CANADIAN FORCES COLLEGE / COLLÈGE DES FORCES CANADIENNES
AMSC 6 / CSEM 6

CANADIAN MARITIME SECURITY: A REQUIREMENT FOR A NATIONAL INTELLIGENCE AND SURVEILLANCE FUSION CENTRE

By /par
Commander Paul A. Hendry

23 October 2003

The heart and soul of effective maritime security lies in knowing exactly what is happening in all waters under Canadian jurisdiction including the Arctic.[1]

Hon. Colin Kenny
2002

The world changed on 11 September 2001 when terrorists attacked the United States directly. That horrific series of attacks demonstrated to the world that North America was not immune from attacks and that our Cold War idea of security through distance was no longer valid. The attacks also demonstrated that a determined and resourceful enemy could attack at any time and cause tremendous disruption, upheaval, and fear in our daily lives. Canadians too discovered that they were no longer immune to the terrorist threat and strikes against Canada were possible because of our proximity to the US. Canada is heavily reliant on the sea for trade and over half of our population lives within a few hundred miles of busy international waterways therefore they are real targets. Our maritime industry and maritime waters are the lifeblood of our economy without which the flow of exports and imports would be severely affected and the economy potentially ruined. To counter traditional threats to our maritime security and the new threat posed by terrorist organizations we must act now and prepare the best defence possible. The key to preventing or reducing the threat is to know that the threat exists and have plans developed to counter them. Our current maritime security framework is fragmented; 17 different departments and agencies are involved or have an interest in maritime security however, no one is "driving the bus"[2]. This paper will

[1] Canada, An Incomplete Maritime Nation. Pg 9
[2] Senate Committee Report Number 5. A common statement from Sen. Forrestall throughout the testimony..

demonstrate that there is an urgent need for a National Intelligence and Surveillance Fusion Centre that can meld the efforts of the different departments and agencies into a single cohesive centre of excellence for security and intelligence.[3] This Centre, with the right level of political support and interdepartmental cooperation, would be able to provide the right information to assist decision-makers. Assisting in the effort to "Drive the Bus!"

Introduction

Canada is a Maritime nation bounded on three sides by three different oceans with over 250,000 kilometres of coastline and claims responsibility under the Oceans Act for 10 million kilometers of ocean out to the limit of the Economic Exclusion Zone (EEZ). To put this into perspective when you include the EEZ Canada's sovereign jurisdictional responsibilities on, above and below the sea exceeds the total landmass of the country, a little known or understood fact by most of Canada's citizens. Over 25 percent of all our trade is transported on the sea to ports worldwide including the United States. The fact that we are a maritime nation with such strong reliance on the sea should factor heavily into a security infrastructure that adequately defends our maritime interests but does it?

The threats to Canada's maritime security are many and varied and cover the gambit from environmental pollution and disaster, economic issues like illegal-fishing, economic threats through smuggling (human and drugs), illegal use of the sea bed resources, piracy and terrorism to name but a few. While direct offensive threat by a military force is remote it cannot be discounted. Therefore for the purposes of this paper maritime

[3] Testimony by BGen (Ret) David Jurkowski, former COS for Joint Operations contained in the Fifth Report of the Standing Senate Committee on National Security and Defence. Also discussed by Douglas Bland, Chair, Defence Management Studies Programme, School of Policy Studies, Queens University in the same report.

security will be described as "the freedom from threat to national interests in, on, over and concerning the sea."[4] At an introduction to a maritime security workshop between Australian and Malaysian defence scientists and academics in 1996, Anthony Bergin submitted that there were five main areas in which governments must establish control to ensure security in the Maritime sphere:

