



CANADIAN NAVAL REVIEW

VOLUME 9, NUMBER 3 (2013)

**Winner of the 2013 Bruce S.
Oland Essay Competition
The Ice Has Ears**

**Interview with Vice-Admiral
Mark Norman**

**Paul Hellyer's Quest for
a Canadian Amphibious
Capability**

**The French Approach to
Maritime Security**



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Credit: Captain Dennis Noel, Public Affairs
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Canadian Coast Guard Ship Pierre Radisson and HMCS Shawinigan sail off the coast of Resolution Island during Operation Nanook 2013 on 20 August 2013.

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Editorial

Rebuilding the Navy: Challenges, Dangers and Opportunities

The most recent chapter of the sad saga of the shipborne helicopter replacement program acts as a reminder to all of the upcoming crisis that the navy faces. Bad political decisions continue to force the navy to risk the lives of its personnel and reputation to ensure that it is able to do the tasks allocated to it in the defence of Canada's security. Yet the helicopter program is only one of many procurement issues that must be resolved. A series of delays on the part of successive Canadian governments means that almost the entire navy now needs to be replaced. Considered in conjunction with the ongoing international world economic crisis and the continuing Canadian defence procurement crisis, the rebuilding of the navy is going to be a daunting task.

There is danger but also opportunity with this reality. The need to build the new Canadian navy comes at a time when it is necessary to rethink the very nature of Canadian sea power. In the coming years there will be a need to redirect Canada's traditional focus on the Atlantic to the Pacific. And it will also increasingly be necessary to develop the means to protect Canada's Arctic maritime region.

Navy and defence officials must now determine how to manage the technical, political and economic challenges of numerous large-scale procurement programs. The most immediate programs are the building of six to eight Arctic Offshore Patrol Ships (AOPS), two replenishment

vessels and possibly a new shipborne helicopter program. Officials must also develop a program to replace Canada's existing destroyers and frigates. Beyond this will soon be a need to replace the submarine fleet. The decision may also be made to replace the long-range patrol aircraft. Taken as a whole, this means rebuilding the entire fleet. So what does this new navy need to do?

Navy leaders are no doubt concerned that the current government (and any future government) may find the challenge too great and refuse to act, thereby leaving the navy to struggle on with aging equipment. There is undoubtedly a temptation to hunker down and try to develop a program that attracts the least amount of controversy and risk. But there is also the opportunity to ask the question what navy Canada needs into the future. This should not just be about how Canada can replace existing platforms and capabilities.

Canada will need to continue to operate with its NATO allies in and around the Atlantic Ocean. But it is in the Pacific and Arctic Oceans that the new requirements for Canadian sea power will develop. In the Arctic, the promised AOPS are a critical first step. These vessels will provide the means for the navy to begin to learn how to operate in a very unforgiving northern environment. Even with the multi-year ice disappearing, the demands of the Arctic will remain difficult. It remains to be seen what the exact mission of these new vessels will be. But judging by



Credit: Sergeant Kevin MacAulay

The Arctic Offshore Patrol Ships (AOPS) are intended to enhance the RCN's ability to operate in the Arctic. Here, HMCS Toronto and CCGS Pierre Radisson participate in Operation Nanook 2008.

the dramatically increasing activity on the Russian side of the Arctic Ocean, it is clear that Canada will soon need to ensure that, like the Russians, it has the ability to protect Canadian interests in the face of this increasing traffic and activity. But more important than the platform will be the necessity that the navy itself embrace this new region and develop 'Arctic thinking' among its leaders. The leaders of tomorrow will need to be trained to operate as professionally in the Arctic as they now do in the Atlantic and Pacific Oceans.

But it is in the Pacific Ocean that Canada's navy must rethink its future. The rise of China and the expected rise of India require Canada to rethink what Canadian sea power ultimately needs to achieve. Canada's maritime trade and economic prosperity will increasingly depend on its linkages to Asian markets. This will create uncertainty both domestically and with Canada's traditional friends and allies. Canadian provincial and federal leaders are already facing considerable controversy as they wrestle with the issue of exporting Canadian oilsand products to Asia. Beyond the challenges surrounding environmental protection and land right issues, the development of energy exports to Asia will create new issues pertaining to the existing naval relationship with the United States. Canada has always supported the American effort to ensure the protection of the sea lanes of communication. But what happens to Canadian trade with China in the event of a conflict between the United States and China? What happens in the future if the United States deems it necessary to use its sea power to cut the maritime trade going into China, and some of that trade is coming from Canada? There is no easy answer for Canada in such a scenario. Would Canada join the Americans? Would Canada try to protect its maritime trade with China? Or maybe it would need to protect products sent to alternative markets in the region. Hopefully such a choice is never required, but to base our future on hope is not a wise policy. Rather the questions need to be asked now about what type of navy would best protect Canadian interests in such a complex future.

There are two principal challenges that Canadian political and naval leaders now face. The first is ongoing problems created by Canada's saltwater blindness. Canadians simply are not aware of the importance of Canada's three oceans and the necessity to protect Canada's interests in them. Among Canada's senior political and defence leaders there is a blindness that is as astonishing as it is disturbing. Most narratives regarding the Canadian effort in Afghanistan have already forgotten the critical role played by the navy through *Operation Apollo*. Even senior members of the Department of National Defence display



Then National Defence Minister, Peter MacKay, at the Shangri-La Dialogue, Singapore 31 May-2 June 2013.

Credit: David S. McDonough/Internet

a tendency to frame the commencement of the Canadian commitment in terms of the deployment of land forces to Kabul. The naval commitments immediately after the tragic events of 9/11 are increasingly being written out of any national memory.

Likewise the developing narrative regarding the Canadian commitment to the operation in Libya is also beginning to focus solely on the role played by the air force. I am not suggesting that the important roles of both the army and air force should be downplayed, but rather pointing out that there is a collective tendency to forget the navy, regardless of what it does. The only time the public becomes aware of the navy is when the occasional mishap or mistake occurs. This unfortunately creates a perception that the navy is incompetent or mistake-prone. Nothing could be further from the truth but the general public will remain ignorant of what the navy does as long as it does it well – which is most of the time.

The second challenge that the navy faces from within its own leadership will be a natural and understandable tendency to think safely. The complexity of the developing new requirements for Canadian sea power in the Pacific and Arctic Oceans, combined with the inability of both Canadian leaders and the general public to understand why Canada needs a navy and what that navy does, has created a tendency to retain a conservative and restrained mindset. However, now is the time to think big. It will not get easier, nor will the Canadian public ever really 'get it.' So the navy now must make it the number one imperative to think, plan and prepare for the new century of Canadian sea power. 🇨🇦

Dr. Rob Huebert
University of Calgary

Winner of the
2013 Bruce S. Oland Essay Competition

The Ice Has Ears

Adam Lajeunesse and Bill Carruthers

In December 2005 while in Winnipeg, Manitoba, during a federal election campaign, Stephen Harper, leader of the Conservative Party, lambasted Prime Minister Paul Martin for his government's utter failure to defend Canada's Arctic sovereignty. According to Harper, Canada had no ability to detect foreigners trespassing in its northern waters and could exercise no control over the under-ice environment. "It is the responsibility of the Canadian military to monitor and patrol our land and waters" the soon-to-be Prime Minister claimed, and "under a Conservative government, this will be done. We simply need to know when the ships of the United States, Russia or any other country are in Canadian waters, and we will require them to ask our consent to traverse our waters."¹

This desire to monitor foreign activity in the Northwest Passage revolves around the need to demonstrate a level of situational awareness and control consistent with Canada's claim that the passage constitutes internal waters. However, the history of Canadian under-ice detection has always gone beyond these concerns for sovereignty and political optics. While much of the material on this subject remains classified, Canada's Sound Surveillance System (SOSUS) effort can be traced back over five decades. Originally developed as a joint continental defence measure, under-ice detection has never been aimed at detecting or deterring the Americans, it was never designed to force transit requests and it would be a mistake to consider its

modern incarnation through such a simplistic, nationalistic lens.

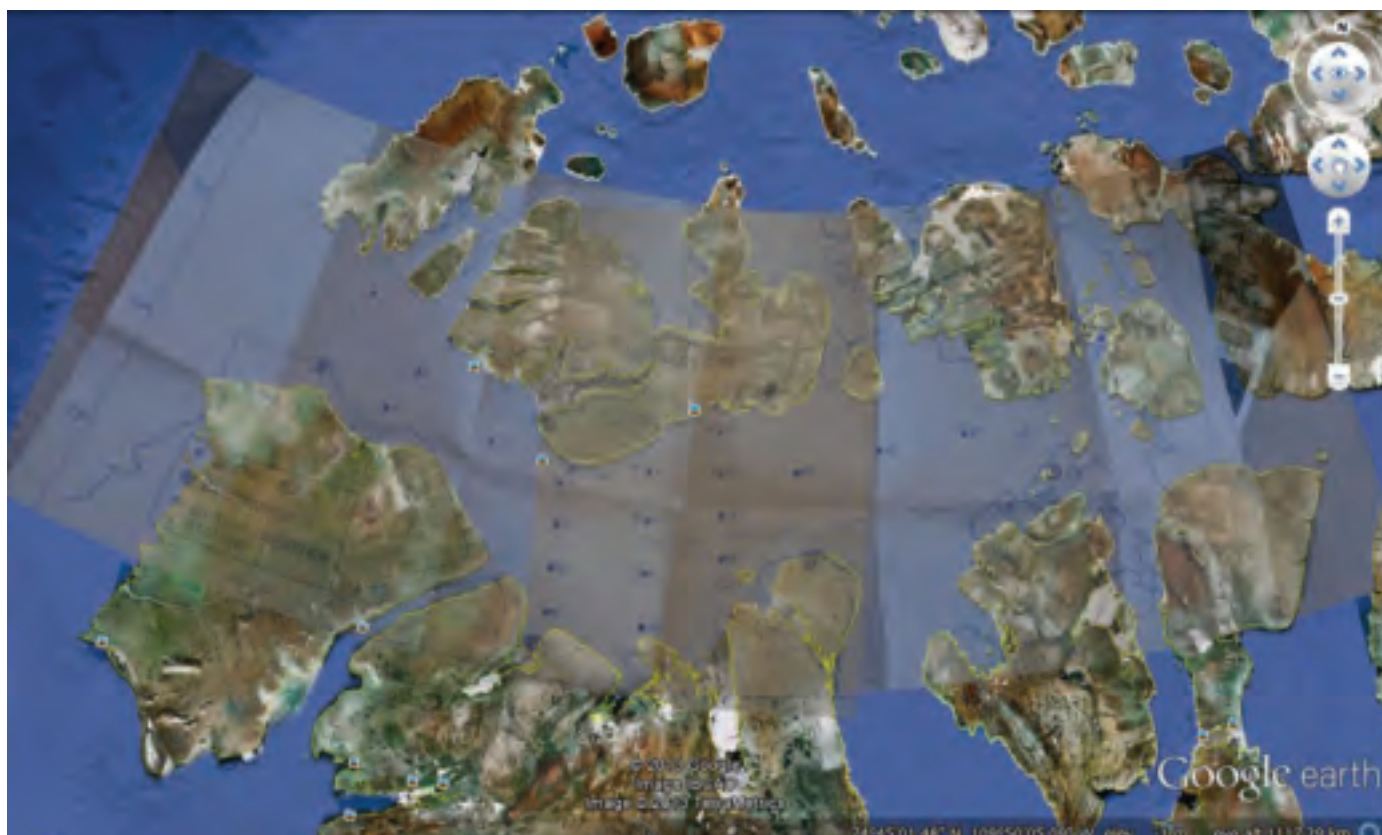
Canada began serious work on an under-ice detection capability in the late 1960s. The project was spearheaded by the Defence Research Board and had as its objective the development of a workable listening system to monitor the Northwest Passage for signs of Soviet intrusion. The project was given a boost in 1969 when the voyage of the US merchant tanker SS *Manhattan* drew the government's attention to the North and highlighted the need for a greater degree of control. Canadian defence policy soon shifted in anticipation of increased commercial and military activity in the region and, by 1971, a Defence White Paper was calling for an operational acoustic detection system. Yet, despite the politically charged atmosphere surrounding Canadian-American relations at the time of the *Manhattan* voyage, the motivation for the SOSUS program was defence rather than sovereignty. Indeed, from the beginning the program was undertaken as a joint Canadian-American effort with little evidence of the political sensitivity so commonly expressed in the public forum trickling down to the operational level.

The system called for in the White Paper was, in fact, already under development in 1969. It was a relatively primitive set of acoustic 'jezebel' buoys donated by the US Navy and designed to be air-dropped into Arctic waters. In 1969 and again in 1970 test barriers were deployed in



Northwest Passage Routes.

Credit: Wikimedia Commons



Approximate location of the sonobuoys placed during the 1970 season.

Viscount Melville Sound and M'Clure Strait to determine the viability of acoustic detection and to see if the technology, as it existed, might function as a temporary system.² The test was a failure and 80% of the buoys were soon destroyed by the hostile environment without having gathered much useful data.³ By 1973 the Defence Research Board Pacific had moved to larger vertical line arrays – which had also been donated by the United States – sitting at the bottom of Barrow Strait.⁴ Again these tests produced little usable information and often suffered damage from the shifting ice. Experiments continued into the mid-1970s although records become increasingly classified by the middle of the decade.

While the available documentation is thin and fragmented, it appears as though work continued on a joint detection grid. Declassified American files suggest that Canada may even have possessed a system of some operational capability by the early 1980s. References to this system can be found in the papers of Waldo K. Lyon, the former head of the US Navy's Arctic Submarine Laboratory, and in the records of American nuclear submarines which had transited the Arctic archipelago. These records demonstrate that the most common task undertaken by American submarines working in the Canadian North (apart from survey work) was the testing of underwater

detection systems. This was the case with USS *Flying Fish* in 1977, USS *Silversides* in 1981 and USS *L. Mendel Rivers* in 1983.⁵ USS *Silversides*' mission, for instance, was described as providing “a realistic target for the Canadian sensor system in the Canadian Archipelago, which is designed to interdict submarine infiltration from across the polar cap.”⁶ This capability was mentioned a number of times in other US Navy documents, though always with a frustrating lack of detail.

How this program developed during the 1980s, if indeed it developed at all, remains unknown. By 1985 the Permanent Joint Board on Defence (PJBD) was discussing a joint Arctic defence strategy, with preliminary plans already drafted and under review.⁷ Ultimately, the political fallout from the voyage of the US Coast Guard Cutter *Polar Sea* appears to have derailed that initiative, although PJBD discussions from the time showed a strong preference within the services for continued cooperation.⁸

By the early 1990s the Canadian government once again began to explore its options with plans for the Arctic Subsurface Surveillance System (ARCSSS). The purpose of the system was to “detect, classify by nationality, and to determine the direction of travel, of submarines transiting between the Arctic and Atlantic Oceans.”⁹ Passive detection arrays were to be established in three choke

points: Robeson Channel, Jones Sound and Barrow Strait. Again, the Department of National Defence (DND) sought American technical and material assistance, although information outlining the full extent of the partnership remains classified.¹⁰ The project was supposed to begin in 1997 but some preliminary testing was being done in 1993 and 1994 when the Acoustic Data Analysis Centre in Halifax dedicated some 180 man-hours over these two years to listening (unsuccessfully) for contacts.¹¹

The ARCSSS system was never completed. After the collapse of the Soviet Union, the Canadian government turned its attention to addressing the budget deficit and collecting a peace dividend. During the 1990s government policy also shifted from the confrontational hard security of Prime Minister Brian Mulroney to a focus on international cooperation and human and environmental security concerns. With the Soviet fleet rusting in Murmansk the need for any sort of detection seemed minimal.

A refocus on the Arctic occurred around 2005 with the release by Prime Minister Paul Martin of Canada's International Policy Statement. This policy statement tackled the issue of how the Canadian Forces (CF) would operate in a rapidly changing world.

The Arctic was a major focus and the policy contained commitments to both the RADARSAT Constellation, a new generation of Synthetic Aperture Radar (SAR) satellites, and Polar Epsilon project, which involved the construction of downlink stations in order to increase the efficiency of information flow. When the Conservative Party was elected in 2006 the new government maintained this focus and added an aggressive policy approach epitomized by Stephen Harper's 'use it or lose it' philosophy. During the election campaign the Conservatives made a variety of promises, including the acquisition of armed icebreakers, the creation of a new naval port near Iqaluit, increased plane and drone patrols, the construction of an Arctic training centre at Cambridge Bay, the expansion of the Canadian Rangers, reconstituting the airborne regiment, and (most importantly for the purposes of this article) the development of an Arctic sensor system to monitor the movement of submarines.

In May 2008 the Northern Watch Technology Demonstration Project (NWTDP), a Defence Research and Development Canada (DRDC) project, was launched as



Locations of the three installation sites for the ARCSSS program.

part of a major study to help affirm Arctic sovereignty and security. Ostensibly, the project was about ensuring that Canada had the ability to enforce its sovereignty against both friends and enemies. But, as has always been the case, resurrecting the spectre of trespassing American submarines was largely for public consumption.

Officially, the effectiveness of the Northern Watch equipment was measured by how well it could detect a number of different types of maritime activity including: declared shipping and cruise traffic through the Northwest Passage; undeclared maritime traffic; undeclared pleasure craft; ship-source pollution; and willful, unannounced, incursions by foreign military vessels. The first four types of activity are typically of interest to those tasked with surveillance and will be enforced by the RCMP and Canadian Coast Guard. The last activity, according to DRDC, "represents a severe test of Canada's ability to assert sovereignty in its northern territory."¹²

Part of the problem with this project is that DRDC seems to be operating under a rather narrow view of sovereignty

and a poor understanding of security in that it is focusing only on the role played by the military. The first four activities are about the exercise of Canadian sovereignty and, while the CF do have a broad mandate in the North, both the coast guard and the RCMP have long played a much larger role in enforcing sovereignty than the CF. This is largely because the Canadian navy has traditionally lacked the ability to operate effectively in the ice. The last activity is pure traditional security, as an incursion by a foreign military vessel goes far beyond the issue of sovereignty. Therefore, the Northern Watch project is an example of the government trying to sell security as sovereignty, as the military would be the only user of the underwater detection arrays. Sovereignty and security are certainly linked, but any time there is a confrontation between opposing military forces questions of political sovereignty and the status of waters cease to be of much importance.

