLAN is "increasingly thinking about regional contingencies, including the protection of maritime resources and sea lanes of communication."

The Pentagon report indicated that Chinese investment has focused on medium-range ballistic missiles, an extensive C4ISR system and onboard guidance systems for homing to strike surface ships on the high seas or their onshore support infrastructure. It was also noted that the former Russian aircraft carrier, *Varyag*, which was towed to China in 2000, began hull repair and refurbishment in August 2005 but that it was still unclear if it could serve as an operational aircraft carrier. Some analysts in and out of government have predicted that China would not have an operational carrier by the end of the 12th Five-Year Plan (2011-2015), which is quite soon in strategic terms. Whatever the case, the development of an operational aircraft carrier would signal a strong interest in and commitment to power projection.

The US Department of Defense noted the surprising pace and scope of the modernization of China's navy.

Additionally, PLAN area air defence has been improved by new ships such as two Project 956EM *Sovremenny*-class destroyers and the Type 051C *Luzhou*-class air warfare destroyer, the first of which was launched in 2005. China has embarked on a massive submarine build-up in the last decade that has seen the addition of 14 new submarines in the last four years along with some 16 new submarines currently under construction and additional vessels on order. These include a new class of nuclear attack submarine designated the Type-093 and a new nuclear ballistic missile submarine, the Type-094. The Type-094 is reportedly equipped with the JL-2 submarine-launched ballistic missile (SLBM), a derivative

of its land-based DF-31 inter-continental ballistic missile (ICBM). The JL-2 is equipped with multiple warheads and, reportedly, penetration aids that could reach continental United States from China's coastal waters.

PLA (Naval Air Force) (PLANAF) and PLA (Air Force) (PLAAF) have also increased their ability to project forces out to sea. PLANAF's purchase of Russian Su-30MK2 fighters armed with KH-31A (AS-17 'Krypton') anti-ship missiles in February 2004, the acquisition of IL-78 'Midas' and development of the indigenous B-6U re-fuelling aircraft have been cited as examples of qualitative improvement.

Photo: http://www.sinodefence.com/navy/

*The Type 053H (NATO codename: **Jianghu-I** class) missile frigate was originally introduced in the 1970s as an anti-ship missile frigate.*

Moving South by Southwest

Without question, in the past China has focused its military forces on Taiwan and the central Pacific, but it is also now looking south into the South China Sea and beyond the Straits of Malacca to the Persian Gulf.

China still considers Taiwan a rebel province and has warned that any unilateral Taiwanese declaration of independence would lead to war. But while Taiwan remains important to Chinese military planning, naval acquisitions suggest that China is also generating capabilities that could apply to other regional matters, including conflicts over resources or territory. This is particularly topical given the ongoing Sino-Japanese dispute over a potentially resource-rich area of the East China Sea, and the long-running disagreement with states around the South China Sea over the Spratly Islands. In a recent report, Taiwan warned that China's military was planning to use its "newly strengthened naval force" to push operations out to the north Pacific and two island chains (the first island chain includes the Aleutian Islands, Kuril Islands, Ryukyu Islands, Taiwan, the Philippines and the Greater Sunda Islands, and the second island chain includes the Bonins, Guam and the Marianas).[6] Taipei also reportedly believes that Taiwan is needed as a "springboard from which China could carry out its external expansion strategy." It is a strategic certainty that, in the event of hostilities with the United States, China would have to seize control of Taiwan if only to deny it to the enemy. General Wen Zongren, political commissar of the elite PLA Academy of Military Science, stated in March 2005 that resolving the Taiwan issue is of "far reaching significance to breaking international forces' blockade against China's maritime security…. Only when we break this blockade shall we be able to talk about China's rise."[7]

But while Taiwan remains important to Chinese military planning, naval acquisitions suggest that China is also generating capabilities that could apply to other regional matters, including conflicts over resources or territory.

It has been reported that PLAN is building a new submarine base for its strategic nuclear forces on Hainan Island in the South China Sea. It was reported that the shift from the north to the south involved basing some of PLAN's new Type-094 class SSBNs at a facility either within or near the existing South Sea Fleet base at Yulin. The Hainan facility would be able to host up to eight submarines and might begin operations in 2007. The Chinese motivation to station its sea-based deterrent in the south has reportedly been driven by the fact that the Bohai Gulf and connecting Yellow Sea in the north are too shallow and do not offer sufficient protection from US anti-submarine forces. Yulin, on the other hand, provides almost immediate access to deep water patrolling areas and therefore offers greater security from such forces. The problem with Yulin is that new JL-2 SLBMs may not have enough range to hit the United States from this area and so Type-094 SSBNs may have to cross the straits between Taiwan and the Philippines to find launch areas. If true, China will be forced to secure access to South China Sea patrolling areas and potential launch sites, and this means that it must shift additional naval and air forces to its south. This may force China to take a harsher tone on the disputed regions of the South China Sea.

Without question Chinese business interests have also pushed the government to relocate military forces to the south. As well, China may also be inclined to take a greater interest in the welfare of ethnic Chinese minorities in the region. The ethnic Chinese community in the Philippines, Malaysia and Indonesia wields significant influence in the economies of these countries. Southeast Asia (including Malaysia, Indonesia, the Philippines, Taiwan, Cambodia, Laos, Thailand and Vietnam) sends tourists and sells commodities to China, buying house-

Internet photo

*A Chinese **Kilo**-class submarine.*

hold goods, appliances and electronics in return. Trade between the countries of Southeast Asia and China was worth $130 billion (US) in 2005. Only Southeast Asia's trade with the United States, estimated at $147 billion (US) in 2005, is greater. By 2008 China is expected to displace the United States as Southeast Asia's largest trading partner.[8]

Not surprisingly the South Sea Fleet already has the largest number of destroyers and frigates in PLAN. Some of the Russian *Kilo* 636M submarines are now based at Yulin and it is likely that the new Type-093 *Shang*-class nuclear-powered attack submarines (SSNs) will join the *Jin*-class SSBNs at Yulin. There are also reports of a new air base under construction on Hainan for either PLAN or PLAAF. The next two decades might also see the South Sea Fleet host one or more aircraft carrier battle groups.

This increase in PLAN presence is viewed as threatening to a number of regional players due to the strategic nature of the South China Sea. It has not escaped the notice of naval strategists that Japan, Taiwan and China all rely on the Straits of Malacca for over 70% of their oil imports, and over 50% of global merchant fleet tonnage passes through Malacca and Lombok and Sunda Straits. In times of crisis, control of these strategic lines of communication is paramount. Given that China has a massive merchant fleet, this has not gone un-noticed by China or the United States.

The dispute over the Spratly and Paracel Islands also continues to be a source of conflict among China, Taiwan and other Southeast Asian countries. Although China is currently promoting diplomatic discussions and cooperative resource ventures with Vietnam and the Philippines, a military build-up near the disputed areas has continued unabated. In December 2005, Taiwan announced that it would build an airstrip on Itu Aba, the largest island in the Spratlys, to improve its strategic position in the face of China's build-up in the South China Sea.

But rich resources and disputed islands are not China's only motivation for moving south. China's dependence on imported energy and raw materials continues to grow. In 2004, China was the world's second largest consumer and third largest importer of oil. Securing adequate supplies of resources and materials has become a major focus of Chinese foreign policy and thus defence policy. A US Department of Energy report released in January 2006 stated that China relied on imports to meet 43%, or about three million barrels per day (bpd), of its oil needs in 2004. The department predicted that China's foreign oil dependence could rise to over 10 million by 2025. Iran provides 14% of China's oil, while Saudi Arabia produces about 17%. It has been suggested that China is looking to Iran to be its principal future supplier of oil and natural gas. The route the energy supplies must take to reach China has likely forced Beijing to recognize the vulnerabilities in its maritime supply route and the necessity of modern naval forces.

Diplomatic Activities

It is in Beijing's diplomatic initiatives that its maritime interests and intentions become clear. China has set its sights on the Indian Ocean and Persian Gulf. China has begun to strengthen its hold across southern Asia through military and defence cooperation and infrastructure projects in the Indian Ocean region. China has signed regional defence and security agreements with littoral states to secure its mounting energy requirements. Through these agreements and infrastructure projects, China plans to enhance its military profile from the Per-

*The PLA Navy had 16 Type 051 (NATO codename: **Luda**-class) anti-surface warfare, missile destroyers built between 1970 and 1991.*

sian Gulf to the South China Sea with a view to emerging as a dominant player in the Indian Ocean region.

China has invested both money and technology in developing the port of Gwadar on Pakistan's western coast into a major naval base and energy hub. This move could seriously threaten vital Indian and US shipping routes in the Persian Gulf region. Myanmar has allowed China to establish listening posts along its coast and both Myanmar and Pakistan welcome Chinese naval vessels. New friends like Cambodia may give China's military an extra advantage should the multilateral dispute over the Spratly Islands worsen. At the same time, Beijing is augmenting defence and economic links with Bangladesh, Nepal, Sri Lanka and the Maldives in the Indian Ocean. This development of bases and intelligence facilities, when coupled with naval visits, strongly suggests that China is going to develop a permanent presence in the region to secure its oil supply and potentially to threaten others. At the very least this means development of a navy with both sea denial and power projection capacity.

Gone are the days when PLAN was limited to coastal defence.

Conclusion

In conclusion, the Chinese leadership has made it clear in speeches and in policy statements that it requires a modern, blue-water navy. It has started to develop a fleet that is capable of sea denial and anti-carrier operations, and has components geared to power projection far from China's shores. China's surface fleet, however, is limited by the fact that it lacks a modern aircraft carrier, and its intentions with regard to the partially-completed ex-*Varyag* are still in question. Its interest in Taiwan may be more than just regaining control of its renegade province; there is a growing view that the island may be either a potential stumbling block to expansion or a springboard for the projection of power out into the central Pacific. PLAN's change in deployment of its ballistic missile-carrying submarines to the South China Sea suggests a deeper commitment to a sea-based nuclear deterrent. The accompanying deployments of more hunter-killer submarines and surface ships suggests a stronger interest in the ASEAN region, in both economic and strategic terms.