> *Management of marine resources: the sustainable development and exploitation of marine resources, both living and non-living, is probably the single most important requirement for long-term success in coastal development. Control in this area is obtained through data acquisition and analysis, the establishment of regulations limiting the amount and type of activity, the enforcement of those regulations, and the harmonious development of economic potential in all areas;*
>
> *Maintenance of territorial integrity: the preservation of sovereignty over national spaces and the prevention of unauthorized use of those spaces is necessarily a preoccupation of a coastal state. Control in this area is obtained through the establishment of sovereignty and the maintenance of a deterrent enforcement capability;*
>
> *The protection and preservation of the marine environment: of increasing importance is the degradation of the marine environment brought about by economic development in coastal states. Control in this area is achieved by understanding the environment through data acquisition and analysis, establishing and enforcing standards and regulations for all uses of the marine environment (including vessels, commercial activity, and waste disposal), and by maintaining an environmental emergency response capability;*
>
> *The prevention of illegal activity: the enforcement of national and international law is another fundamental requirement of statehood. Maritime activities which may fall into this category include piracy, marine terrorism, drug smuggling, illegal immigration, illegal broadcasting from the sea, and a host of other offences specified in international law, if recognized by the coastal state. A coastal state must have the legal framework within which to enforce the law, as well good intelligence and response capability, in order to control this area of marine affairs.*
>
> *The safety of life at sea and the safe conduct of shipping: international law, as well as generally established humanitarian practice, require a coastal*

[4] Australian Defence Studies Centre and the Maritime Enforcement Coordinating Centre Joint Workshop report, *National Coordination of Maritime Surveillance and Enforcement* (Canberra: Australian Defence Force Academy, 1996), 2

> *state to ensure as far as possible the safety of life at sea, and also to render its waters safe for navigation. A state exercises control in this area through the prediction of dangerous conditions (again the result of data acquisition and analysis), the maintenance of safe channels and sufficient aids to navigation, the provision and enforcement of marine standards for safety and competence, and the possession of an emergency response capability for vessels or persons in distress.*[5]

These five spheres of control can and do relate directly to the challenges that now face the government of Canada as new and complex stressors to our national maritime security appear. However, to reflect today's reality one more specific threat must be added to the five general areas listed above; the threat posed by terrorism. So how is the government responding, on behalf of Canadians, in ensuring maritime security? To adequately control the five spheres the government requires an ability to gather intelligence, conduct surveillance, monitor for compliance, enforce the laws and coordinate intelligence and surveillance information sharing nationally and internationally. In Canada, different governmental departments are charged with the responsibility for different aspects of the control of maritime security. These shared responsibilities are usually drawn along departmental lines that a have a very narrow focus on their particular mandated responsibility in maritime security and tend to guarantee a 'stove piping' of information. There appears to be a reluctance to coordinate the sharing of information with other departments and agencies responsible for maritime security as competition for resources appears to be encouraged by our central government more interested in business planning cycles. Rather than unifying and shaping an effective, focused, and coordinated effort that works to a common set of objectives and shared purpose of maritime security, Canada's current approach to maritime security is disconnected and uncoordinated. The requirement for an interdepartmental and

[5] Ibid, pg 3

interagency approach to coordination of these spheres of control and the tools they need to be effective is important and will form the basis for this papers discussion.

To effectively coordinate the many complexities of maritime security and ensure that all members of the maritime security team are working together there is a requirement to clearly enunciate the government objectives in defending Canada's maritime interests. These objectives should be broadly stated as the strategic intent of the government. Once the objectives are known then an organization at the most senior levels of government must be formed to guide and direct the accomplishment of the government objectives. This organization must have senior political support, a clearly defined mandate, the resources to achieve the objectives and the authority to cross over departmental lines to harmonize the efforts. Only with the aforementioned senior support and sufficient direction, which is nearly absent today, will the benefits of a National Intelligence and Surveillance Fusion Centre be realized. [6]

The most positive step taken in an effort to determine the state of national security to date was the formation of a Senate Committee on National Security and Defence chaired by The Honourable Colin Kenny. This committee was authorized by the Senate on May 31, 2001, "to conduct an introductory survey of the major security and defence issues facing Canada with a view to preparing a detailed work plan for future comprehensive studies", and held it's first hearing in July 2001.[7] The work of this committee has been comprehensive in the examination of maritime security and has brought a number of issues to light that will need addressing. To understand the complexities and relationships amongst all departments responsible for maritime security

[6] Testimony by MGen Maissoneuve,A/DCDS, to the senate committee also confirmed this requirement, 35.
[7] The first report from the Standing Senate Committee on National Security and Defence http://www.parl.gc.ca/37/1/parlbus/commbus/senate/Com-e/defe-e/rep-e/rep01jun01-e.htm accessed 7 October 2003

the Committee has conducted numerous hearings, receiving testimony from the senior leadership of all government departments (both serving and retired), prominent defence and security academics and has conducted on-site assessments and town halls across the country and to the United States. These hearings have identified a number of flaws in our maritime security policy that need to be further explored.