The notion that the technologies being tested during the NWTDP are meant to exclude every state from operating in Canadian waters is entirely incorrect. While the government's pronouncements since first elected in 2006 have repeatedly emphasised its unwavering dedication to 'stand up for Canadian sovereignty,' the reality is that Northern Watch will almost certainly fall into the pattern of cooperation which has been developing in this area since the 1960s. The information generated from these surveillance systems will not be for purely Canadian consumption and will not be used to limit or exclude allied vessels.

Perhaps the best example of this cooperative framework is the Automatic Dependent Surveillance – Broadcast (ADS-B) system, which is air surveillance technology to track aircraft, incorporated into Northern Watch. Data collected from these sensors will be integrated



Northern Watch Technology Demonstration Project (NWTDP) camp site location.

Credit: Dr. Mark McIntyre, DRDC Atlantic



USCGC Polar Sea.

into the North American Aerospace Defence Command (NORAD) system and will likely be instrumental in developing a comprehensive picture of aviation in the North. Given that NORAD has added a maritime warning component, the under-ice detection element of Northern Watch is also likely to be incorporated into the continental defence framework – as was the case in previous iterations of these systems.

A closer look at the development of the modern underwater arrays demonstrates a similar cooperative approach to that taken during past decades. The detection array deployed during the project was developed by Omnitech Electronics Inc., and became known as the Northern Watch Array. The array is part of a group known as Rapidly Deployable Systems (RDS), developed by MacDonald Dettwiler & Associates for DRDC as a \$7.5 million Technology Demonstration Project. Omnitech licensed the technology from DRDC and proceeded to build several arrays for various purposes.¹³ These systems were not built solely for Canadian purposes and often fulfilled obligations to various allies. The Starfish Array,

an extremely comprehensive system developed by DRDC with the assistance of Omnitech, is an example of this. Work on the Starfish Array often involved the participation of other states under the auspices of various organizations. One such project involved an exchange of scientists with the US Naval Research Laboratory, work within the Maritime Systems Group Technical Panel 9 (MAR TP-9) Underwater Networking Initiative with the United States, and the NATO Next Generation Autonomous Sensor Joint Research Project.¹⁴

While the Northern Watch Array may be a separate project from the Starfish system, it was developed by the same section of government and the same private company. It would be naïve to believe that the technical assistance and suggestions provided by allies would not be integrated into Northern Watch. Therefore, despite claims of the project being solely Canadian, the reality is that the technologies involved in the array have been developed in cooperation with allies. This cooperative technical approach was how Canada developed its initial systems from the 1960s into the 1990s. ‘Canadian’ sonar buoys and arrays were

developed with the active assistance of the American military and its defence labs, and often meant borrowing American equipment and technology. When they were tested it was against American submarines during joint exercises. In the event of war it was expected that the system would be fully integrated into the continental defence grid.

Much of the rhetoric surrounding Northern Watch has emphasized the need to strengthen Canada's sovereignty

working closely on Arctic defence issues in the years running up to 1985, even operating American submarines in the Northwest Passage to test Canadian sensors.

In the 21st century, this pattern appears to have changed little. Northern Watch has been dubbed a tool to defend Canadian sovereignty with the implication that it will assist Canada in keeping out foreign intruders – a term which normally refers to American submarines. Yet in practice it will most likely be incorporated into the existing framework of continental defence to meet more practical security objectives. The pattern of under-ice research and system development has remained relatively consistent over the past half century. It has been one of consistent cooperation to meet real security threats, not to defend Canada's maritime claims against its closest ally. As is the case with every Arctic defence project, it has been tied to the sovereignty issue but, if the past is any guide, the rhetoric is unlikely to match the reality. 🇨🇦

Notes

1. Address by Stephen Harper in Winnipeg, 22 December 2005.
2. J.H. Granton to Chairman, Defence Research Board, "Sonobuoys for Arctic Use," 11 December 1969, Library and Archives Canada (LAC), RG 24, vol. 24033, file 3801-06.
3. Note from Stan Toole to Miss. Johnson, 29 April 1972, LAC, RG 24, vol. 34033, file 3801-26.
4. A.M. Patterson to Chief of Defence Research Establishment Pacific, LAC, RG 24, vol. 34033, file 3801-26.
5. Waldo K. Lyon Papers, "Submarine Cruises," US Navy, History and Heritage (NHH) Centre Operational Archives.
6. Permanent Joint Board on Defence (PJBD), *Journal of Discussions*, 160th Meeting, 20-23 October 1981, Directorate of History and Heritage (DHH), Ottawa, 82/196.
7. PJBD, *Journal of Discussions*, 172nd Meeting, 25-27 November 1985, DHH, 82/196.
8. See for instance, Allan Lawrence to Prime Minister Brian Mulroney, 13 December 1985, DHH, 82/196.
9. Litton Systems Canada Ltd., "Arctic Subsurface Surveillance System: Strawman Design," 28 July 1992, DHH 93/10, item 415b.
10. Canada and United States of America, "Defence Technology Transfer: Memorandum of Understanding Between the United States of America and Canada," signed 31 May and 23 September 1994.
11. Acoustic Data Analysis Centre, "ADAC Northern Surveillance," 10 August 1994 and 21 January 1994, LAC, RG 24 BAN 2005-00426-x, file 3060-50.
12. David Waller, Matthew R. MacLeod and Talia McCallum, *Measures of Effectiveness and Performance for the Northern Watch Station* (Ottawa: Defence R&D Canada – CORA, 2009), p. 7.
13. Garry J. Heard, et al., "Development of Low-Cost Underwater Acoustic Array Systems for the Northern Watch Technology Demonstration Project," *Canadian Acoustics*, Vol. 39, No. 3 (2011), p. 200.
14. Garry J. Heard, et al., "Project Completion Report: ARP 11cn: Underwater Data Networks and Sensors for Autonomous ISR Systems," Defence Research and Development – Atlantic, 31 October 2008, p. 23.

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over the region. The irony of this position is of course that the main challenger to Canada's sovereignty has always been its closest partner on northern defence. For decades Canadian governments have loudly proclaimed their unwavering dedication to defending Arctic sovereignty while quietly working with the United States to ensure that practical defence requirements were always met. In 1970 Prime Minister Pierre Trudeau took radical (and by most definitions of international law, quite illegal) steps to respond to the voyage of *Manhattan*. Yet, as the Prime Minister emphasized Canada's control over the Northwest Passage, the Department of National Defence was working behind the scenes with the Americans to develop a workable system of sonar buoys. In 1985 Prime Minister Mulroney was likewise forced by the voyage of *Polar Sea* to draw straight baselines around the Arctic archipelago, risking an international challenge from Washington and perhaps a trip to the International Court of Justice. Yet, this confrontational attitude would have been largely for public consumption since the two countries had been

Northern Watch Field Camp 2009.

Interview with Vice-Admiral Mark Norman

Dave Perry

Vice-Admiral Mark Norman officially assumed Command of the Royal Canadian Navy on 20 June 2013 after having served as the Deputy Commander, RCN. He takes command at a period of significant transition in the Department of National Defence and three years into the National Shipbuilding Procurement Strategy. Admiral Norman spoke to Dave Perry for *Canadian Naval Review* in Ottawa on 3 September 2013.

Dave Perry, CNR: Admiral, let's start with a question about the defence budget. After two years of budget cuts, the department is looking to cut 'tail' to protect operational 'tooth' through defence renewal. Yet the former Commander of the army testified to Parliament that army readiness has been reduced and your predecessor informed Parliament that the RCN's budget has been cut by 11%. How have these budget pressures affected the navy, and naval readiness specifically?

Admiral Norman: Let me begin by thanking the entire team at *Canadian Naval Review* for providing me this opportunity to address your readership on issues we all care about.

The first part of your question goes to the heart of National Defence's key 'corporate' challenge in the next few years – the need to reconcile two essentially competing strategic imperatives: on the one hand, continuing to invest in the Canadian Armed Forces [CAF] to ensure success in future operations, while on the other hand supporting the government's efforts to bring the national accounts into balance during a period of global economic volatility and fragility. I'll address this first before turning to the second half of your question.

The Chief of the Defence Staff and the Deputy Minister have identified 'defence renewal' as the main corporate effort for the next two years, as DND/CAF seek to identify efficiencies as a means of reinvesting in the future force. The RCN is fully onboard and I believe well positioned to play a significant role through 'navy renewal.'

Broadly speaking, we envisage completing a journey towards what we're calling a 'One Navy' approach by institutionalizing the realignment of the RCN's core processes and structures around new pan-naval authori-



Vice-Admiral Mark Norman, M.A.G., CMM, CD, Chief of the Naval Staff, Commander of the RCN.

ties for specific elements of the maritime readiness business. What we're envisaging will:

- re-align the Naval Staff to its strategic or 'head office' functions in my staff roles as the CDS' principal maritime advisor and manager of the naval readiness program, including devolution of operational level functions and activities to the formations;
- create a trust-enabled division of labour between the two coastal formations in the delivery of individual training and education on the one coast and the delivery of collective and operational training on the other. Along with this division of labour, the former Commander will inherit the

Naval Training System and all five of the RCN's Personnel Coordination Centres, while the latter will take on pan-naval responsibilities for warfare and readiness policy; and

- enable the continued realignment of the Naval Reserves, in accordance with CDS direction, towards a traditional model of part-time CAF service.

Other changes to RCN organization that were implemented by my predecessors under what we called 'navy transformation' – a new Director of Canadian Submarine Force and a Director of New Capability Introduction, for example – will be brought to full operational capability as part of navy renewal. In addition, the doctrine relating to the stand-up of Commander Maritime Forces Atlantic as the Canadian Armed Forces Maritime Forces Component Commander will be formalized in CAF command and control doctrine. We see real prospects in these changes to the RCN's key readiness processes and structures to become a more strategically agile and adaptive institution for future – and unforeseen – challenges in the decades ahead.

In relation to the second part of your question, baseline reductions applied to the RCN have had a cumulative effect of reducing our budget for operations and maintenance. However, the readiness of our fighting fleet – defined as our flexibility and preparedness to deploy in response to government of Canada direction – is always a priority, and we are doing everything we can to ensure this important priority is protected.

The navy's approach to what we call 'tiered readiness' in particular, allows us the flexibility to align the materiel, financial and personnel resources the RCN has been assigned in any given budget year to very precise readiness outcomes, from the level of platforms down to the level of warfare capabilities and even individual ships' systems. However, it's fair to say that the tiered readiness discipline we introduced progressively over the last decade is no longer simply 'a nice to have.' In today's fiscal environment, it has become an essential management tool.

CNR: There has been discussion about the possibility of rebalancing the navy towards the Pacific. Are you in favour of this? Has the United States expressed any interest in us supporting it more in the Pacific? Forward deployed? The previous Defence Minister publically linked CAF activities in the Pacific

with access to trade forums. What role could the Canadian Navy play there?

Admiral Norman: Recent commentary on the Asia-Pacific region has brought much-needed popular attention to issues that are truly pertinent to Canada's long-term vital interests. The RCN had begun to 'pivot' towards the Indian Ocean and the Asia-Pacific region after the Cold War, a reflection that our strategic horizons rapidly expanded beyond the maritime approaches to Europe when the Iron Curtain fell.

This was followed by a significant redistribution, not only of the RCN's floating assets from East to West, but the evolution of MARPAC from a former branch plant of the Cold War RCN into the fully-fledged formation that it is today. The fact that two submarines at steady-state will be operating as a norm out of Esquimalt and one out of Halifax should tell you something important about our priorities for these most strategic of fighting assets in the CAF arsenal.

More recently, our horizons have also stretched North and South, as the government has sought to play a more meaningful role in the Americas while also exerting a more persistent and sustained presence in Canada's Arctic. Part of that effort has included a redoubling of our drug interdiction efforts on both sides of the Panamanian isthmus in support of the Joint Interagency Task Force South – an effort for which the United States is very grateful as it redeploys assets towards the western Pacific.



Canadian warships docked at CFB Esquimalt, home of MARPAC, in Esquimalt, BC, 17 July 2005.



Credit: DND

Close-up of damage to HMCS Algonquin after a collision at sea with HMCS Protecteur, 30 August 2013.

None of this is without its challenges for the RCN, as we've entered into the most comprehensive period of peacetime renewal in our 103 year history. But both coastal formations are contributing together to achieve strategic effect for Canada on a global basis, a fact that I remind people by telling them that it's not terribly important where our ships are from. What matters is where they're at.

Nonetheless, the challenges of fleet renewal have caused us to evolve towards new pan-naval ways of thinking and organizing ourselves to achieve unity of effort in preparing, training and equipping combat-effective maritime forces for operations at home and abroad. While force generation remains a shared and equal responsibility for both coastal formations, the employment of RCN assets overseas is now the preserve of Commander MARLANT in his capacity as the CAF Maritime Component Commander, working directly for the Commander Joint Operations Command.

In relation to your question regarding trade, I would observe that few nations on earth have benefitted more than Canada from the current maritime legal order. It's in our national interest to preserve that order. That's why the RCN is one of the few navies in the world, regardless of size, which deploys globally on an ongoing basis to sustain good order at sea. That's why we will continue to do so in the decades to come.

Show me the money, the saying goes. Economics drive interest, and navies are all about economics, as the succession of the world's foremost military and economic powers over the last 400 years demonstrates so clearly. So, yes, the Asia-Pacific region really matters but no more so, perhaps, than the Indian Ocean or the Arctic Basin. They are all connected, geo-politically speaking, by the need for Canada to cooperate strategically with like-minded nations in defending the global system. In this

vein, greater levels of presence abroad equate to higher levels of influence for Canada. So it's important that we find ways of increasing our ability to deploy forward on a more persistent basis in regions of strategic interest to the government. The recent swap of HMCS *Toronto*'s crew in theatre is potentially a model for the future, but we'll also examine a number of other possibilities with our strategic partners.

CNR: On 30 August, HMCS *Algonquin* and HMCS *Protecteur* collided during a training exercise just as they were deploying to the western Pacific (WESTPLOY), resulting in the deployment's cancellation. What was the purpose of this deployment? What effect did the collision have on overall fleet readiness, especially considering *Halifax*-class modernization [HCM] is now in full swing, reducing the number of ships available in the fleet for some years to come? How are you addressing the RCN's ongoing training and operational commitments?

Admiral Norman: The decision to cancel WESTPLOY wasn't taken lightly. Over the next four months or so, the two ships were to take part in a significant effort to support the CAF's Global Engagement Strategy in the Asia-Pacific region, with visits to Brisbane, Sydney and Perth, Jakarta, Ho Chi Minh City, Shanghai, Incheon and Tokyo, as well as stops in Pearl Harbor both outbound and inbound. These visits would have served as a backdrop for ongoing diplomacy in the region, while the transits between ports would have allowed us to conduct training with regional navies, as well as to advance interoperability at the tactical and operational levels with our key defence partners in that part of the world.

We had long foreseen the need to carefully manage our approach to training and operational commitments during the prolonged period of *Halifax*-class modernization. We're meeting those commitments, in part because we've adapted our approach to training at the waterfront level. For example, Personnel Coordination Centres in the coastal formations have the ability to track fleet personnel at the level of the individual sailor so as to make best use of available bunks and sea-days to progress and consolidate training across the fleet as a whole. The recent crew swap of *Toronto* in theatre, which I mentioned earlier, is another such expedient.

Protecteur was back at sea the week after the collision, and by the time this interview is published, she will have completed a high-intensity task group exercise with the US Navy and elements of our Pacific fleet in the southern California operating areas. We also hope to have completed the detailed technical survey to permit us to develop the plan to return *Algonquin* to operational



HMCS Halifax, the first vessel to complete the FELEX refit, spends a weekend in May 2013 on the Halifax waterfront for Battle of the Atlantic commemorations.

service in the most expeditious manner. There's no doubt having *Algonquin* on the bench has reduced our flexibility somewhat. If readiness were like a gymnastics performance, our level of difficulty just went up. We can still get the job done, but it just got a little harder.

CNR: I understand the HCM project is going well. Could you give our readers an update?

Admiral Norman: Many folks don't appreciate just how extensively these ships are being modernized or how rapidly they are being moved through the modernization pipeline, but we're on track to modernize all 12 *Halifax*-class frigates by early 2018. Four of the ships have already been delivered back to the navy from Irving and Victoria Shipyards on the East and West Coasts respectively. The orchestration of this modernization activity involves just about the entirety of the RCN's waterfront organizations, including the fleets themselves and their training, logistics, engineering support organizations ashore, as well as our industry partners on both coasts.

Speaking of our partners, the success of this complex project is due in no small part to the innovative governance that was put into place to oversee its implementation. At the Steering Committee which I co-chair with my colleague John Turner [Associate Deputy Minister for Materiel], we meet regularly with the senior management teams of our industrial partners to identify and resolve issues. These are tough meetings, I can assure you, but ones that all participants approach with the openness and candour that produces trust, as well as results. I am hopeful that the HCM governance model can serve as an example as we move forward with the other elements of fleet renewal.

As to the frigates themselves, it isn't too much of a stretch to think about them as essentially new ships, with capabilities that will permit them to operate effectively in an increasingly networked joint and integrated battle space

– not just at sea, but also in a much more complex inshore littoral environment against a broader range of threats that are likely to emerge before these ships are eventually replaced by the Canadian Surface Combatant. The changes being implemented include: a new suite of above-water sensors and fire-control system, all knitted together through a new combat management system; update of the Bofors 57mm gun to the Mk III version to permit the use of programmable ammunition; a new suite of internal and external communications systems, including the fitting of an enhanced command and control package in four of the frigates to meet the needs of an embarked task group commander; new propulsion machinery control and a range of damage control upgrades; updates to various hull and machinery systems; improvements to upper deck arrangements; and revamped habitability in selected crew spaces.

CNR: Many of us were heartened with the announcement of the *Berlin*-class design selection. Yet it seems only two will be procured, even though the Parliamentary Budget Officer suggested a much-needed third AOR could be purchased for as little as \$125 million. Recognizing that this doesn't include attendant costs such as personnel, operations and maintenance, is that third AOR likely?