China's moves to develop allies, ports and intelligence facilities appear to be preliminary actions geared to the permanent basing of naval forces in the Indian Ocean and Persian Gulf region to secure its oil supply line and potentially threaten the petroleum lifeline of its regional opponents. Gone are the days when PLAN was limited to coastal defence. China is in the process of developing its capacity to challenge the United States for supremacy of the seas.

Notes

1. "Hu Jintao calls for a more powerful navy," *Taipei Times*, 29 December 2006.
2. People's Republic of China, White Paper on Defence, 2006, available at http://www.china.org.cn/english/features/book/194421.htm. The quotations for this section are taken from the White Paper, no page numbers are given.
3. "Taiwan stresses China's growing offensive options," *Jane's Intelligence Review*, 1 November 2006.
4. US Department of Defense, Annual Report to Congress, "The Military Power of the People's Republic of China," 2006, available at www.defenselink.mil/pubs/pdfs/China%20Report%202006.pdf.
5. *Ibid*.
6. "Taiwan stresses China's growing offensive options," *Jane's Intelligence Review*, 1 November 2006.
7. As quoted in John Hill, "Pentagon raises eyebrow at China's military rise," *Jane's Intelligence Review*, 1 August 2006.
8. "China bites into Southeast Asia," *Jane's Foreign Report*, 2 February 2006.

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The Non-Utility of "Utility" Warships: The Royal Canadian Navy and the *Vancouver*-Class Escort

Peter T. Haydon

Warships are expensive investments in national security. Today, a multi-purpose frigate can cost as much as $2 billion, a price that many navies are finding too high for their constrained budgets. Consequently, alternative ways are being sought of carrying out various traditional naval tasks in the hopes that this can be done for less money. One option would see a new fleet mix of high- and low-capability warships. This is not a new idea; even for the Canadian Navy which looked at something similar in the mid-1950s. The story of the Royal Canadian Navy's *Vancouver*-class "utility" escort is a useful case study in naval force planning under an ill-considered concept of a high-low fleet mix. Begun in a flurry of misplaced enthusiasm in 1953, the Naval Staff in Ottawa eventually came to realize the weaknesses of the concept and was able to cancel it before it had progressed very far.

First Ideas

In January 1953 the Cold War was only a few years old and the Soviets had yet to detonate their first thermonuclear device (they would do this on 12 August that year), and Joseph Stalin was still Secretary-General of the Communist Party of the Soviet Union (CPSU) (he would die on 5 March that year). The Soviet submarine fleet was relatively large but not as big as Western analysis originally estimated and still largely made up of older vessels. However, the program to build modern, new submarines was well underway, but only a few of the new submarines, exploiting the technology of the German Type XXI and Type XXIII submarines developed at the end of the Second World War, had been launched. Western anti-submarine warfare (ASW) concepts had not changed significantly since the end of the war, but the prospects of new technology leading to improved weapons and sensors were good and these advances would change the nature of ASW. Not surprisingly, Western concepts of the forthcoming war at sea, which was thought very possible after 1955,[1] were based to a considerable degree on a re-run of the Battle of Atlantic but with the Russians driving the U-boats.

The Royal Canadian Navy (RCN) began planning in earnest for the Cold War under the 1950 re-armament

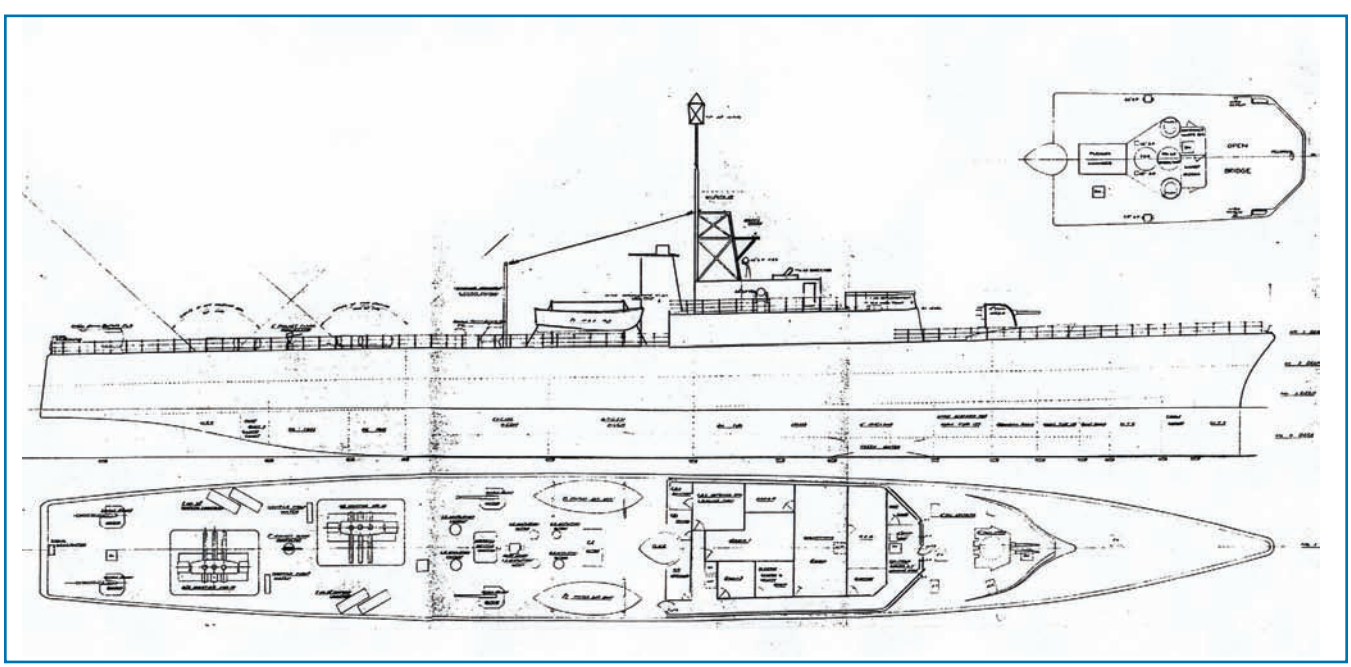

Image courtesy of DND Directorate of History and Heritage

*A copy of the original sketch drawing of the **Vancouver**-class frigate with the 4 inch gun forward.*

program triggered by the onset of the Korean War and by a concern that the Soviets might attempt to spread unrest elsewhere, especially in Europe while much of NATO was pre-occupied in Korea. In January 1953, in the belief that the Soviets would make some strategic move somewhere at some time within the next 2-3 years, NATO contingency planning staffs were working rapidly to reduce their numerical disadvantage with the Soviet forces. The Supreme Allied Commander Atlantic (SACLANT), under whose command the RCN would fight in the next war, estimated that he had only about a third of the forces necessary to ensure victory. As a way of alleviating the problem, the Canadian Naval Staff believed that a need existed for an ASW escort that could be built quickly in wartime. Also, there was concern that the new destroyer escorts being built in Canada, the *St. Laurent*-class, were proving to be extremely expensive and were taking far too long to build. As a result, the basic requirements for a simplified ASW escort were established and direction given for the production of comprehensive design requirements with a sketch drawing that could be taken to the Naval Board for project approval.

Things moved along slowly until that May when the program gained a new champion in the form of Rear-Admiral Roger Bidwell, Flag Officer Atlantic Coast, who spoke out strongly in favour of the concept at the 6 May 1953 RCN Senior Officers' Conference. He said the need was twofold: as a replacement for the *Prestonian*-class frigates able to do both trans-oceanic and coastal convoy escort; and to provide much-needed additional coastal escorts for SACLANT. These requirements, Bidwell explained, could also be combined with the need for a relatively cheap "utility" wartime escort. In this, he saw the evolution of a high-low fleet mix that would see the *St. Laurent*-class used as group leaders. He went on to explain that the US Navy had such a vessel, the *Claud Jones*-class, and the Royal Navy had developed the successful *Blackwood*-class as a way of offsetting the high costs of the larger warships.

Comparison of Ship Characteristics

The design officially became known as the *Vancouver*-class later in May when the Naval Staff approved the operational requirements and the sketch design, but only after a long discussion on the type of gun. The Naval Staff wanted to fit the older 4 inch gun (similar to those fitted on the destroyers) rather than the American-designed 3 inch 50 calibre anti-aircraft gun which was going to be built in Canada under licence. Two weeks later, the Naval Board gave final approval to the design except that the gun was changed back to the 3 inch 50. The next step should have been the long path to Cabinet approval by way of the Chiefs of Staff Committee and the Screening Committee.[2]

The Road to Legitimacy

Curiously, or perhaps fortunately, the path to legitimacy came by way of a Chiefs of Staff and Cabinet review of SACLANT's force plan and concept of operations. In mid-September, the RCN was invited to brief the Chiefs of Staff on the NATO plans for the war at sea and the

Ship type	Vancouver (RCN)	Blackwood (RN)	Claud Jones (USN)	St. Laurent (RCN)
Displacement (tons)	1700	1,535 full load	1,916 full load	2,800 full load
Dimensions (feet)	315 x ? x ?	310 x 35 x 15.5	312 x 38 x 13	366 x 42 x 13
Propulsion	Single shaft, geared steam turbine, one boiler	Single shaft, geared steam turbine, two boilers, 15,000 SHP	Single shaft, 4 x 38ND8 diesels, 9,037 SHP	twin shaft, geared turbine, two boilers, 30,000 SHP
Top speed	24 knots	25 knots	22 knots	28 knots
Endurance (NM)	4,500 at 12 knots	5,200 at 12 knots	7,000 at 12 knots	4,570 at 12 knots
Guns	1 x 3 inch 50 cal 4 x 40 mm anti-aircraft	3 x 40 mm anti-aircraft	2 x 3 inch 50 cal	2 x 3 inch 50 cal 2 x 40 mm anti-aircraft
ASW weapons	2 x mortar Mk. 10 4 x Mk 32 torpedo tubes	2 x mortar Mk. 10 (Limbo), 2 x twin 21 inch torpedo tubes	Mk. 11 Hedgehog 6 x Mk. 32 torpedo tubes	2 x mortar Mk. 10 2 x mk 32 torpedo launcher
Sonar	Types 162, 170, 177, SQS 10	Types 174, 170, 162	n/k	Types 162 or 501, 170 or 502, 177 or 503, and SQS 10
Crew	167	140	159	249

corresponding force requirements. It was largely a political discussion in which more attention was paid to intended RCN roles and command concepts than to SACLANT's dire shortage of escorts. Forward deployment to the eastern Atlantic was also challenged but the Chief of the Naval Staff, Vice-Admiral Rollo Mainguy, was able to explain that a dual requirement existed: for high-capability (called "first rate") escorts for the eastern Atlantic where they would face both Soviet submarines and aircraft; and for second rate escorts in the western Atlantic clear of Soviet air threats. From there the SACLANT plans went to the Cabinet Defence Committee on 6 October where the RCN's intended NATO role was widely discussed. Again, political considerations prevailed, perhaps reminiscent of the last war. Concern was expressed that deploying the greater part of the RCN to the eastern Atlantic not only left Canada vulnerable but significant losses also would be difficult to explain under those conditions. In the end, Cabinet agreed to the SACLANT plans but with a reservation that the RCN could be recalled should Canada be threatened.[3]

Once Cabinet and the Chiefs of Staff had their say, Mainguy was directed to produce a plan to implement the NATO concept and address the shortfalls. This was duly done and given additional credibility by rolling the RCN requirements for utility or second-class escorts into the NATO mutual aid program in which the politicians placed great store.

