

CANADIAN FORCES COLLEGE / COLLÈGE DES FORCES CANADIENNES
CSC 29 / CCEM 29

MDS RESEARCH PROJECT / PROJET DE RECHERCHE DEL LA MED

THE CANADIAN NAVY: DEFENDING THE HOMELAND

By /par

LCdr W.S. Bates

This paper was written by a student attending the Canadian Forces College in fulfilment of one of the requirements of the Course of Studies. The paper is a scholastic document, and thus contains facts and opinions which the author alone considered appropriate and correct for the subject. It does not necessarily reflect the policy or the opinion of any agency, including the Government of Canada and the Canadian Department of National Defence. This paper may not be released, quoted or copied except with the express permission of the Canadian Department of National Defence.

La présente étude a été rédigée par un stagiaire du Collège des Forces canadiennes pour satisfaire à l'une des exigences du cours. L'étude est un document qui se rapporte au cours et contient donc des faits et des opinions que seul l'auteur considère appropriés et convenables au sujet. Elle ne reflète pas nécessairement la politique ou l'opinion d'un organisme quelconque, y compris le gouvernement du Canada et le ministère de la Défense nationale du Canada. Il est défendu de diffuser, de citer ou de reproduire cette étude sans la permission expresse du ministère de la Défense nationale.

Abstract

The events of 9/11 were the catalyst for North Americans to re-examine how safe they are at home. The attacks on the World Trade Center and the Pentagon demonstrated how easily the very instruments of a free society could be used to undermine the safety and security of the nation. Nowhere is the challenge of meeting security expectations more daunting than in the maritime domain where extensive coastlines, free access to the heart of major urban centres and the destructive potential that is inherent in marine transportation and infrastructure seemingly present an endless array of possibilities for criminals and terrorists to exploit. The Canadian navy has a long-standing responsibility to protect Canadians from threats along its shore. Additionally, as the United States addresses its own maritime security interests, there may be increased pressure to participate in collective continental maritime defence. This paper will explore how Canadian maritime security threats were managed prior to 9/11, how it has changed since then and how the Canadian navy is prepared to meet future challenges in protecting the homeland.

THE CANADIAN NAVY: GUARDING THE HOMELAND

INTRODUCTION

Dalhousie University's 'Integrated Maritime Enforcement' project defines maritime security "as the freedom from threat to national interests in, on, over and concerning the sea."¹ The threats to maritime security range from

threats and acts of violence to coerce, extort or accomplish a political goal; direct challenges to national sovereignty; disregard of national and international law; illegal resource exploitation; the illegal transportation of goods and people; and the deliberate or unintentional creation of an environmental hazard.²

The attacks on the World Trade Center and Pentagon highlighted that the very instruments of a free society could be turned against the state to threaten its economic and security interests. North American confidence in the airline industry was shaken in these attacks, especially in light of what was considered to be a relatively secure, safe and well-regulated segment of society. A more disturbing and ominous vulnerability may be present along the miles of relatively undefended North American coasts.³ In the United States, this represents over 152,000 km of coastline along which over half of the US population resides.⁴ In Canada, the challenge is seemingly greater - a coastline of over 243,000 km on three oceans and a quarter of the population within 100km of a coastal area.⁵ In recognition of this challenge, General Eberhart, the first commander of the United States Northern Command (NORTHCOM) and current commander of the North American Aerospace Defence (NORAD) Command, has advocated an expansion of

¹ Francois Bailet, Fred W. Crickard, and Glen J. Herbert, *Integrated Maritime Enforcement: A Handbook* (Halifax: Dalhousie University Press, 1999), 9.

² Fred W. Crickard and Peter T. Haydon, *Why Canada Needs Maritime Forces* (Nepean: Naval Officers' Association of Canada, 1994), 11.

³ David Helvarg, "If by Sea", *Popular Science*, Volume 261 No. 3 (September 2002): 60.

⁴ *Ibid*, 60.

Canada-US partnership to formalize cooperation between maritime and land forces in a NORAD style arrangement.⁶ Increased involvement in domestic security beyond what is presently required would seem to be an additional burden on an already over-stretched navy – one that has been heavily engaged in The War on Terrorism since 2001.

As the Standing Senate Committee on National Security and Defence has noted in their report, *Canadian Security and Military Preparedness*, there has been a loud call for increased defence funding from academics, defence advocates and the Auditor General.⁷ The Committee agreed with the generally accepted view that the Canadian Forces (CF) is under-funded and that it requires a minimal funding increase of at least \$1 billion a year, for five years.⁸ The most recent federal budget provides the Department of National Defence (DND) with an increased budget of \$800 million dollars each year, which will be used to “address the military’s sustainability gap and help stabilize the Canadian Forces.”⁹ In light of the generally accepted view of the navy as the best equipped branch of the CF and that shortfalls are more dire in the army and air force, it is reasonable to assume that the navy cannot expect a major increase in its budget. Therefore, it can be assumed that any domestic and continental maritime security obligations will have to fall within current budgetary constraints.

Given the Canadian navy’s limited resources, both fiscally and in the number of assets available, some commentators advocate that the navy should redefine itself and

⁵ Glen J. Herbert, “Canada’s Oceans Dimension: A Factbook.” *Niobe Papers 11*, (Halifax: Maritime Affairs for the Naval Officer’s Association of Canada, 1999), 4.

⁶ Sheldon Alberts, “U.S. General seeks closer Military Ties: Sovereignty Worries: Anti-Terror Chief Urges Co-operation for Navy, Land Forces”, *National Post*, 19 October 02, A4.

⁷ *Canadian Security and Military Preparedness*, Fifth Report of the Standing Senate Committee on National Security and Defence, The Honourable Colin Kenny and The Honourable J. Michael Forrestall, (Ottawa: Parliamentary Publications Directorate, February 2002): 83.

⁸ *Ibid*, 82.

concentrate on a constabulary role in defence of the homeland.¹⁰ This proposition ignores the navy's other responsibility in contributing to international peace and security and that it may be desirable or necessary to intercept threats far from the Canadian coast, possibly in concert with other allies. The competing demands for global engagement and domestic security are thus not easily resolved. The navy's ability to globally deploy and work in concert with international allies is well proven through its NATO deployments and current involvement in the War on Terror. What has not been answered is whether the Canadian navy is able to apply itself effectively to the homeland defence of Canada and to the greater continental security challenge in concert with the United States.

It is the position of this paper that despite its limited resources, the Canadian navy is taking the necessary steps to ensure it continues to meet government expectations for domestic security post-9/11. To support this position, it will be necessary to first outline the domestic security situation prior to 9/11. As part of this review, the responsibilities and fleet structures of the principal federal departments charged with protecting Canada's maritime interests will be summarized. This study will show that the basic construct, organizational framework and inter-departmental relationships remain unchanged since 9/11 as have the navy's responsibilities for coastal surveillance, defending against military aggression and assisting other agencies when directed. Equally, the collective North American defence is not a new mission area and it will be shown that Canada has a long history of cooperation that provides the foundation for further partnership.

⁹ Department of National Defence, *Defence Highlights: Budget 2003*; available on-line from http://www.forces.gc.ca/site/Reports/budget03/highlights03_e.htm; accessed 8 May 2003.

¹⁰ Council for Canadian Security in the 21st Century, *The People's Defence Review*. (Calgary: The Council, 11 September 2002, available from <http://www.ccs21.org/peoples-def/people-def-rev.pdf>; accessed Nov 02, 16.

The US reacted swiftly to the realization that it could be a target of international terrorism and has embarked upon an historic restructuring of its departments through the introduction of the concepts of Homeland Security (HLS) and Homeland Defense (HLD). Next, the principals behind these concepts, how they relate to the US Department of Defense (DoD) and how they can be related to the Canadian context will be explored. A detailed review of the new unified US command of NORTHCOM and the interaction with the Canadian military will follow. To understand why increased attention is being directed at maritime security and why actions in the US are important in Canada, the current and emerging terrorist threats to Canadian and American maritime interests will be examined. The result of this background discussion will demonstrate that the challenge in safe-guarding every inch of the world's longest coastline is beyond even the combined resources of all maritime security partners. This discussion will then naturally lead into a review of the strategies that must be developed to make security a manageable endeavour.

As will be demonstrated, Canada lacks not only a comprehensive national security strategy, but a maritime strategy as well. The United States Coast Guard (USCG) has undertaken to identify areas of relatively greater risk and applied the concept of Effects-Based Operations (EBO) whereby operations are planned systemically and with regard to combined political, legal, economic and operational impact. This review will demonstrate that, due to resource limitations, the Canadian navy has informally adopted a similar tact. As it can be assumed that the US is prepared to act alone to guard its own interests and it would be in Canada's best interests to cooperate, the NORTHCOM mission of deterring, preventing and defeating any attacks on the US provides a useful

construct to examine Canadian naval capabilities in these areas. A case study based upon the interception of Chinese immigrants in the Pacific in 1999 will provide a recent example of how the navy's capabilities and collaborative approach with other Canadian government departments and with the US was effective in this regard. Finally, the increased attention to protecting Canadian maritime interests has generated much debate regarding the focus and direction that the Canadian navy should take in the future. These arguments will be reviewed to demonstrate that the navy's current structure and proposed direction is appropriate and is meeting government expectations.

BACKGROUND – THE FOUNDATION PRIOR TO 9/11

The Standing Senate Committee on National Security and Defence has determined that “Canada does not have a specific National Security Policy that would place defence policy, foreign policy and internal security in context, and relate them to one another.”¹¹ The relationship between departments and the approach has been ad hoc and unclear to the outside observer. Before looking at how, or if, maritime security management has changed since 9/11, a baseline must be established. A review of the assigned responsibilities and fleet assets of the Department of Fisheries and Oceans (DFO), Customs and Immigration Canada (CIC), Royal Canadian Mounted Police (RCMP), and navy, along with the inter-departmental relationships must be clarified.

DFO, with its embedded Coast Guard, is responsible for fisheries management and facilitating maritime safety and commerce through vessel traffic services, maintenance of aids to navigation and ice-breaking. Mr. C. Gadula, Director General Marine Programme, describes the Coast Guard role for marine security as one of support.

As an organization with a presence throughout the maritime areas, the Coast Guard is able to link its primary activities directly into surveillance and information activities and aids in sovereignty protection through its visible presence.¹² With a combined research and Coast Guard fleet of over fifty ocean-going vessels, 38 small coastal Search and Rescue (SAR) assets and 29 aircraft, DFO has a number of aging, mainly single purpose ships that are available to meet its mandate.¹³ These assets, when combined with a number of shore installations, including light houses and other infrastructure, provide a presence in all of Canada's maritime regions.¹⁴ While Customs and Immigration is responsible for guarding against the illegal importation of goods and people, it has no resources of its own and must call upon the RCMP for "enforcement of federal statutes in areas such as customs other than at ports of entry, illegal immigration, drugs, counterfeit goods and national security."¹⁵ To meet these responsibilities the RCMP operate four fast catamarans on the west coast and one on the east coast, in addition to a number of smaller, portable boats. These catamarans are small enough that they can operate close to the shore but large enough to provide a satisfactory degree of sea-keeping. With a top speed of 36 knots, they are fast enough to intercept most surface vessels plying the waters.¹⁶ The RCMP views these vessels as floating detachments that provide presence

¹¹ *Canadian Security and Military Preparedness*,: 49.

¹² Canada, The Standing Senate Committee on National Security and Defence. Ottawa: Testimony of Mr. C. Gadula, Director General, Marine Programme, Canadian Coast Guard, Monday, April 7, 2003, unedited transcript

¹³ *Jane's Fighting Ships 2002-2003*, Ed. Commodore Stephen Saunders, RN, (Surrey, UK: Jane's Information Group Limited, 2002), 96-103

¹⁴ Canada, The Standing Senate Committee on National Security and Defence. Ottawa: Testimony of Mr. C. Gadula, Monday, April 7, 2003, unedited transcript

¹⁵ Canada, The Standing Senate Committee on National Security and Defence Ottawa, Testimony of Superintendent Ken Hansen, the Director of Federal Enforcement, RCMP, Monday, April 7, 2003, unedited transcript.

¹⁶ Canada, Royal Canadian Mounted Police marine website; available from http://www.rcmp-grc.gc.ca/marine/marine_e.htm; accessed 12 January 2003.

and response assets along coastal communities.¹⁷ In viewing the civilian government fleet, one quickly ascertains that there are limited not only in the number of assets but in capability as well. This has resulted in the development of an arrangement where the navy may be called upon to provide assistance to other government departments or to provide aid to the civil power when the circumstances are beyond the ability of the civil authority to manage.

Whenever military assistance is provided, the boundaries regarding the type of assistance, the relationship between the parties and the duration is formalized. To further solidify the inter-governmental partnerships, the CF signed Memorandums of Understanding with the RCMP for counter-drug operations and responses to Chemical, Biological, Radiological and Nuclear (CBRN) attacks including the training of RCMP officers. The CF also has similar standing agreements with DFO for surveillance and enforcement of fisheries regulations and with Environment Canada for pollution surveillance patrols and clean-up assistance.¹⁸ DND's contribution of aircraft flying hours and vessels to support fisheries enforcement is cited as a "good example of interdepartmental cooperation yielding an efficient use of government resources".¹⁹

It is with respect to the law enforcement aspects where the roles of the Canadian and American navies principally differ. In the US, maritime enforcement is the mandate of a Coast Guard that is heavily armed and well equipped to employ force, both to ensure compliance and for self-defense. In Canada, the RCMP and DFO are lightly armed and both agencies not only lack ships but have very few with the requisite combination of

¹⁷ Canada, The Standing Senate Committee on National Security and Defence. Ottawa: Testimony of Superintendent Ken Hansen, Monday, April 7, 2003, unedited transcript

¹⁸ Department of National Defence, "Guidance for the Conduct of Domestic Operations" *NDHQ Instruction DCDS 2/98*, (Ottawa: National Defence Headquarters, 10 July 1998), D2.

sea-keeping ability and speed to interdict violators throughout Canada's maritime areas. As a result, the Canadian navy is more likely to be called upon to assist in the law enforcement role at sea. One of the most visible testaments to this situation is the standing designation of Canadian naval officers as fisheries protection officers.