Admiral Norman: The government's recent decision to base the Joint Support Ship [JSS] design on the *Berlin*-class was an important moment in the RCN's ongoing fleet renewal as you observe. As you're aware, Canada will provide the *Berlin* design to Vancouver Shipyards to



HMCS Halifax post-FELEX now has stern flaps to save fuel.

review in preparation for actual production, as part of the project definition contract negotiated between Canada and the shipyard. The possibility of a third Joint Support Ship can only be examined once final build costs of the selected design can be fully assessed with confidence.

Work is proceeding apace on fleet renewal. The *Halifax*-class modernization is now at full speed as we've already discussed, and the National Shipbuilding Procurement Strategy [NSPS] is helping to propel forward all three of the RCN's major capital projects – the JSS, the Arctic and Offshore Patrol Ship [AOPS] and the Canadian Surface Combatant [CSC]. In this vein, we should reach two significant milestones later this year as the government prepares to consider, first, the sequencing by which Vancouver Shipyards is to build the JSS and the coast guard's Polar Icebreaker, and second, the procurement strategy to be adopted for the CSC project.

CNR: With Industry Canada and other departments potentially becoming more significant players in defence procurement under a 'best value' approach, has the navy's voice been weakened in the business of delivering ships to the fleet? As the customer, what key factors do you hope will guide NSPS as it unfolds?

Admiral Norman: The navy's 'voice' relates to the crucial role of establishing operational requirements, and

this has not diminished in any way. I also hasten to add that there are a lot of good people, across government and in industry, who are working as hard as they can to deliver on the government's plans for fleet renewal. But you raise a crucial point – the building of warships is an inherently complex national enterprise that involves a significant portion of the machinery of government and an entire sector of Canadian industry, into whose hands the RCN must quite literally place its entire future. Trust is essential to the success of this great enterprise, as is transparency, in balancing the tradeoffs between requirements, which the RCN owns, and the technical, cost and schedule risks that are inherent to any major procurement activity. So I am hopeful that NSPS will enable a trust-based approach to procurement, much as we've put in place to successfully manage the modernization of the frigates.

From the perspective of strategic outcomes, NSPS is more than a means of delivering on the government's plans for the RCN. For any technologically intensive war-fighting institution such as the RCN, agility at the strategic level is tied to the national industrial base. This means having the capacity for innovation and the ability to rapidly deliver technical solutions to complex but unforeseen operational requirements that assure future success for an uncertain and inherently unpredictable, but increasingly complex and inter-connected, world. In my mind, this



Not-yet commissioned combat store ship A1413 Bonn, third of the Berlin-class, arrives at Naval Base Wilhelmshaven after final sea trials, 29 August 2013.

is as important a strategic outcome as delivering on the future fleet itself.

CNR: There was a flurry of discussion a year ago about the possibility of the navy acquiring a humanitarian assistance and disaster relief vessel. Recently, though, nothing has been said. Is this concept dead in Canada?

Admiral Norman: The RCN is focused on the mission set that has been clearly articulated in CFDS [Canada First Defence Strategy] and is derived from the priorities set by the government of Canada. Discussion about significant new capability may come in due course. That said, within the limits of funding available to defence, we recognize the need to broaden the fleet's ability and flexibility to support operations ashore across a range of missions in relatively permissive environments, including humanitarian assistance and disaster relief. For example, as a complement to its primary role of supporting the combat logistics requirements of the task group, the JSS will be capable of delivering a limited amount of cargo ashore, and it will have the space and weight reserved to accommodate a modest joint task force headquarters for command and control of forces deployed ashore.

Capabilities of a similar incremental nature will also be examined for the remainder of the surface fleet. Among these could include the design of more flexible deck arrangements, the acquisition of larger and more versatile small craft, as well as the incorporation of sufficient reserved volume for stores and accommodations, coupled with sail-away joint mission modules such as an air/sea transportable medical/dental facility, as well as packages for military construction and environmental disaster response.

CNR: There's no mention of a submarine replacement within the NSPS. What is the long-range strategic plan for our submarine force? Will it include air independent propulsion or strengthening for the Arctic?

Admiral Norman: Dave, you'll appreciate that our efforts today are focused on the submarines we've got. HMCS *Victoria* is operational on the West Coast and available for a full range of missions at home and abroad. Having *Victoria* at sea is a force multiplier, as we're already seeing a difference in the quality of the anti-submarine warfare training of our surface and maritime air forces. On the East Coast, *Windsor* is advancing nicely through her technical readiness program towards operational status, notwithstanding the fact that she's due to go on the newly renovated Syncrolift later this year for a big job we didn't expect. *Chicoutimi* will be back in the water in the coming months, as the first boat to complete an extended

docking work period undertaken by Canadian industry through the Victoria In-Service Support Contract [VISSC]. Finally, *Corner Brook* is set to replace *Chicoutimi* in the VISSC deep maintenance pipeline.

We're looking now at potential deployment options for our submarines in the near and intermediate term, and we've also begun the engineering studies to examine the potential of extending the life of the *Victoria*-class as one of the truly strategic assets in the entire CAF arsenal. To be clear, when I describe our boats as strategic assets, I'm talking not about their replacement cost, but rather of the effects that Canada gains from having them in the inventory.



HMCS *Victoria* (SSK 876) leaves Joint Base Pearl Harbor-Hickam in Honolulu, Hawaii, on 16 July 2012, as it participates in the Rim of the Pacific (RIMPAC) 2012 combined and joint exercise near the Hawaiian Islands.

I think people intuitively understand the concept of taking and holding ground when it comes to land operations. At sea, there are only two ways for a nation to take and hold a given volume of water – on, above and below the sea – whether at home or abroad. It can fill that space with mines to *deny* it to others, or it can put a submarine in that space to *control* it. In fact, it's often good enough to claim that there's a submarine in the space you wish to control, whether or not it's actually there. That's because submarines are extremely difficult to detect, even by the most sophisticated navies, and they pack a lethal punch. Their presence – or more to the point, the mere suspicion that they are at sea – can profoundly alter decision-making in an entire theatre of operations, especially in deterring or dissuading a potential adversary during an unfolding crisis. In the event of conflict, they can also act decisively in naval combat, placing an adversary's maritime forces everywhere at risk in a given theatre of operations.



Credit: Master Corporal Holly Canning, Formation Imaging Services

HMCS *Summerside* (background) and Her Danish Majesty's Ship *Vaedderen* (foreground) sail in formation off the coast of Nuuk, Greenland, while conducting interoperability exercises during *Operation Nanook 13* on 6 August 2013.

It's for these reasons that increasingly sophisticated submarines, whose ability to dominate the maritime domain is not lost on nations either large or small, are being acquired around the world in great numbers, and especially among navies of the Indo-Pacific region. In short, submarines are the predominant weapon of the maritime environment and are likely to remain so for the next several decades.

CNR: Your predecessor went out of his way to make clear that the navy fully supports the AOPS. Yet one still hears lingering rumours of a possibility of turning them over to the Canadian Coast Guard. Will these vessels stay in the navy? What else is the navy planning for the Arctic?

Admiral Norman: At the most fundamental level, the navy's role in all three of Canada's ocean spaces, including the Arctic, is to assist the other members of the federal family to regulate our ocean approaches. This is what we do today, and have always done, in the Atlantic and Pacific approaches to Canada. The Arctic will be no different – our role will not change in northern latitudes. What's unique about the Arctic, however, are the extremes of climate, distance and austerity that make it a true frontier. What works well 100 nautical miles off Halifax or Esquimalt is not necessarily going to work in the middle of the Arctic Archipelago, even with Naval Station Nanisivik available as a forward operating base.

So that's why we need to go to the high North to figure out how we're going to operate persistently and safely in a place that remains highly unforgiving to the unprepared. We've begun that important process, alongside our other federal partners, as well as with select allies, through the auspices of the *Nanook* series of exercises spearheaded by Joint Task Force North.

As you're aware, the government recently awarded a major design contract for the AOPS, which should lead to the cutting of steel some time in 2015 and delivery of the first ship in 2018. That means we have our work really cut

out for us to prepare for the RCN's first operational patrol soon thereafter.

CNR: The USN has recently announced it intends to begin deploying more to the Arctic, the US Coast Guard has hinted at a division of labour in the Arctic, with the Americans taking the Western Arctic and Canada the East, and there's been mention of NORAD becoming more involved in Arctic surveillance. What is your sense of the potential to work with the Americans in the Arctic?

Admiral Norman: There's a great deal of strategic cooperation ongoing in the Arctic with the United States and other members of the Arctic Council, and certainly there's potential for more in the future. From an institutional perspective, northern issues are being systematically addressed through the Arctic Council. The recent signature of an Arctic Search and Rescue Treaty is a case in point. Canada is cooperating with the United States and Denmark to delineate the extent of our continental shelf and has also contributed to similar multinational efforts with Russia and Norway. Direct military cooperation is also evident in our recent military operations and exercises. For example, the United States and Denmark have in the past taken part in *Operation Nanook*, and we've been invited to observe the combined Royal Navy/USN ICEX in 2014.

CNR: Any last comments, Admiral?

Admiral Norman: Indeed, Dave. I started this interview by thanking the entire CNR team, and I would like to reiterate my gratitude for everything they do. CNR is the only peer-reviewed academic journal in Canada that covers naval defence and security issues and, along with *Broadsides*, is making substantive, policy-relevant and value-added contributions to the public debate of issues that matter greatly to the navy. BRAVO ZULU to CNR and its many contributors, past present and future!

CNR: Thank you Admiral for taking the time to talk to me. 🍷

Trying to Do Things Differently: Paul Hellyer's Quest for a Canadian Amphibious Capability¹

Peter Haydon



Credit: DND photo CFC66-11-3

The Honourable Paul Hellyer, Canada's Minister of National Defence, 1963-1967.

who wanted to do things differently. That exercise lasted for most of Hellyer's stormy tenure as Minister before fizzling out in 1967. It failed because political support was weak for such an expensive and radical shift in defence policy, a shift which also had implications on NATO commitments and continental defence.

The story begins in April 1963, when Lester Pearson's Liberal Party defeated the Progressive Conservative Party led by John Diefenbaker in a federal election. Angered by Diefenbaker's mismanagement of national security, Prime Minister Pearson initiated a defence review by a parliamentary committee headed by Maurice Sauvé. Hellyer's task as the new Defence Minister was to oversee a parallel internal review and to produce a new Defence White Paper. He set about this task with zeal. Not only did he want to have things done differently, he was convinced that "each service was preparing for a different kind of war."² He believed that bringing the three services together under centralized management and control would fix this problem and also result in savings in operating costs that could be diverted to capital programs. He also wanted to make his mark politically and establish himself as a potential leader of the Liberal Party.

Hellyer's in-house review was carried out for him by a group of senior military officers and civilians, under the leadership of Dr. R.J. Sutherland, who was told to look at alternative defence policies. Sutherland did as he had been asked and at the end of September 1963 produced a highly innovative report.³ Much of the underlying strategic rationale

of this study reflected his earlier analysis of Canada's strategic situation published in the summer of 1962.⁴

Sutherland's Study

Sutherland's study traveled through uncharted waters but still did not provide Hellyer with a way of solving the problems he saw in the defence structure. Rather, it offered a series of defence policy and force structure options ranging from status quo to completely changing the NATO mission.

One of the force structure options was built around changing Canada's NATO contribution from a deployed brigade group to a rapid reaction force based in Canada in the form of a 'triphibious' capability. This would be centred around an army brigade group with medium tanks and self-propelled artillery, supported by a tactical air wing of 30 vertical and/or short takeoff and landing (VSTOL) aircraft operating from two light aircraft carriers. There would also be a naval task group capable of anti-submarine warfare (ASW) with local area anti-aircraft defence and a limited anti-surface ship capability.



Credit: George Metcalf Archival Collection CWM 19920085-1005

The Canadian aircraft carrier HMCS Magnificent transported 240 vehicles, four aircraft, and 400 tons of equipment as part of Canada's contribution to the United Nations Emergency Force (UNEF) after the 1956 Suez Crisis.



USS *Iwo Jima* was the first amphibious assault ship designed and built as a dedicated helicopter carrier, capable of operating up to 20 helicopters.

The triphibious force was to be self-sufficient for 60 days and able to be in an operating area within 10 to 28 days, depending on the distance from Canada. There were some limitations in the face of a major threat but it was assumed that the force could carry out a landing against minor opposition within six to 48 hours of arriving in the theatre of operations. The cost of acquiring the necessary capabilities was estimated as \$1 billion (in 1963 dollars).

A cheaper variant was also proposed. This required the RCN to have several light ASW carriers each capable of carrying a battalion of troops and their vehicles. The major tactical difference was that instead of a mechanized brigade group, the land force would be a light brigade group without tanks and self-propelled artillery. This reflected the experience of deploying a Canadian peace-keeping force to Suez in 1957 using the carrier *Magnificent*.

Both options required a fleet train of cargo ships to keep the force sustained. Although the actual fighting force would be landed from navy vessels, the logistic support and reinforcement would be provided using commercial vessels. The lack, even then, of suitable Canadian-flagged merchant ships and the uncertainty of getting the necessary ships on charter led to the conclusion that to be tactically credible the force had to have its own dedicated sea lift.

For the first option, the full mechanized brigade, the study estimated that the sea lift to support the initial deployment would be: one fast troop ship with a capacity of 6,000 troops and 6,000 tons of cargo; one fast freighter able to carry 8,000 tons of stores; and two roll-on/roll-off (Ro/Ro) transports each capable of embarking 300-400 vehicles including 30 tanks. Follow-on forces and resupply in a European theatre of operations would need to arrive every 18-20 days. Naval forces to protect the resupply operation were not mentioned.

The triphibious force was to have a wide range of potential uses. It would be available to the NATO flanks in northern

Norway and the eastern Mediterranean. Alternatively, it could be used to support United Nations (UN) operations in ways not previously possible and with much tactical flexibility. It also had potential for use in other parts of the world should Canada wish to join a multinational force in situations similar to the Korean War. The force would also permit a more effective defence of Canada, particularly against hostile intrusions in remote areas – an established defence task for which the navy and the army already had joint contingency plans, which were exercised regularly but did not have dedicated forces or resources.⁵

Apparently, Hellyer was not impressed with the report; yet by his own admission he used much of it in writing the 1964 Defence White Paper.⁶ Despite all his earlier enthusiasm for change, this White Paper was not as bold as Sutherland's study in proposing change to defence policy. The White Paper established the need for strategic and operational flexibility within the NATO commitment with forces based in Canada. As well, it stated that the army would be re-equipped as a mobile force and that the CF would provide air and sea lift for its immediate deployment in an emergency.⁷

Parallel Naval Plans

Even before the White Paper was published, the RCN, which was in the midst of a force structuring crisis of its own making,⁸ embraced Sutherland's concepts of mobility and what we now call 'joint' operations. This action reflected naval strategic thinking and the belief that it would make Hellyer take interest in naval force planning, particularly the maintenance of the NATO commitment, which was a source of contention.

An ad hoc working group was formed in September 1963 to examine the size and shape of the navy over the next 5-10 years. The study was based on a series of strategic assumptions including the continuing need for a naval contribution to the mobile force concept by providing sea lift, logistic support and force protection for formations up to brigade group size.⁹ It was assumed that RCN forces



The Canadian aircraft carrier HMCS *Bonaventure* (CVL 22) at sea as viewed from the US Navy aircraft carrier USS *Essex* (CVS-9), 20 June 1961.

would be largely independent for self-defence and logistic support rather than integrated into NATO and/or US Navy formations.

Working under new budget ceilings (budget cuts were one of Hellyer's methods to bring the three services to heel), the working group came up with a force structure that gave priority to NATO and continental ASW missions but had the flexibility to meet the mobile force sea lift and support requirements. It was built around three task groups, two on the East Coast and one on the West. To get to this new structure a number of things had to happen:

- acquire two helicopter carriers (LPH) of the American *Iwo Jima*-class;
- re-equip the carrier *Bonaventure* with fighters, the US A4E was the main contender;
- increase *Sea King* ASW helicopter holdings, they could also be used to provide air lift and tactical mobility for the army;
- acquire effective air defence missiles and control systems;
- build a new class of air defence destroyers (they were careful to avoid the term *general purpose frigate* – a concept which Hellyer had already dismissed);
- create a mobile logistic force of an oiler and stores ships; and
- continue with the planned ASW modernization of the fleet to meet NATO and continental requirements.

The plan, submitted in January 1964, was rejected; it was far too ambitious and was not in step with Hellyer's strategic vision, let alone compatible with his ideas of fiscal management.

By the summer of 1964 yet another fleet study was underway. This one, also conducted by Sutherland, was to meet the 1964 White Paper's remit to "conduct a study to determine the best combination of weapons systems"¹⁰ for the ASW task. Sutherland's mandate was to seek ways of maximizing ASW capability, and in this he contrasted the capabilities of nuclear-powered submarines against those of ASW carriers, with their potential to support mobile land forces. He also looked at various destroyer and escort options. Under the constraints of the budget, the study had little room for innovation. In the end, Sutherland concluded that an ASW carrier provided the most flexibility but that the budget was insufficient to replace *Bonaventure* in the next 5-10 years. Nuclear submarines, while providing the best ASW capability, were low in flexibility. As a result, he recommended that the navy maintain its existing force structure but that a

new class of guided-missile destroyers be built and that maximum use be made of helicopters to increase operational flexibility. This study was also rejected by Hellyer. His dream of providing a uniquely Canadian defence force was foundering, and it began to look as if the RCN was caught without political support for either an ASW role or a major role in the army's new mobile force.

Not surprisingly, it wasn't long before another naval force structure study (the sixth since 1959) was undertaken. In response to a directive from Hellyer, the study was conducted in the autumn of 1964 by an ad hoc naval staff under the Chairmanship of Vice-Admiral K.L. Dyer, the Senior Naval Advisor in the new integrated headquarters structure. Naval requirements were again re-examined and recommendations were submitted to the Chief of Defence Staff and the Minister in October 1964.¹¹ The recommendations, which reflected the essence of the previous studies tempered with much-needed political realism in balancing NATO, continental and national defence requirements, were that:

- four new ASW destroyers be built;
- the seven *Restigouche*-class destroyers be modernized;
- *Bonaventure* be modernized and retained in service until 1975;
- an additional fleet support ship, like *Provider*, be built;
- eight new *Sea King* helicopters be acquired;
- a dedicated amphibious sea lift ship along the lines of a USN LPH be built;
- two more submarines be acquired for the West Coast; and
- 21 A4E fighters be acquired to provide fleet air defence, if funding became available.