The navy's new shipbuilding program was reviewed by the Chiefs of Staff on 20 November. It was fairly simple; the plan was to build 13 *Vancouver*-class (10 for the RCN and 3 for NATO mutual aid) and order an additional 17 propulsion systems as a war reserve which made sense because they were the long lead time items. A related reason for this particular plan was that it would keep Canadian shipyards active and thus ready to take on an emergency building program should war break out. The program was approved by the Chiefs of Staff but at reduced levels of stockpiled propulsion systems. Cabinet gave its approval in principle six days later and authorized steps to be taken to have work on the propulsion systems started. Permission to begin work on the final design came in February 1954 and Canadian Vickers Ltd of Montreal quickly went to work on the drawings.

In the related Memorandum to Cabinet, Mainguy summarized the navy's proposal:

> The Royal Canadian Navy is preparing plans for an anti-submarine escort vessel which is a simplified development of the *St. Laurent*-class destroyer escort. This twenty-four knot ship, known as the *Vancouver*-class frigate, is intended primarily for use in the limited role of immediate defence of a convoy and will not have the full capability of the *St. Laurent*-class destroyer escort in offensive anti-submarine operations. It will be a single screw ship as opposed to the twin screw *St. Laurent*-class destroyer escort and will use a single unit of machinery basically similar to the two units used in the *St. Laurent*-class ships. It will be possible to construct the *Vancouver*-class frigates relatively quickly in wartime and they will be more economical to build than the larger, faster and more powerfully armed *St. Laurents*.

*HMCS **Ottawa**, 4th of the new **St. Laurent**-class destroyer escorts.*

He continued to explain that whereas a fully equipped *St. Laurent* cost $21.0 million, a *Vancouver*-class would only cost $12.5 million.[4] Interestingly, the cost of the weapons systems and electronic equipment amounted to only 40 per cent of the total cost whereas today those systems and equipment account for over 70 per cent of the total.

Stumbling and Falling

About six months later, the plan started to unravel as the Naval Staff began to express doubt that the *Vancouver*-class would not be as useful as initially hoped. That December, budget cuts saw the program dropped from the 1955-56 estimates.[5] The new ship program was clearly slowing down despite the operational urgency. Then, in May 1955, the Sea-Air Warfare Committee presented a comprehensive report on future seaward defence (coastal defence) requirements that included a comparison of the respective effectiveness of the *Vancouver*-class and the *St. Laurents*. The basis for analysis was the four wartime roles of RCN destroyers and escorts:

- SOSUS support (then called LOFAR);
- ASW ocean escort;
- ocean anti-aircraft support; and
- radar picket.

Photo: Maritime Command Museum Halifax

*HMCS **Yukon**, one of the six follow-on **St. Laurent**-class destroyer escorts that were built instead of the **Vancouver**-class frigates.*

The findings were blunt; the *Vancouver*-class did not have the endurance, the ASW capability, or the surveillance radar and air defence capability to perform well in any of those tasks against modern Soviet submarines and aircraft. Also, it was not cost-effective to upgrade any of the systems planned for the ships because any change would increase weight and thus reduce speed and endurance. The recommendation was that the *Vancouver*-class be cancelled and replaced by additional *St. Laurent*-class ships which had the required capabilities and flexibility.[6]

The Naval Board reviewed the report on 25 May and after a very long and convoluted discussion decided not to cancel the *Vancouver*-class. This was not the first time that CNS had chosen to ignore the Naval Staff's advice. Convinced that the wrong decision had been made, the VCNS, Rear-Admiral Horatio Nelson Lay, put the matter back on the Naval Board's agenda for the next week. In a compromise, CNS agreed to suspend the program and take the matter to the Deputy Minister seeking approval for additional *St. Laurents* instead. Why Mainguy went to the Deputy Minister instead along normal channels through the Chiefs of Staff is a mystery, but it did not endear him to the Chairman of the Chiefs of Staff, General Charles Foulkes.[7] Mainguy was quickly chastised by the senior bureaucracy and, bluntly, by Foulkes who demanded that all future RCN program proposals be "within the present manpower and budgetary ceilings already imposed."[8]

The *Vancouver*-class "utility" escort program was duly cancelled with only a small expenditure of funds and the Naval Staff quickly turned to preparing a new submission for the additional *St. Laurent*-class destroyer escorts. This would take two years to push through the National Defence bureaucracy but in 1957 Cabinet approved the additional ships which in due course entered service as the *Mackenzie*-class. As it happened, the entire naval program underwent an extensive review in late 1955 as one of the consequences of the NATO strategic shift to a nuclear war as a result of the Soviet thermo-nuclear detonation in August 1953. In the final analysis, the *St. Laurent*-class destroyers were the better ships for the new operational environment.

Conclusions

This case study of the *Vancouver*-class program brings out several useful points. First, when embarking on a new shipbuilding program it is important to keep in mind the original purpose of the intended ship. In the case of the *Vancouvers*, the program began as a contingency plan for "utility" escorts that could be built quickly in wartime. Unfortunately, the rationale strayed from that logical idea to one where the new escorts became part of a high-low fleet mix that was eventually found ineffective. Second, when planning new types of warships, it is wise to assess the planned capability against the actual work that will have to be done. It was not until the *Vancouvers* had been under consideration for almost two years that a staff capability analysis was done. Fortunately, the program could be cancelled without great expense once it was realized that the "utility" ship was virtually useless.

Third, before committing to new force structure concepts, it is wise to consider whether the strategic setting might change. In 1954, it should have been possible to realize that the nature of the war at sea could well change. For instance, technology was already making inroads into traditional ASW concepts though innovations such as SOSUS, rocket-assisted torpedoes, and much longer-range sonars. As the Sea-Air Warfare Committee made absolutely clear, the *Vancouver*-class was out of step with emerging technology. Fourth, in the final analysis, the requirement for operational flexibility won out over attempts to get something done on the cheap with a less-flexible "utility" vessel.

Finally, this case study brings out the difficulty of the national security process which is really not greatly different today than it was 50 years ago: effective security cannot be achieved by taking short cuts. As the cost of building new ships increases, savings should be sought in places other than reducing operational capability.

Notes

1. In February 1953, the Chief of Staff determined that the RCN should use contingency planning "Mobilization Day" (M-Day) of 31 December 1955. Chiefs of Staff Committee minute 535 of 19/20 February 1953 and confirmed by COSC minute 566 of 13 July 1954.
2. Naval Staff minute 557-4 of 20 May 1953 and Naval Board minute 380-3 of 3 June 1953.
3. Chiefs of Staff Committee minutes 542 of 14 September 1953 and 543 of 15 September and Cabinet Defence Committee minutes of the 95th meeting on 6 October 1953.
4. Memorandum to Cabinet "Naval Shipbuilding Program," 8 February 1954. DHH collection 73/1223 File 147.
5. Naval Board minutes of 15 December 1954.
6. Memorandum from ACNS (Plans) to VCNS "Seaward Defence Report," 20 May 1955. DHH collection, Naval Staff files.
7. Naval Board minutes 445-3 of 25 May 1955, 446-1 of 1 June 1955, and 448-6 of 16 June 1955, and memorandum from CNS to the Deputy Minister, "Vancouver-class frigates" of 15 June 1955. DHH collection 73/1223, File 147.
8. Memorandum CCOS to CNS, number CSC 1663-1 TD 7, 6 July 1955.

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Making Waves

Why is No One Making Waves?

Rear-Admiral (Retired) David Morse

For years, journals such as this one (but not only this one) have struggled to attract current comment. We often say that we want the USNIP [US Naval Institute Proceedings] column "Nobody Asked Me But!" but we never seem to get there. This journal routinely has to turn to its own editorial staff to stir comment or debate.

So why don't sailors make waves? Is the future of maritime forces of no vital interest even to its strongest supporters? The students at the Canadian Forces College are writing academic papers on naval and maritime issues (even if those topics are in the minority). The Senate Committee has made its own waves and vainly invited response. But where are the opinion pieces, the heartfelt response to the media's thirst for information, the comment to raise awareness about maritime operations? Perhaps it's that Canadians, obsessed with passport-free travel to the United States, simply have no idea that the majority of the goods found in Canadian Tire or Wal Mart enter Canada by sea. If Canadians think of the sea at all, Vancouver and Halifax might come to mind but how many realize that Montreal, the Seaway as far as the Lakehead and the Canadian National Railway are all an extension of our maritime boundaries and connections. CN would have little to do without containers from China and India and the returning cargoes from across this country

A recent RAND study, "Maritime Terrorism: Risk and Liability" (available at http://www.rand.org/pubs/monographs/2006/RAND_MG520.pdf), provides a concise analysis of the economic consequence of even a temporary disruption of sea-borne cargoes. The study notes that:

> Maritime attacks may also hold an increasing degree of attractiveness in that they have emerged as an alternative means for potentially causing mass economic destabilization. Today roughly 80 percent of global freight moves by sea, much of which takes the form of cargo that is transhipped on the basis of a "just enough, just in time" inventory. (p. 15)

But has this raised any concerns among Canadians? Have we seen a Canada First debate about safeguarding our vital maritime lifeline? I am convinced that we are institutionally disposed to avoid debate even when we have been invited to do so.