Of course, assisting other government agencies is only one of the Canadian navy's responsibilities towards maritime security. Chapter 4 of the 1994 White Paper on Defence (WP94) outlines that the CF is to ensure the protection of Canada. The navy must retain a capability to defend the country against a military threat and to ensure that Canadian sovereignty is protected are assigned responsibility for maritime surveillance and control.²⁰ In response to WP94, DND developed eleven force planning scenarios. Six of these relate to the CF role in North America and cover contingencies that range from search and rescue and disaster relief to aid to the civil power and defence of Canadian/US territory.²¹ There is no indication that these scenarios have been modified in the wake of 9/11 and remain unchanged.

According to Defence Plan 2001, the navy is mandated to respond in eight hours in support of surveillance and control activities, to assist other governmental departments, for search and rescue and in aid of the civil power. Within 24 hours the navy is to provide humanitarian assistance.²² Table 1 summarizes the Canadian navy's inventory of versatile, capable and complementary fleet resources that can be applied to meet domestic maritime security challenges.

¹⁹ Ibid.

²⁰ Canada. Department of National Defence. *1994 Defence white Paper*. Ottawa: DND, 1994; available from http://www.dnd.ca/admpol/eng/doc/5116_e.htm; accessed 13 March 2003.

²¹ Department of National Defence, *Force Planning Scenarios*, (Ottawa: Director of Defence Analysis, 20 Dec 1999), available from http://www.vcds.forces.gc.ca/dgsp/dda/scen/intro_e.asp.

²² Department of National Defence, *Defence Plan 2001*, (Ottawa: DND, 2001) p. 3-2; available from http://www.vcds.forces.gc.ca/dgsp/pubs/dplan/intro_e.asp; accessed 15 Mar 03.

	Capability
12 Canadian Patrol Frigates (CPF) 4 IRO Class Command and Control and Area Air Defence Destroyers	<ul style="list-style-type: none"> • Sustainability – all weather capability for 8-10 days without replenishment • Combat capability – self protection against surface, sub-surface and air attacks • Radius of action – with a top speed of 30 knots, these ships are able to intercept all but the fastest of surface vessels. An embarked helicopter can be used to extend the surveillance coverage, to ferry personnel and equipment and evacuate casualties. A rigid hull inflatable boat and two zodiacs provide shallow water access • Advanced C⁴ISR – able to coordinate the activities of a variety of ships, aircraft and submarines. • Surveillance – sensors including radar, electronic detection systems and sonar • Versatility – with a complement of over 200 sailors, these ships can provide expertise in all facets of marine operations including damage control, casualty handling, spill response and chemical, biological and radiological detection and protection
12 Maritime Coastal Defence Vessels (MCDV)	Provide a patrol and surveillance capability all along the Canadian coast. Slower speed and limited self protection capabilities limit law enforcement applications to tailored tasks. Unique capabilities include: <ul style="list-style-type: none"> • route survey and bottom mapping operations • mine hunting and clearance operations
2 Auxiliary Oiler Replenishment (AOR) Vessels	Used primarily for fleet replenishment and have enormous potential for assisting with maritime emergencies along the coasts due to: <ul style="list-style-type: none"> • limited cargo carrying capacity • four bed hospital and operating room • extensive repair facilities • large areas for reception and handling • capacity to operate up to 3 helicopters
Submarines (4 in process of transfer from RN)	The transfer of four ex-Upholder submarines from the Royal Navy is ongoing. Submarines offer exceptional capability to monitor the sub-surface and surface environments.
4 Port Security Units	Fully deployable anywhere in continental North America, these units can provide surveillance, contact analysis and reporting, interdiction of vessels, waterside security of vessels and port infrastructure, force protection of government assets, vessel movement control and limited diving operations. Additionally, they can support other military or other governmental operations to ensure port safety, law enforcement, explosive ordnance disposal, salvage and safe navigation; ²³
2 Diving Units	situated on each coast, the Fleet Diving Units offer deep and shallow water mine countermeasures, explosive ordnance disposal and battle damage repair. Divers are capable of operating bottom object investigation; ²⁴
2 Portable Communications Facilities	The navy operates a Transportable Tactical Communications Centre (TTCC) on each coast. Deployable and completely self-sufficient, this system of trailers and tents provides satellite, radio and land-line voice and data-link access world-wide ²⁵ ;
Training vessels and auxiliaries	The navy operates a fleet of six small coastal training vessels and a number of small diving auxiliaries and tenders. While often overlooked due to their small size and limited utility, they represent additional assets that could be used to further augment port security and local area control operations. The planned replacement of the navy's small coastal training fleet offers a further opportunity to increase its response capabilities by purchasing a high-speed vessel that is able to contribute to the surveillance role and transport law enforcement officials to an emerging crisis along the coast. These vessels would be in the 50-ton range and therefore would have limited endurance and could not operate in a significant sea state but would have great utility close to the shore. ²⁶

Table 1 – Canadian naval assets

²³ Department of National Defence, *Port Security Unit Concept of Operations*, MARC: 3000-6 (DGMPR) 27 April 2001, 5-7.

²⁴ Department of National Defence, Fleet Diving Unit Pacific website; available from [http://www.marpac.dnd.ca/Support/Units/FDU\(P\)/FDUPacific.html](http://www.marpac.dnd.ca/Support/Units/FDU(P)/FDUPacific.html) accessed 15 Mar 03.

²⁵ Brian Mosher, "Exercise Coastal Watch 01, A Communications Perspective" *C&E Newsletter*, Vol 43; available from <http://www.dnd.ca/commelec/nwsletr/vol43/tccex.htm>; accessed 8 Jan 03

Table 1 is not intended to be an exhaustive list of capabilities, but rather illustrate that although limited in the numbers, the Canadian naval fleet offers a a diverse range of capabilities that can be tasked at home and abroad. Closer examination of specific mission areas will reveal how these assets may be applied individually and collectively to protecting the coasts. Collective protection is not just in tandem with other government departments. Due to the shared border and common interests, security efforts are likely to be conducted with, or in close proximity to, Canada's southern neighbour.

The CF has a history of close defense partnership with the United States. There are currently over 80 treaty-level defence agreements, over 250 defence department memoranda of understanding between the two countries and over 145 forums where the two countries discuss defence matters.²⁷ Since 1940, the Permanent Joint Board on Defence has met semi-annually to discuss matters of joint interest. Other prominent examples of the continuing strength of the bi-national relationship include the Canada-United States Military Cooperation Committee (MCC) which was formed in 1946 and the NATO sponsored Canada-US Regional Planning Group. The largest example of bi-national cooperation however, continues to be exuded through the North American Regional Aerospace Defence Command (NORAD). Established in 1958, this command has stood as an example of bi-national regional cooperation.²⁸ Without any permanently assigned forces of its own, NORAD is tasked with coordinating the combined assigned resources of Canada and the US. The responsiveness and flexibility of this organization

²⁶ Canada, The Standing Senate Committee on National Security and Defence. Ottawa: Testimony of VAdm R. Buck, Chief of the Maritime Staff, Monday, April 7, 2003, unedited transcript

²⁷ House of Commons, Standing Senate Committee on National Security and Defence, *Defence of North America: A Canadian Responsibility*, September 2002, available from www.parl.gc.ca/37/1/parlbus...om-E/defe-e/rep-e/rep08sep02-e.html; accessed 15 Sep 02

²⁸ Tariq Rauf, "Canada's Perspectives on NMD", (Monterey: Monterey Institute of Strategic Studies); available from <http://www.mi.infn.it/~landnet/NMD/rauf.pdf>; accessed 13 March 2003, 178-179.

has been amply demonstrated over its 45 year history and particularly on September 11th 2001 in response to the attacks on the World Trade Center and Pentagon. Based on the success of this command, it was logical that the commander of NORAD would be passed the additional responsibilities to oversee NORTHCOM, an organization that is attempting to formalize how continental defence will be protected by the US. The air force is not the only branch to enjoy the benefits of a close relationship with their US counterparts.

Many years of close interaction with the USN has brought the Canadian navy a level of interoperability with their neighbour that is the envy of other allies. Since 1998, a Canadian frigate has fully integrated directly into US Battle Groups.²⁹ Replacing a USN escort in this fashion indicates a level of trust in Canadian naval professionalism and capability that can only be fostered through years of close interaction.

POST 9/11 – A NEW FOCUS

The attacks on the World Trade Center and the Pentagon on September 11, 2001 clearly demonstrated how vulnerable western society is to asymmetric attack. In addition to creating over \$700 billion in direct and indirect damage to infrastructure and the economy,³⁰ the events of the day underscored critical vulnerabilities that could be exploited by those who wish to undermine US interests and those of her allies. In response, the United States has made historic changes to the way it will ensure the protection of its vital national interests at home. Under the *US National Security Strategy*, the United States has committed to “identifying and destroying the threat before

²⁹ Paul T. Mitchell, “Small Navies and Network-Centric Warfare: Is There a Role?” *Naval War College Review*, Vol LVI, No 2 (Spring 2003): 92.

³⁰ James D. Hessman, “The Maritime Dimension”, *Sea Power*, Vol 45, Issue 4, (April 2002): 28.

it reaches its borders.”³¹ While striving to work with their allies, the US has clearly articulated that it will act alone to intervene where necessary in the interest of its own self-defense.³² To increase inter-departmental cooperation, the US has undertaken a historic re-organization and created an entirely new department of Homeland Security (HLS). In signing the bill that proclaimed this new department, President Bush stated that:

Dozens of agencies charged with homeland security will now be located within one Cabinet department with the mandate and legal authority to protect our people. America will be better able to respond to any future attacks, to reduce our vulnerability and, most important, prevent the terrorists from taking innocent American lives.³³

Under Presidential Executive Order 13228, the Office of Homeland Security was established “to detect, prepare for, prevent, protect against, respond to, and recover from terrorist attacks with the United States.”³⁴

The DoD is a key contributor to the HLS mission and, under the Unified Command structure has created NORTHCOM to coordinate the military effort in the defence of North America. Whereas HLS is an umbrella term that encompasses the combined efforts of all government agencies, non-government organizations and the private sector,³⁵ HLD is a subset of HLS where the military is the lead agency in

³¹ United States. *The National Security Strategy of the United States of America*, (Washington: The White House, September 2002): 6; available from <http://www.whitehouse.gov/nsc/nss.pdf>; accessed 6 May 2003.

³² Ibid, 6.

³³ United States, Remarks by the President at the Signing of H.R. 5005 the Homeland Security Act of 2002 The East Room; available from <http://www.whitehouse.gov/news/releases/2002/11/20021125-6.html>

³⁴ United States, Executive Order 13228 establishing the Office of Homeland Security; available from <http://www.whitehouse.gov/news/releases/2001/10/20011008-2.html> accessed 11 Feb 03

³⁵ Steven M Rinaldi, Donald Leathern, and Timothy Kaufman, “Protecting the Homeland: Air Force Roles in Homeland Security”, *Aerospace Power Journal*. Vol 16 No. 1 (Spring 2002); available from <http://www.airpower.maxwell.af.mil/airchronicles/apj/apj02/spr02/rinaldi.html>; accessed 03 Nov 03

defending against an external attack on the country.³⁶ Canada's Department of National Defense (DND) contributes to HLS by providing assistance to law enforcement agencies and other federal departments through the provision of personnel and resources upon request of the applicant. CF assistance is always in a supporting role to the law enforcement agency of jurisdiction, which retains full responsibility for the operation.³⁷ HLD differs from domestic operations "in that there are forces external to Canada involved and the Canadian Forces (CF) is involved in preventing or countering such influence on the nation."³⁸ As HLD involves the use of combat power, the DND is the lead agency. In the HLS role, the applicable civilian agency of jurisdiction normally remains the lead agency and DND is assigned a supporting role. There is a fundamental difference between "Canadian and American political and legal cultures"³⁹ In the United States, the Posse Comitatus Act limits the degree of participation that the armed forces can take in domestic activities. In Canada, however, there are no such restrictions and under the Emergencies Act, the military can be directed to act in the interest of "public welfare (severe natural disasters); public order (threats to the internal security of Canada); international; and war."⁴⁰ As a result, the dividing line between HLS and HLD is blurred in Canada as the government may task its military with taking the lead in a domestic crisis situation.

³⁶ Steven Tomisek, "Homeland Security: The New Role for Defense", *Strategic Forum*, No. 189 (February 2002) available from www.ndu.edu/inss/strforu.PDF; accessed 3 Mar 03.

³⁷ Department of National Defence, "Guidance for the Conduct of Domestic Operations" *NDHQ Instruction DCDS 2/98*, (Ottawa: National Defence Headquarters, 10 July 1998),10.

³⁸ Sean M. Maloney, "Homeland Defence: The Canadian Context, 1940-2000", *DLSC Research Note 01/02*, (Ottawa: Department of National Defence, January 2001), 3.

³⁹ Russell Howard, "Chemical and Biological Terrorism: Political Hype or Bona-Fide Post-Cold War Threat?" in ". . . to insure domestic Tranquility, provide for the common defence . . ." (*Papers from the Conference on Homeland Protection*), ed. Dr. Max G. Manwaring, (Carlisle: Strategic Studies Institute, October 2000), 131; available from <http://www.carlisle.army.mil/ssi/pubs/2000/tranquil/tranquil.pdf>; accessed 16 December 2003.