The sea lift concept was simple: enough lift capability to move some 3,000 troops and their vehicles, except tanks, existed in *Bonaventure* and *Provider*. Adding another support ship and a dedicated sea lift ship (LPH) would increase the capability and add flexibility. Despite the lack of naval priority for sea lift, Hellyer accepted most of the recommendations.



HMCS *Calgary* (left) and HMCS *Iroquois* refuel from HMCS *Protecteur* in the Mediterranean Sea, 3 May 2008.

On 22 December 1964, Hellyer announced a new, five-year program for the Canadian Forces in which four DDH-280s would be built, the *Restigouche*-class destroyers modernized, HMCS *Rainbow* bought to replace *Grilse* on the West Coast, *Bonaventure* modernized, two new operational support ships, *Protecteur* and *Preserver*, built with added capability for sea lift, 12 new Sea Kings acquired, and the Tracker ASW aircraft upgraded. After a painful struggle to get Hellyer to accept a naval program, this was a major step in the right direction. However, it came at a price; the old WWII destroyers and frigates would not be replaced beyond the four new destroyers and the Canadian commitment to NATO was lowered accordingly. The rationale used to explain the cuts to NATO was that new and modernized ships and increased use of shipborne helicopters provided the same, if not greater, ASW capability as the obsolete vessels. An underlying reason for getting rid of the WWII ships was that with the new ships, there would not be enough people to maintain the level of commitment. But that was not the end of the saga.

The Final Act

In January 1966 a new Defence Planning Guidance was presented to the Defence Council (the body to which Hellyer went for military advice). It included a section on strategic mobility but because of budget constraints accepted that the mix of the carrier and the new support ships was the realistic limit of in-house sea lift. Ironically, Hellyer's subsequent planning guidelines, issued that March, stated that planning for the replacement of *Bonaventure* would not be undertaken in the next five years.

Then in November 1966, the Chief of the Defence Staff, General Jean V. Allard, ordered yet another review of the RCN's force structure and flexibility with a requirement to look specifically at:

- the nature of the submarine threat;
- the need for ocean surveillance systems;
- the comparative performance of various ASW platforms;
- longer-term maritime aircraft requirements; and
- limited war and related sea lift requirements including the need to replace *Bonaventure*, the relative merits of commercial versus military sea lift ships, and the use of ASW helicopters in army support roles.¹²

The CFHQ staff was not asked to look at anything that had not already been extensively studied in the preceding three years. However, Sutherland's earlier study of maritime systems had left several important issues unresolved, including the need for nuclear-powered submarines, and so a new study was not without rationale.

The review was completed at the end of January 1967.¹³ The conclusions were a comprehensive shopping list of naval equipment needed to keep the fleet effective. The discussion of sea lift was brief and the conclusion was that no definitive recommendations could be made without first knowing exactly what had to be lifted and supported and under what tactical conditions. The review re-emphasized that the sea lift capability inherent in the carrier and the fleet support ships was enough to look after a light battalion group. The strategic limitations to this concept were emphasized, particularly that using *Bonaventure* in a sea lift role would require the removal of ASW capability. Also, the availability of ships could not be guaranteed because they had other commitments especially to NATO. Finally, it was explained that such a force would need protection from submarine and air threats, and that this requirement would also be subject to availability as a result of other tasking.

Allard realized that the study was deficient because it had not been carried out with the full involvement of Mari-

time Command. In March 1967, he wrote to the Maritime Commander, Rear-Admiral J.C. O'Brien, asking him to provide his assessment of the overall effectiveness of the navy.¹⁴ Predictably, O'Brien's reply was that his aim was that "Maritime Command will have balanced forces, which will be able to make an adequate contribution to the Defence of Canada, North American Defence, to NATO, and in peacekeeping operations to sustain Canada's credit in the world community." The force formed, he continued, "will be responsive to the roles of the Canadian Forces as a whole, able to support Mobile Command in any overseas endeavour and in the counter-lodgement role." In this, O'Brien made it clear that by maintaining a balanced fleet with adequate fighting capabilities, he would be able to move and support a land force as well as do many other things. In his opinion, dedicated sea lift was unnecessary provided the fleet was correctly structured. His letter contained one paragraph that re-stated the advice on both aircraft carriers and air defence consistently given to the government over the past five years:

I have stated the preferred large ship options as the procurement of 2 LHA type ships. I must, however, state that if local air superiority cannot be guaranteed that my option must be the procurement of two attack carriers in lieu of the LHAs. I realize that this is an expensive proposition but I believe that adequate offensive and defensive air is essential to any military operation.¹⁵

While such advice made absolute military sense, it made little political sense and was thus largely ignored. To Hellyer, the consistency of the naval advice probably seemed like a challenge to his call for innovative thinking. Moreover, his earlier experiences with the senior naval community probably clouded the issue. Anyway, little more was said about dedicated sea lift. The assumption that enough contingency sea lift already existed within the fleet structure seemed to prevail. To prove the point, several joint exercises were carried out under that premise. However, the focus of those exercises was more on small-scale operations than the grander concept of a self-sufficient Canadian brigade group available for UN operations first envisaged by Hellyer. Perhaps it was an impossible dream after all. More importantly, Cabinet was not ready to embrace the concept.

Conclusion

A great deal of effort was expended in trying to provide Hellyer with a naval policy that included his vision of a uniquely Canadian rapid reaction force but to no avail. Yet, in a relatively short space of time, Canadian naval policy was again under review, and Hellyer's dream of a

UN force ended. He was replaced as Defence Minister in September 1967. In his wake he left many problems that the new Minister, Leo Cadieux, and a new government under Pierre Elliot Trudeau would have to sort out. In his rush to unify the Canadian military and bring it under centralized control and management, Hellyer had made many enemies and, more significantly, had not endeared himself to his colleagues in the Liberal Party.

If there is a moral to this story it is that making radical changes in defence policy is risky business which sometimes has adverse consequences. Defence Ministers don't necessarily make the decisions, Cabinet does. And in that body today, the Foreign Minister generally has greater influence (subject to fiscal concurrence). So, before embarking on a major change in the military's capabilities it is important to ensure that it is demonstrably responsive to Canadian foreign policy objectives and that the politicians are firmly on side. 🍷

Notes

1. This is an updated and revised version of a paper published in 2000 in *Maritime Adairs*.
2. Paul Hellyer, *Damn the Torpedoes: My Fight to Unify Canada's Armed Forces* (Toronto: McClelland & Stewart, 1990), pp. 33-34.
3. Ad Hoc Committee on Defence Policy, "Report of the Ad Hoc Committee on Defence Policy," 30 September 1963, DND Directorate of History and Heritage (DHH) File No. 73/1223.
4. R.J. Sutherland, "Canada's Long Term Strategic Situation," *International Journal*, Vol. 18, No. 3 (Summer 1962), pp. 199-223.
5. See Ken Reynolds, "Blueland versus Orangeland: Exercise Mohawk, April 1964," *Canadian Naval Review*, Vol. 2, No. 2 (Summer 2006), pp. 20-24.
6. Hellyer, *Damn the Torpedoes*, p. 34.
7. Canada, *White Paper on Defence* (Ottawa: Queen's Printer, March 1964), p. 24.
8. See Peter Haydon, "Vice-Admiral Herbert S. Rayner: The Last Chief of the Canadian Naval Staff," in Michael Whitby, Richard H. Gimblett and Peter Haydon (eds), *The Admirals: Canada's Senior Naval Leadership in the Twentieth Century* (Toronto: Dundurn Press, 2006), pp. 247-274.
9. Ad Hoc Working Group on Naval Programmes, "Report of the Ad Hoc Working Group on Naval Programmes" (Burchell Study), 6 January 1964, DHH File (Naval Plans) 124.019 (D1), Part I, para 3(c). The previous studies were conducted by Commodore Boulton in March 1959 and the Brock Report of 1961. The actual assumption was a brigade on the East Coast and a battalion on the West Coast.
10. 1964 *White Paper on Defence*, p. 15.
11. The memo (S 3135-2 of 23 October 1964) forwarding the study to Hellyer was signed by Air Chief Marshall F.R. Miller and contained the statement "in a memorandum dated 2 September, 1964, you indicated that it is important that the principal programme elements of the Maritime Forces be considered at an early date and requested specific recommendations and options." From DHH file 73/1223 No. 382.
12. Memo from CDS to VCDS of 17 November 1966. From RG 24, Acc 1987-88/200 File S-MARC: 3240-1 Pt. 1.
13. *Study of Maritime System Flexibility* (V-3240-6 (DGMF)) of 31 January 1967. From RG 24, Acc 1987-88/200 File S-MARC: 3240-1 Pt. 1.
14. Letter from CDS to Commander, Maritime Command (V 3240-6 (DMFORS)) of 30 March 1967. From RG 24, Acc 1987-88/200 File S-MARC: 3240-1 Pt. 1.
15. Letter from Commander Maritime Command to CDS (MARC: 3240-1) of 18 September 1967. From RG 24, Acc 1987-88/200 File S-MARC: 3240-1 Pt. 1, para 5.

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Escale à Cherbourg: The French Approach to Maritime Security

Commander Hugues Canuel

In the post-Cold War era there has been a very rapid evolution of the concept of maritime security. This phenomenon was precipitated by a wide array of factors, ranging from new technologies facilitating access to natural resources found at ever-greater depths and further distances from the coastlines, to a more extensive legal regime under the United Nations Convention on the Law of the Sea (UNCLOS), to the growth of terrorist threats since the dramatic events of 9/11. Despite the commonality of these concerns for coastal states around the world, national approaches to facing such challenges vary considerably. These distinctions arise as much from inescapable factors such as geography – extent of the coastlines, overlapping Economic Exclusive Zones (EEZs), for example – as from deliberate choices arising from a given political heritage – the primacy (or not) of the military over security issues, a tradition of cooperation or competition between government agencies, to mention but a few.

Successive Canadian governments have sought to renew the maritime security regime implemented off Canada's

coasts, but much remains to be done and there is a climate of increasing fiscal constraint. No single construct can address the needs of every state but much can be gained from observing and contrasting different national models to draw inspiration that may contribute to one's own policy. We can all learn from the experiences of other coastal states. I recently toured the French naval base of Cherbourg on the Channel coast.¹ During my visit I had the opportunity to discuss France's maritime security policy with local officials, and it is worthy of some consideration as it diverges in many ways from the Canadian tradition and has been the object of little study in North American circles. The pivotal role of the maritime prefect (*le préfet maritime*) is of particular interest, given the long history of the position and continued relevance in the French context. Before tackling such contemporary issues, however, let me provide a short overview of Cherbourg as a naval base, seat of the maritime prefecture tasked with overseeing maritime security along France's Channel and North Sea coasts.

Cherbourg: A Maritime Tradition

Located at the northern tip of the Cotentin Peninsula, jutting into the channel between the Normandy beaches and the rugged cliffs of Brittany, the city of Cherbourg-Octeville (since the fusion of these two communities in 2000) has a long military and maritime tradition. Fortified by the Romans, a *place forte* throughout the Hundred Years War, its potential as a dagger aimed at England's jugular was recognized in the 17th century by France's foremost military engineer Marquis de Vauban. He proposed to Louis XIV the expansion of the city limits and turning its small fishing port into an important naval base that would be located closer to *la perfide Albion* (in other words, the treacherous British) than Brest and Rochefort but not as easily blockaded as Calais or Dunkirk.² Although this initial proposal did not come to fruition and the lack of a suitable transportation infrastructure inland long prevented Cherbourg from developing into a commercial hub, this project was taken up again under Napoleon Bonaparte.³ The



Credit: Hugues Canuel

View of the Musée de la Libération, 3 August 2013.

port was steadily expanded throughout the 19th century until it accommodated the largest artificial harbour in the world and one of the most important dockyards of the *Marine nationale*.⁴

Cherbourg retained maritime prominence well into the 20th century, including as a major stop for trans-Atlantic liners due to its very large and well-sheltered anchorage.⁵ It constituted an objective of strategic importance for the Allies after they landed in Normandy in early June 1944, seeking to secure a deepwater port to sustain the forces engaged in the liberation of Europe. The German garrison did not surrender until 26 June 1944 and used its last weeks to wreck the harbour infrastructure, but US engineers were able to make sufficient repairs for the port to resume operations in mid-August. The dockyard itself had also been severely damaged, both by Allied bombings and the retreating Germans, but did not benefit from the same attention. Repairs were slow under the fiscal constraints of the post-war years and the naval base never regained its earlier status as French fleet assets were eventually consolidated in Brest, on the Atlantic coast, and Toulon on the Mediterranean. Nevertheless, the *Marine nationale* retained Cherbourg as a secondary base which remains in operation today as an important link in France's maritime security network, specifically as the seat of one of the three maritime prefectures.

A brief tour of the *port militaire de Cherbourg* illustrates a bewildering array of commercial and state-subsidized enterprises hosted within the confines of the base. The drawdown of the naval presence in Cherbourg has led to some innovative solutions, such as renting to various privately-owned businesses several hangars and workshops arrayed around the 10 dry docks and two deepwater basins that are still found within the dockyard. More striking, however, is the scale of the facilities that have been transferred to *Le groupe DCNS*, the formerly state-owned but now privatized shipbuilding conglomerate. DCNS's Cherbourg operations continue the long involvement of the dockyard in submarine construction dating as far back as 1898. Today, this facility builds all French nuclear-powered submersibles, both the ballistic-missile carriers of *Le Triomphant*-class and the *Barracuda*-class attack boats to be operated by the French Navy, as well as the diesel-electric *Scorpène* designed specifically for export.⁶

Also puzzling is the mix of navy-crewed patrol boats and other law-enforcement vessels with seemingly overlapping duties and responsibilities berthed within the base. The *Marine nationale* no longer maintains fleet units in Cherbourg but three *patrouilleurs de service public*



View of Cherbourg circa 1944.

(Public Service Patrol (PSP)) boats,⁷ owned and operated by the French Navy, are found alongside crafts of similar design and purpose that belong both to the *Gendarmerie maritime* and the *Armées maritimes*. The largest vessel which calls Cherbourg its home port is a commercially-operated high seas salvage tug, *Abeille Liberté*, chartered on a full-time basis by the French government. Officially designated as a *Remorqueur d'Intervention, d'Assistance et de Sauvetage* (Intervention, Assistance and Rescue Tug (RIAS)), her primary mission is to intervene whenever a large commercial vessel transiting through the Channel is at risk of foundering off the French coast as a result of a mechanical breakdown or heavy weather. Purpose-built for this mission, the *Abeille Liberté* (and her sister-ship *Abeille Bourbon*, based in Brest) is also fitted as a fire ship, carries equipment to contain oil spills, could embark up to 300 survivors for a short transit to a French port and can even maintain a pressurized 'citadel' if chemicals or other deadly fumes were released by a distressed ship.⁸

Keeping such a leased capability available year-round at one-hour notice to sail represents a tremendous investment of public money but is deemed worthwhile by French authorities. They believe this because of the costs incurred following disastrous oil spills in the wake of maritime accidents in European waters, for example incidents relating to *Torrey Canyon* (1967), *Amoco Cadiz* (1978), *Erika*



Téméraire (S617) is a *Triomphant*-class ballistic missile submarine of the French Navy, launched in January 1998, and commissioned in December 1999.

(1999) and *Prestige* (2002). *Abeille Liberté* displays on her sides the same markings as those found on the French Navy's PSPs as well as the patrol boats of the *Armées maritimes* and the *Gendarmerie maritime*. The distinctively oblique blue, white and red stripes mark those ships *affectés à l'action de l'État en mer* (carrying out the action of the state at sea), whether they are naval units, patrol boats from law enforcement agencies or vessels leased from the commercial sector.⁹ This again underlines the eclectic mix of agencies tasked with these responsibilities, leaving one to mull over the direction and coordination of such a myriad of assets.

The Maritime Prefect: A French Concept

The role of the *préfet maritime* is key to the direction and coordination of maritime assets. The notion of a *préfet maritime* goes back to the *ancien régime* and evolved through the Napoleonic era to today's Fifth Republic,

explaining the many legacies found in the contemporary approach to maritime security. In 1689, Secretary of State for the Navy Jean-Baptiste Colbert created the post of *intendants de marine* for civilian representatives to administer the navy's dockyards and bases, leaving the operations of the ships and the fleet to naval officers. A successor, Comte de Choiseul, instituted in 1765 the position of *commandant du port*, assigned to the Admirals stationed in given locations to oversee the bases and their sailors as well as naval operations. This limited the authority of the civilian *intendants* to the actual dockyards and their assigned shipbuilding and maintenance work but both authorities reported independently to Paris. This awkward arrangement came to an end under Napoleon Bonaparte. He built upon the concept of the geographical departments instituted in the wake of the French Revolution whereby a single figure was made responsible for all aspects of the central government's action (with the exception of military matters) within a given area, the *préfet de département*. As First Consul in 1800, Bonaparte appointed maritime prefects to discharge these duties off the coasts of France, superseding the *intendant* and the *commandant du port*, assuming both military and civil responsibilities as serving naval officers, unlike the departmental prefects provided by the civil service.¹⁰

This fundamental intent is preserved today in that the maritime prefects are still serving naval officers of the Rear- or Vice-Admiral rank who are responsible for the



Cormoran (P677), a French navy Public Service Patrol Boat, operates from Cherbourg, France. It is one of three *Flamant*-class OPV54 patrol boats used for fishery monitoring, search and rescue, and patrolling France's EEZ out to 200 nm. It is seen here at Brest, 23 May 2006.

full range of maritime security issues within their assigned area of operations. In other words, they lead the *action de l'État en mer* as their responsibility cuts across ministerial and state agency silos. Formally assigned military and civil duties, maritime prefects are not appointed by the Ministry of Defence but by the Prime Minister upon whose direct authority they act. Granted a wide range of police and other legal powers, they also represent each of the Ministers who exercise competencies in the maritime realm. This complex web was presented in a 2007 decree as encompassing the following 10 domains of responsibility:

- sovereignty and protection of national interests;
- safeguard of lives and goods at sea;
- maritime security;
- protection of the environment;
- management of protected areas;
- maritime safety;
- sanitary control and working conditions at sea;
- management of the marine heritage;
- policing custom duties at sea; and
- fighting illicit maritime activities.¹¹

Assets required to discharge this considerable range of duties are provided by specific government departments and agencies. In that sense, the prefectures do not own or generate sea-going assets but rather direct and control the means put at their disposal by the following organizations:

- *Marine nationale* (French Navy);
- *Affaires maritimes* (enforcement of merchant marine, fisheries and recreation boating regulations);
- *Société Nationale des Sauvetage en Mer* (National Society for Rescue at Sea, an association of volunteer rescuers similar to the Canadian Coast Guard Auxiliary);
- *Douane* (customs service);
- *Gendarmerie maritime* (a division of the national gendarmerie dedicated to police action at sea); and
- *Direction générale de la sécurité civile et de la gestion des crises* (similar to Public Safety Canada).¹²

French *Centres régionaux opérationnels de surveillance et de sauvetage* (Maritime Rescue Coordination Centres (CROSS)) constitute another potent example of the inter-departmental and inter-agency effort led by maritime prefects. Blending roles similar to those handled separately in Canada by the Joint Rescue Coordination Centres (JRCC) and the Marine Security Operations Centres (MSOC), the French entities are the responsibility

of the *Ministère de l'Écologie, du Développement durable et de l'Énergie* (Ministry of Ecology, Durable Development and Energy), are administered by *Affaires maritimes*, and are manned by personnel from the ministry and the French Navy. Nevertheless, their operational activities are directed by the local maritime prefect, providing the latter not only with the ability to command search and rescue activities but also the capacity to develop larger maritime domain awareness.¹³ In the case of the Cherbourg prefecture, two such centres exist, CROSS Gris-Nez for the zone between the Belgian border and Cap d'Antifer (near Le Havre), and CROSS Jobourg going further westward to Mont-Saint-Michel, at the base of the Brittany peninsula.¹⁴



Abeille Liberté arrives at Cherbourg.