As was mentioned previously, a sound maritime security framework must be built on the five spheres of control required by a maritime nation namely; the management of marine resources, the maintenance of territorial integrity, the preservation and protection of the marine environment, the prevention of illegal activity and the safety of life at sea and the conduct of shipping. If we use these five spheres of control as strategic objectives in formulating our maritime security organization then the roles and responsibilities should be clear. Canada ascribes generally to the five spheres of control necessary for security but has no coherent organization that is responsible for all of them. In fact, individual departments have responsibilities for some components or spheres either totally or as a contributor to other parts but no one appears to be 'driving the bus'. The common enablers that support the five spheres of control can be summarized as intelligence, surveillance, and enforcement. How each department supports these enablers will now be discussed to demonstrate the amount of duplication and lack of a cohesive approach that currently exists at all levels and serve as a point of departure for the streamlining and focus of all the issues relating to maritime security.

Intelligence

Professor Wesley K. Wark, an Associate Professor of History at the University of Toronto, in his opening statement to the Standing Senate Committee on National Security

and Defence stated, " Security must be intelligence driven."[8] This five-word assertion is indeed the cornerstone of maritime security. Without adequate intelligence and warning the state will always fight a rear-guard action and be reactive vice proactive. Good raw intelligence, followed by solid analysis and the rapid dissemination to the agencies that require the information is key to a cohesive maritime security framework. In Canada, there are a number of different departments and agencies that contribute to the collection, analysis, and dissemination of a variety of intelligence products but it is largely incumbent on the different departments to determine the focus of the intelligence gathering. There is no single intelligence body that is tasked to prioritize, plan and coordinate the efforts of all departments in ensuring our maritime security. One of the major recommendations that the Senate Committee made in its Eighth report to parliament was:

> The Coordination of all Canadian resources-including Navy, Coast Guard, Air Force, Army, Citizenship and Immigration Canada, Canada Customs and Revenue Agency, police forces and agencies responsible for intelligence and satellite surveillance – to improve defence of Canada's coastlines[9]

The Privy Council Office does attempt to fulfill this strategic role and houses secretariats in Security Intelligence, and Intelligence Assessment which are headed by assistant deputy minister level officials reporting to a deputy clerk who is a deputy minister level official. However, the PCO is not adequately staffed to coordinate the day-to day management of all-source intelligence and surveillance.[10] Douglas Bland in his testimony to the Standing Senate Committee on National Security and Defence outlined

---

[8] Proceedings of the Standing Committee on National Security and Defence, *Issue 16-Evidence (morning meeting)*

[9] Senate Standing Committee on National Security and Defence, *Proceedings Eighth Report*, (Ottawa: Senate, 2002), 7.

[10] Donald J. Savoie, *Governing from the Centre: The Concentration of Power in Canadian Politics* (Toronto: University of Toronto Press, 1999), 137.

several elements that should be included in a national security policy and two of these elements are germane to this paper, specifically he stated:

> [The] Establishment of an effective national security system to coordinate the many agencies and departments across governments and between governments. An important function of this system would be to centralize the collection and processing of information into intelligence. In his words: "You should collect broadly, analyze centrally, and then disseminate quickly from that source."