The C.D. Howe Institute and the Standing Canadian Senate Committee on National Security and Defence are strong proponents of Canada's participation in a common North American defence structure and closer integration with the US in NORTHCOM. The C.D. Howe Institute argues that "hanging back would reduce Canada's leverage in negotiations with Washington and imperil its sovereignty if the United States acted to protect itself from attack without working with the Canadian government and armed forces."⁴¹ The Senate Committee on National Security and Defense has echoed these sentiments in stating that Canadians "recognize that their own security depends to a large extent on world security, and particularly the security of North America."⁴²

Established on 1 October 2002, NORTHCOM has responsibility for the continental United States, Canada and Mexico as well as the approaches to these countries out to 500 miles. With its recent stand-up, the organization continues to evolve. The first Commander of NORTHCOM, General Eberhart, foresees it developing ultimately along the NORAD model to include a partnership with Canada and Mexico.⁴³ Without any permanently assigned forces of its own, the aim or challenge of NORTHCOM has been to establish a command structure that can provide a continuing deterrence to potential enemies, detect threats as they emerge, and respond appropriately.

⁴⁰ Sean Maloney, "Domestic Operations: The Canadian Approach," *Parameters*, (Autumn 1997): 143.

⁴¹ J.L. Granstein, *A Friendly Agreement in Advance: Canada-US Defense Relations: Past, Present and Future*, (Toronto: CD Howe Institute No. 166 June 2002)

⁴² House of Commons, Standing Senate Committee on National Security and Defence, *Defence of North America: A Canadian Responsibility*, September 2002, available from www.parl.gc.ca/37/1/parlbus...om-E/defe-e/rep-e/rep08sep02-e.html; accessed 15 Sep 02

⁴³ Sheldon Alberts, "U.S. General seeks closer Military Ties: Sovereignty Worries: Anti-Terror Chief Urges Co-operation for Navy, Land Forces", *National Post*, 19 Oct 02, A4.

In the event of an attack, the command must also be capable of assisting local authorities in crisis response and consequence management.⁴⁴

NORTHCOM's responsibilities are all encompassing. The prime responsibility is to provide a standing command and control structure that can coordinate the civil and military resources required to manage a developing crisis or emergency situation. This may include supporting state and federal officials in responding to disaster relief efforts, counter-drug operations, interception of vessels, and managing the effects of a nuclear release.⁴⁵ Canada has taken tentative steps toward NORTHCOM by participating in a bi-national planning group that is tasked with "preparing contingency plans to ensure a cooperative and well coordinated response to national requests for military assistance in the event of a threat, attack, or civil emergency in Canada or the US."⁴⁶ This planning group recently completed a mission analysis and will soon begin preparing "bi-national plans to improve our ability to work in the domestic bi-national context from the national perspective."⁴⁷ Subordinate to the bi-national planning group is the Maritime Plans and Surveillance Working Group that will collaborate with other groups, such as Canada's Interdepartmental Maritime Security Working Group (IMSWG) and the NORAD Maritime Surveillance Working Group, to increase bi-national maritime security and surveillance.

The establishment of NORTHCOM has not fundamentally changed the way in which Canada and the US cooperate on defence matters. The Canadian government

⁴⁴ United States. NORTHCOM official website; *Newsroom-Fact Sheets –U.S. Northern Command*, available from <http://www.northcom.mil/index.cfm?fuseaction=news.factsheets#usnorthcom> ; accessed 21 January 2003

⁴⁵ Ibid.

⁴⁶ Sheldon Alberts, "Terror Fight May Bring U.S. Troops Here: Canadian General to Command Joint Unit in Charge of Anti-terrorist Response Plans", *National Post*, 09 December, 2002.

reaffirmed that in the event of a crisis, “operational cooperation between the Canadian and U.S. military forces will continue to occur only under conditions approved by both governments, on a case-by-case basis.”⁴⁸ The real benefit of establishing NORTHCOM appears to be in the increased focus and attention that it has attracted to domestic security. It has caused the militaries of both countries to re-examine how they ensure their own domestic security and how this may be improved with a continental, cooperative approach to protecting US and Canadian interests. From a maritime standpoint, increased attention to domestic security has also caused commentators on both sides of the border to consider the potential threats that may be presented along the miles of open coastlines.

THE THREAT

Margaret Purdy, Deputy Minister of National Defense and chair of the Office of Critical Infrastructure Protection and Emergency Preparedness (OCIPEP) has noted, the threats to maritime security come not only from those who would intentionally seek to harm our interests but also from accidents along our coasts and even through the impact of a natural disaster.⁴⁹ This overlap between safety and security remains unchanged and pre-dates 9/11. The Halifax explosion of 1917⁵⁰ caused by the collision of two merchant ships in the harbour is testimony to the risk we accept on a daily basis within our ports

⁴⁷ Canada, The Standing Senate Committee on National Security and Defence. Ottawa: Testimony of VAdm Buck, Chief of the Maritime Staff, Monday, April 7, 2003, unedited transcript

⁴⁸ Department of National Defence, *Backgrounder: Enhanced Canada-U.S. Security Cooperation*, (Ottawa: DND, 9 December 2002); available from http://www.forces.gc.ca/site/newsroom/view_news_e.asp?id=509; accessed 7 May 2003.

⁴⁹ Margaret Purdy, “Critical Infrastructure Protection: a Canadian Perspective” in *Fortress North America?: What ‘Continental Security’ Means for Canada*, ed. David Rudd and Nicholas Furneaux, (Toronto: The Canadian Institute of Strategic Studies, 2002), 22.

and along our coastlines. While accident prevention is beyond a navy's mandate, protecting the shores against purposeful acts of terrorism or crime is not. To add credence to the potential threat, it is known that Osama bin Laden controls a number of cargo ships, one of which was reportedly used to deliver explosives to Kenya in 1998, which were possibly used on subsequent attacks on the U.S. embassies in Kenya and Tanzania.

Potential threats to maritime security interests are limited only by the imagination.⁵¹ The threat runs the gamut from terrorism, a weapon of mass destruction release, international crime involving the smuggling of goods, drugs or illegal migrants to trans-national health, illegal fishing, exploitation of undersea resources as well as environmental and transportation safety concerns.⁵² The attacks of 9/11 in particular have raised concerns over the possibility that terrorists may seek to exploit vulnerabilities in North American maritime security. Specifically, there is speculation that terrorists could be smuggled into port aboard container ships, ports could be mined to disrupt commerce, a boat loaded with explosives could be detonated on the waterfront, pollutants could be purposely discharged in along the shore or that cruise missile or Weapons of Mass Destruction (WMD) attacks could be directed at coastal cities.⁵³

The Standing Committee on National Defence and Veteran's Affairs in its report entitled *Facing our Responsibilities: The State of the Canadian Forces*, downplayed the direct imminent terrorist threat to Canada. In their view, the direct threat is to the United

⁵⁰ A good overview of the Halifax Explosion can be obtained at <http://museum.gov.ns.ca/mma/AtoZ/HalExpl.html>

⁵¹ LCol Antulio J Echevarria II, "Homeland Security Issues: A Strategic Perspective," in *Defeating Terrorism: Strategic Issue Analyses*, ed. Colonel John R. Martin. (Strategic Studies Institute, January 2002), 34; available from <http://www.carlisle.army.mil/ssi/pubs/2002/terror/terror.pdf>; accessed 24 Nov 02.

⁵² Commander Michael R. Kelley, "The Shoal Waters of Homeland Security", *USNI Proceedings*, Vol 128/5/1, 191 (May 2002), 65.

States. This does not make Canada immune as the two nations are so closely linked that any attack which impacts the US economy will be felt north of the border as well.

Additionally, should US security be sufficiently tightened to deter a direct attack along the US coast, Canada could be seen as a softer secondary target, or a point of entry to North America to launch an attack south of the border.⁵⁴ Therefore, even if Canada is not the primary target, it must be prepared to ensure that Canada does not present a security risk to US interests. The perception of Canada as a security risk could lead to punitive steps that would either harm economic interests or impinge upon Canadian sovereignty should the US act without Canadian consultation. There are many reasons, therefore, why Canada has to be proactive in ensuring maritime security.

The task of monitoring the activities along Canada's shores is daunting. Between 850 and 900 vessels over 300 gross tons arrive off the East Coast of Canada each day destined for ports up and down the US and Canadian coasts.⁵⁵ In the Pacific the Canadian Coast Guard reports that more than 250,000 pleasure craft, 6,000 fishing vessels and 3,000 merchant ships sail B.C.'s waters each year.⁵⁶ The challenge becomes one of trying to discern the legitimate maritime users from those who seek to exploit vulnerabilities for personal, political or other purposes and interceding in a timely manner. Carrying out these far-reaching responsibilities equally in every area along Canada's extensive coastline is unachievable and unrealistic. A logical approach to applying the navy's limited resources is required.

⁵³ Helvarg, "If by Sea", *Popular Science*, Volume 261 No. 3 (September 2002), 60.

⁵⁴House of Commons, Standing Committee on National Defence and Veterans Affairs "Facing our Responsibilities: The State of Readiness of the Canadian Forces." Chap 1: The New Strategic Environment. Report of the, May 2002. accessed via

<http://www.parl.gc.ca/InfoComDoc/37/1/NDVA/Studies/Reports/ndvarp04/06-toc-e.htm> 4 May 03.

⁵⁵ Thorne, Stephen, "Coastline Vulnerable to Terror, Report Says" The Halifax Herald Limited, 04 Sep 02.

⁵⁶ http://www.pacific.ccg-gcc.gc.ca/summary-sommaire/index_e.htm

OVER-ARCHING CONCEPTS TO MANAGING MARITIME SECURITY

Protecting Canadian maritime interests would seem insurmountable given the sheer size of the coastline. A look south offers a useful starting point. The United States Coast Guard's (USCG) immediate response to 9/11 was an increase in port security patrols and presence at the expense of its other missions. As a result, the USCG has reduced its counter-narcotics operations by 75% and almost totally abdicated its fishery and illegal migration interdiction responsibilities.⁵⁷ Even that organization, with a budget of over US\$5 billion, an active personnel strength of 35,000 and over 232 cutters and 211 aircraft⁵⁸ has recognized that they are not capable of being everywhere all of the time. To effectively manage the threat, the USCG has undertaken to study its areas of responsibility to identify vulnerabilities and direct resources to reduce the threat.⁵⁹ While attempting to effectively manage risk within their resource envelope, the USCG then focus their efforts "on planning, executing and assessing in terms of the results produced rather than merely attacking targets or simply dealing with objectives"⁶⁰ under the Effects Based-Operations (EBO) concept. A risk management strategy combined with a similar EBO approach, whereby limited resources are directed at the areas of greatest return, can be applied to advantage in Canada.

⁵⁷ David Vergun, "Homeland Defense Begins at the Water's Edge: On Patrol with the U.S. Coast Guard", available from <http://www.uscg.mil/overview/article%5Fwatersedge.htm>; accessed 25 Jan 03. This article is sanctioned by the USCG and was accessed at their official site.

⁵⁸ USCG statistics were taken from the USCG fact file accessed at <http://www.uscg.mil/hq/g-cp/comrel/factfile/index.htm> 12 Mar 03

⁵⁹ Vergun, "Homeland Defense Begins ..."

⁶⁰ United States, The U.S. Coast Guard, "Maritime Strategy for Homeland Security", (Washington, USCG, December 02), 14; available from

Risk Reduction

According to the US Coast Guard, “risk is a function of both probability and consequence.”⁶¹ The aim is to analyse all of the variables of an environment and identify those situations which are the most probable to occur in relation to the others and those that would cause the most dire consequences should the event occur. Although Canada has the longest coastline in the world, geography and weather offer strategic advantages in limiting the areas where maritime security interests may be exploited. Over 71% of Canada’s 243,792 km coastline is in the Arctic. This area, although fragile from an ecological perspective, is largely uninhabited and forbidding to anyone not intimately familiar and equipped to deal with the conditions in this inhospitable environment. The level of maritime activity in this area is also relatively low and those wishing to smuggle goods or people face the additional complication of having to then arrange transport over vast distances to populated areas over minimal or non-existent routes. Without internal assistance, this would be a virtually impossible task to an outsider unfamiliar with the geographic and environmental challenges. Due to the obstacles presented and the fact that there are numerous more accessible points of entry along the Pacific and Atlantic coasts, the potential for terrorist or illegal activities in the northern area is likely to be remote.⁶²

http://www.uscg.mil/news/reportsandbudget/Maritime_strategy/USCG_Maritime_Strategy.pdf; accessed 12 Mar 03

⁶¹ James M. Loy, and Robert G. Ross, “Global Trade: America’s Achilles Heel” *Defense Horizons*, Number 7, (February 2002), 3.

⁶² The Navy League of Canada, “Canada, An Incomplete Maritime Nation”, (2003), p 10; availabj134 Tm(3)Tj10.02 0 0 10.

er situation... At 1,200 km, the
e is Car... by estu... fjords and
0 island... of P... north a
and in... are sp... the
terrain... it is... possible to
ing to... reported in Figure 1, Maritime

activity is primarily... Strait of
Juan de Fuca... ports of Vancouver and
Seattle.

- 125 km
- 20 Miles
- Victoria SSG
- Shipping Lane
- Primary
- Pleasure Boat
- Pleasure Boat
- Comer

Figure 2 shows that in the Atlantic, commercial activity is centred between St John's, Newfoundland in the north and Halifax in the south, a straight-line distance of only 563 nautical miles, just over a two-day voyage at a speed of 10 knots.⁶⁵ In this area, the fishing grounds of the Grand Banks and burgeoning oil and gas explorations represent areas of continuing interest. However, the most important economic and security consideration is the Cabot Strait that provides access to the heart of North America via the St. Lawrence Seaway. As the Chair of the IMSWG Chair has noted, it is a considerably different situation to have an unknown ship nearing Montreal as opposed to the same ship sitting off an uninhabited coast.⁶⁶ The areas that are of primary concern to maritime security interests then can be reduced to the approaches North and South of Vancouver Island in the west and from the approaches to St. John's, Halifax and the Cabot Strait in the east. This does not imply that remote areas may be ignored entirely. It is important that a regular presence be maintained in these areas to reinforce Canadian sovereignty claims and to maintain familiarity with operating in remote areas, especially under the climatic conditions of the far north. A geographic risk management strategy, however, can be used to correctly apportion limited resources to the areas where the probability of security intrusions and the consequences of terrorist or illegal activity is the greatest.