French Direction vs Canadian Support: The Contrast

The level of formal authority granted to French maritime prefects over the assets provided by other government departments is unique and contrasts with the Canadian model. Their closest equivalent would be the Commanders of Joint Task Force Atlantic (CJTFA) and Pacific (CJTFP). Although Canadian Armed Forces entities, these organizations are closely involved in maritime security issues and their whole-of-government responsibilities reflect in many ways those of the maritime prefects, ranging from sovereignty and defence missions to the enforcement of federal regulations at sea. Both Rear-Admirals, the authority of the commanders over allocated military assets – ships, aircraft or troops, as their respective area of responsibility ranges over coastal and offshore waters as well as vast inland zones – is undisputed. Canadian JRCCs and MSOCs are manned by personnel from a variety of federal government bodies, thus showing their cross-departmental and inter-agency nature. However, other than for sovereignty and search and rescue missions, the

mandate of such joint task forces is to support the action of other government departments and federal agencies, not to lead them.

Military assets are frequently tasked on such domestic missions in the maritime realm, providing capabilities ranging from surveillance to transport to armed support of last resort, but this is done upon request from another department or agency. Ships and aircraft thus become platforms supporting these authorities. For example, they may carry representatives of Fisheries and Oceans Canada for the enforcement of fishery regulations and other environment legislation during routine patrols. Members of the Canada Border Services Agency and/or the Royal Canadian Mounted Police can also be embarked for specific operations targeting drug traffickers, illegal immigrant smugglers and a range of other illicit activities taking place in Canadian territorial waters, its Economic Exclusive Zone and beyond under international agreements. The fact remains that Commanders JTFA and JTFP will not order or command such operations but coordinate the provision of the support required for mission success.

This coordination and support function underlines the absence of a central authority tasked with directing the full realm of maritime security responsibilities off Canada's shores, unlike that found in France in the person of the maritime prefect. Admittedly, such centralization does not fit easily into the Canadian model. One may doubt the prospects of a proposal suggesting the appointment of military officers to direct the action of civilian law enforcement assets and serve as representatives of federal Ministers such as Public Safety or Justice. It should be



This map illustrates the location of French Maritime Rescue Coordination Centres (CROSS).



Jonquille (P721) is a 98-tonne patrol boat of the Gendarmerie Maritime.

noted that the powers of the prefect are not undisputed in France itself. Senior civil servants and officials from the other ministries oftentimes, behind closed doors, question the authority and competency of naval officers to discharge duties that are largely non-military in nature.¹⁵

Despite the differences between Canada and France, elements of the French approach, more particularly the implementation of a single, whole-of-government authority figure to direct cross-departmental operations off Canadian shores, may provide a useful departure point in seeking to improve Canada's ability to grapple with the challenges of maritime security in the 21st century. 🇫🇷

Notes

1. This visit took place as part of my doctoral research. The talks with French officials referred to here were thus conducted in my guise as PhD candidate at the Royal Military College of Canada rather than as a representative of the Royal Canadian Navy.
2. Étienne Taillemite, "Un conflit Vauban-Louvois," *Histoire, Économie et Société*, Vol. 15, Issue 1 (March 1996), pp. 113-115.
3. Philippe Masson, *Histoire de la Marine*, Tome I: *L'Ère de la voile* (Paris: Charles Lavoiselle, 1992), pp. 382-383.
4. Carole Espinosa, *L'Armée et la ville en France, 1815-1870* (Paris: L'Harmattan, 2008), pp. 110-111; and Yves Murie, *La Digue qui a fait Cherbourg* (Cherbourg: Isoète, 2007).
5. *Titanic* stopped in Cherbourg on 10 April 1912 to embark 274 passengers before setting on her maiden ocean crossing.
6. DCNS, *Produits et services*, available at <http://fr.dcnsgroup.com/naval/produits>.
7. These are the PSP *Flamant*, *Cormoran* and *Pluvier*, also referred to as the OPV 54 type. See Marine nationale, *Liste des bâtiments de combat de la Marine nationale par unité*.
8. Gilbert Hurel, *Abeille Liberté – La vie à bord d'un remorqueur d'assistance* (Saint-Lo: Aquarelles, 2012).
9. Marine nationale, *Sauvegarde maritime et action de l'État en mer*.
10. Gérard Olivier, "Les préfets maritimes sous l'Empire," *Revue de l'Institut Napoléon*, Issue 132 (1976), pp. 3-19; and Préfet maritime de la Manche et de la mer du Nord, *Historique*, available at www.premar-manche.gouv.fr/historique.html.
11. Préfet maritime de la Manche et de la mer du Nord, *Les missions*, available at www.premar-manche.gouv.fr/missions.html.
12. Préfet maritime de la Manche et de la mer du Nord, *Organisation*, available at www.premar-manche.gouv.fr/organisation.html.
13. Ministère de l'Écologie, du Développement durable et de l'Énergie, *Les CROSS (Centres régionaux opérationnels de surveillance et de sauvetage)*, available at www.developpement-durable.gouv.fr/Les-missions-des-CROSS-Centres.html.
14. Net Marine, *Les CROSS*, available at www.netmarine.net/g/dossiers/semaphore-manche/cross.htm.
15. Author's discussion with French defence officials, Cherbourg, 1 August 2013.

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Industrial Participation Planning

Janet Thorsteinson

The 2013 Federal Budget (or Economic Action Plan as budgets are now called) filled in some of the foundations under Canadian defence procurement. Major investments in Canada's Armed Forces, it stated, represent a "unique – once in a century – opportunity" to create jobs and economic growth while enhancing Canada's ability to protect its sovereignty.¹

The defence spending called for under the 2008 Canada First Defence Strategy (CFDS) is an economic opportunity of unprecedented scale. The 2011 budget had a commitment to create a procurement strategy to optimize the benefits of that spending and a study under Tom Jenkins, Executive Chairman and Chief Strategy Officer of Open-Text Corporation, was commissioned to explore how best to achieve that end. Mr. Jenkins reported back to the government in February 2013 that CFDS procurements "represent the potential for very substantial long-term economic benefit for Canada."²

Industrial and Regional Benefits (IRBs) are the conventional means of directing defence spending to Canadian companies, but the Jenkins Report states that they may have reached the limits of their value. As the report notes, "[t]he policy's 'market-driven' approach – in which the selection of IRB activities is at the sole discretion of the prime contractor – may have been appropriate at its inception in the 1980s when a dollar spent anywhere, irrespective of the nature of the activity being supported, helped to create needed jobs." Today, the report continues, the *quality* rather than the *quantity* of job opportunities "is a more significant public policy challenge."³

In fact, how to direct spending so that it purchases the best equipment for the military *and* benefits the development of the defence industry has always been a critical and unanswered question. The answer to that question might be contained in a single sentence in the 2013 budget. The sentence states that the government "will ensure that all major procurements include a plan for participation by Canadian industry, prior to approving the project."

Industrial participation planning goes to the heart of building and sustaining a viable and vibrant Canadian defence industry. As a medium power operating in a restrained budgetary environment, Canadian investments in defence equipment must be focused and strategic. The National Shipbuilding Procurement Strategy (NSPS) has the ability to revitalize one sector – shipbuilding – and sustain another one – marine industries. The NSPS in



Halifax Shipyard viewed from the Macdonald Bridge, Halifax Regional Municipality, Nova Scotia, Canada, 7 July 2013.

fact has always been a project with multiple goals. This was articulated in July 2013 by the Honourable Rona Ambrose, who at the time was Minister of Public Works and Government Services Canada, when she said that the government had "created the National Shipbuilding Procurement Strategy to end the boom and bust cycle in Canadian shipbuilding, to deliver much-needed equipment to the Royal Canadian Navy and Canadian Coast Guard, and to support the Canadian economy by building ships right here in Canada."⁴

The NSPS represents \$33 billion in spending, and the plan is that this will result in jobs and economic growth in Canada, stability for the shipbuilding industry, and new equipment for the Royal Canadian Navy and Canadian Coast Guard. Both designated shipyards under the strategy – Vancouver Shipyards Co. Ltd. in British Columbia and Irving Shipbuilding Inc. in Nova Scotia – are upgrading their facilities and meeting with potential suppliers to build the supply chains that will feed equipment and material into their shipyards. The Canadian Association of Defence and Security Industries estimates that over the next 30 years, 15,000 direct and indirect jobs could result from NSPS projects, involving skilled work in many sectors including steel manufacturing, information technology and defence systems.⁵

Canadian industry is more than capable of meeting the challenge of equipping the new government fleet. According to the global consulting group KPMG, “Canada has the world’s fifth largest A&D [Aerospace and Defence] sector, with over 500 companies generating combined revenues of in excess of \$22 billion.”⁶ Almost three-quarters (73%) of the aerospace and defence output is exported, primarily to the United States and Europe, but with increasing exports to emerging markets. Clearly, Canada has already demonstrated its ability to compete in a global market place. The 2012 study “Competitive Alternatives,” also by KPMG, showed that Canada ranked just below the Netherlands as “the second lowest operating cost environment for aircraft parts manufacturing among the nine mature markets included in the study.”⁷

Having said all this, pressure is building on the federal government to demonstrate progress. “The procurement of helicopters and ships for the Navy is in a mess,” wrote historian J.L. Granatstein in August 2013.⁸ The acquisition of new maritime helicopters has been a long and rocky road. As well, while the NSPS that laid out the government’s plans looked impressive when it was a \$33 billion political announcement in October 2011 – the announcement drew cheers in Nova Scotia and British Columbia – two years later, it has not delivered anything.

In her Plain Talk column in these pages last year, Sharon Hobson wrote that there is a large gap between announcing a process and delivering an actual ship. But, as she said, “[t]hat hasn’t stopped the Conservative government in the meantime from claiming all the political credit, while leaving the bureaucrats to clean up the details.”⁹

Industrial participation planning is more than a detail; it remains to be defined, designed and implemented. The answers to the questions about industrial participation are critical to the growth of the Canadian defence industry. The NSPS did not end competition in the procurement of government vessels but may rather have added another layer of complexity in the selection of supplier companies and sub-contractors. With all respect to the shipbuilders, there are many decisions to be made in the years and decades ahead that properly belong in a larger forum. To what extent does the government retain the right to specify equipment for the government fleet? Will major systems and sub-systems for the vessels be put out for competition? If so, who will run the competitions? If there is a ‘Canadian premium’ to be paid for an industrial process, a component or a sub-system, what is the mechanism that will make that decision?

If the federal government is intent on reforming defence procurement now, then the NSPS represents a considerable



The Honourable Rona Ambrose addresses workers at HMC Dockyard, Canadian Forces Base Halifax, July 2012.

opportunity, a major part of what the government itself calls a once in a century opportunity. In the words of the Jenkins Report, “there must be clearly accountable leadership of a joined-up effort across government departments and agencies and in collaboration with industry, with clear goals, measurement and evaluation.” The moment to seize the opportunity is now, and industrial participation planning is the means. 🍷

Notes

1. Federal Budget 2013 (Economic Action Plan 2013), p. 107.
2. Tom Jenkins, Chair, “Canada First: Leveraging Defence Procurement Through Key Industrial Capabilities,” Report of the Special Advisor to the Minister of Public Works and Government Services, February 2013, p. ix.
3. *Ibid.*, p. 16.
4. Rona Ambrose quoted in “Canada Taps KPMG as Outside Expert on Defense Shipbuilding,” *Business News*, 16 July 2013.
5. See *ibid.*
6. KPMG, “Canada Aerospace and Defense M&A Update: Set for Take Off,” 2012.
7. KPMG, “Competitive Alternatives: KPMG’s Guide to International Business Location Costs,” 2012.
8. J.L. Granatstein, “A Nation in Need of a 21st Century Navy,” *Edmonton Journal*, 17 August 2013.
9. Sharon Hobson, “Design Flaw: The Long Path from NSPS to Ships,” *Canadian Naval Review*, Vol. 8, No. 2 (Summer 2012).

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Making Waves

Is it a Pacific Pivot or a Canadian Presence in the Pacific Rim?

Brian Wentzell

In the Summer 2013 issue of *Canadian Naval Review* (Vol. 9, No. 2), Dr. Eric Lerhe discusses the Royal Canadian Navy's (RCN) current 'Three Ocean' posture and points out the constraints imposed by historic international political affiliations, naval resource limitations and the requirements created through new Canadian international trade and political aspirations. Considering the current composition and distribution of the RCN's fleet, the navy has little flexibility to address the government's desire to improve Canada's status with key Asian and other Pacific Rim trade partners.

The early years of this century demonstrate that navies have three potential roles: presence, power projection and sea control. The RCN lacks the offensive systems to undertake the power projection role in the absence of participation by the US Navy, the Royal Navy, or the French Navy. Canada's navy does have some capacity to conduct sea control operations with allies or coalition

partners and currently does so, in a limited sense, in the north Indian Ocean/Persian Gulf areas (*Operation Artemis*) and the Caribbean Sea (*Operation Caribbean*). The RCN has the resources to conduct presence operations such as port visits, small training exercises and attendance at ceremonial events.

Other navies have similar challenges and have developed interesting means to overcome them. One solution, adopted by the Japanese Maritime Self-Defense Force and the Chinese People's Liberation Army Navy is the world naval cadet training cruise. Typically, these navies assemble a squadron of two or three ships, one of which is a dedicated training vessel and the others are destroyers or frigates carrying naval cadets and midshipmen to expand their naval experience.

In the 1950s the RCN employed the cruisers HMC Ships *Quebec* and *Ontario* as cadet training ships, in the 1960s seven *Prestonian*-class frigates, and in the 1970s and 1980s the four *MacKenzie*-class destroyer escorts were similarly utilized. These ships are long gone. However, other states continue the practice. The cruises provide presence in regions of the world where the navies concerned are not usually seen. The visiting crews and cadets meet host country sailors and people. There are opportunities for confidence-building discussions and exercises with host state navies in passage at sea routines, search and rescue procedures and the like.

Canada can achieve the same results as the Chinese and Japanese. The RCN has the three *Iroquois*-class destroyers, one of which when not employed as a command ship or under refit could be used to conduct cadet training in the Pacific Ocean area. The ship, relocated from Halifax to Esquimalt, could conduct an annual Pacific Rim cruise with midshipmen. The trainees would benefit from a long cruise to gain experience in lengthy deployments, working in every department of a large combat ship, and learning about other countries, people and navies. In addition, the training ship could test and prove the foreign port logistic system currently being implemented by the RCN to support worldwide operations.

The training cruise would be a relatively easy undertaking for the RCN using an existing ship and existing logistic arrangements to improve Canadian knowledge and presence while supporting national interests in the three continents bordering the Pacific Rim. A training ship can make a house call.



Tugboats assigned to Naval Station Pearl Harbor assist the Japanese Training Squadron (JTS) ship JDS *Kashima* (TV3508) as she makes her way pierside, 27 April 2008.

A Comment on Eric Lerhe's Editorial

David B. Collins

It is hard not to agree with much of what Eric Lerhe argues in his Editorial in the Summer issue ("Time for a Canadian Pacific Pivot?" Vol. 9, No. 2) on the need for a Canadian Pacific pivot. But a lot of this is simply wishful thinking. At a conference on the Asia-Pacific region hosted by the Naval Association of Canada in June in Victoria, British Columbia, the subject of forward basing in the Pacific came up and one brave soul posited that Canada should deploy one of its submarines, perhaps to Singapore. Given our resources it is hard to see how Canada could forward base any major assets, much less a submarine.

And this is what worries me about a discussion which trades off our interests in the Atlantic, Pacific or Arctic regions, one against the other. And as Lerhe points out, as important as the Pacific is to Canada we will have pressing demands in the Arctic if we proceed as the Prime Minister has indicated we will. Both politically and fiscally Canada is facing some very hard choices affecting the armed forces and the navy in the future.

What is clear is that it is highly unlikely that all demands to be made of our already over-stretched navy will be able to be met. 🍷

Outsourcing Defence Procurement: A Choice between Scylla and Charybdis?

Sven Tommi Rebien

Experience has taught us that large-scale defence acquisition reform programs tend to be inherently controversial because they promise a value-for-money scenario that is characterized by overly optimistic cost estimates – what is known as a 'conspiracy of optimism' – and vaguely defined long-term benefits, neither of which ever materialize. Given their sensitivity to political feasibility and marketability, it should not surprise us that bureaucrats tend to overstate the gains and downplay risks when proposing such reform programs to their Ministers, and that politicians do so when trying to sell them to the public. In contrast to its portrayal in most public debates, defence acquisition is a very complex undertaking that aims at advancing military capabilities to meet changing operational requirements and, in some cases more importantly, to generate economic benefits that demonstrate value-for-money to taxpayers beyond the national security imperative.