And he also stated:

> … the need to coordinate and control national security planning at both the national and international levels. What is needed to combat single-minded, singly-commanded terrorist organizations is "an agile, centrally controlled properly resourced institution…"[11]

The 2001 publication of *The Canadian Security and Intelligence Community* published for the Government of Canada Privy Council Office details the different roles and responsibilities of the departments and agencies in security and intelligence. In Canada the Prime Minister is ultimately accountable to the people of Canada for the security and integrity of the nation. In order to fulfill this mandate he is served by the Privy Council Office, a non-partisan group of public service employees, who provide the advice and support necessary to the PM and his cabinet. The Clerk of the Privy Council, the highest-ranking public servant, serves as the Prime Minister's deputy minister. He chairs a deputy minister-level group, the Interdepartmental Committee on Security and Intelligence. This group was initially named the Security Panel and was formed in 1946 and it is one of the oldest senior-level committees in the government. To understand the complexity of intelligence cooperation in Canada the following will summarize the roles

[11] Testimony of Douglas Bland to Standing Senate Committee on National Security and Defence, *Proceedings*, *Fifth Report-Canadian Security and Military Preparedness*, (Ottawa: Journal of the Senate, 2002), 30.

that departments and agencies play in the provision and collection of that intelligence data.[12]

The Solicitor General (SOLGEN) is responsible for protecting Canadians. He oversees the Department and four agencies; two of these agencies have intelligence and security tasks, namely the Royal Canadian Mounted Police (RCMP) and the Canadian Security and Intelligence Service (CSIS). The RCMP has the primary investigative responsibility for offences related to terrorism and espionage and in this function relies heavily on intelligence to counter the threats caused by organized crime, illegal migration and terrorism. The Canadian Security and Intelligence Service was formed in 1984 (the CSIS Act) to investigate, analyze and advise government departments and agencies on activities which may reasonably be suspected of constituting threats to Canada's national security.[13] Specific CSIS mandates are the investigation of political violence and terrorism, espionage and sabotage, foreign-influenced activities and the conduct of security assessments for all federal government departments and agencies when requested. CSIS also assesses immigration, citizenship, and refugee applicants upon referral from Citizenship and Immigration Canada and can assist in the collection of foreign intelligence within Canada at the request of the Minister of Foreign Affairs or the Minister of National Defence.

The Department of National Defence (DND), which includes the Director General Intelligence Division, the Communications Security Establishment (CSE), and the

[12] Privy Council Office, *The Canadian Security and Intelligence Community* (Ottawa: Privy Council Office, 2001), 4.
[13] Ibid. pg 7

Office of Critical Infrastructure Protection and Emergency Preparedness (OCIPEP), has a wide-ranging intelligence and security mandate.

The DND intelligence directorate is responsible for the provision of timely intelligence in support of operations abroad and in furnishing intelligence products and assessments to the Cabinet prior to the commitment of troops on missions out of country. The CSE has two main areas of focus; it provides the government with foreign intelligence by collecting, analyzing and reporting on foreign radio, radar, and other electronic systems and through the use of Information Technology Security helps ensure Canadian government telecommunications equipment is secure. The Chief of CSE reports to the deputy minister of National Defence for financial and administrative matters and to the Deputy Clerk, Counsel and Security and Intelligence Co-ordinator, Privy Council Office, for policy and operational matters. OCIPEP while not an intelligence collector relies heavily on intelligence products to fulfill its mandate that is "…to ensure the protection of Canada's critical infrastructure in both its physical and cyber dimensions, regardless of the source of threats and vulnerabilities." [14] OCIPEP is also the government's primary agency for ensuring national civil emergency preparedness. To meet its obligations it is essential that OCIPEP be plugged into and foster close cooperation and information sharing within the intelligence and security community.

The Department of Foreign Affairs and International Trade (DFAIT) is responsible for the management of day-to-day relations with other nations. DFAIT is the lead Canadian government department in developing international responses to security issues. It has intelligence and security responsibilities that include protecting Canadians

[14] Ibid. pg 9/10

and Canadian facilities overseas. DFAIT's Security and Intelligence Bureau provides foreign intelligence to support policy and operational decisions and advises the Minister on intelligence activities. [15] Working closely with DFAIT the department of Citizenship and Immigration Canada (CIC) is responsible to manage the immigration and citizenship policies in Canada and abroad. Ensuring that Canada benefits from the movement of people worldwide CIC is the first filter and verifies that immigrants, refugees and visitors to Canada pose no risk. CIC officers deal with their counterparts abroad to stem the flow of illegal migrants, people involved in organized crime, and terrorist organizations.