⁶⁵ Distances were calculated utilizing the distance table found at <http://www.distances.com/>

⁶⁶ Canada, The Standing Senate Committee on National Security and Defence. Ottawa: Testimony of Mr G. Frappier, Chairman of the IMSWG, Monday, April 7, 2003, unedited transcript



Trans Atlantic Shipping

Figure 2 – East Coast Maritime Activities

Just as terrorists and criminals seek to take advantage of a society's weaknesses, governments seek to intercede in ways that will preclude an attack being mounted. It is for this reason that one of the initial efforts following 9/11 was to seize the assets of known terrorist organizations, why punishments were increased for those who participate in terrorist activities and was the impetus for increased international anti-terrorism collaboration.⁶⁹ As part of Canada's commitment to direct action, the navy was deployed to participate in the War on Terrorism in the Middle East to attempt to disrupt terrorist activities at the source. At home, increasing awareness of the marine environment, its users and vulnerabilities inherent therein, then concentrating operational activity in the areas of greatest risk, is an extension of the EBO concept. It is for this reason that, historically, patrols have concentrated on the corridors of greatest marine activity and why future surveillance improvements, including the establishment of long-range shore-based radar, will be directed at increasing understanding and awareness in these same areas.⁷⁰ The EBO approach is not dissimilar from the Integrated Maritime Enforcement project of Dalhousie University Project that proposes that maritime security is best protected through operational, political, legal and non-government responses. This is a synergistic approach that dictates that a nation should have the capability to survey, monitor and control their areas of responsibility by establishing a legal framework for

http://www.uscg.mil/news/reportsandbudget/Maritime_strategy/USCG_Maritime_Strategy.pdf; accessed 12 Mar 03

⁶⁹ Canada. *Canada's Actions Against Terrorism Since September 11th – Background*, (Ottawa: Department of Foreign Affairs, Industry and Trade, 2001); available from <http://www.dfait-maeci.gc.ca/can-am/menu-en.asp?act=v&mid=1&cat=10&did=1684>; accessed 7 May 03.

⁷⁰ David Pugliese, "Canada to Build \$50M Radar Network", *The Ottawa Citizen*, 20 Mar 03; available from <http://www.canada.com/national/story.asp?id={AB97FD7A-DCF0-4B5C-B30B-1B20BAEACF6F}>; accessed 20 Mar 03. The Canadian government has announced that \$50 million dollars will be directed toward the establishment of High Frequency Surface Wave Radar (HFSWR) on both the east and west coasts to provide coverage of the areas of greatest maritime user density.

enforcement action in collaboration with domestic and international governments and with the compliance of legitimate maritime users.⁷¹

Risk reduction and EBO provide insight into the over-arching maritime security strategy that can be applied by governments. The next step is to develop an operational approach to protecting maritime security interests and that can be applied by the Canadian navy to support these strategies.

CANADIAN MARITIME SECURITY

The Canadian government's "approach to national security is collaboration among departments and agencies at all levels of government, and with industry stakeholders and the international community."⁷² Maritime security is the initial focus for the Standing Senate Committee on National Security and Defence's current examination regarding the need for a national security policy for Canada.⁷³ One of the difficulties that they face is in identifying who has overall responsibility for maritime security. Initial testimony has shown that there are many different departments with different interests and areas of jurisdiction and that of the federal departments, only DFO, the RCMP and DND possess a sea-going capability to enforce their mandate away from the shore. No department is satisfied that they have the capability to continuously protect their interests everywhere within their area of responsibility. The combination of a lack

⁷¹ Scott Coffen-Smout, Fred W. Crickard, and Glen J. Herbert, "Integrated Maritime Enforcement: Principles and Applications", (Halifax: Dalhousie University, 2002), p 159; available from <http://is.dal.ca/~niobe/eeztech2.pdf>; accessed 25 Jan 03.

⁷² Canada, Government of Canada News Release No. GC001/03 dated 22 January 2003 "Government of Canada Announces up to \$172.5 Million in New Marine Security Projects"; available from <http://www.tc.gc.ca/mediaroom/releases/nat/2003/03-gc001.htm>; accessed 1 Feb 03.

⁷³ Canada, The Standing Senate Committee on National Security and Defence Ottawa, Introduction by Senator C. Kenny, Chairman, Monday, April 7, 2003, unedited transcript

of sea-going capability and overall lack of resources necessitates that the departments collaborate and share resources in a holistic approach to maritime security.⁷⁴

The level of cooperation in Canada has been strong and is growing. The Atlantic Operations Sub-Committee (AOSC) assists in the coordination and multi-role tasking of government fleets and assets.⁷⁵ The Eastern Canada Interdepartmental Marine Operations Committee (ECIMOC) and its Pacific counterpart (PIMOC) perform similar functions. The most important current forum for cooperative dialogue is through the IMSWG. Formed in October 2001, “its mandate is to coordinate federal response to marine security, analyze our marine systems for security gaps and develop possible mitigation initiatives to address these gaps.”⁷⁶ The complexity and sheer number of potential scenarios in the maritime environment dictate that carefully considered and rehearsed contingency plans be a key element of an effective security strategy. Since most scenarios will straddle governmental responsibilities at all levels and between departments, and possibly borders, cooperation is a must to ensure that, as a minimum, responsibilities and “common modes of operations” are discussed.⁷⁷ One of the best forums for such discussions, it through participation exercises such as Atlantic Guard⁷⁸, held in May 2001 and Atlantic Storm conducted in September 2002 that are designed to

⁷⁴ Canada, The Standing Senate Committee on National Security and Defence Ottawa, Testimony of VAdm Buck, Chief of the Maritime Staff, Monday, April 7, 2003, unedited transcript

⁷⁵ Glen J. Herbert, “Canada’s Oceans Dimension: A Factbook”, *Niobe Papers 11* (1999), 41.

⁷⁶ Canada, The Standing Senate Committee on National Security and Defence. Ottawa: Testimony of Mr G. Frappier, Chairman of the IMSWG, Monday, April 7, 2003, unedited transcript

⁷⁷ Hugh W. Stephens, “Maritime Security in the United States: Latent Threats and Latent Vulnerabilities” *Terrorism & Political Violence*, Vol. 2, Issue 4 (Winter 90), 562.

⁷⁸ *Exercise Atlantic Guard Final Report*, Prepared by Jim Bruce, SAIC Canada for the Chair of the Security Committee for the Nova Scotia Federal Council and OCIPEP, 21 June 2002. This was a tabletop exercise the aim of which was “to enhance the collective ability of various government departments and agencies to react to security related threats with Atlantic Canada.”

increase inter-governmental understanding and awareness of areas of mutual interest and concern.

The sharing of resources and the collaboration with other governmental departments is the cornerstone to the Canadian navy's domestic maritime security strategy. An example of effective coordination can be witnessed in search and rescue (SAR) zone coverage. Whenever the Coast Guard is unable to provide a major ship presence in one of the SAR zones, the Canadian navy has been asked to provide the presence. Such cooperation and liaison ensures that a major ship with increased response capabilities and improved sea-keeping will be available to respond not only to an emerging rescue situation but potentially to assist with maritime law enforcement activities in conjunction with the appropriate legal authority. A shared border and common interests dictate that the navy will often work in conjunction or in close proximity with its southern neighbour.

Building upon a foundation of intergovernmental and international collaboration, "the Government of Canada's marine security package is designed to help protect the Canadian marine sector by implementing initiatives to increase our capacity to prevent, detect and manage security threats."⁷⁹ NORTHCOM's strategy is similar and is expressed through its motto of 'deter, prevent, defeat.'⁸⁰ How the navy can relate to the NORTHCOM mission motto is particularly relevant if Canada is to continue to work in partnership with its closest ally to contribute to collective North American maritime security efforts. There is considerable overlap when attempting to define the three terms

⁷⁹ Canada. Backgrounder to Government of Canada News Release No. GC001/03 dated 22 January 2003 "Government of Canada Announces up to \$172.5 Million in New Marine Security Projects"; available from <http://www.tc.gc.ca/mediaroom/releases/nat/2003/03-gc001.htm>; accessed 1 Feb 03.

individually as they all involve some aspect of being able to monitor an activity, make an assessment, and then coordinate a response to a developing situation. A closer examination of the NORTHCOM motto will demonstrate how the navy contributes to the protection of Canada's maritime interests and how it could work in concert with assigned NORTHCOM units if called upon. First of all, the Canadian navy with its world world-class combat capability provides a useful deterrent to discouraging illegal activities at home.

DETER

To deter means to inhibit or discourage someone from doing something.

Deterrence may take the form of diplomatic, economic, political, and military responses or anticipatory actions that attempt to change the behaviour or intentions of an adversary. This involves having a credible ability to respond to threats, a demonstrated ability and willingness to punish offenders and to target the enablers of illegal activity that permit the criminals or terrorists to conduct their activities. The effectiveness of deterrence is extremely hard to measure, as the only real quantifiable measurement is when it fails. When deterrence fails, the use of military force becomes 'compellance.' It is a fine balancing act as too much deterrence may force the other side to launch a pre-emptive attack if it feels overly threatened. In this case, 'reassurance' may be used to satisfy an adversary that force will only be used as a last resort.⁸¹

⁸⁰ United States. NORTHCOM official website; available from <http://www.northcom.mil/> accessed 12 January 2003.

⁸¹ General Andrew J., USA (retired) Goodpaster, C. Richard Nelson, and Seymour J. Deitchman, "Deterrence: An Overview" in *Post Cold War Conflict Deterrence*, (Washington: National Academy Press, 1997); available from <http://www.nap.edu/html/pcw/Dt-1.htm>; accessed 21 Apr 03.

The navy provides a deterrent to illegal activity simply by its presence and capability to apply force. The navy has also demonstrated that it has the ability to integrate seamlessly with other like-minded partners to interdict efforts to mount terror operations far from the Canadian coast. Canada's contribution to The War on Terror provides deterrence value in demonstrating a capability and political willingness to contribute to the larger effort to interdict terrorism wherever it may originate.

According to the NORTHCOM website, "how the United States defends the homeland has shifted from a strategy of deterrence to one of pre-emption"⁸² This policy is the basis behind President Bush's National Security Strategy whereby he pledged to "act against such emerging threats before they are fully formed."⁸³ NORTHCOM points to the historical examples of the Cuba crisis of 1962 where a US blockade dissuaded the Soviets from bringing nuclear infrastructure to the island and the Israeli elimination of the Egyptian air force before Egypt could attack during the Arab-Israeli War of 1967.⁸⁴ This concept is currently behind Canada's contribution to the War on Terror through its operations in the Gulf of Oman to intercept cargoes of illegal goods and possibly al-Qaeda members as they attempt to move from their bases and points of hiding in the Middle East. The ability to intercede to interrupt or disrupt mounting attacks wherever they may be mounted has significant deterrence value and sends a message of political commitment to a potential adversary. All of the efforts that go into building a deterrence

⁸² Jim Garamone, "U.S. National Security Strategy Based on American Values"; Article on-line: available from NORTHCOM official website at <http://www.northcom.mil/index.cfm?fuseaction=news.showstory&storyid=F484E0FD-0824-8716-613BA2730FE79500>; accessed 21 January 2003

⁸³ United States. *The National Security Strategy of the United States of America*, (Washington: The White House, September 2002): Foreword signed by President Bush 17 September 2002; available from <http://www.whitehouse.gov/nsc/nss.pdf>; accessed 6 May 2003.

⁸⁴ Garamone, "U.S. National Security Strategy..."

capability are applied to prevent an adversary from mounting an attack as a matter of routine operations.

PREVENT

The ultimate aim of a maritime security strategy is to be able to detect a threat in sufficient time that it may be defused or intercepted before it has a chance to harm security interests, thereby preventing an attack from being mounted. This is best expressed under the USCG's Maritime Domain Awareness concept that is based upon "effective knowledge of all activities and elements in the maritime domain that could represent threats to the safety, security, or environment of the United States or its citizens."⁸⁵ With combined Exclusive Economic Zone areas in the Atlantic and Pacific Oceans of nearly 2,000,000 km², the challenge faced in Canada is immense. To effectively address the potential threat it is essential that Canada know who is using their waters and for what purpose. "Only by knowing what is happening and where, can a state respond to and formulate strategies to address security issues."⁸⁶ There are three aspects that contribute to an effective detection strategy – intelligence, mapping and surveillance.⁸⁷ It is in these areas that a navy offers "unique, surveillance, and reconnaissance capabilities that contribute to the increasingly important task of keeping tabs on states and terrorist organizations..."⁸⁸ It all begins with effective intelligence.

⁸⁵ James M Loy, and Robert G. Ross "Global Trade: America's Achilles Heel", *Defense Horizons*, Number 7, (February 2002), 2.

⁸⁶ Baillet et al., *Integrated Maritime Enforcement: A Handbook*, 9.

⁸⁷ David Helvarg, "If by Sea", *Popular Science*, Volume 261 No. 3 (September 2002): 60.

⁸⁸ Michael Dobbs, "Homeland Security...From the Sea," *Journal of the Royal United Services Institute for Defence Studies*, Vol 147, No. 4 (August 2002): 59.