It is fruitful to keep this in mind when evaluating the



Credit: The Economist

Many Western countries, including Canada, have long defence equipment shopping lists.

considerations of the UK government decision to 'semi-privatize' or 'outsource' the defence acquisition functions currently performed by the Ministry of Defence's (MoD) Defence Equipment and Supply (DE&S) branch. With an annual budget of £15 billion and 16,500 staff, this new organization would still be government-owned but contractor-operated, commonly referred to as the GoCo option. A 2009 report on the numerous and partially systematic shortcomings plaguing the UK Ministry of Defence's acquisition process such as massive project cost overruns, late delivery and various forms of 'gold-plating,' gave prominence to this idea and it has kept political momentum ever since.¹ If this option comes to life in September of next year, as currently scheduled by MoD, with the award of the contract to one of the remaining two contending company consortiums,² this project can certainly be regarded as "one of the biggest and most significant business changes undertaken by any government," as Defence Secretary Philip Dunne summarized it.³

That this proposal is as novel as it is radical is openly acknowledged by its most ardent proponents, and justified by their conviction that radical improvement of the defence acquisition process requires radical change in its management. However, given the history of procurement reform activism in the UK with the aim of finding a balance among cost, time and efficiency tradeoffs common to acquisition management, grand endeavours such as the GoCo option should not be assessed solely on the basis of rhetorical goodwill or deliberately open-

ended guiding principles such as improved responsibility, transparency, certainty and pragmatism. It is necessary to have a meaningful discussion of why the GoCo solution for one of the most critical aspects of national defence should be selected over its alternative, the only vaguely defined restructured, fully-funded and improved but still government-owned and operated version of DE&S Plus option.

This discussion requires contemplation of experiences from other countries as well as an analysis of the necessarily complex interplay among risk, trust and control factors pertinent to a GoCo solution.



Will the GoCo approach help to alleviate the long, expensive delays in procurement?

In terms of experiences with large-scale outsourcing projects, the United States provides an interesting example. Despite conservative ambitions in the United States to expand marketization and shrink government to reduce bureaucratic inefficiency, these policy experiments actually more often than not result in *increasing* levels of both government regulations and expenditure. This happens for one simple reason: outsourcing the provision of central and complex public goods goes hand in hand with the development of sufficient layers of bureaucratic watchdog capacity to assure that it is being performed in the desired manner. Consequently, rather than saving taxpayers' money, governments may have to devote significantly more financial and human resources than anticipated, sharply diminishing or even overriding the projected benefits entirely.⁴

Regarding the GoCo solution, the London-based Royal United Services Institute (RUSI) Acquisition Focus Group

published a briefing paper that lists a wide array of questions which need to be answered before a semi-privatization of defence procurement should be initiated.⁵ In addition to these questions is the more abstract basic problem of how and at which cost the risks inherent in this form of procurement management could be dealt with. Given the range of competency and authority resting within MoD, one may doubt that it is particularly well positioned to conduct an effective cost-benefit analysis of alternative options. After all, the GoCo option is being considered because MoD has done a poor job at contract negotiation and management in the first place.

The risks that require intensive examination are *relational*, that is whether the chosen company or consortium has incentives to act opportunistically or is known to have done so in previous public-private partnerships, and *performance-based*, which relates to a failure of the partnership to achieve the desired outcome.⁶ It is already known that essentially all contending contractors have conflicts of interest because they would either manage their own contracts with MoD (such as Serco and its military aircraft maintenance contract) or as main suppliers to defence giant BAE Systems come to benefit from contracts they award.⁷ Even though MoD requires contenders to declare conflicts of interest and how they will deal with them, the risk of opportunistic behaviour is unlikely to be ameliorated by trust in the ability to perform. Hence, rigid and transparent control mechanisms are required, either as formal means, such as behavioural and outcome control, or informal or normative means, such as social control.

Formal control relies on external measures in the form of implementation and enforcement of rules, procedures and policies that are designed to monitor and reward desirable behaviour. Internal value measures aim at encouraging desired action or performance through the development of organizational norms, values and culture.⁸ The former requires extensive and continuous oversight, a costly and expansive task for the unit at MoD that will be in charge of keeping watch over the contractors' actions. Already, several MoD officials have voiced concerns regarding the workability of such oversight mandate and perhaps not surprisingly, MoD has fallen a month behind schedule for the bidding process. The alternative, internal value control, does not seem feasible either because it is precisely the incentive schemes and business acumen of private firms that have been portrayed as the superiority of the GoCo option over the inflexible status quo culture at DE&S. On

normative grounds, if such measures are employed, it indicates that MoD does not trust the ability of the GoCo partner to decide what is best for the performance of this strategic partnership. Similarly, if appropriate behaviour is explicitly prescribed, it indicates a belief that partners cannot be trusted to act in a certain manner and will do things their own way.

Therefore, what undermines the feasibility of the GoCo option is not that trying novel approaches is a bad thing⁹ but that thus far, it has only been examined from a financial point of view of getting the cost-benefit investment appraisal right. More important is to ask how the nature of the relationship between the contractor and MoD should be framed and governed. The relationship must allow for sufficient flexibility to make the bid commercially attractive for bidders, which inevitably leaves more space for opportunistic behaviour, and it must be accompanied by rigorous layers of behavioural and outcome controls, which will come with a higher pricetag for taxpayers. Thus, in contrast to the argument that no higher risk than currently existent is to be expected in adopting a GoCo model if all safeguards are in place, we cannot be confident about safeguards if the inherent risks are not understood well or addressed adequately. Consequently, it seems that the UK government's choice between DE&S Plus and the GoCo model will steer it into an odyssey toward Scylla or Charybdis.

Since the UK has been very innovative when it comes to reforming defence acquisition to rein in costs, shorten delivery times and improve product and service quality, the Canadian government should pay close attention to developments around the GoCo model. After all, very promising and high-value projects such as the National Shipbuilding Procurement Strategy are unlikely to deliver the envisioned economic and operational benefits if the given procurement system with its non-streamlined structure and underperforming acquisition management does not provide a conducive and competent environment. 🇬🇧

Notes

1. Bernard Gray, "Review of Acquisition for the Secretary of State for Defence," October 2009.
2. Both consortiums are led by large US firms. One consortium consists of CH2M Hill, the company that oversaw the construction work of the 2012 London Olympics, WS Atkins, and the scandal-ridden and only bidding English firm, the Serco Group. The other consortium is headed by Bechtel with PriceWatershouseCooper and PA Consulting the other two companies.
3. UK Ministry of Defence (MoD), "Significant Milestone for Defence Acquisition Reform," 25 April 2013.
4. See Lawrence D. Brown and Lawrence R. Jacob, *The Private Abuse of the Public Interest* (Chicago: University of Chicago Press, 2008), on government attempts to outsource the provision of critical public goods and services.
5. RUSI Acquisition Focus Group, "The Defence Materiel Strategy and the

GOCO Proposal for Abbey Wood," RUSI Briefing Paper, 2012.

6. T.K. Das and Bing-Sheng Teng, "Trust, Control, and Risk in Strategic Alliances: An Integrated Framework," *Organization Studies*, Vol. 22, No. 2 (2001), pp. 251-283.
7. "Ministry of Defence in Shake-up in Chaos over Conflicts of Interest," *The Independent*, 21 July 2013.
8. See Das and Teng, "Trust, Control, and Risk in Strategic Alliances."
9. See comments of Bernard Gray in *The Independent*. "Labour Targets Privatisation of Defence Body," 8 September 2013.

Protection of the Term 'Officer'

Jon Dziadyk

I am junior officer in the Royal Canadian Navy Reserve; I will get that out of the way. I parade one day a week in Edmonton and occasionally find myself on the coast for training. I received the Queen's Commission and I signed on the dotted line agreeing to be ordered into harm's way if necessary.

In my civilian life I work alongside engineers, lawyers, electricians and plumbers. I am a member of the Canadian Institute of Planners. I sometimes get massages from Registered Massage Therapists and I use a Chartered Accountant for my taxes. All of these professions have associations promoting their members and safeguarding against non-members erroneously representing themselves as affiliated – the Bar Association, for example, will not allow just anyone to call themselves a lawyer. Exclusivity provides quality control. Existing officer associations of the Canadian Armed Forces (CAF), however, do not advocate an agenda of self-promotion and consequently identity issues arise, especially as time creeps on from the World Wars.

Through my civilian job I interact with a lot of professions who have the word 'officer' in their title – such as ethics officers, environmental officers, bylaw officers and forestry officers. None of these individuals are officers in the traditional sense, although their human resources departments – seemingly without opposition – graced them with the title.

The term 'officer' has traditionally been a military and law enforcement one. The term is supposed to carry weight and imply authority. Languages evolve over time but this term should remain steadfast. A military officer has a Commission from the Queen to execute orders in the defence of Canada, including in the face of danger and including ordering subordinates to risk their own lives. Officers in the CAF come from all walks of life, but they all have these heavy responsibilities. Officers must be assertive and decisive, although officers should not allow their position to get to their head (an issue for another day). The intent of this article is not to increase a feeling

of self-importance among officers – they receive satisfactory respect within the military – I am exploring *external* relations here.

The armed forces only compose 2% of Canada's population and the military is simply off the radar-screen of many Canadians. However, civilians should respect military institutions and recognize the unique role military personnel play in maintaining the Canadian polity. No institution in Canada, besides the Crown, comes close to having the heritage and rich tradition that the military does.

All military members assume a great deal of risk, and the role of the officer in the command structure is vital to ensure unified direction and professionalism. Its importance cannot be downplayed or overlooked. The ideal officer is extensively trained, situationally aware and can multi-task under pressure. They must be humble and compassionate while being leaders and role models. Only people who meet strict criteria should be called officers, as is the case with lawyers, doctors, architects and other professions.

In the civilian world the term is often misused, and overuse has watered down its effectiveness. More specific terms could be utilized to fit civilian job titles currently containing the word officer – such as specialist, commissioner or consultant. Parliamentary measures could be taken to protect the sanctity of the word, a treatment other professions receive. At the least, the federal government could amend all federal job titles currently containing the word officer, unless it is the military, RCMP, or similar chain-of-command agency. This would be a relatively easy step to implement.

A more comprehensive (and albeit more complicated) approach would be to prohibit the use of the term by civilian organizations altogether. This could be achieved through similar legislation as that which protects terms like doctor and dentist and allows individuals to insert initials behind their names designating their degrees or profession, for example, P.Eng for Professional Engineer.

I am not looking for an internal pat on the back, rather external recognition for the profession of arms. A hundred years ago this would not be necessary; however, it is now. The loose network of officer associations in Canada should take on this tasking, and it should be seen as their *raison d'être*. Ask yourself what you would think if you heard



Credit: Jon Dziadyk

Shoulder epaulette with one stripe and executive curl indicating the naval officer rank of Acting Sub-Lieutenant. Use of the executive curl was reinstated in 2010 to denote the Queen's Commission after a hiatus resulting from the unification of the Canadian Forces.

that the Forestry Sargent in your city's administration was being reviewed by the Safety Sargent? And would anyone think of using the term Sheriff outside of a policing context? Why do we allow such abuse of the title officer? 🇨🇦

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USCG Use of Game Theory for Maritime Security Operations

Lieutenant Elizabeth Denicola, USCG

Lieutenant Kevin Rogers, USCG

Ms. Grace Python, DHS Fellow, Stevens Institute

Dr. Milind Tambe, USC CREATE

Dr. Eric Shieh, USC CREATE

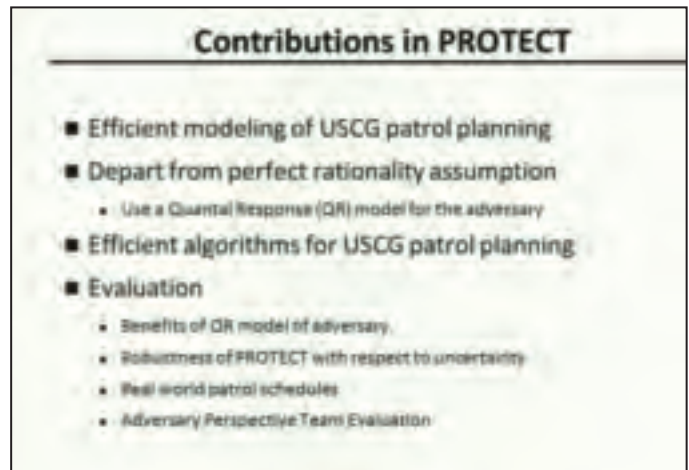
Fisheries have long been an important factor when considering the economic health of a state. If left unregulated, over-fishing would threaten these valuable resources. For this reason, laws are put in place to promote sustainable fisheries. Depletion of fish stocks in certain locations can lead to illegal fishing activity, as fishermen may venture outside of their waters into foreign waters to take advantage of better fishing conditions. In these circumstances law enforcement action is necessary to deter and prevent these crimes. Smart decision-making in support of these measures will allow for more efficient and effective employment of law enforcement assets. This article will discuss how the US Coast Guard (USCG) is employing analytical techniques and innovations to support fisheries sustainment.

The USCG, the lead federal maritime law enforcement agency of the US Department of Homeland Security (DHS), is responsible for the execution of different statutory missions that assist DHS in meeting its overarching strategic homeland security goals. These goals include:

- security: protect the United States and its people, vital interests and way of life;
- resilience: foster individual, community and system robustness, adaptability and capacity for rapid recovery; and
- customs and exchange: expedite and enforce lawful trade, travel and immigration.¹

In order to meet these security goals, the USCG is exploring various analytical methods to improve efficiency, effectiveness and to establish better quantitative measures. Game theory lends itself well to these types of problems. Game theory focuses on strategic decision-making; it models cooperation and conflict in the decision-making processes of rational actors. The dynamic between an attacker and a defender can be modeled using game theory, where the decisions of one party influence the decisions made by the other. A game theoretic model has been applied in the ports, waterways and coastal security mission area in the Port Resiliency for Operational and Tactical Enforcement to Combat Terrorism (PROTECT) model. The USCG believes that game theory might be

applicable to the living marine resources (LMR) and other law enforcement (OLE) mission areas, and is researching this problem for a potential future application.



The goals of the Port Resiliency for Operational and Tactical Enforcement to Combat Terrorism (PROTECT) model.

By following predictable patrol schedules and conducting expected activities, law enforcement agencies leave targets susceptible to attack. The USCG decided to utilize a game theoretic model to address this concern. Game theory would allow not only for the prioritization of targets, but it also ensures that the resulting patrol schedules are randomized. Randomization still allows the USCG to employ an optimal strategy to minimize an attacker's gain while mitigating prior observable vulnerabilities. Using game theory the USCG has created a method of conducting waterborne patrols to prevent the detection of any pattern to the frequency and duration of patrols.

Consider the following simplified scenario that demonstrates patrols under a 'traditional' approach as compared with a game theoretic approach. The USCG is responsible for patrolling seven distinct targets. Of these, three are of high priority (1, 2, 3), two are considered medium priority (4, 5), while the remaining two are low priority (6, 7). A traditional patrol would focus on patrolling the high and medium priority targets for a defined and consistent period of time. If two patrols are conducted each day and each patrol was scheduled to visit two high priority

Credit: Milind Tambe presentation 2012

targets, one medium priority target, and one low priority target, a sample patrol schedule would look like:

Patrol 1 – responsible for 1, 3, 4, 7

Patrol 2 – responsible for 2, 1, 5, 6

In this scenario, Target 1 is being visited twice as many times as the other targets. Each patrol also follows the sequential pattern of visiting high, medium, high and low priority targets. If adversaries were to monitor the USCG movements, they would gain knowledge of where assets will be, how long they will be at each site, and the total length of the patrol, essentially developing a window for a possible attack.

Utilizing game theory, higher priority targets are still patrolled with a higher frequency, but there is no discernible pattern through the day or over the course of an extended period of time. For two patrols, each patrol is responsible for all seven targets. By varying the duration of each visit as well as the order of visit, each level of priority targets would be visited accordingly. For example, on average over multiple weeks, in two patrols high priority targets could be visited six times, medium priority targets four times, and low priority targets two times. However, on any given day, the actual patrolling pattern remains unpredictable. If adversaries were to monitor the movements, they would be unable to determine a fixed pattern of patrols due to the randomization of target visits as well as time on scene. This could essentially serve as a deterrent.

This example is a very basic version of the PROTECT model. PROTECT utilizes game theory to produce a patrol schedule for security patrols. These security patrols are responsible for protecting fixed critical infrastructure

throughout a port. This is a relatively straightforward use of game theory for security purposes; the application becomes more complex when applied to the living marine resources (LMR) mission.

USCG *Publication 3.0: Operations* defines the LMR mission as a mission that “is conducted to support conservation and management of living marine resources and their environment, to include protected species, protected areas, and critical habitats. LMR mission activities include boarding of commercial fishing vessels and enforcement of LMR laws and regulations in the inland, coastal, and offshore operational areas.”²

Living marine resources add difficulty to the problem due to the movement of the resources themselves. For this mission area, an adversary is targeting a particular group of resources, in this case fish, which moves based on the time of year, water temperature, food availability and many other factors. Just like fixed critical infrastructure targets, marine resources are of extreme importance. The resources that are being protected may be in danger of extinction or affected by pollution and over-fishing. While a failure to protect these resources may not lead to organizational or emotional damage for the host state, the disruption of these creatures would have other negative impacts. A species becoming extinct would drastically alter the delicate ecosystem in the ocean, resulting in an alteration to food chains that reach all the way to humans.

The first step to tackling these issues is to define the problem. The USCG deals with two primary categories of illegal fishing. The first category is fishing in closed areas, or violating the regulations imposed in established restricted areas. This category of illegal fishing is hard to model, due to the difficulty of detecting the various types of violations. For example, transiting through a restricted area with fishing gear on deck does not constitute illegal activity. On certain occasions, even fishing in a restricted area can be legal, depending on the species being fished for and the procedures followed by the fishermen.

The second category, however, is much easier to detect. This is illegal fishing in the Exclusive Economic Zone (EEZ), defined as an area encompassing all waters from the shoreline to 200 nautical miles from shore. Under the provisions promulgated by the United Nations Convention on the Law of the Sea (UNCLOS), within the EEZ the coastal state has “sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil.”³ While the United States has not ratified UNCLOS, it does observe the customary law promulgated



Credit: Author

Randomized patrols based on game theory algorithms help to deter illegal fishing.