It is perhaps worth remembering that free exchange of ideas, even controversial ones, was a significant recommendation of the Somalia Inquiry.

> Recommendation 16.12: The Queen's Regulations and Orders Article 19 and other official guidelines and directives be amended to demonstrate openness and receptivity to legitimate criticism and differing points of view, so that members of the military enjoy a right of free expression to the fullest extent possible, consistent with the need to maintain good order, discipline, and national security.

Photo: DND Combat Camera

CP-140 Aurora on patrol. As well as helping the Department of Fisheries and Oceans enforce national and international fishing regulations, Aurora crews routinely work with the RCMP in counter-drug efforts, report maritime pollution violations, patrol the far North, perform search and rescue, and train for their primary anti-submarine warfare mission.

The *Canadian Military Journal* – the "professional journal" of the Canadian Forces according to Defence Minister Art Eggleton's remarks in the inaugural edition – was established as a tool of this policy. In the first issue of the *Canadian Military Journal* both the Minister and the Chief of Defence Staff thought it necessary to restate the rationale for the journal and the safeguards for writers. They noted:

> The Department is in the process of amending Queen's Regulations and Orders (QR&Os 19.36 and 19.37) and DAOD 2008-5 so as to permit serving members of the Canadian Forces and Departmental public servants to

express informed personal views and opinions on defence issues and their implications for DND and the Canadian Forces, subject only to limitations with respect to operational security and disclosure of protected information. While these amendments have not yet been published, I want to assure members of the Forces and Departmental public servants that the Deputy Minister and I approve of the open discussion of issues and ideas in this Journal. (General Maurice Baril, CDS, *Canadian Military Journal*, Vol. 1, No. 1 (Spring 2000))

General Hillier repeated similar words but despite these reassurances, it is the rare issue that contains anything more than the occasional maritime article and few 'opinion' pieces. Letters to the editor are similarly sparse – one or two in each edition at most. This is not the fault of editors and authors whose lineage is army or air force – the journals are as balanced as the flow of submissions permits. Even in less structured discussion fora – such as Army.ca and proceedings of the Canadian Defence Associations or the Aerospace Industries Association of Canada – there is little commentary or opinion offered by/about the navy.

The answer may lie in the mixed signals from departmental and military senior leaders. The recommendations from 1998 and Ministerial and Chief of Defence Staff assurances from 2000 and 2005 do not seem to portray the "official view." The Queen's Regulations and Orders (QR and O) have not been amended, and they stand as a legal and imposing barrier for anyone in uniform who wishes to discuss issues relating to the Canadian Forces. According to QR and O 19.36:

> ... no officer or non-commissioned member shall without permission: …
>
> (c) publish in any form whatever any military information or the member's views on any military subject to unauthorized persons;
>
> (d) deliver publicly, or record for public delivery, either directly or through the medium of radio or television, a lecture, discourse or answers to questions relating to a military subject;
>
> (e) prepare a paper or write a script on any military subject for delivery or transmission to the public;
>
> (f) publish the member's opinions on any military question that is under consideration by superior authorities.… (Effective 15 June 2000)

Many would argue that sailors are, by nature, reluctant communicators. It's in the genes – the innate reticence of seafarers – separated from the cut and thrust of normal society, living at the end of restricted bandwidth, out of sight and out of mind. But is that explanation sufficient? Could it be that the lack of institutionalized safeguards for informed and vigorous debate act to deter comment from serving sailors? And if those who have the most direct stake have no comment, is it any wonder that the Canadian public has none either? We all suffer from a "missed opportunity" (to use Sharon Hobson's phrase in this issue of *CNR*) to educate ourselves about the long-term consequences of ignoring the sea and our relationship to maritime commerce and security.

Learning from our Past

Amphion

How often have we been cautioned that those who do not heed the lessons of history are doomed to repeat the mistakes? Probably about as many times as it is said that generals always prepare to fight the last war!

And so it is fascinating today to watch as the Canadian Forces develop so-called new capabilities in the guise of *transformation*. We are told that the quest for a quasi-amphibious capability (quasi because it is intended largely as an administrative rather than as a fighting capability on the model of Inchon, Iwo Jima, or dare we say it, Dieppe) is new and a great challenge. Perhaps it is if one considers that only a handful of the soldiers, sailors, or airmen involved have any operational experience. But this is not the first time, even since the end of the Second World War, that Canada has conducted joint operations or landed army units over the beach.

Putting aside the use of RCN aircraft carriers and fleet support ships to transport army units on peacekeep-

ing missions and Paul Hellyer's wild flirtation with his "triphibious" force that would have seen a brigade group size formation transported and supported by naval vessels, a couple of other significant experiences from there are lessons with meaning today. It all begins, ironically, as Hellyer's "triphibious" dream was being proven unrealistic and horrendously expensive, when a new joint force requirement was being developed and later proved effective and compatible with existing resources, albeit with some limitations.

In re-writing contingency plans for the unified forces, several domestic security issues were addressed. One of these was the requirement for an Army Ready Force to "move quickly, and on short notice, for security tasks in any one of the four Atlantic provinces." There was a parallel requirement for the West Coast too. This entailed the army working with the navy in things like counter-lodgement and rescue operations where sea lift was necessary and support could best be provided by sea. In August 1965, the Commander Eastern Command directed that the Second Battalion of the Black Watch commence "amphibious" training with the RCN with the intent of holding a battalion-size exercise in Newfoundland in December 1966. This caused considerable staff activity in Halifax trying to determine which vessels belonging to other government departments were suitable for sea lift operations. This was a problem because all those vessels were fully committed to their own operations. Clearly, the best solution would be a DND vessel. This happened, and the fleet support ship (AOR) HMCS *Provider* was used along with two or three destroyers on a series of exercises in 1968 and 1969. Exercise Nautical Ranger (formerly Exercise Onion Patch) took place between 25 and 30 November. Ships included at various times *Onondaga*, *Provider*, *Nipigon*, *Saguenay*, *Restigouche*, *Skeena* and *Terra Nova*. Exercise Northern Ranger took place between 7 and 21 July 1969 with three DDHs (*Fraser*, *St. Laurent*, and *Margaree*) and *Provider*. And as *CNR* readers will know, Exercise Mohawk was held on the Nova Scotian shore in April 1964.

Getting the troops ashore was hugely difficult, and incompatible radio equipment made command, control and coordination a nightmare, and there was the constant problem of logistics. Unlike sailors who take most of their basic needs with them wherever they go, armies are ponderous beasts that consume considerable quantities of food, water, fuel, ammunition and other stores all of which have to be ferried ashore; proving the old adage that "armies march on their bellies"! Experience proved that in many instances moving stores was more difficult

RAN Photograph

*HMAS **Sirius** refuels an RAN **Anzac**-class frigate.*

than moving troops, and in the end the logistics part of the operation became the tail that wagged the operational dog. Those early exercises provided some excellent lessons about logistic support from the sea and about the need to maintain a steady flow of consumables into the exercise area. As the participants discovered, the ships of the naval task group didn't have the capacity to support the army ashore for more than a few days.

As a footnote, there were two occasions when this capability was made ready for an international mission. First, when concern was raised that the run-up to the 1979 general election in Jamaica could lead to widespread violence, the Department of External Affairs was approached about the safety of Canadians living and working there. DND was consulted, and a warning order was prepared for an AOR and a squadron of destroyers to be ready to sail for Jamaica with elements of the Royal 22nd Regiment embarked to extract Canadian citizens should the need arise. Because of the limited troop-carrying capacity of the ships, a CN ferry was to have been taken over and accompany the task group as a troop ship. The operation never took place because the election remained fairly quiet. Anyway, it would have taken the force so long to get there that it would have been too late to make much difference. Second, in January 1988 the navy again prepared to evacuate Canadians during elections in Haiti. HMC Ships *Preserver*, *Athabaskan* and *Skeena* sailed on 5 January under *Operation Bandit*, but were not required to take action. Army units were on stand-by, but did not deploy.

Making a massive, but justifiable, leap from small-scale Canadian joint exercises to a major war effort, there are many other excellent lessons that the planners of

Canada's new amphibious capability can learn from the British and the way they conducted *Operation Corporate* to re-take the Falkland Islands after the Argentine invasion of April 1982. The British armada sailed in bits and pieces in April that year as ships were pulled out of refit and reserve to meet an operational requirement that had fallen off the contingency planning agenda. The politicians wanted to reduce the size of the navy for without overseas responsibilities the role was largely one of supporting NATO. Although a barely adequate naval task force was drawn together, the problem lay in transforming it into a joint task force that would deploy and fight some 8,000 miles from home on a near-desolate island group in filthy weather.

Planning the logistic support was a nightmare; there were not enough ships to transport and maintain the joint force at that distance. The solution lay in the innovative use of requisitioned commercial shipping. In a matter of a few weeks some 50 merchant ships were taken over by the military and converted to provide the 'fleet train' for the amphibious operation. Even though few people in the military had experience in those waters or been on the Falkland Islands themselves, the staffs were able to foresee the likely problems and through brilliant innovation direct the modifications to the merchant ships to turn them into military auxiliaries. Most were provided with temporary helicopter decks because that was rightly seen as the primary means of transferring supplies and people – it would be too rough for boat transfers and there were no sheltered anchorages in which ships could lie alongside each other. Most were also given underway-refuelling equipment, again a prudent decision because fuel was to be a major concern throughout. Ferries and cruise ships became troop transports and hospital ships, container ships became air-capable supply vessels, tugs became minesweepers, and other vessels became mobile engineering workshops.