Intelligence

Intelligence is the cornerstone to the establishment of an effective strategy in countering terrorism. As has already been detailed, it is virtually impossible to account for the myriad threats that Canada faces to its internal security. Even the immense resources of the United States are inadequate to make their coasts invulnerable to attack by a determined terrorist or criminal. The key to the entire process is the development and aggressive maintenance of a sophisticated intelligence network that will identify threats well before they can reach the coasts. This permits authorities to plan and prepare to intercede in sufficient time with the limited response assets that they have available.⁸⁹ Canada cannot begin to match the worldwide intelligence resources of the United States. At best, Canada can contribute to data collection efforts and maintain the trusted relationship that has gained access to these immense intelligence resources. Remaining engaged and cooperative with the US is the best and cheapest method of meeting our intelligence needs.⁹⁰ The fact that intelligence is the second capability area listed on the VCDS Canadian Joint Task List emphasizes the importance that is placed on this capability.⁹¹ As a sub-section of DND, it is the Communications Security Establishment's mandate to "acquire and use information from the global information infrastructure for the purpose of providing foreign intelligence, in accordance with Government of Canada intelligence priorities."⁹² In recognition of the importance of its

⁸⁹ Clinton Brooks, "Homeland Security – What and Whither?"; available from <http://www.homelandsecurity.org/journal/articles/brooks.html>; accessed 25 Nov 02.

⁹⁰ Rob Huebert, "The Canadian Navy – Continental Maritime Security and Beyond"; available from www.cdfai.org/frames/new.PDF; accessed 6 Jan 03.

⁹¹ Department of National Defence, *VCDS Joint Task List*; available from http://www.vcds.forces.gc.ca/dgsp/dda/cjtl/cjtl14/cap2_e.asp; accessed 14 Mar 03

⁹² Department of National Defence, *2001-2002 Annual Report of the Communications Security Establishment Commissioner*; available from http://www.csec-ccest.gc.ca./reports/2001-2002/ann-rpt_e.pdf; accessed 14 Mar 03

role in combating terrorism, CSE's existing mandate was expanded to "collect the communications of a legitimate foreign intelligence target located abroad if those communications enter or depart Canada."⁹³

Intelligence in Canada is a job that encompasses all three services – land, air and sea. Therefore, the navy does not have a direct advantage over any other service in gaining access to world-wide intelligence. However, as a result of Canada's integration into NATO and with American Carrier Battle Groups, the navy has made significant inroads into accessing USN resources and regularly contributes to data collection and intelligence analysis as a routine part of every operation, whether at home or abroad. A key part of intelligence is being able to establish a baseline – to know what is supposed to be there so that anything amiss is readily identifiable. This is a process that can be described as mapping.

Mapping

Mapping involves studying an environment so that anomalies are apparent. The incorporation of a route survey and bottom object investigation capability to the navy's Maritime Coastal Defence Vessels provide an excellent tool for mapping the ocean floor. This is augmented by a bottom object inspection and clearance diving capability on each coast for the close inspection of submerged objects. These assets would prove invaluable in quickly recovering from the threat of, or the actual, mining of a harbour or its

⁹³ Canada, Communications Security Establishment, *About CSE*; available from http://www.cse-cst.gc.ca/en/about_cse/about_cse.html; accessed 7 May 03.

approaches.⁹⁴ However, the largest contribution that the navy makes in detection is in the areas of surveillance and information sharing. It is also the areas where the greatest potential for increased contribution may be made.

Surveillance

“Surveillance involves maintenance of an observation infrastructure capable of detecting and notifying authorities of conditions, activities or events of interest within ocean areas.”⁹⁵ The vastness of the Canadian area of interest makes continual surveillance an expensive proposition in terms of time and resources. It is necessary therefore to tailor the right asset against the right target.⁹⁶ The Canadian navy has many individual and complementary surveillance resources that it uses to monitor the coasts. The fact that the navy increased surveillance and patrol activities by 200% in the early 1990s is indicative of the increased commitment to this responsibility.⁹⁷ Table 2 identifies the types of surveillance assets that are available to the navy and the advantages and disadvantages that each represent.

⁹⁴ United States, Statement of Steven Schorer, President L-3 Communications, Ocean Systems before the Subcommittee on Surface Transportation and Merchant Marine Senate commerce, Science, and Transportation Committee on 1 July 2002.

⁹⁵ Coffen-Smout et al. “Integrated Maritime Enforcement: Principles...”, p 160.

⁹⁶ Russ Swinnerton, and Desmond Ball, “Working Paper No. 278: a Regional Regime for Maritime Surveillance, Safety and Information Exchanges”, (Canberra: Australian National University, 1993), 4.

⁹⁷ F.W. Crickard, G.J. Herbert and B.A. Hobson, “Canada’s Oceans Strategy: Surveillance and Enforcement.” in *EEZ Technology*, (Halifax: Dalhousie University Centre for Foreign Policy Studies), 156; article on- line available from <http://www.dal.ca/~niobe/eeztech.pdf>

		Disadvantages
Satellites (none dedicated)	<ul style="list-style-type: none"> • able to electro-optically monitor large areas of the ocean • targets do not know they are being monitored 	<ul style="list-style-type: none"> • type of orbit limits the area of coverage, responsiveness and the duration of monitoring
Aircraft 18 Aurora 3 Arcturus 29 CH 124 Sea King Helicopters	<ul style="list-style-type: none"> • Aurora can conduct surveillance over an area of 300,000 km² in a ten hour patrol.⁹⁸ • able to quickly change from surveillance to an investigative role • helicopters can be operated from ships 	<ul style="list-style-type: none"> • limited ability to respond to a situation • limited number of aircraft make continuous coverage of an area for extended periods difficult
Surface 12 CPF 4 IRO 12 MCDV	<ul style="list-style-type: none"> • mix of sensors (radar, sonar, visual, electro-optical) • able to immediately take action in response to a detection • able to remain in a location for a prolonged period 	<ul style="list-style-type: none"> • surface surveillance limited to immediate area (30 miles)⁹⁹ • limited speed to reposition or increase coverage area
Sub-surface 4 Victoria Class submarines	<ul style="list-style-type: none"> • clandestine monitoring of surface activities by submarines • bottom mapping (route survey), investigation of submerged objects from MCDV and FDU assets 	<ul style="list-style-type: none"> • submarine operations are technically challenging and resource expensive
Shore-based radar (to be implemented)	<ul style="list-style-type: none"> • reduced operating costs • continuous coverage of an area 	<ul style="list-style-type: none"> • limited ability to identify contacts (know they are there but not what they are or what the contact is doing)

Table 2 – Surveillance Assets

Most people equate naval patrol and presence with its surface fleet. Peter Haydon notes that a single frigate or destroyer can be assigned responsibility of an area of approximately 32,000 square kilometres.¹⁰⁰ This assessment may be overstated as a

⁹⁸ Fred W. Crickard and Peter T. Haydon, *Why Canada Needs Maritime Forces* (Nepean: Naval Officers' Association of Canada, 1994) 23.

⁹⁹ *Jane's Fighting Ships 2002-2003*, ed. Commodore Stephen Saunders, RN, (Surrey, UK: Jane's Information Group Limited, 2002), 95.

¹⁰⁰ Peter Haydon, "Canadian Naval Policy: Still Stalled, Still Contentious, and Still Political." *Canadian Defence Quarterly*, Vol 26, No 4, (Summer 1997), 11.

single surface vessel has limited speed and therefore constrains its ability to intercept threats or to manage multiple threats. The real value of the Canadian Naval surface fleet is in monitoring areas where coverage gaps exist and where a developing threat has been identified. As shown in Table 2, the coverage area can be extended significantly by monitoring the ocean areas from the air. The limited number of aircraft operated by the air force makes continuous surveillance, even in the limited areas of the main traffic areas unachievable. Since sophisticated military aircraft are expensive to operate, savings may be realized in contracting civilian companies to perform the surveillance function, and maintain military aircraft as crisis response assets. Another possibility is to augment surveillance efforts with satellite resources. Although the Canadian navy does not have dedicated satellite surveillance resources of its own, close cooperation with the USN has provided access to sophisticated USN satellite surveillance assets that can be requested to further complement surveillance efforts. These resources include imagery and detecting emissions throughout the electro-magnetic spectrum.

It is a mix of complementary assets that have the most benefit in monitoring the marine environment. This is best exemplified in the Canadian Task Group concept, where a mix of surface ships, aircraft and submarines, can be task-tailored to meet the demands of a specific mission and provide three-dimensional surveillance of an area of approximately 192,000 km².¹⁰¹ A Task Group cannot be maintained indefinitely at sea. Other, more cost-effective options need to be considered to address Canada's surveillance needs.

Recently, the government announced a \$50 million expenditure to establish High Frequency Surface Wave Radar (HFSWR) coverage in the approaches to the Strait of

Juan de Fuca and St. Lawrence with radar feeds being sent to the Maritime Operations Centres on the respective coasts.¹⁰² Using risk mitigation strategy, these areas were selected to ensure that the main traffic lanes to the coasts are covered.¹⁰³ The development of HFSWR is significant as this system will extend the area off the coasts that can be continuously monitored. By following the curvature of the earth rather than emanating in straight lines, HFSWR enables surface contacts to be detected from shore out to 200 miles rather than the height of eye limitations that previously restricted detection ranges. The flexibility of this technology will be enhanced with the on-going development of portable sites that can fill gaps in radar coverage or where additional coverage is desirable.

Raw data collected from all of these surveillance activities and resources then needs to be made meaningful. It must also be shared so that the responsible agency can take the appropriate action.

Information Sharing

The “product of surveillance is information, which is then married with information from intelligence and other sources to provide a picture of activities at sea.”¹⁰⁴ Compilation and analysis to make sense of the information is an important first step before the information is disseminated in a format that can be easily understood and

¹⁰¹ Crickard et al, *Why Canada Needs Maritime Forces*, 23.

¹⁰² David Pugliese, “Canada to Build \$50M Radar Network”, *The Ottawa Citizen*, 20 Mar 03, available from <http://www.canada.com/national/story.asp?id={AB97FD7A-DCF0-4B5C-B30B-1B20BAEACF6F}>; accessed 20 Mar 03

¹⁰³ Canada, The Standing Senate Committee on National Security and Defence. Ottawa: Testimony of Mr G. Frappier, Chairman of the IMSWG, Monday, April 7, 2003, unedited transcript

¹⁰⁴ Swinnerton et al, *Working Paper No. 278...*, 4.

used by the intended audience.¹⁰⁵ The ultimate goal is to be able to ‘fuse’ the data from disparate sources so that all of the information collected can be blended into one coherent picture that tells a complete story.¹⁰⁶

Data fusion and interoperability is cited as a crucial element of the USCG efforts to increase awareness of their maritime domain and as a result one of the first post 9/11 investments made by the USCG was to improve C4ISR¹⁰⁷ and data fusion systems.¹⁰⁸ The need for such inter-governmental collaboration is well recognized by the US Navy who has noted that they are working with the USCG to develop an integrated command and intelligence center.¹⁰⁹ Data fusion is recognized as such an important element of Canadian security that the CF is pushing for a national fusion center to “process a projected explosion of intelligence and surveillance information.”¹¹⁰ Anticipated to be in operation by the end of 2004, it would be similar to the US planned Terrorist Threat Integration Center and would fuse data from a multiple of domestic and international sources.¹¹¹ The Canadian navy would be a large contributor to, and a benefactor of, a national fusion centre and it could, in turn, provide crucial, timely information to its other governmental department partners for maritime security enforcement. Canada’s navy is currently working on developing predictive tools that will help determine where a vessel

¹⁰⁵ Bailet et al, *Integrated Maritime Enforcement: A Handbook*, 23.

¹⁰⁶ Olin T. Bray, *Information Integration for Data Fusion*, (Albuquerque: Sandia National Laboratories, 1997), 5.

¹⁰⁷ C4ISR: command, control, communications, computers, intelligence, surveillance, reconnaissance.

¹⁰⁸ RAdm Patrick Stillman, and Gregory Giddens, “Deepwater Will Provide Homeland Security”, *USNI Proceedings*, Vol 128/8/1,194 (August 2002), 39-40.

¹⁰⁹ United States. Admiral Vern Clark, CNO USN speaking of the “The United States Navy and Maritime Security” transcript taken from the forum “Meeting the Homeland Security Challenge: Maritime and Other Critical Dimensions”, accessed via <http://ifpafletcher.cambridge.info/print/clarkP.htm> on 2 Feb 03

¹¹⁰ Canadian Press, “Military Call for Data ‘Fusion’ Centre”, *The Globe and Mail*, 29 Jan 03; available from <http://www.theglobeandmail.com/servlet/ArticleNews/front/RTGAM/20030129/wfuse129a/Front/homeBN/breakingnews>; accessed 29 Jan 03

¹¹¹ Ibid.

is going, based upon track history.¹¹² It is also possible that information collected from the Automa

(MIMDEX). The intent of this network is to permit all seventeen IMSWG partners to improve the exchange of information between the various organizations.¹¹⁵

Collected information is in turn shared with the United States, which has similar initiatives to share information among the various maritime user agencies. Importantly, the Canadian navy represents a gateway between other Canadian government departments and the intelligence products of the US and other allies. Both sides benefit by increasing the pool of information and increasing input to the common world-wide maritime picture.¹¹⁶ There are still barriers to the timely sharing of information. Due to national security concerns, the US may be reluctant to provide full disclosure as the “information, and what it may imply about the systems that collected it, may be too sensitive to be entrusted to others.”¹¹⁷ In Canada, there are also restrictions placed on law enforcement agencies that prohibit the type of information that may be shared.¹¹⁸ Domestic restrictions are an acknowledgement of the balance that is sought in protecting individual privacy and protecting public safety. The message is that it is a continuing challenge to instil trust that information will be properly protected and used for the intended purpose.¹¹⁹ Trust is not earned overnight and it takes a continuing effort to maintain trust once it is gained. However, all of these efforts to build relationships, monitor and coordinate activities in an area of interest means little if it lacks teeth – the ability to intercede at the appropriate time and defeat the emerging threat.