The Canada Customs and Revenue Agency (CCRA) is responsible for the enforcement of Canada's border, tax, and trade laws and regulations. Often the first line of defence in preventing undesirable people such as terrorists and criminals from entering Canada, CCRA staff work closely with and provide direct support to CIC, the RCMP, and CSIS. CCRA staff also work closely with other nations Customs departments, national and international law enforcement agencies and private sector partners to combat smuggling and other border crimes.

Transport Canada (TC) is responsible to set and enforce security standards for all national air, land and sea transportation systems. While it does not contribute to intelligence gathering it does evaluate intelligence and security information and then disseminates this information to the transportation industry. TC was designated as the lead department for maritime security in Canada after the events of 9/11.

As demonstrated, the intelligence structure in Canada is unnecessarily complex with many departments involved in the collection and provision of raw data. Some departments have the ability to analyze data (RCMP, DND, CSIS) but the key takeaway

[15] Ibid. pg 11

is that there is a lack of national coordination of intelligence assets, there is no central intelligence fusion center that can provide the right intelligence assessment at the right time to government or to individual departments when they require it. To ensure our maritime security we must take a more holistic approach to the collection and dissemination of intelligence. This holistic approach should see intelligence collection guided strategically from the center, employing a collective interdepartmental sharing of information and then a fusing of the intelligence so that it can be rapidly disseminated to those departments that need it. Raw intelligence and the sources are not nearly as important to the other agencies and departments and systems can be developed that protect those sensitivities when verified, without compromising the source. In his testimony to the Standing Senate Committee of National Security and Defence, Professor Wark outlined his thoughts and a proposal on the intelligence component of maritime security that built on three cornerstones of intelligence: better collection capability, better analytical capability, and better dissemination capability.

The collection of intelligence for maritime security is not difficult to achieve if it is organized effectively. The reintroduction of the Port Watch system that was so effective in WW 11, the use of available technology, including internet mining to forecast ship movements with dangerous cargo, and a more complete integration with our allies in the US and abroad will all improve the relevance and accuracy of collection efforts. The port watch system and use of port authorities, CCRA, CIC, DFAIT staff overseas, and other allied military forces will give us the information required. New computer databases can provide much needed background on shipping in a timely and cost effective manner. The navy efforts in collection of shipping information during Operation Apollo can be used as an example in this dimension. Compiling an accurate database that

can be translated and manipulated into an operational picture could satisfy one of the weaknesses in the intelligence picture of Canada's maritime security zones.

During the war on terrorism Canadian Navy ships operated in the Gulf of Oman alongside their coalition partners. Their main task was leadership interdiction operations (LIO); LIO in its most basic construct was deterrence by inspection. All merchant ships that plied the waters of the Persian Gulf and Gulf of Oman were contacted by ships and aircraft of the coalition and asked to answer a series of information gathering questions. If the information that the ships provided was different than the information held in the shipping databases then permission was sought from the master to send naval boarding teams on board to verify the information. In an effort to ensure that all merchant shipping in the Gulf was queried the coalition forces shared a shipping database that was updated weekly. All ships conducting the interdiction operations submitted boarding reports after hailing or boarding merchant ships. This formatted boarding report included information on the ship, her owners, the master, the last port of call, next port of call, nature of the cargo, suspicious indicators (if any), number and nationality of the crew and a host of other details. This boarding report was then collated and the ship position was inputted to an operational plot of the entire Gulf, which was then shared by all coalition members. This database also had digital pictures of the merchant ships that assisted in verification of their identity. This information sharing ensured that all coalition partners were aware of commercial ship movement in the area but it also provided important historical information on the ships that might be boarded thereby avoiding multiple boarding's and the inconveniencing of legitimate commercial shipping. To assist the ships at sea in compiling the plot and to anticipate stationing of warships Naval Control of Shipping