The operation was a success despite the casualties. The lessons to take forward are:

- innovation can overcome capability gaps if technical staffs are given adequate leeway;
- logistic planning is every bit as important as the operation itself; and
- the unexpected will inevitably happen.

*The **Nordic Ferry**, typical of the commercial vessels "taken up from trade" by the Royal Navy to support the 1982 Falklands War.*

Hopefully, the planners of the new Canadian Joint Task Force are taking these lessons to heart. Perhaps the naval planning staff needs to re-visit the Falkland experience in preparation for the day when there is a capability gap in fleet support. The naval task group is just as dependent on integral logistic support as any joint force. From a logistics point of view, there is not a lot of difference in those tasks: capability planned for one mission often has the inherent flexibility to be used in other missions if planning is done thoroughly but the key planning questions remain "How long will they be there?" and "When do they have to be there?" The answers to those questions determine how large the fleet train will have to be. Assembling the fleet train and making it compatible with the military ships calls for innovation and foresight. Hopefully, those qualities still prevail in today's military along with the wisdom to know that history is replete with lessons to help plan for future operations.

Our Canadian military history, especially the naval history, is much broader and richer than many people realize. It is a constant source of amazement that so many of today's Canadian military leaders appear so anti-historical when there is so much they could learn from the history of their own services.

Comment on "Shipbuilding and Industrial Preparedness"

Robert H. Thomas

I was very interested to read "Shipbuilding and Industrial Preparedness" in the Fall 2006 edition of *CNR*. I was particularly struck by the statement that "for some time now, the shipbuilding and industrial marine industry has been proposing a more continuous build strategy for the navy." The supporting arguments are persuasive but it is not stated for how long the industry has been proposing this concept, which is not new. In 1991 I was the Visiting Defence Fellow at The Canadian Institute for International Peace and Security and had been given the topic of the future of the navy to research by ADM (Pol) and the CDS. In April 1992, Working Paper 41, *The Canadian Navy: Options for the Future* was published. In it, I proposed a very similar approach to the question of industrial support.

I argued then that, if Canada was to build its own warships, it would be necessary to establish a program of continuing construction which would allow for the preservation of the shipbuilding capability, regular modernization and continuity of fleet design. The example I used was that, "to maintain a 20 ship fleet with an individual lifespan of 30 years, a new ship should be produced every eighteen months. At roughly ten year intervals (after six or seven had been built), an update of the ship design and associated systems would precede the next batch. In parallel, the ships from batch one would be modernized in operational mid-life refits. At about twenty years, a final refit would concentrate on maintaining seaworthiness, with the last stage of the ship's life being focused on low intensity, nationally oriented roles. Such a process would sustain both the fleet and its supporting industry."

The paper attracted newspaper headlines for daring to suggest that the future of submarines needed to be discussed as part of the long-term analysis. This caused some controversy and personal criticism, although there was no official comment on the content or conclusions of the paper. It was clear to me that many read the headlines but few read the paper itself. To my knowledge, no discussion ensued on the shipbuilding issue.

It is gratifying to see that the concept of a continuous building program, one of the core arguments of the paper, is being raised and strongly supported by the shipbuilding industry 15 years later. Concurrent support from the government, DND and the navy would certainly help.

Photo: Formation Imaging Atlantic

HMCS ***Athabaskan*** *leaves Halifax for* ***Operation Unison****.*

Maritime Patrol Aircraft: Yes or No?

Poseidon

Recent leaks from the developing Canadian defence policy indicate that Canada's CP-140 Aurora Maritime Patrol Aircraft (MPA) fleet may be reduced from the current 18 to only 12 aircraft. Given Canada's lengthy coastline (potentially a total of 200,000 km of navigable waters as the Arctic icepack retreats), extensive offshore exclusive economic zones (200 nautical miles), and increased interest in our Arctic archipelago, this would seem to be totally inconsistent with a "Canada First" emphasis.

An Aurora Incremental Modernization Project (AIMP) update program is currently underway with the objective of restoring the operational capacity of the aircraft through the replacement of existing avionic systems with modern equipment. Many of the systems being replaced were unsupportable, and it simply made sense to replace them with modern equipment that also confers enhanced capability: rather like replacing a Commodore 64 home computer with a Pentium 4! A Structural Life Extension Project will also likely be necessary if the aircraft is to be effective well into the 2020s.

The leaked plan forecasts replacing these manned aircraft with unmanned aerial vehicles (UAVs). Unmanned vehicles of many types and capabilities are certainly proliferating throughout the world, but it requires as many people to support a sophisticated UAV as it does to support *and* operate the maritime patrol aircraft. Human eyes on the scene have proven invaluable over many

years, and a Global Hawk UAV – the current gold standard in un-manned reconnaissance platforms – costs at least $60 million (US). It is reasonable to expect that future UAV costs may be less – possibly by the time the Aurora must be replaced.

It seems a pity to scrap existing manned platforms with 20 years of service life remaining. Perhaps a more reasonable approach would be to limit the AIMP equipment fit for those six aircraft, while still retaining them for coastal patrol of our three oceans. I submit that a minimum of 18 Auroras still make sense for this country, at this time.

It is instructive to look at what another northern ally is doing with regard to its similar and immensely useful aircraft. Norway has contracted for a service life extension for its six P-3 Orion maritime patrol aircraft. This will add more than 15,000 flying hours to each aircraft, representing 20 to 25 additional years of service for an important element of Norway's maritime defence capability.

The Norwegian life extension project will include the outer wings, the centre wing lower surface, horizontal stabilizer, horizontal stabilizer leading edges, and nacelle components. The upgrade will incorporate design enhancements and new materials with increased corrosion resistance, essentially refreshing the fatigue-critical components on the aircraft. This should provide significantly reduced maintenance costs, reduced down time, and increased aircraft availability. It will also remove operational restrictions currently imposed on the global Orion fleet due to aging problems.

More than 350 Orion aircraft are in service (including Canada's CP-140 version) in 20 countries, and many of these aircraft are undergoing service life extensions so that they may continue to be employed in a broad range of reconnaissance and patrol missions. To this writer, it makes good sense that we continue with the previous plan to update and operate our small force of Auroras to maintain awareness of what is going on in our extensive maritime domain.

Photo: DND Combat Camera November 2006

Photo Caption Correction

Darrin J. Hopkie

I am the Officer Commanding the Amphibious Reconnaissance and Clearance Squadron in the Maritime Amphibious Unit. I am writing you in response to your article "Reflections on the Canadian Amphibious Task Force" in the *Canadian Naval Review*, Volume 2, Number Four (Winter 2007) to report an error in the photo caption on page 17.

The photo is a picture of divers conducting initial reconnaissance and clearance of a beach (pre-assault operations) in support of a main force landing. (Editor: photo included above.) The caption reads "A team of combat divers ... being landed." In fact the divers are Naval Clearance Divers, who form part of the experimental Maritime Amphibious Unit within the Standing Contingency Force. As can be seen in the photo, all divers are equipped with diving rebreathers specifically designed for this type of mission. Only Clearance Divers in the Maritime Amphibious Unit are qualified to dive, supervise and maintain this type of rebreather in the CF. In fact, Combat Divers are not qualified or authorized to dive any rebreathers in the CF and were not part of the Integrated Tactical Effects Experiment Exercise, where this photo was taken.

I request that you take corrective action in the next volume of the *Canadian Naval Review*. Thank you.

Introducing *Broadsides*, *CNR*'s Online Discussion Forum

For much of February 2007, a number of us involved with the *Canadian Naval Review* were engaged in a vigorous electronic debate on the future of Canada's defence and naval policies. The catalyst to this debate was a 31 January article in the *Ottawa Citizen* by David Pugliese on the key components of a new "Canada First" defence policy on the basis of a leaked DND proposal.

The debate was so interesting and stimulating that we decided to create a new forum for debate. And thus, in March 2007, ***Broadsides*** was born. This is our new online debate forum located on the *Canadian Naval Review* website (www.naval.review.cfps.dal.ca).

Here are some extracts from the discussion over the past month:

> *"The question one must ask is why savings are being extracted from critical naval capabilities when the Conservatives posted a $7 billion surplus? There are only two possible reasons, and they are not good ones."*

> *"Cutting the Navy by over twenty percent and our military maritime surveillance capability by about a third, for marginal savings, will cripple Canada's ability to ensure its maritime security."*

> *"Giving up the fleet support ships before their replacements arrive probably spells the demise of the naval task group concept that has served this country so well for the last 15 years."*

> *"Essentially the Navy is in big trouble, but, as you rightly point out, the CF as a whole is in big trouble."*

> *"Every 20 years or so we go through a boom and bust cycle: the changing security environment demands we build up a very workable little fleet (lately of world class), we get a couple of very good op cycles and accolades from our allies out of it, but then we begin to starve it by having not bought enough spares to keep it fit, then penny-pinch till finally it fritters away into the rust-bucket butt of media jokes."*

> *"Byers' idea of the Navy having an armed ice-breaker is nonsense."*

> *"We must get beyond only thinking in terms of naval capability or coast guard and think Canadian!"*

> *"Small may make sense in some respects, but if one is serious about national maritime security then endurance trumps size."*

Pay a visit to ***Broadsides*** and join in the discussion. Posts should be submitted to naval.review@dal.ca. Please note that the *CNR* Editorial Board reserves the right to prevent the posting of objectionable material, and retains the right to publish excerpts in the print version of *CNR*. All authors must identify themselves in their submissions, and provide a pen name or indicate that initials should be used if they desire to be anonymous.

In the first month of its existence, we have already found ***Broadsides*** a useful place to discuss new publications relating to maritime or security issues, debate topical news articles, and debate government policy (for example, as expressed in the budget). This online forum allows us to discuss exciting matters that occur between the issues of the *Canadian Naval Review*. We're pleased that, in the brief time since its creation, ***Broadsides*** has already received thousands of hits.

Take a look and fire off a broadside of your own!