¹¹⁵ Canada, The Standing Senate Committee on National Security and Defence. Ottawa: Testimony of VAdm R. Buck, Chief of the Maritime Staff, Monday, April 7, 2003, unedited transcript

¹¹⁶ RAdm Russel D. Moore, “Canadian Naval Strategy in the Pacific in the 1990s” in *Naval Challenges and Developments in the Asia-Pacific Region*, Niobe Paper 12, ed. Peter T. Haydon, (Halifax: Maritime Affairs, 1998), 37.

¹¹⁷ Mitchell, “Small Navies...”, 89

¹¹⁸ Canada, The Standing Senate Committee on National Security and Defence. Ottawa: Testimony of Superintendent Ken Hansen, Monday, April 7, 2003, unedited transcript

¹¹⁹ Mitchell, “Small Navies...”, 91.

DEFEAT

In order to defeat a threat, a nation must possess a response capability – one that can deal with the law enforcement or crisis management issues of an on-going or emerging situation. The nation must also be able to apply resources in a timely manner towards consequence management which is aimed at limiting the effects of an attack through containment and clean-up.¹²⁰ It is in the area of responding to a threat that the Canadian navy has developed and fostered its closest relationships with other Canadian government departments. This relationship provides both sides of the equation with capabilities that the other may lack. It is not as one-sided as one might imagine. For example, the Chief of the Maritime Staff has noted that these Coast Guard assets are available to the navy on request to assist in areas where they are able.¹²¹ The message is that no one branch of the government can possibly be everywhere they wish to be at any given time and the composition of the various contributors provides a complementary mix of small and large vessels. The navy provides capabilities that are simply not available in the rest of the government fleet.

Crisis Management

Canadian frigates and destroyers are excellent crisis management vehicles owing to their size, speed, communications capabilities, robustness in all weather conditions, capacity to change their role very quickly and capacity to apply the full spectrum of force to any situation. The 1995 Turbot Crisis, interception of Chinese migrants off the Pacific

¹²⁰ Aaron Weiss, “When Terror Strikes, Who Should Respond?” *Parameters*, Vol XXXI, No. 3, (Autumn 2001): 117.

¹²¹ Canada, The Standing Senate Committee on National Security and Defence. Ottawa: Testimony of. VAdm Buck, Chief of the Maritime Staff, Monday, April 7, 2003, unedited transcript

coast in 1999 and interception of various drug shipments off both coasts are examples of recent cases where the navy has been called upon by other government agencies for support to law enforcement and could serve as the foundation for expanded support to other contingency operations.

Consequence Management

A key contribution to the protection of maritime interests is in limiting the damage of an attack. The Canadian navy's diverse capabilities can be applied in a variety of unique ways to limit the effects of a terrorist attack. Fortunately, there are no direct examples of domestic attack where the navy was called upon to assist. However, some insights can be drawn from the Manitoba Flood of 1996 where the navy was able to flexibly utilize its skills and adapt to an unfamiliar environment. Using sophisticated command and control, refined search techniques and small boat assets, the navy provided assistance to citizens trying to cope with rising floodwaters. To further demonstrate the navy's consequence management capabilities, a frigate was dispatched to Port Alberni, BC in 1998 to provide assistance following a simulated tsunami disaster. The exercise demonstrated that a warship was an invaluable asset that could provide medical, manpower, damage control expertise and independent command centre facilities to help manage the situation. The frigate was also able to provide power for essential city services, produced clean water and prepared over 1000 meals a day.¹²² The navy's ability to operate under the threat of chemical, biological, radiological and nuclear (CBRN) attack is an area of importance given the concern regarding the potential terrorist use of these agents. With integrated citadels to prevent the ingress of CBRN agents, frigates

and destroyers have the ability to sail into the heart of Vancouver, or any one of the major cities on the Atlantic coast and St. Lawrence Seaway, to assist in recovery efforts and guard against follow-on attacks. The navy also maintains a Nuclear Emergency Response Team on each coast to manage the consequences of a nuclear emergency aboard a visiting US nuclear-powered vessel. Portable and self-contained, these talents could be applied to localized scenarios elsewhere. Additionally, the navy has a potential role to play in assisting civilian first-responders with CBRN protective training.¹²³

BRINGING MARITIME SECURITY FULL CIRCLE – A CASE STUDY

The interception of four boatloads of illegal Chinese migrants off Canada's West Coast in the summer of 1999 provides an excellent case study to demonstrate the contribution that the navy can make to maritime security. Canadian authorities were alerted to the emerging threat of illegal trans-Pacific migration to Canada through a concerned citizen who observed a ship along the BC coast that was clearly out of place. Once alerted to this threat, US and Canadian militaries and law enforcement agencies worked together to apply intelligence and surveillance resources to the problem. These efforts resulted in the advance detection of three subsequent attempts over the next three months with sufficient warning to properly position resources along the coast to intercept the vessels as soon as they entered Canadian waters. This case shows how the navy is prepared to work in concert with other departments at home and with their US allies and apply the combined domestic and bi-national resources to a maritime security issue. Intelligence and surveillance assets were dedicated to detect the threat, appropriate

¹²² Moore, "Canadian Naval Strategy...", 37.

¹²³ Weiss, "When Terror Strikes...", 117.

response assets were positioned to defeat the threat and in the absence of any further reported smuggling attempts, a clear deterrence to other violators was demonstrated. This case also demonstrates how a cooperative approach is taken towards protecting Canadian maritime interests. The fact that authorities were unaware of the threat until alerted by a private citizen could be argued as a failure in surveillance but conversely, it demonstrates that a successful strategy involves all stakeholders, including industry and those who live and work along the coasts. The challenge is to build upon the lessons, address any deficiencies and build upon this level of cooperation and contribution in the future.

FUTURE DIRECTION

The terrorist attacks in New York and Washington eighteen months ago have generated a healthy debate and much interest in guarding Canada's maritime security interests. The navy is a strong contributor to the nation's maritime security strategy and has taken steps to improve its capabilities in surveillance and intelligence management. The Canadian Naval fleet structure is built upon being deployable and able to integrate with its allies anywhere in the world under all threat conditions. Why is this international contribution so important to defending Canada's maritime interests? Denis Stairs and Dan Middlemiss have noted that such contributions entitle a country to "participate in decisions that affect the purpose, the scope and sometimes even the practical conduct of the hostilities;" provide a 'need to know' basis for accessing the intelligence resources of coalition partners and an enhancement of diplomatic influence.¹²⁴ The navy's capable,

¹²⁴ Danford Middlemiss, and Denis Stairs, "The Canadian Forces and the Doctrine of Interoperability: the Issues", *Policy Matters*, Vol 3, no 7, (June 2002), 12.

flexible assets have demonstrated applicability in detecting, deterring and defeating threats along the coasts as well as around the globe. With the increased attention placed upon the potential threat at home it is a natural extension to suggest that the navy should place greater emphasis on the domestic constabulary role and possibly consider building a future fleet structure along those lines.

Peter Haydon notes “one problem with this idea of opting for a constabulary instead of a traditional navy is that it denies the government the option of using naval forces to support foreign policy.”¹²⁵ Disruptions to world commerce such as the closure of an important strait or waterway may impact the Canadian economy and that it may be desirable for the government to intervene.¹²⁶ Of the three services, the navy is the best positioned to rapidly deploy and make a contribution to securing these global lines of communication.¹²⁷ Peter Haydon goes on to note that Canada is in an elite club of navies that has the ability to work with other navies to restore stability to a region. Focussing solely on the constabulary role would reduce the world’s maritime response capability between 8 and 10 percent.¹²⁸ It is therefore essential that Canada’s navy retain it’s current multi-threat combat capabilities.

In it’s report ‘The People’s Defence Review’, the Council for Canadian Security in the 21st Century (CCS21) made the case that Canada needs to maintain fully deployable forces that are able to operate with her allies in the full range of combat

¹²⁵ Peter Haydon, “Our Maritime Future,”; article on-line: available from

http://www.naval.ca/article/haydon/ourmaritimefuture_bypeterhaydon.html; accessed 15 Mar 03

¹²⁶ Peter T. Haydon, “Sea Power and Maritime Strategy in the 21st Century”, in *Maritime Security Occasional Paper No. 10*, (Halifax: Dalhousie University, 2000), 17.

¹²⁷ Rob Huebert, “The Canadian Navy – Continental Maritime Security and Beyond” p. 4; available from www.cdfai.org/frames/new.PDF; accessed 6 Jan 03.

¹²⁸ Peter T. Haydon, “The Canadian Naval Task Group” *Maritime Affairs*, 1999; Article on-line; available from http://www.naval.ca/article/haydon/thecanadiannavaltaskgroup_bypeterhaydon.html; accessed 12 January 2003.

situations. They make the case that only a full combat capability is flexible enough to handle the wide range of scenarios that may arise and note how quickly a peace-keeping mission can develop into a full conflict. Full combat capability is equally applicable to combating terrorism or crime in an age when sophisticated weapons are increasingly available on the world black market. Concentrating on the HLD mission may erode the navy's war fighting skills, leaving it unable to engage in higher level domestic and international defence missions.¹²⁹ Once this core competency is lost, it is very difficult to recover and leaves the government with few options should it choose to become engaged elsewhere. Although there is currently no direct military threat to North America, this may not be the case in the future.¹³⁰ Lightly armed, mission tailored forces would not be able to make that transition and would therefore reduce the options available to government.¹³¹ At the same time CCS21 calls for a consolidation of DFO resources into the navy and for a fleet composed of more ships but smaller and with more task-tailored capability. It is their belief that this fleet structure would provide greater presence and response capabilities.¹³²

Integration with DFO would considerably bolster the number of assets available to the navy for defence missions but it would also force the navy into full time enforcement and regulation of the full scope of maritime activities, detracting from its current core defence responsibilities. The degradation of combat capability was at the core of the rejection of the one government fleet concept in the Osbaldeston study commissioned by the Treasury Board in 1990. In this study, it was assessed that full

¹²⁹ Weiss, "When Terror Strikes...", 117.

¹³⁰ Kelley, "The Shoal Waters of Homeland Security", 66.

¹³¹ The Council for Canadian Security in the 21st Century, "The People's Defence Review", (Calgary: 2002), 12-13; available from <http://www.ccs21.org/peoples-def/people-def-rev.pdf>, accessed 3 May 03.

integration could only be accomplished under the control of DND due to the unique management requirements of military vessels. DND management would either require that the civilian fleets would be extensively militarized or two separate and distinct fleets would have to be managed. Since most of the benefits of fleet integration would be lost in operating distinct fleets the only option would be to militarize the entire government fleet. The Treasury Board assessed that there would be resistance from the civilian sector, combat readiness of the navy would suffer and that it would be inappropriate to separate funding from programme responsibilities. You would be leaving too much discretion for one manager to direct resources to areas that may be in opposition to the government's desires. Overall effectiveness of all government programmes would be reduced as resources were shifted towards ever changing priorities. The study noted that all similar examinations of the issue in the preceding three decades had reached the same conclusions.¹³³ The Chief of the Maritime Staff has also identified difficulty in bringing the different mandates and legislative requirements together under one combined organization.¹³⁴ Finally, integration of DFO with the navy would effectively remove the 'force of last resort' graduated response to crisis. The government would have no choice but to apply the military to every maritime security issue ranging from pollution to terrorist attack, a situation that may limit diplomacy options and unnecessarily escalate tensions.¹³⁵ What then if the navy took on increasing domestic responsibilities under its existing structure?

¹³² Ibid, 16.

¹³³ Osbaldeston, "All the Ships That Sail", p. 50.

¹³⁴ Canada, The Standing Senate Committee on National Security and Defence. Ottawa: Testimony of VAdm R. Buck, Chief of the Maritime Staff, Monday, April 7, 2003, unedited transcript

¹³⁵ Peter T. Haydon, "What Naval Capabilities Does Canada Need?", in *Maritime Security in the Twenty-First Century: Maritime Security Occasional Paper No. 11*, ed. Edward L. Tummers, (Halifax: Dalhousie University, 2000), 154.

The USCG has seen the issue of ‘mission creep’ deplete its resources as more and more areas of maritime security interest were passed to them without a corresponding increase in funding.¹³⁶ In order to take on the full range of law enforcement functions that is currently shared by a number of government partners, a new fleet structure would likely be required with a corresponding increase in funding if the government wishes to retain an ability to deploy its naval fleet abroad. A fleet comprised mainly of small, lightly armed vessels would not only limit international response options but would limit homeland defence capabilities as well.

The USCG and USN view the HLD as requiring a layered strategy, one that pushes the threat out as far as possible. According to USCG director of operations policy, RAdm Venuto, “We want to push our detection, monitoring and interdiction activities as far offshore as possible to make it easier to interdict migrants and drugs.”¹³⁷ To support this strategy, under the ‘Integrated Deepwater System’ initiative, the USCG is moving to build a fleet mix of large and small ships that are able to provide a layered defence. The programme would see the USCG address a capability gap by rejuvenating its larger fleet assets to operate out to the 200-mile limit of the US Exclusive Economic Zone (EEZ) for longer periods under the extreme weather conditions that can be encountered in those areas. The programme would also see increased US Navy-Coast Guard cooperation and interoperability.¹³⁸ The Canadian navy, as the only navy to fully integrate into a USN Battle Group and take the place of a USN escort, has a proven record of interoperability with the USN. Thus as the USCG increases its own interoperability with the USN, the Canadian navy would become increasingly

¹³⁶ Kelley, “The Shoal Waters of Homeland Security”, 68.