Game theory can improve the efficiency and effectiveness of USCG enforcement.

by the treaty, therefore exerting sovereign rights to the 200 nautical mile boundary line. The incursion of foreign fishing vessels into the US EEZ is easy to utilize as a starting point for model development because of the binary nature of the problem; the adversary is either within or not within the EEZ with fishing gear on deck.

The next step is to gain a thorough understanding of both the adversary and the living marine resources. In the ports, waterways and coastal security mission, we assume that adversaries are focused on surveillance of patrols and targets with an overarching goal of identifying vulnerabilities and opportunities to attack. In this case, targets are stationary, with set values of importance determined by each individual port. For living marine resources, adversaries still conduct surveillance, but the extent and methodology used varies. The targets – various species of fish – are constantly moving, and both adversaries and the USCG must calculate the probability of their being at a certain location at a particular time. To complicate the matter further, different species of fish behave and move differently, making it more difficult to predict where they will be and when.

Prior to determining patrol locations that ensure the protection of these resources, it is necessary to have some understanding of where the fish could be, and with what probability they will be in that location. Once this is determined, the problem can be approached similar to the coastal security mission. Instead of patrolling defined structures, the patrol will encompass specific sections of water for illegal fishing activity. The randomized patrol strategy resulting from a game theoretic approach would result in no detectable pattern for the illegal fishermen to exploit, making it less likely that a fisherman will attempt to fish illegally in the EEZ, closed area, or restricted area.

Another important consideration is the definition of measures of effectiveness, and how the gain resulting from employing this new strategy would be measured. One strategic goal the USCG works to achieve is an increase in maritime domain awareness (MDA). MDA is defined as “the effective understanding of those elements associated

with the global maritime domain that could impact the safety, security, economy, or environment of the United States.”⁴ In the context of this problem, an increase in MDA would mean an increase in detection of illegal fishing activity or foreign fishing vessel incursions into the US EEZ. This is difficult to measure; it is impossible to detect all illegal fishing that occurs, therefore there is no firm baseline to establish whether or not an increase in sightings is actually indicative of an increase in MDA. While it is an imperfect measure, it is still one that can be utilized. Additionally, quantifying the economic risk associated with each fish stock, and expressing the economic gain resulting from successful enforcement activity, is another potential measure of effectiveness.

The ultimate goal of this research is to improve both efficiency and effectiveness of USCG patrols while minimizing risk to law enforcement personnel, the general public and the economy. The USCG has experienced resounding success through the use of game theory and randomization in the implementation of the PROTECT model, and hopes to expand the game theoretic concept not only to its mission to protect living marine resources, but to other mission areas as well. Employment of USCG assets in a sub-optimal manner is not only an inefficient use of scarce resources such as time and money, but it also increases the vulnerability of attack on the resources the USCG is tasked with protecting. By taking a smarter approach to identifying threats and decreasing vulnerability, the USCG has a chance to be a leader in the innovative use of game theory for security measures. This game theoretic approach has the potential to serve as an example for other states interested in protecting their fisheries from illegal fishing activity. 🍷

Notes

1. Department of Homeland Security, “Quadrennial Homeland Security Review” (QHSR), February 2010, p. ix.
2. The Commandant of US Coast Guard, *Coast Guard Publication 3.0: Operations*, February 2012, p. 7.
3. United Nations, United Nations Convention on the Law of the Sea, 1982, Article 56(1(a)).
4. US Coast Guard and National Oceanic and Atmospheric Administration Cooperative Maritime Strategy, February 2013, p. 14.

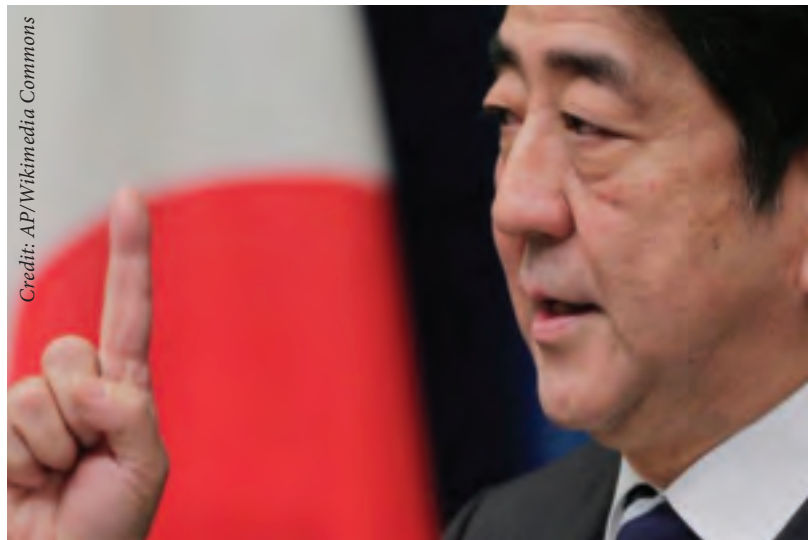
A View from the West Japan's Rebalance to Asia

Brett Witthoeft

Much has been made of the US 'rebalance' to the Asia-Pacific region. Is it aimed at containing China? Is it meant to provide a foundation for peaceful coexistence between the United States and China, thereby avoiding the upheaval that marks the rise of a new power? Or both? While these are certainly most important geopolitical questions, another important, yet less discussed, development is Japan's rebalance.

Japan's security and economic links are firmly rooted in Asia. However, since the beginning of the Cold War, Japan's well-being has been based on one pillar: the US-Japan security alliance, by which the United States promises to defend Japan from outside attack. This security assurance is being reinforced by Washington's reallocation of military assets to Japan in support of the US rebalance to Asia. Despite this, the Japanese are looking beyond American commitments and are undertaking their own rebalancing. They are doing this for two reasons: first, there is a gap between Washington's expressed desire to rebalance to Asia and its political and economic ability to do so; and second, there are heightened tensions with China over territorial and maritime claims in the East China Sea. Indeed, increased Chinese activities in the East and South China Seas have created opportunities for cooperation among those who resist China's ambitions.

Japan has long been keenly aware of its dependence upon imported resources and the importance of sea lanes by which both raw materials and finished products are transported. These realities have been embraced by numerous Japanese administrations and responses have taken various forms, such as anti-piracy cooperation off Somalia and in Southeast Asia. The most recent risk to critical Japanese sea lanes emerged in 2010 as China became more assertive in the South China Sea, particularly toward the Philippines and Vietnam. In response, Japan began forging high-level ties with other challengers to China's claims. Building on an earlier meeting between their Defence Ministers, Japan and Vietnam held their first Deputy Minister-level talks in December 2010. In September 2011, Japan's then-Prime Minister Yoshihiko Noda visited Manila and formalized a strategic partnership with the Philippines, which was renewed during a leadership summit in July 2013. Following this, a wider regional cooperative framework was established when Japan and the Association of Southeast Asian Nations (ASEAN) adopted a 'Plan of Action' to strengthen security and defence cooperation.



Credit: AP/Wikimedia Commons

Prime Minister Shinzo Abe outlines Japan's 'security diamond' proposal.

Japan's rebalance picked up speed with the return to power of the Liberal Democratic Party, led by hawkish Prime Minister Shinzo Abe, in December 2012. One day after beginning his second term as Prime Minister, Abe argued in an op-ed that China was working to establish "Lake Beijing" in the South China Sea and beyond at the expense of other countries' interests.¹ In order to counter this emerging threat, Abe proposed the creation of a "security diamond" from the Indian Ocean to the Western Pacific, with the points of the diamond being maintained by Japan, India, Australia and the United States.

Japanese elites have since continued their outreach to would-be partners within that diamond. Abe visited Burma, Indonesia, Thailand and Vietnam in 2012 and he went to Malaysia, Singapore and the Philippines in 2013. In addition, Deputy Prime Minister Taro Aso also visited Burma with a 100-plus person private sector delegation (to be followed up by the Japanese navy's first port visit to Burma in October 2013), Defense Minister Itsunori Onodera went to the Philippines, and Foreign Minister Fumio Kishida visited Australia, Brunei, the Philippines and Singapore. While in the Philippines, Kishida confirmed that Japan will give 10 multi-purpose patrol boats to the Philippines Coast Guard by mid-2014, and Ministry of Defense officials have mentioned that a similar offer may be extended to Vietnam. Furthermore, during Onodera's visit to the Philippines, Filipino Defense Secretary Voltaire Gazmin suggested that access to Philippines military bases, such as Subic Bay naval base which once hosted US military forces, might be offered to Japan.

Japan is also in talks with Vietnam to provide training for medical personnel on board the latter's *Kilo*-class submarines, and the two countries held their first bilateral maritime security discussions in May 2013. Meanwhile, security and defence cooperation with India has expanded with the establishment of Indo-Japanese Strategic, Maritime Security and Cyber-security Dialogues, a bilateral naval exercise in June 2012, and a May 2013 pledge to hold joint drills regularly. Japan's December 2011 relaxation of its weapons export ban, while generally done to increase defence equipment ties with Australia, such as a proposed submarine technology transfer deal, is also paving the way for defence cooperation with diamond partners, such as Indo-Japanese collaboration on the US-2 amphibious aircraft.²



China Marine Surveillance vessel *Haijian* 66 and Japan Coast Guard *Hida*-class patrol vessel PL53 *Kiso* engage each other near the disputed Senkaku/Diaoyu Islands, 24 September 2012.

Japan has also incorporated trade and economic elements into its Asia rebalance. Japan exempted India from its overall development aid cuts, and a bilateral free trade agreement that came into effect in August 2011 will mean greater interaction between the two economies. Public and private Japanese investment is moving away from China following anti-Japan demonstrations in China in 2012 and toward countries in the 'diamond.' Honda, Sony and telecommunications firm NTT DoCoMo have poured hundreds of millions of dollars into India, and Mitsubishi, Sumitomo and Marubeni are investing in a Special Economic Zone in Burma.³ As well, Japan wrote off \$1.74 billion in debt and extended \$500 million in new loans to Burma during Abe's visit. In Vietnam, six key industrial sectors – consumer electronics, food processing, ship-building, agricultural machinery, energy conservation and automobile manufacturing – were selected in early 2013 for direct Japanese government investment. Finally, Japan's belated entry into the Trans-Pacific Partnership (TPP) free trade agreement in July 2013 signals not only its desire to become more economically connected with

southeast Asia, but also to help lessen the region's trade dependence on China.

So what are the benefits of this rebalance for Japan and for its partners? First, for Japan, the Philippines and Vietnam, greater security cooperation means that China faces a greater number of increasingly coordinated challengers in multiple areas. When Japan feels pressured by Chinese activities in the East China Sea and reaches out to countries similarly at odds with China in the South China Sea, it expands the areas in which China will have to deal with counter-pressure.

Second, the economic aspect of Japan's rebalance also has defensive purposes since closer trade and economic cooperation between Japan and its growing array of friends means reduced dependence upon Chinese markets. This diminishes Beijing's ability to escalate disputes horizontally by raising trade and customs barriers, as it reportedly did to Japan during a September 2010 escalation of the Senkaku/Diaoyu Island dispute.

Japan's rebalance is not without its perils, especially in its early stages. At the moment, China holds the upper hand since it has the ability to inflict pain on its competitors by simply restricting market access to its 1.3 billion people. In addition, China can execute timely, coordinated and coherent responses in both the East and South China Seas, which Japan and its potential partners, without established coordination frameworks, cannot. As such, there is still great potential for China to raise the costs of Japan's rebalance beyond its ability to cope, at least until the rebalance is sufficiently established.

To be sure, it is still early days, and strategic economic and security relationships are far from being realized. There is still ample room for Tokyo's efforts to be derailed, whether by pressure from China, shifting political winds across partner countries, or worsening economic conditions which may require security and defence priorities to be sidelined. At the moment, though, Japan and its friends have strong incentives to rebalance together, especially since China does not appear to be easing its pressure in either the East or South China Seas. 🍵

Notes

1. Prime Minister Shinzo Abe, "Asia's Democratic Security Diamond," *Project Syndicate*, 27 December 2012.
2. Vivek Raghuvanshi, "India, Japan Discuss Cooperation on Amphibious Aircraft," *Defense News*, 30 May 2013.
3. James Crabtree, "India Benefits from Japan Inc Shift," *Financial Times*, 3 April 2013.

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Dollars and Sense: Naval In-Service Support

Dave Perry

For roughly a decade, beginning with the much-delayed Maritime Helicopter Project, Department of National Defence (DND) procurements have awarded contracts to the original equipment manufacturer (OEM) for the in-service support of new weapons platforms. At present, however, it does not appear that this approach will be adopted for the naval fleets acquired under the National Shipbuilding Procurement Strategy (NSPS). Instead, the current plan is to award a single contract, potentially for as long as 35 years, for the long-term support of both the Arctic Offshore Patrol Ships (AOPS) and Joint Support Ships (JSS).¹ It is not clear if either Irving Shipyards or Seaspan will be eligible to bid on the contract but, even if they are, at least one of the fleets will be maintained by someone other than its OEM. While the procurement strategy for the Canadian Surface Combatant has not been announced, the NSPS framework provided no funds for long-term support, and specified that “[f]uture requirements for ship repair, refit and maintenance will be competed through publicly announced requests for proposals.”² As it stands, the new naval fleet will not have bundled acquisition and support contracts.

This shift is notable for two reasons. First, it represents a departure from recent RCN practices. The last fleet to enter into service with the navy, the Maritime Coastal Defence Vessel (MCDV), has been supported by SNC-Lavalin, the prime contractor on the MCDV project (although the contracts were not bundled). This arrangement has purportedly been successful, although it is not clear how much of that is attributable to having the support provided by the same company responsible for the manufacture. More recently, the first iteration of the JSS acquisition in 2006 intended to award acquisition and in-service support contracts to a single shipyard – thus, the last naval procurement planned before NSPS intended to follow a bundled acquisition and support approach. The second reason that the NSPS framework will be uncharacteristic if a separate acquisition and support approach is adopted is that it will make the navy the only service in the Canadian Armed Forces (CAF) to operate fleets not maintained by their original manufacturer. Given this, it is worth reviewing the procurement approach adopted over the last decade but discarded for NSPS.

The move to combined acquisition and support reflects a shift within DND to change the way it maintains equipment. This shift involved numerous small contracts being combined into fewer large contracts for existing equipment. The Royal Canadian Air Force (RCAF) adopted

its Optimized Weapons System Mechanism in 2002, and has been progressively switching the maintenance contracts for its CH-146, CF-18, C-130 and CP-140 fleets to long-term, bundled contracts. One of the motivations for this switch was to reduce the workload on a workforce in ADM Materiel that was slashed by two-thirds during the 1990s and lacked the capacity to manage hundreds of smaller contracts. DND also hoped that with fewer performance-based contracts the availability of its fleets could be improved, while achieving cost savings of up to 15%. In 2004, the army adopted a similar approach for managing its Light Armoured Vehicles through the WLAV Optimized Weapons System Support Contract.³



HMCS Summerside enters St John's Harbour, 30 July 2008.

At the same time that existing maintenance contracts were being rationalized, DND began adopting plans to include long-term in-service support contracts with new acquisitions. In addition to easing workloads, this was driven by a desire to gain greater certainty regarding the lifetime costs of operating equipment fleets, which a single long-term contract could offer. The first procurement to proceed on this basis, the CH-149 Cormorant, awarded a long-term support contract separately from the helicopter acquisition. This procurement has highlighted the potential pitfalls of awarding acquisition and in-service support contracts separately. Due to shortcomings in the original contracts, DND has had problems assuring the availability of the Cormorants and higher than expected costs.⁴ Because of the separated manufacturing and support responsibilities, in the words of former ADM (Mat) Alan Williams, DND has been the “meat in the sandwich,”⁵ unable to hold either party to account for availability.



CH-148 Cyclone helicopter at the Paris airshow, 4 April 2012.

To move away from a system of fractured accountability, DND adopted Total Package Procurement in the late 1990s. This approach was designed to create a clear accountability regime for weapons systems by holding the original manufacturer contractually responsible for maintaining equipment after its delivery. The first project to proceed under this new framework was the 2004 Maritime Helicopter Procurement Project. Since then three other RCAF fleets have subsequently entered service with coupled in-service support contracts, the C-17 (2007), C130-J (2010) and CH-147 (2013), as will the army's trucks and Tactical Armoured Patrol Vehicle.

This approach was formalized as the In-Service Support Contract Framework (ISSCF) introduced as policy in 2008 and established as a departmental directive in August 2010. The framework, which coincided with a shift to performance-based logistics, has placed increased emphasis on assuring both operational availability and reduced life-cycle costs. By combining acquisition and support, the hope is that manufacturers will be given incentive to think long term, and make greater investments in the manufacturing stage by choosing more reliable components that will in turn assure long-term availability. As a result, "the initial acquisition costs may be higher, but the total cost of ownership will be lower, with higher operational availability, providing best value to the Crown."⁶ For design, then build projects, the intent was not only to evaluate support costs in bid evaluations, but actually weight them higher than the acquisition costs. Dan Ross, ADM (Mat) in 2007, argued that "[b]y weighting the in-service support price in their bid higher than the acquisition price, we are motivating the builder and rewarding the builder who has invested in quality and knows the equipment will be cheaper to maintain."⁷

In sum, for a range of reasons, up until the promulgation of the NSPS, DND viewed coupled acquisition and support contracts as the best means of acquiring new capabilities. To be fair, the fleets acquired under the ISSCF have only recently entered service so there is insufficient evidence to judge whether the approach has produced the intended results. However, since the RCN, like the other services, will ultimately want maximum operational availability with the lowest life-cycle fleet cost, it is unclear what value there is in moving away from a combined acquisition and in-service support approach designed to achieve exactly that.

A possible difference between the NSPS acquisitions and other DND procurements that might explain the different approach is that determining a single OEM can be challenging for naval projects. In the MCDV example, while SNC-Lavalin was the prime contractor, the vessels

were built by Halifax Shipyards. For complex warships like the Surface Combatant, this arrangement will be even more complex. While they will be assembled in the Irving Shipyards that will also manufacture their hulls and superstructure, their complex systems will be sourced separately, and the prime contractor has not been publically announced. Determining an appropriate single point of accountability for shipbuilding projects is therefore understandably difficult.