Warship Developments: Aircraft Carriers Great and Small (Part I)

Doug Thomas

Today's most powerful general-purpose surface combatants are aircraft carriers. Of these, the US Navy's *Nimitz*-class nuclear-powered carriers are the superstars. Most states are unable or could not afford to build, man and operate such 100,000-ton ships – each with an air wing more powerful than the air force of many countries and a crew of about 6,000. Nevertheless, there are many navies that operate at least one aircraft carrier: perhaps smaller, slower and less expensive than a *Nimitz*, but still possessing a great deal of value for both national and coalition operations.

USS ***Carl Vinson****.*

Less expensive aircraft carriers are usually equipped with helicopters and vertical/short take-off and landing (V/STOL) aircraft rather than *Nimitz*'s Super Hornets. The development of the Harrier, and the V/STOL variant of the Joint Strike Fighter (Lightning II), has enabled states to pack a great deal of capability into relatively small hulls. This was certainly proven during the 1982 Falkland War, when two small carriers and a handful of Harriers, together with the task group's anti-air warfare systems, neutralized much of the Argentine Air Force.

Vessels with a flat upper-deck (flight deck), and elevators providing access to hangars in which helicopters and fixed-wing aircraft are stowed and maintained, are frequently the flagships of NATO and Asian navies. Sometimes these ships are not called aircraft carriers – for political or other reasons they may be called cruisers, destroyers, amphibious vessels or sea control ships – but by possessing a flight deck they are, de facto, aircraft carriers! Through the embarkation of different types of aircraft, a carrier's role can be easily changed to area air defence, anti-submarine warfare (ASW), disaster relief, amphibious operations, power projection or support to land forces, to name a few.

Air-capable ships possess a great deal of internal volume, particularly in their hangars if all or most of their aircraft are landed, and thus can transport large numbers of personnel – marines, disaster relief workers, evacuees, etc. – to support complex operations ashore. Shortly after Hurricane Katrina struck, the USS *Iwo Jima* was berthed in New Orleans amidst the chaos in the aftermath of that storm. For some time, *Iwo Jima* provided the only facilities for communications, command and control, hotel and hospital services, and a helicopter base for the personnel needed to coordinate and conduct disaster relief. During that period, even the ship's ability to provide a shower and hot meal for police, firemen, National Guard, and relief workers was unique!

Landing Helicopter Docks (LHD) and Landing Helicopter Assault (LHA) Amphibious Ships possess large, continuous flight decks, and are capable of operating numerous helicopters and fixed-wing aircraft. The first seven American *Wasp*-class LHDs feature a large floodable dock in the stern for operating a range of landing craft. The eighth ship of the class, launched in September 2006, differs in a number of ways. It is the first to be powered by gas turbines and electric drive, its funnels are canted outboard – away from its large flight deck – and it does not have a dock in the stern. Its embarked aircraft, including the Osprey tilt-rotor aircraft and the large Sea Stallion helicopter, will transport the landing force and materiel ashore, perhaps assisted by landing craft from other amphibious ships in company.

A good example of a very capable smaller aircraft carrier is Italy's *Cavour*, which was laid down in 2001, launched in 2004 and commenced sea trials in late 2006. The carrier will be delivered to the Italian Navy later in 2007 and

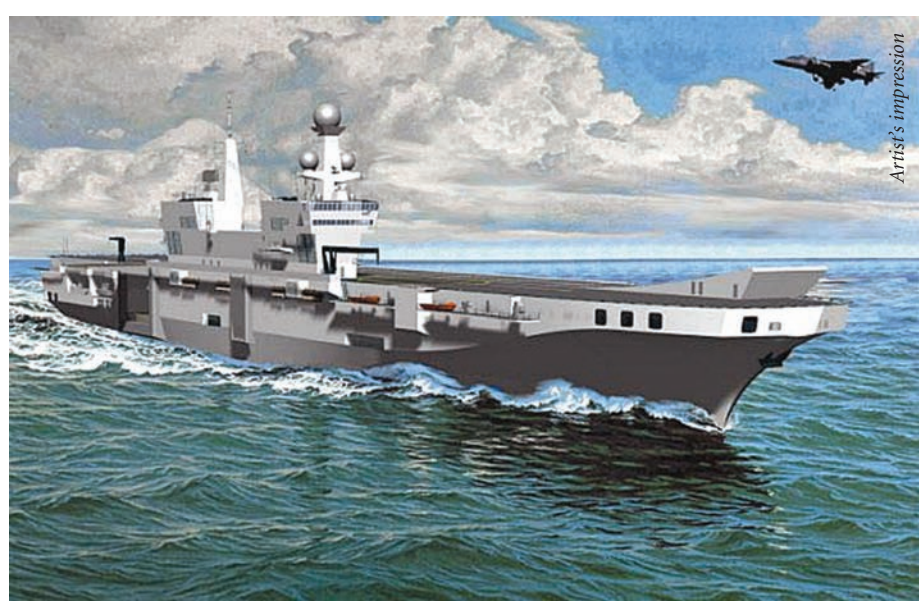
USS ***Iwo Jima****.*

enter service in 2008 – a remarkably rapid building program for a first-of-class vessel of this size. *Cavour* has a full-load displacement of 27,100 tons, an overall length of 244 m (800') and is powered by combined gas turbine and gas propulsion. The four LM 2500 gas turbines develop 118,000 shaft horsepower, which should provide a maximum speed of about 30 knots. This very impressive vessel is fitted with two pairs of active stabilizing fins, twin rudders, and even has bow and stern thrusters that will minimize its requirement for tugs. It can accommodate up to 1,210 people, including ship's company of 451, aircrew 203, an amphibious command force of 140, San Marco Battalion (marines) of 325, and an additional 91 troops if required.

An important feature of this ship is its exceptional operational flexibility. It can function as an aircraft carrier and/or as the transport of wheeled and tracked vehicles, for both military and civil missions. The aircraft hangar can accommodate 100 light vehicles or 24 main battle tanks for amphibious missions, and the ship can also carry four LCVP landing craft. The flight deck features six helicopter takeoff spots or eight parking spots and a 12° ski jump for VSTOL aircraft such as Harriers or the new Joint Strike Fighter. A notional air group could include 12 EH-101 helicopters and eight Harriers. There are two 30-ton elevators, one forward of the island and the other starboard side aft. Two roll-on/roll-off ramps for loading/offloading vehicles are positioned aft and on the starboard side.

Cavour has comprehensive command and control and combat systems, a point-defence missile system and anti-aircraft guns. It has a hospital with three operating rooms, wards for hospitalized patients, X-ray and other medical imaging equipment, a dental clinic and a laboratory.

In part II of this article (appearing Summer 2007) I will discuss the first totally new Super Carrier since the USS *Nimitz* joined the US fleet in 1975. To be sure, incremental improvements have been made in the subsequent nine vessels, and many of these modifications have been retrofitted into older vessels as they have undergone updates. Nevertheless, the recently named and authorized USS *Gerald R. Ford* (CVN 78) will be a 'clean sheet' design.



The Italian Navy's newest aircraft carrier, the ***Cavour*** *(formerly known as the* ***Andrea Doria****), was launched in July 2004.*

Plain Talk: A Missed Opportunity

Sharon Hobson

Photo: MCpl Charles Barber, SNMG1

Lieutenant General J.C.M. (Michel) Gauthier, Commander of the Canadian Expeditionary Force Command, experiences a light jack stay during his visit to HMCS ***Iroquois*** *in September 2006.*

It's not easy treading the fine line between openness and implied criticism, as any senior officer who has ever been interviewed will attest. One of the key factors in deciding what to say is the audience. For whom is the information intended? How knowledgeable are they about the subject? What is it they need or want to know, and why?

The importance of audience in the public presentation of military information became clear back in the 1980s, when the Senate Sub-Committee on National Defence began its hearings into the state of the military. Officers appearing before the non-partisan, low-profile Senators were much more open than when they appeared before the House Standing Committee on National Defence and Veterans Affairs where Members of Parliament seemed poised to jump on anything which could potentially embarrass the government.

What a difference a couple of decades make. The Senate Standing Committee on National Security and Defence has attained a much higher profile, and the officers appearing before it have consequently become much more cautious. In fact, in their November 2002 report, the Senators bluntly stated, "The Committee was not always convinced that senior officers and bureaucrats appearing before it were being perfectly frank." While they acknowledged that "some senior officers have publicly voiced general concerns," they noted that "these amount to small squeaks in the loud arena of policy-making; what we could use from Canada's military leaders now is a thundering roar. Misguided loyalty appears to be muting the military's strongest voices."

The navy now needs that "thundering roar" more than ever. So it's unfortunate that when Vice-Admiral Drew Robertson met with representatives of the *Canadian Naval Review* last fall he displayed a troubling lack of candour (see interview published in *CNR*, Vol. 2, No. 4 (Winter 2007)). He was being given a perfect opportunity to provide a clear picture of how dark the navy's future looks, and to enlist vocal and articulate support for his inter- and intra-departmental battles. Instead, he was frustratingly evasive.

The first question asked was, "what is happening to the single-class surface combatant?" As an interested outsider, what I'd hoped to hear in response was something about the operational requirement for the ship, its unique aspects, the procurement approach, and the prospects for getting the ship in the near future. VAdm Robertson did not say any of this. Rather he replied, first with a description of his job, and then with,

> … the question of where we are going with a single-class surface combatant speaks to our overall efforts to make sure that we maintain the fleet effectiveness that we will need well into the future.

And

> The single-class surface combatant is going to be of vital importance to the fleet that we're building in the 2017 and beyond time-frame because it's going to ultimately replace both the 280s and the *Halifax*-class.

The interview went on in this vein, with the admiral providing general, positive-sounding statements in lieu of hard facts. It's understandable that he would want to be cautious, but other available information shows he could have said much more.

The Maritime Command Strategic Assessment 2006/07, an internal document easily obtained under the Access to Information legislation, was put together in November 2005 and it notes,

Leading Seaman Hee-Kyung Park taking part in a a hazardous material exercise aboard HMCS ***Iroquois****.*

> A replacement project for the *Iroquois*-class, due to the long required lead time, should be relatively mature by this date to ensure a continuous transition of its AAW and C2 capabilities. This is not the case. [The navy's] intention is to replace the long-range air defence and C2 capabilities critical to the naval task group construct through the SCSC project. This project, however, due to the magnitude of its complexity, duration, and overall cost is not in the SCIP's [Strategic Capability Investment Plan] baseline funding.