¹³⁷ David Vergun, “Homeland Defense Begins...”

interoperable with the USCG as well. It would be a mistake to move backwards towards a fleet composed solely of smaller, less capable ships when our closest continental ally is ensuring that they can operate far from their shore. Smaller ships represent an important littoral response asset and the Canadian navy has ensured that it maintains a fleet that can not only operate far from the coasts but inshore as well with its mix of frigates and patrol vessels. It must also be remembered that the RCMP and the Coast Guard have responsibilities closer to shore and thus have the responsibility to address their own operational needs. The Coast Guard has made a case for fleet rejuvenation and a revised fleet structure of multi-task capabilities and fewer single purpose ships. Similarly the RCMP is in the process of adding an additional commissioner class vessel of 17-19m in length to its fleet to address an identified shortfall in the Atlantic region.¹³⁹ Should the rest of the government fleet slowly evolve to meet the needs of the respective departments, the resulting structure would be an approximation of the USCG Integrated Deepwater System with a complementary mix of deployable and inshore assets. Proponents of a revised fleet structure may also underestimate the expense that would be involved.

In his study of the Canadian government combined DFO, Coast Guard and naval fleets in 1990, Mr. Osbaldeston estimated the replacement cost of the 415 government ships over 9m in length at over \$20 billion.¹⁴⁰ Although the combined government fleet has been reduced by approximately 100 ships through the amalgamation of Coast Guard and DFO fleets, the cost of inflation would suggest that this replacement value remains a

¹³⁸ Stillman et al, "Deepwater will Provide Homeland Security", 39.

¹³⁹ Canada, The Standing Senate Committee on National Security and Defence. Ottawa: Testimony of Superintendent K. Hansen, Director of Federal Enforcement, RCMP, Monday, April 7, 2003, unedited transcript

good initial estimation. Given the expense involved, it would be decades before the government fleet structure could be re-tooled. A changing threat and evolving world geo-political dynamic does not suggest that there will be sufficient stability to accurately forecast the fleet structure and capabilities that is appropriate.

How many ships, aircraft and remote sensors are necessary to establish a presence? How many more and with what types of capability would be required to respond appropriately? Peter Haydon notes that the government examined this issue in the 1970s and it was found that this would take much more resources than was wanted or affordable. He further notes that through increased ocean usage, from both commercial interests and recreation uses, the number of surveillance and response assets needed to do the job has only increased in the intervening years.¹⁴¹ Even with the immense resources of the US, they have acknowledged that they cannot be everywhere, all of the time. According to Peter Haydon, “essentially, the question becomes one of whether a lesser government presence or response capability in Canadian waters is acceptable.”¹⁴² The government fleets can only do the best they can with the resources that they are provided and be honest regarding what they can and cannot do. In this respect, the navy, working with and through the IMSWG, clearly identified that there were deficiencies in surveillance and intelligence and the government responded to their reasoned observations with more money to address the deficiencies. As a contributor to this process, the navy has been proactive in forecasting future needs through their vision document *Leadmark: The Navy’s Strategy for 2020*. This document makes a strong

¹⁴⁰ Osbaldeston, *All the Ships that Sail...*, p. 14.

¹⁴¹ Peter T. Haydon, m(T)j10.0210 iNSA, m(T)Ekl Group i94am(.)Tj10.02rsit10094/face, http://www.naval.ca/article/haydon/thecanadiannavaltaskgroup_bypeterhaydon.html 16 Mar 03

¹⁴² I

argument to maintain a force structure that remains based on frigate and destroyer size ships and suggest that “the potential for asymmetric threats against Canada can be diminished by solving global security challenges at their source.”¹⁴³ As VAdm Buck indicated in his testimony before the Standing Senate Committee on National Defence and Security, it is essential that the first pieces of the puzzle are properly placed before an assessment can be made regarding how the other pieces will fit. VAdm Buck believes that it starts with surveillance, which includes the effective sharing of information between all departments. Once an accurate picture of the maritime environment is obtained, an accurate assessment of the government response assets can be determined.¹⁴⁴

The key to managing resources effectively is flexibility and an overall coordination of effort between all levels of government. This position has been supported by the Standing Senate Committee on National Defence who advocates a layered approach to maritime surveillance that coordinates the combined resources of all government agencies in partnership with their US counterparts.¹⁴⁵ As governments refine their strategies to manage the complexities of maritime security, the navy’s current structure may be shown to be an appropriate complement to other resources that are directed towards the issue. Simply put, the navy provides a level of response and range of capabilities that the other departments could not find elsewhere. As more stringent regulations are implemented that place the onus on industry and maritime users to take

¹⁴³ Department of National Defence, *Leadmark: The Navy’s Strategy for 2020*, (Ottawa: Directorate of Maritime Strategy, 2001), 103.

¹⁴⁴ Canada, The Standing Senate Committee on National Security and Defence. Ottawa: Testimony of VAdm R. Buck, Chief of the Maritime Staff, Monday, April 7, 2003, unedited transcript

¹⁴⁵ House of Commons, Standing Senate Committee on National Security and Defence, Eight Report, *Defence of North America: A Canadian Responsibility*, (Ottawa: September 2002); available from www.parl.gc.ca/37/1/parlbus...om-E/defe-e/rep-e/rep08sep02-e.html; accessed 15 Sep 02

greater responsibility to protect their own interests, the pressure on governments to maintain a full-time presence may diminish.

In his most recent statement to the Standing Senate Committee on National Security and Defence in February 2002, Vice- Admiral Buck stated,

we need to resource the military to the correct level to do the things that we are asked to do. As I have said, I am doing the essential. I would like to do that in a manner that would allow me more options in my efforts.¹⁴⁶

The Canadian government has sent a clear signal that it is satisfied that with the current role of the navy in contributing to domestic maritime security while remaining globally engaged with its allies. Of the \$7.7 billion in new federal spending directed towards security in the 2001 federal budget, DND received only modest increases.¹⁴⁷ In the most recent budget, the \$800 million increase to the annual defence budget was aimed at sustaining current operations with only modest increases in procurement. Operational funding is discretionary and therefore left to the military managers to allocate to meet their responsibilities. The absence of direct governmental budgetary direction seems to be another message that the government does not envision an expanded role for the CF with respect to homeland security.

CONCLUSION

Over the last eighteen months, North Americans have contemplated a number of potential domestic security scenarios that threaten their health and economic well-being. As a result, there has been a renewed emphasis in examining vulnerabilities and

¹⁴⁶ *Canadian Security and Military Preparedness*, 16-17.

¹⁴⁷ Canada, *Budget 2001: Increasing Security for Canadians*, (Ottawa: Department of Finance, 2001) available from <http://www.fin.gc.ca/budget01/fanfold/pasece.htm> ; accessed 13 Mar 03. This was

reviewing the procedures and infrastructure that is in place to guard domestic security. As frightening as the damage to lives and property was on 9/11, it pales in comparison when one considers the enormous destructive potential that is possible along the coasts. As legislators attempt to reduce the risk from within, they must look outward and ensure that adequate measures are taken to prohibit violators from taking advantage of the extensive, virtually undefended coasts.

The navy has a long history of international and domestic collaboration that established a firm foundation to build upon to meet its responsibilities to Canadian maritime security protection. Through its ad hoc and formal agreements with other federal departments, combined with its mix of diverse, robust capabilities, the navy is able to assist in law enforcement activities everywhere along the coast. Equally, its close relationship with the USN has fostered a trust and ability to interoperate that leaves it ready to immediately operate with US forces anywhere in the world.

In further acknowledgement to its size and limited resources, the Canadian navy has through necessity, informally adopted several principles that make the immense challenge of protecting the coasts more manageable. The navy has concentrated its efforts in areas where the risk is greatest and has in the process, contributed to the government's attempts to apply the full range of its diplomatic, financial, legal and operational resources that is expressed under the Effects Based Concept employed by the USCG.

An examination of the navy's ability to meet the needs of NORTHCOM under the 'deter, prevent and defeat' mission motto demonstrated that the navy has the ability to

specifically to support operations in Afghanistan (\$210 million), for new NBCD equipment (\$300 million) and to expand the JTF2 counter-terrorism unit (\$119 million over five years).

access and collect intelligence, analyse information and respond to either intervene or reduce the effects of an attack. Demonstrations of such capability provide a clear deterrence to others who may wish to do the nation harm. In meeting its responsibilities, the navy has taken steps that will improve its capabilities through the its shored-based radar project, increased interaction with other government departments, including improving the way information is shared and made meaningful.

The naval force structure is well suited to meeting its domestic security commitments while remaining available to deploy anywhere, with anyone, as the government may desire. Canada's harsh coastal climates, vast ocean territories and the diverse scope of threats that pose a danger to Canadians demands a navy that can independently operate in this foreboding environment for extended periods and one that can offer the full range of combat capabilities.

The Canadian navy has proven to be flexible and ready to apply its talents to the full range of domestic maritime security scenarios in partnership with all maritime stakeholders. To continue to do so in the future, the navy should not over-emphasize the constabulary role and should continue to support other federal agencies in protecting Canada's maritime interests. It must continue to provide the government with the full range of diplomatic options that only a fully combat-capable, deployable force can provide.

“The cooperative approach to maritime enforcement, through user self-regulation, is less expensive and preferable to coercive and reactive control methods. In practice, a blend of both is the norm.”¹⁴⁸ In the end, the navy's multi-role flexible fleet centred around frigate sized warships that offer the full range of maritime interdiction and

surveillance options provide the best balance and complement to the combined governmental strategy. The Canadian navy has demonstrated that it has met the expectations of government in the past, it is meeting them now, and it is being positioned to appropriately manage its resources in to meet and respond to the wide ranging current and future maritime security challenges, individually or collectively with the United States, tomorrow.

¹⁴⁸ Coffen-Smout et al. "Integrated Maritime Enforcement: Principles...", 162

BIBLIOGRAPHY

PUBLICATIONS AND ARTICLES

- Bailet, François N, Fred W. Crickard, and Glen J. Herbert, *Integrated Maritime Enforcement: A Handbook*. Halifax: Dalhousie University Press, 1999.
- Bray, Olin T, *Information Integration for Data Fusion*. Albuquerque: Sandia National Laboratories, 1997.
- Brooks, Clinton, *Homeland Security – What and Whither?* Article on line: available from <http://www.homelandsecurity.org/journal/articles/brooks.html>; Internet; accessed 25 November 2002.
- Bullock, Chris, “A Canadian Naval Strategy for the 21st Century: Constabulary Force or International Player?” Prepared for the *Third Annual Graduate Student Symposium, 3-4 Nov 00*. Calgary: Centre for Military and Strategic Studies, University of Calgary.; Article on line: available from <http://www.cda-cdai.ca/symposia/2000/bullock.htm>.; accessed 3 November 2002.
- Coffen-Smout, Scott, Fred W. Crickard and Glen J. Herbert, *Integrated Maritime Enforcement: Principles and Applications*. Halifax: Dalhousie University, 2002; article on line: available from <http://is.dal.ca/~niobe/eeztech2.pdf>; accessed 25 January 2003
- Crickard, Fred W. and Peter T. Haydon, *Why Canada Needs Maritime Forces*. Nepean: Naval Officers’ Association of Canada, 1994.
- Dobbs, Michael , “Homeland Security...From the Sea”, *Journal of the Royal United Services Institute for Defence Studies*, Vol 147, No. 4, (August 2002): 58-64.
- Echevarria II, LCol Antulio J, “Homeland Security Issues: A Strategic Perspective”, *Defeating Terrorism: Strategic Issue Analyses* Edited by Colonel John R. Martin. (Strategic Studies Institute, January 2002); available from <http://www.carlisle.army.mil/ssi/pubs/2002/terror/terror.pdf> ; accessed 24 November 2002
- Garamone, Jim, “U.S. National Security Strategy Based on American Values”; Article on-line: available from NORTHCOM official website at <http://www.northcom.mil/index.cfm?fuseaction=news.showstory&storyid=F484E0FD-0824-8716-613BA2730FE79500>; accessed 21 January 2003
- Goodpaster, GEN Andrew J., USA (retired), C. Richard Nelson, and Seymour J. Deitchman “Deterrence: An Overview” from *Post Cold War Conflict Deterrence*.

Washington: National Academy Press, 1997; article on line: available from <http://www.nap.edu/html/pcw/Dt-1.htm>; accessed 21 April 2003

Granstein, J.L., *A Friendly Agreement in Advance: Canada-US Defense Relations: Past, Present and Future*, Toronto: C.D. Howe Institute No. 166, June 2002.

Haydon, Peter T. editor. "Naval Challenges and Developments in the Asia-Pacific Region." in *Niobe Papers 12* (Halifax: Maritime Affairs, 1998).

Haydon, Peter T. "The Canadian Naval Task Group" *Maritime Affairs*, 1999; Article on-line; available from http://www.naval.ca/article/haydon/thecanadiannavaltaskgroup_bypeterhaydon.html; accessed 12 January 2003.

Haydon, Peter T. "What Naval Capabilities Does Canada Need?", in *Maritime Security in the Twenty-First Century: Maritime Security Occasional Paper No. 11*, edited by Edward L. Tummers, Halifax: Dalhousie University, 2000.

Haydon, Peter T, "Sea Power and Maritime Strategy in the 21st Century", *Maritime Security Occasional Paper No. 10*, Halifax: Dalhousie University, 2000.

Haydon, Peter T, "Canadian Naval Requirements for the 21st Century", Halifax: Centre for Foreign Policy Studies, Dalhousie University; article on line: available from <http://www.ccs21.org/>; accessed 19 April 2003

Haydon, Peter, "Our Maritime Future," : article on line; available from http://www.naval.ca/article/haydon/ourmaritimefuture_bypeterhaydon.html; accessed 15 March 03

Haydon, Peter, "Canadian Naval Policy: Still Stalled, Still Contentious, and Still Political." *Canadian Defence Quarterly*, Vol 26, No 4, (Summer 1997): 6-13.

Helvarg, David, "If by Sea", *Popular Science*, Volume 261 No. 3 (September 2002): 58-67.

Herbert, Glen J. "Canada's Oceans Dimension: A Factbook." *Niobe Papers 11*. Halifax: Maritime Affairs for the Naval Officer's Association of Canada, 1999.

Hessman, James D., "The Maritime Dimension", *Sea Power*, Vol 45, Iss 4, (Apr 2002): 26-30.