Given this state of affairs, several questions arise. How will the new approach assure future naval fleet availability? What steps will be taken to give the shipyards and manufacturers incentive to think long term? Has DND as a whole has moved away from the ISSCF or is this simply a feature of NSPS? In either case, why? Finally, how will separately competed acquisition and support contracts affect the total cost of owning and operating the fleet? Important questions such as these have not been answered. As the process moves closer to cutting steel, it's time for a more fulsome discussion of the project that will shape the navy for the next half century. 🍷

Notes

1. David Pugliese, "Ottawa Steaming Ahead with \$5-billion 'Winner Take All' Single Support Contract for New Navy Ships," *National Post*, 30 August 2013.
2. Public Works and Government Services Canada, "Government of Canada Announces National Shipbuilding Procurement Strategy," Media Release, 2010.
3. Office of the Auditor General of Canada, *Chapter 5: Maintaining and Repairing Military Equipment* (Ottawa: Minister of Public Works and Government Services, 2011).
4. Department of National Defence, Chief Review Services, *Review of the Canadian Search and Rescue Helicopter (Cormorant)*, 7050-11-23 (CRS), Ottawa, 2007.
5. Alan S. Williams, *Reinventing Canadian Defence Procurement* (Montreal: School of Policy Studies, Queen's University, and McGill-Queen's University Press, 2006), p. 28.
6. Dan Ross, "Remember Murphy's Law," *Frontline Defence*, November/December 2006, p. 30.
7. Canada, Parliament, Standing Committee on National Defence, *Evidence*, 1st Sess., 39th Parliament, Meeting No. 34, 8 February 2007.

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Warship Developments: Missions Other Than War

Doug Thomas

We are living in a very unstable world, with failed and failing states, non-state actors and terrorist groups complicating national and international affairs. On top of that there are boundary issues, such as in the South China Sea between China and many members of the Association of Southeast Asian Nations. And, finally, there is piracy off Nigeria, Somalia and Indonesia. It *almost* makes one yearn for the good old days of the Cold War, with its relative stability!

Notwithstanding political and cultural differences, there is a need to provide humanitarian assistance and disaster relief from natural phenomena such as hurricanes, cyclones, earthquakes and tsunamis. Fortunately, Canada has been rarely plagued by major disasters, but we do try to help others. As nearly three-quarters of our world is covered by sea, navies and coast guards play a major role in responding to all of these problems.

How can Canada make a maritime contribution to sorting out some of the ills of our planet? I have a suggestion.

I have written several articles in *CNR* discussing the Joint Support Ship (JSS) Project and the flexibility of these vessels and the AORs that they will replace. One of the reasons why I believe the Royal Canadian Navy (RCN) should procure three Joint Support Ships rather than two is that the scheduling flexibility provided by the availability of a third vessel will permit humanitarian missions in concert with like-minded states, at least during periods when a ship can be spared from supporting military missions. For some years now, medical personnel from Canada – civilians and military personnel – have sailed in the ships of other states in order to bring medical aid to areas in desperate need. In some of these instances the deployed ship was one of the US Navy's huge hospital ships such as the USNS *Comfort* or *Mercy*.

These humanitarian assistance missions, known as the Pacific Partnership, began with the deployment of the hospitalship USNS *Mercy* in 2006, and have occurred annually since that time. It is instructive that this year's Pacific Partnership deployment was composed of warships: naval amphibious vessels configured for this different role. The amphibious ships included the Landing Ship Dock USS *Pearl Harbor*, joined by the Australian Tank Landing Ship HMAS *Tobruk* and New Zealand's HMNZS *Canterbury*, to conduct a humanitarian assistance mission. Because these ships are quite large, with considerable internal



Credit: Internet

This photo illustrates what the tsunami that hit Indonesia in December 2004 would have looked like.

cargo and additional passenger capacity, helicopter detachments, landing craft, good communication capability, and well-trained ships' companies, they were able to adapt to perform this task. These ships embarked medical and engineering teams and personnel from Canada, Colombia, France, Japan, Malaysia, Singapore and South Korea. Aid and medical care were provided to Samoa, Tonga, the Marshall Islands, Papua New Guinea, Kiribati and the Solomon Islands. Doctors, dentists and veterinarians joined the trip, along with experts in public health and disaster response. Many of the professionals were from non-governmental organizations, and provided specialized care to isolated populations.

A new development this year was that the partner states, Australia and New Zealand, took the lead for individual phases, a significant step forward and one that seems likely to be repeated for future such missions. Australia led the Papua New Guinea mission phase from HMAS *Tobruk*, and HMNZS *Canterbury* served as the command platform in the Solomon Islands. Previously, New Zealanders coordinated activities from USS *Pearl Harbor* on the island of Kiribati. This command and control abil-



Credit: Royal New Zealand Navy

HMNZS *Canterbury* deploys to Tonga and Samoa after a tsunami in the Pacific region devastated much of Samoa's South Coast and a small Island in Tonga (14 October 2009).

ity is unique to naval vessels, and all three navies are used to participating with each other in operations such as the Rim of the Pacific (RIMPAC) exercises.

Pacific Partnership 2013 lasted for a total of four months, and comprised 85 disaster response events, 49 engineering civic action projects, treatment of 18,679 medical and dental patients, 136 medical training sessions, evaluation of 4,925 animals, hosting of 208 subject-matter expert exchanges, and 102 community service events. On balance, an impressive achievement!

Over the past decade Canada has sent relief supplies, reconstruction teams and medical support to respond to disasters such as the 2010 Haitian earthquake, relief operations in 2005 after Hurricane Katrina hit the US Gulf Coast, and the 2004 Boxing Day earthquake and tsunami in the Indian Ocean that hit Indonesia particularly hard. In each case, the navy did not have an available AOR so smaller vessels were loaded with relief supplies and they, with their willing crews, were despatched to Haiti and the Gulf Coast, and chartered heavy-lift aircraft supported the deployment of the Disaster Assistance Response Team (DART) to the Indian Ocean Basin.



Credit: Mass Communication Specialist 2nd Class David Kolmel, USN

the amphibious dock landing ship USS *Pearl Harbor* (LSD 52) arrives in Pearl Harbor after completing the annual Pacific Partnership mission, the largest disaster response preparedness mission in the Indo-Asia-Pacific region.

A third RCN JSS would provide the added capacity for a more meaningful disaster response, as well as the ability to participate in planned activities such as Pacific Partnership. It would also make an excellent base of operations for DART deployments in coastal areas. 🇨🇦

Book Reviews

Missing Pieces: The Intelligence Jigsaw and Royal Australian Navy Operations from 1939-71, by Ian Pfenningwerth, Papers in Australian Maritime Affairs, No. 25, Canberra: Department of Defence, 2008, 372 pages, ISBN 978-0-642-2965-5

Reviewed Colonel P.J. Williams

This book is part of a series from Australia's Sea Power Centre and is designed to foster debate and discussion on maritime issues of relevance to the Royal Australian Navy (RAN), the Australian Defence Force (ADF), Australia and the region more generally. Using the theme of putting a puzzle together, the author uses the analogy of a jigsaw in describing how intelligence supported and affected the conduct of RAN operations in the period 1939 to 1971. Having attended the Australian Command and Staff College in Canberra some years ago, I was eager to learn more about this aspect of Antipodean military operations, which heretofore had received little attention.

The book is a rather scholarly work, and is organized into six chapters which cover: RAN operations against the western Axis powers, including Vichy France; the retreat from and eventual offensive against the Japanese; the Korean War, where the RAN deployed an aircraft carrier, HMAS *Sydney*; the Malayan Emergency (1948-60); Indonesia's 'Confrontation' with Malaysia; and finally Vietnam, where the RAN contribution was significant and integrated into the US 7th Fleet and its supporting intelligence apparatus. Throughout, the book is well illustrated with maps, diagrams and photos. The bibliography runs to some 14 pages, with many primary sources from Australia, the United Kingdom and the United States (where records of the Central Intelligence Agency were consulted).

Pre-war naval intelligence in Australia was somewhat rudimentary and relied heavily on a small group of professionals, such as Commander Rupert Long, RAN, who served as Director of Naval Intelligence. That said, as early as the 1920s it was realized that intelligence in any cases needed to be shared with potential allies and the book notes that there was a flow of information between Canberra and Ottawa. With war's onset in September of 1939, intelligence structures evolved and eventually a tri-service Combined Operational Intelligence Centre was established under Commander Long's leadership.

As I read this book, I found many parallels with Canada's naval experience throughout the 20th century. In the

early stages of that period, our navy was very tied to that of the United Kingdom. The onset of the Second World War forced a huge expansion in our sea service, and the exigencies of ensuring that ships, as a priority were manned and equipped, sometimes meant that more shore-based capabilities, such as intelligence, received short shrift, with consequences for those fighting at sea. In the post-war period, both our countries tied their fortunes with the United States and operations with the US Navy, including an increasing reliance on being woven into their intelligence structures became more the norm. Indeed, this quotation from the book could well have been applied to the pre-war Royal Canadian Navy: "Australia was not the only country whose defence preparedness was found wanting by the outbreak of World War 2. But the unique situation of the RAN – a piece of the pre-war Imperial jigsaw – left it struggling to meet its own significant responsibilities for national defence when Admiralty attention was diverted elsewhere" (p. 48).

In the end the author concludes that intelligence was a key element in support of RAN operations during this period but that it varied in terms of quality and quantity. Certainly the first year of the Pacific War bore out the consequences of a lack of timely intelligence, among other factors. Calling it a bitter period, the RAN lost HMAS *Perth*, *Yarra* and *Canberra*, leaving it with one heavy and two light cruisers as well as four destroyers as its only major units in the area.

One common thread throughout the book is the importance of knowing other languages, particularly those of potential adversaries. Japanese was taught at the Royal Military College Duntroon starting in 1917, and indeed it was a RAN officer, Paymaster Lieutenant Nave, RAN, who was largely responsible for the first successful breaking of Imperial Japanese Navy codes in 1925. Unfortunately, the teaching of Japanese was not sustained by the Australian forces in the inter-war period. Likewise in the Malayan and Vietnam conflicts, the RAN and the intelligence community in particular were sadly lacking in competencies in those languages, a gap which doubtless inhibited the conduct of operations. Looking at the intelligence services in Canada, one wonders how many critical language skills are missing from our own intelligence puzzle.

For naval units in particular, I would recommend contacting the Sea Power Centre, to get on distribution list for titles in the series. While many, naturally, have an Australian theme, there are papers which have applicability to Canada as well, including *Maritime War in the 21st Century*, *The Strategic Importance of Seaborne Trade and Shipping* and *Freedom of Navigation in the Indo-Pacific*

Region. Given Washington's renewed security focus in the Asia-Pacific region, I reckon that there are many of our American colleagues who'll be contacting our Aussie friends as well. Highly recommended, if you're able to find a copy. 🇵🇹

Brown Waters of Africa: Portuguese Riverine Warfare 1961-1974, by John P. Cann, West Midlands: Helion Publishing, 2013, 274 pages, B/W illustrations, ISBN: 978-1-908916-56-3

Reviewed by Major Chris Buckham

Histories relating to 'colonial style' insurrection often focus on the land and air aspects of those operations. What makes the Portuguese experience so interesting is that, due to geography and sparse population, riverine operations played a critical role for both the insurgents and the Portuguese trying to contain them. Riverine doctrine and operations were in their infancy when Portugal decided to go against world convention and undertake efforts to retain its three colonies in Africa (Angola, Mozambique and Guinea). Thus the Portuguese military developed and executed their concepts over the course of 13 years of ongoing operations in response to the insurgents.

Brown Waters of Africa commences with a comprehensive overview of the development of the insurgency movement within Africa and the concurrent responses to it from the West and Soviets. The author, John P. Cann, then addresses the challenges to the Portuguese government and senior military staff as it was pulled between opportunities and responsibilities to NATO (and its blue-water naval requirements) and the 'ultra-mar' (or colonies) and their brown-water focus. The Portuguese senior naval staff's success, commencing in the mid-1950s, in meeting both of these necessities, was remarkable both in terms of naval equipment purchase and design and doctrinal development (especially relating to operations within river, lake and littoral regions). While creating their own unique brown-water doctrine, the Portuguese drew heavily on the successes and failures of three main allies: the United States, France and Great Britain.

Cann delves into the creation of specialized marine infantry, the Fuzileiros, to augment the engagement power of the riverine fleet. Having been disbanded as a force in 1890, these marines were reactivated with new operating procedures and tactics in 1959. Operating with new Zodiac-style small boats, these soldiers augmented the already versatile and formidable fleet of landing craft,

patrol boats and frigates that were specifically created to meet the unique requirements of brown-water engagements.

Once he establishes the background and history of the Portuguese involvement and reaction to the colonial insurgencies, Cann focuses his attention on operations and activities within each of the colonies themselves. Drawing upon extensive after-action reports and interviews, he sheds light upon the similarities and differences among the Portuguese navy's responses to the unique requirements of each region. Faced with insurgents of varying capability and competence, the navy, through an ongoing and dynamic process of trial and error, developed extremely effective and responsive methods to interdict and disrupt insurgent logistical support by denying them freedom of movement within the regional waterways. Due to the challenging geography of the region, joint operations with the army became the norm and while this was, from an overall perspective, effective there were significant growing pains as the two traditionally independent elements struggled with command and control as well as operational primacy issues. Nevertheless, the navy's ability to adapt both its equipment and tactics to meet the challenges of the insurgencies was impressive.

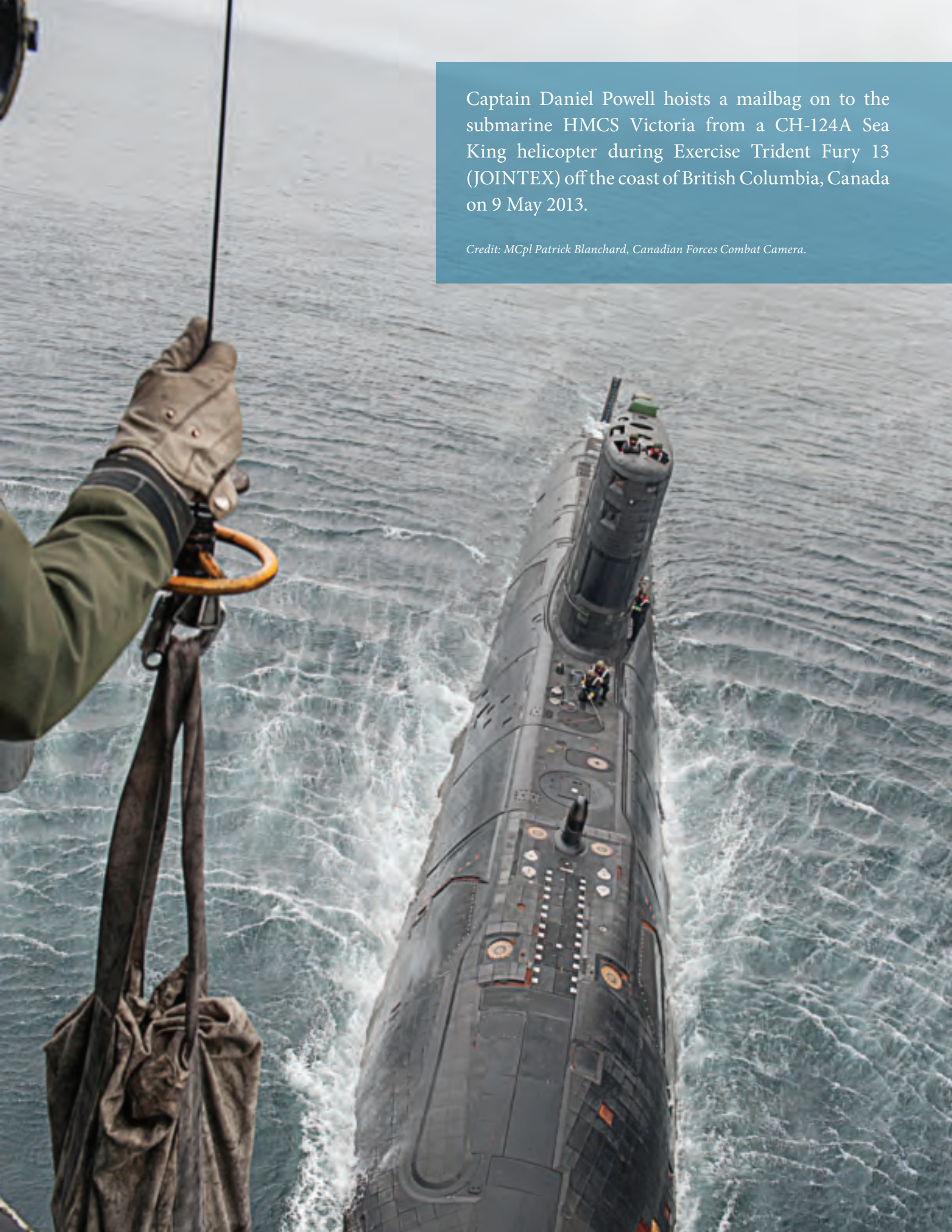
Brown Waters of Africa is excellent and sheds light upon a campaign that was largely overshadowed by the US experiences in Vietnam. That the Portuguese were able, by 1974, to realize some military success in their insurgent regions is in and of itself indicative of the critical success of their equipment and tactics. Cann provides an outstanding bibliography and footnote system thereby providing the reader with reams of material to follow up with. His extensive use of maps also ensures clear geographic context for the different theatres of operations. The font is a bit small but this is a minor inconvenience.

Overall this is an excellent book and one that should be studied for those interested in expanding their knowledge of non-traditional uses of naval assets in an asymmetric environment. Highly recommended. 🇵🇹



Portugal's contemporary river patrol boat fleet includes the *Rio Minho* (P370).

Credit: Wikimedia Commons



Captain Daniel Powell hoists a mailbag on to the submarine HMCS Victoria from a CH-124A Sea King helicopter during Exercise Trident Fury 13 (JOINTEX) off the coast of British Columbia, Canada on 9 May 2013.

Credit: MCpl Patrick Blanchard, Canadian Forces Combat Camera.



During calm seas the wakes produced by HMCS *Toronto* and USS *Rainier* during an underway replenishment collide to produce high waves and spray during *Operation Artemis* on 24 August 2013.

Credit: Master Corporal David Singleton-Browne, Canadian Forces Combat Camera.