The assessment continues on to discuss information about the transformational nature of the single-class surface combatant, milestones for the project and its potential impact on the *Halifax*-class modernization. It also includes a request that the project be included in baseline funding.

CNR also asked VAdm Robertson about the 70% capacity for standard readiness ships and the 90% capacity for high readiness ships. He explained that "a standard readiness ship is one that would not be instantly prepared for the highest readiness level of operations but yet is quite able to do every task assigned to it," and he continued with a description of the various parts of the world where the navy might deploy and the need to build crew experience. That very basic general statement did not include any mention of the problem of attaining the high readiness and standard readiness capabilities. But according to the 2006/07 assessment,

> Put bluntly, unless [the Navy] receive[s] an increase to [its] O&M allocation or receive[s] a significant injection of opportunity funds during the next fiscal year, [the Navy] will be unable to execute [its] planned operational schedule, which equates to the execution of [its] core standing responsibilities. Moreover, even with a fully funded operational schedule, [it is] unable to maintain the required target of sea days for [its] high readiness and standard readiness units – thus diminishing [its] overall potential readiness. MARLANT's high and standard readiness units average 104 and 75 sea days respectively and MARPAC's units average 104 and 84 sea days respectively – both Formations are below the targets of 120 and 90 respective sea days.

The 2006/07 assessment is an eye-opener intended to drive home hard facts; Robertson's is a platitude intended to reassure. Different audiences, different messages. But maybe they shouldn't have been that different.

Now, true, a year has passed between when the assessment was prepared and when VAdm Robertson was interviewed. But it's hard to believe that the problems identified in November 2005 had pretty much faded away by November 2006. Evidence points to the contrary. When you have the East Coast admiral saying he cannot send his ships to sea because of a shortage of funds, then obviously things are not exactly shipshape financially.

To be fair, VAdm Robertson was not asked for the specifics that the assessment provides, and he was speaking to the Canadian public, not to the Chief of the Defence Staff. However, is it too much to expect that when a senior officer is given the opportunity to speak directly to his constituency he leave the bureaucrat-speak in Ottawa and be candid?

These are tough times for the navy. The focus is on the army and Afghanistan. And while it's understandable that the admiral would not want to whine publicly about not getting more resources, he owes it to the future navy to make sure that Canadians know the consequences of the choices they make today.

It's ironic that in response to the last question he was asked – about a media bias against submarines – the admiral responds:

> ... one of our challenges is that our secrecy with submarines was such during the Cold War that many people didn't understand why we had [them] … and hence it's hard for them to understand where we may be going, to the extent that those who have not had any exposure think that we purchased the submarines only for the ability to train surface ship crews. Should we be surprised then that they have a longstanding belief that there's not a need? I think we did ourselves a disservice by not publicizing, or explaining broadly, what we did in the Cold War.

Exactly. And this interview was a missed opportunity.

Sharon Hobson is an Ottawa-based defence analyst and Canadian correspondent for ***Jane's DefenceWeekly****.*

Book Reviews

Crises Do Happen – The Royal Navy and Operation Musketeer, Suez 1956, by Geoffrey Carter, Liskeard, Cornwall (UK): Maritime Books, 2006, 142 pages, maps, diagrams and photographs.

Reviewed by Major R.D. Bradford, CD

With the passing of 50 years and the release of British Cabinet papers from 1956, it is not surprising that the ill-fated Anglo-French invasion of Egypt should prompt a number of books. These books include, among others, *Dawn Over Suez* (Steven Freiberger) and *Road to Suez: The Battle of the Canal Zone* (Michael Thornhill). Less prominent is a small volume entitled *Crises Do Happen – The Royal Navy and Operation Musketeer, Suez 1956*, written by Geoffrey Carter. This unpretentious but useful publication differs from the others in its more limited and specific focus on the principal military operation – i.e., the assault from the sea conducted by naval and landing forces to capture the Suez Canal. Dr. Carter has nurtured an interest in Royal Navy (RN) history by serving as a volunteer researcher at the Fleet Air Arm Museum, and holds a doctorate in Maritime History. This association with the RN combines with a civilian life to provide a particular perspective that is well-informed while appreciating the limits of the non-navy reader.

This book is significant to the Canadian student of war contingency operations conducted from the sea. By late 1956, 11 years had passed since Canadian sea, land and air forces last participated in amphibious operations. The continental and deep ocean character of Canada's defence policy and armed services was well established, and this was not to be altered for many decades. Consequently, mention of the Suez Crisis to Canadians usually elicits thoughts about the passing of imperialism, or Lester B. Pearson and the concept of United Nations peacekeeping. The operational and tactical conduct of the operation, not to mention its joint and amphibious character, were perhaps not of primary importance. But this may have changed with the emergence of the Standing Contingency Force (SCF) as a Canadian seaborne, sea-based integrated joint task force with an amphibious warfare capability.

As wars go, the Suez Crisis was unusual. The political object was the restoration of Anglo-French control over the recently nationalized Suez Canal. The strategy involved a secret arrangement whereby Israel would invade the Sinai and drive for the canal, thus providing a pretext for the French and British to intervene to 'protect' the

Photo: Corporal Gaétan Racine Task Force Kabul Roto 3 Photographer

On 30 June 2005 Corporal Stewart Boutilier, from National Support Element Transportation Platoon, unloads a box of medical books from his cargo truck for delivery to Al Beeruny University Medical School at Gul Bahar, Afghanistan. This culminates the Books with Wings project sponsored by Canadian medical students.

waterway. There is little to emulate in the handling of the crisis at the political and diplomatic level, but as a military episode, the crisis was a classic contingency operation that was both combined and joint in nature, and involved rapid response, complicated force building, a challenging deployment and support situation, and complex assault planning. In this latter respect, it is a historical episode worthy of study.

Britain was the senior partner, with the French providing fewer forces. The tactical plan involved a coordinated offensive initially involving air attacks, followed by airborne assaults, and crowned by an amphibious assault to drive down the canal with a view to seizing the full length of the waterway. Notwithstanding many obstacles placed in its way, the tactical operation was quite successful. However, the international political response was unexpectedly harsh, with American objections proving decisive. A ceasefire was imposed earlier than expected, causing the drive southward to stop short of the final objective. Nonetheless, the invaders could enjoy great satisfaction in their accomplishment at the tactical level.

Although duly acknowledging the contribution of land-based air forces (constrained by limited endurance) and the importance of the primarily army-provided follow-on land force, Dr. Carter emphasizes that *Operation Musketeer* was primarily a naval affair. The British Naval Task Force was comprised of several task groups. The Aircraft Carrier group consisted of three aircraft carriers and seven air squadrons. The Helicopter Group comprised two aircraft carriers acting as commando carriers, including

one RN and one joint army-air force helicopter squadrons. The Assault Force (amphibious task force) included a headquarter ship, eight landing ships and organic landing craft, eight large landing craft, and support craft, accompanied by a Landing Force comprised primarily of 3rd Commando Brigade, Royal Marines (with two commando groups, 6 Royal Tank Regiment, and army support elements). The Minesweeping Group included 15 coastal minesweepers. Finally, Support Forces provided an array of support vessels to assist the fighting groups. Additionally, a large number of merchant ships were requisitioned from civil sources to support both the initial invasion and the intended follow-on operations ashore. The Naval Task Force was not a standing, high-readiness force, but was cobbled together from a wide variety of sources. Nonetheless, the force was a seaborne, sea-based integrated joint task force with an amphibious capability, intended for initial entry operations marked by preliminary enabling operations leading to an amphibious assault. This makes it and its activities of interest to today's Canadian Forces.

Crises Do Happen is a very readable account of the Naval Task Force in *Operation Musketeer*. As one might expect given the author's background, the air effort receives the most attention, and this leaves questions still unanswered at the end. Nonetheless, the general overview is most effective. The political and strategic context is adequately provided for, as are allied relations with both the French and the Americans. The life cycle of planning, force building, mounting and deployment, operations, and exit are all addressed. The operation was a limited war, short-notice contingency event, with the Naval Task Force's initial entry operations conforming to the early in/early out idea.

Furthermore, the book is a useful introduction to naval operations for non-navy readers such as army officers. The orchestration of underway replenishment and ongoing activities by the task groups is clearly evident. The dependence of ships on certain critical systems is evident in the treatment of catapult problems in the aircraft carriers. Space limitations in ships are made clear – for example, limitations related to embarked command elements, augmentees to ships' companies, or embarked forces for amphibious operations. Water-space allocation and management is touched upon. Appropriate emphasis is given to command and control, rules of engagement, intelligence, naval mine warfare, the strategic 'sea-train' of air- and sea-based supply, and – of particular importance to emerging SCF concepts – post-entry port operations and force withdrawal.

Crises Do Happen is a very readable, well-documented and non-technical account of contingency operations by a seaborne, sea-based joint task force, and is particularly suited to study by personnel in the Canadian Forces involved in the new rapid-response, globally-deployable capability represented by the SCF. It is a very useful complement to the more general and conventional histories of the Suez Crisis that have appeared recently.

Aircraft Carriers: A History of Carrier Aviation and its Influence on World Events, Volume 1, 1909–1945, by Norman Polmar, Washington, DC: Potomac Books, 2006, 576 pages, black and white illustrations, maps, appendices and notes.

Reviewed by Doug Thomas

This volume was originally published in 1969 and has been thoroughly revised and updated with new material and notes. Norman Polmar is a regular columnist for the US Naval Institute Proceedings; he has written over 50 books on naval matters and is recognized as an expert in naval aviation. Polmar's collaborators on this book include many of the greatest experts on naval aviation of the 20th century.

This is a truly outstanding reference work. Coverage of the 1909-1945 period, during which the aircraft carrier replaced the battleship as the pre-eminent capital ship, includes the earliest developments to facilitate the operation of aircraft: flying-off platforms mounted on cruiser and battleship gun turrets and catapults; recovery decks with arresting wires suspended between sandbags to catch aircraft hooks; towed high-speed barges from which biplanes might be launched; cranes to recover float planes from alongside; separate landing and takeoff decks; and conversion of large ships as early aircraft carriers in WW I.