Howard, Russell, "Chemical and Biological Terrorism: Political Hype or Bona-Fide Post-Cold War Threat?" in ". . . to insure domestic Tranquility, provide for the common defence . . ." (*Papers from the Conference on Homeland Protection*), ed. Dr. Max G. Manwaring, (Carlisle: Strategic Studies Institute, October 2000); article on line: available from

<http://www.carlisle.army.mil/ssi/pubs/2000/tranquil/tranquil.pdf>; accessed 16 December 2003.

Huebert, Rob, "The Canadian Navy – Continental Maritime Security and Beyond"; article on line: available from www.cdfai.org/frames/new.PDF; accessed 6 January 2003.

Jane's Fighting Ships 2002-2003, Edited by Commodore Stephen Saunders, RN, Surrey, UK: Jane's Information Group Limited, 2002.

Kelley, Commander Michael R. "The Shoal Waters of Homeland Security", *USNI Proceedings*, Vol 128/5/1, 191 (May 2002): 65-70.

Loy, James M and Robert G. Ross, "Global Trade: America's Achilles Heel" *Defense Horizons*, Number 7, February 2002

Maloney, Sean M. "Homeland Defence: The Canadian Context, 1940-2000", DLSC Research Note 01/02, DND Jan 01.

Maloney, Sean M., "Domestic Operations: The Canadian Approach," *Parameters*, Vol XXVII, No. 3, (Autumn 1997). 135- 152.

Middlemiss, Danford and Denis Stairs, "The Canadian Forces and the Doctrine of Interoperability: the Issues", *Policy Matters*, IRPP, Vol 3, no 7, June 2002.

Mitchell, Paul T., "Small Navies and Network-Centric Warfare: Is There a Role?" *Naval War College Review*, Vol LVI, No 2 (Spring 2003): 83-99.

Moore, RAdm Russel D. "Canadian Naval Strategy in the Pacific in the 1990s" *Naval Challenges and Developments in the Asia-Pacific Region, Niobe Paper 12*, ed. Peter T. Haydon. Halifax: Maritime Affairs, 1998.

Mosher, Brian, "Exercise Coastal Watch 01, A Communications Perspective", *C&E Newsletter*, Vol 43, article on-line available from <http://www.dnd.ca/commelec/nwslettr/vol43/tccex.htm>; accessed 8 January 2003.

Osbaldeston, Gordon F. *All the Ships that Sail: A Study of Canada's Fleets*. Ottawa: Treasure Board of Canada, 1990.

Purdy, Margaret, "Critical Infrastructure Protection: a Canadian Perspective" *Fortress North America?: What 'Continental Security' Means for Canada*, Edited by David Rudd and Nicholas Furneaux, Toronto: The Canadian Institute of Strategic Studies, 2002.

- Rauf, Tariq, "Canada's Perspectives on NMD", Monterey: Monterey Institute of Strategic Studies, article on line; available from <http://www.mi.infn.it/~landnet/NMD/rauf.pdf>; accessed 13 March 2003.
- Rinaldi, Steven M., Donald Leathern, and Timothy Kaufman, "Protecting the Homeland: Air Force Roles in Homeland Security", *Aerospace Power Journal*. Vol 16 No. 1 (Spring 2002); journal on line; available from <http://www.airpower.maxwell.af.mil/airchronicles/apj/apj02/spr02/rinaldi.html>; accessed 03 November 2003
- Stephens, Hugh W. "Maritime Security in the United States: Latent Threats and Latent Vulnerabilities", *Terrorism & Political Violence*, Vol. 2, Issue 4 (Winter 90): 554-573.
- Stillman, RAdm Patrick, and Gregory Giddens, "Deepwater Will Provide Homeland Security", *USNI Proceedings*, vol 128/8/1,194 (August 02): 38-40.
- Swinnerton, Russ and Desmond Ball, *Working Paper No. 278: a Regional Regime for Maritime Surveillance, Safety and Information Exchanges*, Canberra: Australian National University, 1993;
- Tomisek, Steven, "Homeland Security: The New Role for Defense", *Strategic Forum*, No. 189, (February 2002); journal on line: available from www.ndu.edu/inss/strforu.PDF; accessed 3 March 2003.
- Vergun, David, "Homeland Defense Begins at the Water's Edge: On Patrol with the U.S. Coast Guard", article on USCG website; available from <http://www.uscg.mil/overview/article%5Fwatersedge.htm>; accessed 25 January 2003.
- Weiss, Aaron, "When Terror Strikes, Who Should Respond?" *Parameters*, Vol XXXI, No. 3, (Autumn 2001): 117-133.

INTERNET SITES

- Government of Nova Scotia, Maritime Museum of the Atlantic; website available from <http://museum.gov.ns.ca/mma/AtoZ/HalExpl.html>
- Canada, Canadian Coast Guard; website available from http://www.pacific.ccg-gcc.gc.ca/summary-sommaire/index_e.htm
- Canada, Communications Security Establishment, *About CSE*: available from http://www.cse-cst.gc.ca/en/about_cse/about_cse.html; accessed 7 May 03.

United States, United States Coast Guard; website available from <http://www.uscg.mil/hq/g-cp/comrel/factfile/index.htm>

Canadian Space Agency. RADARSAT-1; website available from http://www.space.gc.ca/csa_sectors/earth_environment/radarsat/radarsat_info/bac_kgr/default.asp

United States, Department of Defense, Northern Command; website available from www.northcom.mil

United States, Center for Defense Information, “Organization for Homeland Security: Issues and Options”, *Terrorism Project*; website available from <http://www.cdi.org/terrorism/homelandsecurity.cfm>

Canada, Royal Canadian Mounted Police; website available from www.rcmp-grc.gc.ca

United States, Office of the President of the United States; website available from www.whitehouse.gov/homeland/

Canada, Department of National Defence, Fleet Diving Unit Pacific; website available from [http://www.marpac.dnd.ca/Support/Units/FDU\(P\)/FDUPacific.html](http://www.marpac.dnd.ca/Support/Units/FDU(P)/FDUPacific.html)

REPORTS/COMMISSIONS

Canada, an Incomplete Maritime Nation, Navy League of Canada, 2003; Report on line; available from <http://www.navyleague.ca/eng/ma/papers/2003%20Navy%20League%20Policy%20Paper.pdf>; accessed 3 May 2003.

Clark, Admiral Vern, CNO USN, speaking of the “The United States Navy and Maritime Security” transcript taken from the forum “Meeting the Homeland Security Challenge: Maritime and Other Critical Dimensions”, available from <http://ifpafletcher.cambridge.info/print/clarkP.htm>; accessed 2 February 2003.

The Council for Canadian Security in the 21st Century, “The People’s Defence Review”, (Calgary: 11 September 2002); available from <http://www.ccs21.org/peoples-def/people-def-rev.pdf>; accessed November 2002.

Canadian Security and Military Preparedness, Fifth Report of the Standing Senate Committee on National Security and Defence, The Honourable Colin Kenny and The Honourable J. Michael Forrestall, (Ottawa: Parliamentary Publications Directorate, February 2002). Report on-line: available from <http://www.parl.gc.ca/37/1/parlbus/commbus/senate/com-e/defe-e/rep-e/rep05feb02-e.pdf>; accessed 12 January 2003

Defence of North America: A Canadian Responsibility, Eight Report of the Standing Senate Committee on National Security and Defence, The Honourable Colin Kenny and The Honourable J. Michael Forrestall, (Ottawa: Parliamentary Publications Directorate, September 2002); Report on-line: available from www.parl.gc.ca/37/1/parlbus...om-E/defe-e/rep-e/rep08sep02-e.html accessed 15 Sep 02

Exercise Atlantic Guard Final Report, Prepared by Jim Bruce, SAIC Canada for the Chair of the Security Committee for the Nova Scotia Federal Council and OCIPEP, 21 June 2002.

Facing our Responsibilities: The State of Readiness of the Canadian Forces. Report of the Standing Committee on National Defence and Veterans Affairs, The Honourable David Pratt, (Ottawa: Parliamentary Publications Directorate, February 2002). May 2002.
<http://www.parl.gc.ca/InfoComDoc/37/1/NDVA/Studies/Reports/ndvarp04/06-toc-e.htm>; accessed 12 January 2003.

Remarks by the President at the Signing of H.R. 5005 the Homeland Security Act of 2002. The East Room
<http://www.whitehouse.gov/news/releases/2002/11/20021125-6.html>; accessed 11 February 2003.

Executive Order 13228 establishing the Office of Homeland Security
<http://www.whitehouse.gov/news/releases/2001/10/20011008-2.html> accessed 11 February 2003.

The U.S. Coast Guard “Maritime Strategy for Homeland Security”, Washington:USCG, December 2002; Report on-line available from
http://www.uscg.mil/news/reportsandbudget/Maritime_strategy/USCG_Maritime_Strategy.pdf; accessed 12 March 2003.

The United States Commission on National Security/21st Century, *Road Map for National Security: An Imperative for Change* (15 February 2001); Report on-line available from <http://www.nssg.gov/PhaseIIIFR.pdf>; accessed 12 March 2003

Statement of Admiral James M. Loy on Port and Maritime Security Strategy Before the Subcommittee on the Coast Guard and Maritime Transportation United States House of Representatives December 6, 2001; Testimony on-line: available from <http://www.uscg.mil/overview/article%5Fstatementloy.htm>; accessed 12 March 2003

Communications Security Establishment Commissioner, *2001-2002 Annual Report*; Report on-line available from http://www.csec-ccst.gc.ca/reports/2001-2002/ann-rpt_e.pdf ; accessed 14 March 2003

GOVERNMENT SOURCES

- Canada. Department of Finance. *Budget 2001: Increasing Security for Canadians* (Ottawa: Department of Finance, 2001); Summary on-line: available from <http://www.fin.gc.ca/budget01/fanfold/pasece.htm>; accessed 13 March 2003
- Canada. Department of Foreign Affairs, Industry and Trade, *Canada's Actions Against Terrorism Since September 11th – Backgrounder*, (Ottawa: Department of Foreign Affairs, Industry and Trade, 2001); available from <http://www.dfait-maeci.gc.ca/can-am/menu-en.asp?act=v&mid=1&cat=10&did=1684>; accessed 7 May 03.
- Canada. Department of National Defence. *Defence Plan 2001*, (Ottawa: DND, 2001). Report on-line: available from http://www.vcds.forces.gc.ca/dgsp/pubs/dplan/intro_e.asp; accessed 15 March 2003.
- Canada Department of National Defence, "Leadmark: The Navy's Strategy for 2020", Ottawa: Directorate of Maritime Strategy, 2001.
- Department of National Defence, *Backgrounder: Enhanced Canada-U.S. Security Cooperation*, (Ottawa: DND, 9 December 2002); available from http://www.forces.gc.ca/site/newsroom/view_news_e.asp?id=509; accessed 7 May 2003.
- Canada. Department of National Defence, *Force Planning Scenarios* (Ottawa: DND, Director of Defence Analysis, 20 December 2002); available from http://www.vcds.forces.gc.ca/dgsp/dda/scen/intro_e.asp; accessed 12 March 2003.
- Canada, Government of Canada News Release No. GC001/03 dated 22 January 2003 *Government of Canada Announces up to \$172.5 Million in New Marine Security Projects*. On-line available from <http://www.tc.gc.ca/mediaroom/releases/nat/2003/03-gc001.htm>; accessed 1 February 2003
- Canada. Department of National Defence, *NDHQ Instruction DCDS 2/98: Guidance for the Conduct of Domestic Operations*, (Ottawa: Department of National Defence, 10 July 1998).
- Canada. Department of National Defence, *Port Security Unit Concept of Operations*, MARC: 3000-6 (DGMPR) 27 April 2001.
- Canada, Department of National Defence. *1994 Defence White Paper*. Ottawa: Canada Communications Group, 1994; Report on-line: available from http://www.dnd.ca/admpol/eng/doc/5116_e.htm; accessed 13 March 2003.

Canada. Department of National Defence. *VCDS Joint Task List*; available from http://www.vcds.forces.gc.ca/dgsp/dda/cjtl/cjtl14/cap2_e.asp; accessed 14 March 2003.

United States. The White House. *The National Security Strategy of the United States of America*, (Washington: The White House, September 2002); available from <http://www.whitehouse.gov/nsc/nss.pdf>; accessed 6 May 2003.

United States, Statement of Steven Schorer, President L-3 Communications, Ocean Systems before the Subcommittee on Surface Transportation and Merchant Marine Senate commerce, Science, and Transportation Committee on 1 July 2002

NEWSPAPER ARTICLES

Alberts, Sheldon, "Terror Fight May Bring U.S. Troops Here: Canadian General to Command Joint Unit in Charge of Anti-terrorist Response Plans", *National Post*, December 09, 2002

Alberts, Sheldon, "U.S. General seeks closer Military Ties: Sovereignty Worries: Anti-Terror Chief Urges Co-operation for Navy, Land Forces", *National Post*, 19 Oct 02.

Canadian Press, "Military Call for Data 'Fusion' Centre", *The Globe and Mail*, 29 January 03.

Cheney, Peter and Victor Malarek, "Have a Scary Christmas", *The Globe and Mail*, 14 December 02.

Pugliese, David, "Canada to Build \$50M Radar Network", *The Ottawa Citizen*, 20 March 2003.

Smith, Graeme, "There's Little Public Can Do for Security, Experts Say: Worrying Pointless, Canadians are Told, Since Terrorist Target Could be Anywhere", *The Globe and Mail*, 14 November 2002.

Thorne, Stephen, "Coastline Vulnerable to Terror, Report Says" *The Halifax Herald Limited*, 04 September 2002.

Toneguzzi, Mario. "Calgary Woman Settles in as Exec of HMCS Saskatoon." *Victoria Times-Colonist*, 7 Jan. 2003.