Aircraft Carriers predominantly follows developments in British, American and Japanese naval aviation, which were, by far, the most powerful navies during the period 1920-1945. Although there is brief mention of the French Navy's efforts during this period, there is nothing about the Italian and German attempts to achieve blue-water airpower: that will be covered in Volume II. The two principal themes that comprise the majority of this volume, not surprisingly, are the naval campaigns in the Mediterranean and Pacific during World War II. In the former instance, it was the Royal Navy (RN) attempting to counter German aggression in the Mediterranean area while desperately holding Malta as a bastion against the Axis powers. The Pacific campaign was largely a "Carrier

War" between the USA and Imperial Japan, and forms the majority of this book.

The RN pioneered many of the early improvements in naval aviation, but in the 1920s and 1930s it was the Air Ministry and the Royal Air Force (RAF) that determined what types of aircraft were developed and made available to the navy. The ill-advised struggle between the RAF and the RN over control of aviation led to such anomalies as biplane Swordfish torpedo bombers and anti-submarine warfare (ASW) aircraft operating from RN carriers until late in WW II. The RN fell well behind the United States and Japan in naval aviation due to economic difficulties and inter-service rivalry, and depended heavily on acquiring US Navy carrier aircraft later in WW II.

The Japanese Navy was a willing and eager student of the RN's early expertise in naval aviation, having requested a British mission comprised of experts and more than 100 aircraft in 1920. The student soon outstripped its teacher. Japanese naval aviation was amazingly innovative between the wars, and developed large, fast carriers, several with an island superstructure fitted on the port rather than the usual starboard side of the hull. Throughout the 1930s and in 1940/41, the Japanese developed new aircraft (such as the Zero), trained arguably the world's best naval pilots, and employed very effective tactics in the war against mainland China. This expertise led to tactical surprise and numerous victories against Allied forces early in World War II. However, the Battle of Midway was the turning point in the war in the Pacific and the loss of so many of its best pilots, perhaps more so than the loss of four carriers, was the beginning of the end for Japan.

The US Navy trailed the Imperial Japanese Navy's proficiency early in the war. However, when the USA mobilized its overwhelming industrial capacity and focused its national will on avenging the attack on Pearl Harbor and Japanese aggression in the Pacific, it quickly overcame this deficit. Polmar points out some amazing statistics: for example, within a month of the Battle of Midway, the United States had a total of 131 aircraft carriers of all types in various stages of construction or conversion or on order: 1 CVB large carrier (*Midway*-class), 22 CV fleet carriers (*Essex*-class), 9 CVL light carriers (cruiser conversions), and 99 CVE escort carriers (modified tankers and merchant hulls – 34 of them transferred to the RN, including *Nabob* and *Puncher* whose ships' companies were provided by the Canadian Navy).

There are many good photos throughout this volume. I especially found the post-armistice photos and discussion of Japan's late-war aircraft carrier building programs fascinating – for example, both the navy and army were constructing ships with wood-burning machinery due to a desperate shortage of oil. Civilian companies would have operated these ships, with navy or army pilots and gunners.

Those interested in naval trivia will find a treasure trove within this book. One snippet which should appeal to Canadian readers is the proposed WW II "Habbakuk" carrier. This unconventional idea was for a 2-million tonne vessel some 2,000 feet long to have been built in Canada. It would have been constructed from a combination of ice and sawdust called Pykrete – so tough that it would have been impervious to torpedoes or bombs. Although it would have been expensive to build, several of these vessels could have been employed in mid-Atlantic as bases for ASW aircraft to bridge the mid-Atlantic gap in air cover for convoys, or as stepping stones to ferry aircraft across the Atlantic. The Habbakuk carrier never came to fruition but it was one of many unusual concepts that Winston Churchill supported.

In conclusion, this is a must-have book for those who want to know more about the development of naval aviation. I also look forward to the updated Volume II, as many additional air-capable ships have been built since that original volume was published. The aircraft carrier remains the Queen of the Seas.

Life and Death on the Greenland Patrol, 1942, by Thaddeus D. Novak (edited by P.J. Capelotti), Gainesville: University Press of Florida, 2006, 206 pages, index, notes, black and white photos, ISBN 0-8130-2912-0, cloth $59.95 (US).

Reviewed by Ann Griffiths

Thaddeus Nowakowski (later changed to Novak) volunteered for the US Coast Guard and began his service in August 1941. *Life and Death on the Greenland Patrol, 1942* is a diary of the six months (June 1942 to December 1942) Novak spent on board *Nanok*, a small fishing trawler converted to Coast Guard service, on patrol in Greenland. After Germany invaded Denmark in April 1940, Greenland declared itself independent of occupied Denmark and asked the United States for protection. *Nanok*'s time there was part of this protection.

Keeping a diary was forbidden by the Coast Guard but Novak was unaware of this. When the diary was discovered, Novak could have been court-martialed and the diary destroyed, but the officer was lenient and the diary

survived as one of the few personal accounts of this facet of World War II.

This is not an account of the greater philosophical issues of war or a consideration of grand strategy or tactics, it is a personal account of the little things that happened during this time. Novak talks about the other members of the crew, what he felt about them, their nicknames and their personal characteristics. From his entries we get a good sense of the feuds and petty arguments that occur when humans are thrown together in a small space for extended time in difficult living conditions. Novak talks about the loneliness, the grinding tedium of some of the jobs, and the extraordinary meals that the cook somehow managed to prepare for them. He talks (a lot) about his frustration at not getting promoted to coxswain, and indicates his occasional anger at the captain who had been a fisherman and had little regard for the trappings of rank. He also, however, talks about how knowledgeable the captain was about surviving at sea in the Arctic after his many years of experience there. Novak meets native Greenlanders and notes how impressed he is by their ability to survive in such a harsh environment.

His accounts are matter of fact yet entertaining and dryly humourous. He complains very little – except about not getting promoted to coxswain, and the smell when they transported sled dogs – despite terrible conditions as winter set in. The crew was constantly cold and wet, the ship bucked and rocked and they were all seasick regularly. They spent hours each day chipping ice off *Nanok* with inadequate tools like kitchen knives.

The most dramatic account is of their trip home to Boston. They had remained at Greenland until mid-December, almost too late to leave for the year. They were to travel home in the company of *Natsek*, a Coast Guard sister ship, and *Bluebird*, from the US Naval Reserve. The weather was terrible with high seas, icebergs, wind, fog and a snow storm. They quickly lost contact with *Natsek* and *Bluebird*, the ship was leaking, bits of the ship kept getting carried off in the wind and the waves (including their radio antenna so they couldn't radio for help), ice needed to be constantly chipped at, the lifeboats were frozen to the deck, and the crew was all seasick, cold, wet and frightened. When they arrived, at last, at Boston, the net protecting the harbour was being shut, and they were told they must stay overnight outside the harbour. The captain was furious, and ran the ship past the tugs that were closing the nets.

Once they finally docked, the wet, bedraggled, dirty, unshaven crew made a run for it to the nearest bars. People lined the dock looking at the ship, which was missing its paint, rigging, antenna, shutter glass, and much else. They had arrived safely, but *Natsek*, with all hands, was lost on the trip.

If you are looking for a big picture of World War II, an overview of the place of the US Coast Guard in the war, or an account of what happened in Greenland during the war, then *Life and Death on the Greenland Patrol, 1942* is not the book for you. If, however, you are looking for a personal account of an ordinary man serving his country, then this book is well worth reading. Because diary writing was prohibited, very few personal accounts exist and thus this book provides a fascinating window into a tiny piece of the war.

Photo: Formation Imaging Atlantic

HMC Ships ***Athabaskan*** *and* ***St. John's*** *alongside the USNS* ***John Lenenthal****.*

CANADIAN NAVAL REVIEW

2nd Annual Bruce S. Oland Essay Competition

First Prize $1,000

Second Prize $500

Third Prize $250

The top three essays will be published in the *Canadian Naval Review*. (Other non-winning essays may also be considered for publication subject to editorial review.)

Submission deadline is 31 May 2007.

Competition Subjects:

1. **How relevant is the Canadian Navy today?**
2. **Does Canada take its maritime responsibility seriously enough?**
3. **Who can and who should enforce Canada's ocean policy?**

Photo: Canadian Naval Review 2006

Commodore Bruce Oland presents Commander Ken Hansen with his prize for winning the Bruce S. Oland Essay Competition for 2006.

Competition Rules:

1. All essays must address some aspect of one of the topics listed above.
2. All essays must be original material. They must not have been submitted or published elsewhere.
3. Essays are to be no longer than 3,000 words. The judges reserve the right to reject essays that exceed the stipulated length. Graphics are acceptable on a limited basis.
4. Essays must contain appropriate citations in any acceptable format. Citations, however, should be kept to a minimum.
5. There is a limit of one submission per author.
6. Authors should put the title only on manuscripts. Names, addresses, phone numbers and email addresses should appear on a separate cover page.
7. The decision of the judges is final. The essays will be judged anonymously – at no point during the judging process will the judges know who the authors are. The essays will be judged in a two-stage process. First they will be assessed and shortlisted by *CNR* and then a panel of three independent judges will pick the winners from the short list.

Please submit electronic copies of entries to naval.review@dal.ca by the submission deadline. Entrants will be notified of the decision within two months of the submission deadline.

Halifax photographer wins national award

Master Corporal Colin Kelley of CFB Halifax's Formation Imaging Services has been awarded first prize in the Canadian Community Newspaper Association's Better Newspapers Competition for Best Feature Photo of 2006. It features an Army Patrol Pathfinder using his kit bag to keep his rifle above salt water during an exercise with submarine HMCS *Windsor* near St. Margaret's Bay, Nova Scotia. This exercise marked the first time Canadian *Victoria*-class submarines practised capabilities for the covert insertion and recovery of personnel. MCpl Kelley's commanding officer, Commander Maitland Barber, said, "This is nation-wide recognition of the outstanding quality of work and professional skill of our Image Techs here in Halifax."

CNR salutes Master Corporal Kelley on this singular achievement.