Officers [16] or their equivalents were employed at sea and ashore in internet mining, specifically retrieving the information commonly displayed on the internet pages of most major ports and harbours. This information when confirmed by port watchers was of immense value to the overall compilation of the recognized maritime picture (RMP). The example demonstrated above could easily be implemented in Canada and coordinated using existing technology and facilities. Harbourmasters, port authorities, CCRA staff, CIC staff, Canadian Coast Guard ships, Vessel Traffic Management Centres, the RCMP, members of the Coastal watch programme, and the navy can all provide value added input to this fundamental aspect of security. In isolation this information is not classified and therefore can be reported via unclassified Internet connection, by telephone or by facsimile. An intelligence fusion center could then add other intelligence inputs to the basic plot to provide the complete picture of the Canadian Zones of interest and thereby satisfy the first requirement of intelligence, the collection piece.

The analytical component of intelligence is a more difficult issue but can be solved easily by integrating the analysis capabilities of the different agencies into a central fusion center. This central fusion centre to be effective must be interdepartmental and international by design. All departments that need intelligence or analyse intelligence could contribute to this central effort. The technology currently exists to fuse wide varieties of intelligence into a coherent maritime picture that can be used by the agencies responsible for security and enforcement. The addition of existing Regional Intelligence Fusion Centres would complement a central intelligence fusion centre and could then tailor the support to a particular region.

[16] In Canada the responsibility for Naval Control of Shipping (NCS) rests with the Naval Reserve. In the USA they are referred to as Naval Control and Protection of Shipping Officers (NCAPS).

One of the many advantages of an interdepartmental intelligence center would be the ability to break down the departmental stovepipes that exist today and encourage the interchange of critical intelligence data. At the present there is a satisfactory level of cooperation between some departments. The RCMP, Coast Guard, and DND have established liaison officers in the navy headquarters on the Pacific and Atlantic coasts. This initiative has met with success in the fight against drugs and contributes in a very meaningful way to the security of the region. While it is in the very formative stages and has been built purely on the personal relationships between the officers and officials of the three departments it can be held up as a positive step in building a coordinated security team. The importance of broadening the participants and including representatives from CCRA, CIC, CSIS and OCIPEP will enhance the collective strengths of the intelligence team, allowing for rapid collection, analysis and dissemination of vital information to the departments that need it. However, this cooperation to be truly effective must include liaison officers from the US regional intelligence centers that can contribute to a truly continental use of information to assist in a secure marine environment. The military has well-established links to the intelligence departments of the US Navy and Coast Guard so an expansion of this exchange in information should be relatively straightforward to implement.

The dissemination of intelligence information to the right decision makers in an efficient manner must be the ultimate aim of a new intelligence framework. There is absolutely no utility in spending resources and building organizations to analyse the data if that data cannot be presented to the political decision makers in a timely manner. The first impediment to the dissemination of intelligence products will always be the perception by the departments charged with the collection and analysis of the need to

know and the over-classification of the product. To work there must be a common purpose and mission for the intelligence collection. Once this purpose is understood and interdepartmental organizations are stood up then the collegial interchange of intelligence can occur. While it is appreciated that not all intelligence can or needs to be shared by all departments, and certainly the specifics of how intelligence was derived and the sources must be protected this should not impede the sharing. All departments must understand the need for the information and must see the benefits of such information sharing if this interdepartmental team approach is to work. There will always be a requirement for DND to keep purely military intelligence closely compartmentalized, or the RCMP to keep some aspects of their criminal intelligence close to their chests but these occurrences, in a properly constructed interdepartmental intelligence centre, should be the exception and not be the rule. At times the greatest challenge in the dissemination of intelligence is not the will of the individuals or departments but the means by which to pass sensitive information quickly. All departments have secure computer systems, secure voice capabilities, and secure faxes but there is no single conduit that links them all. In an effort to streamline the dissemination of classified information a national secure wide area network that links field units with the regional intelligence centers and in turn is linked to the central intelligence fusion centre must be introduced. Only by expanding the interconnectivity of the players in maritime security will we see a demonstrable increase in the employment of intelligence by the decision makers. The technology to build such a secure network is certainly available and could use some of the existing support infrastructure. There are technologies that would permit multi-level user access on a common secure system based on security clearance and need-to-know. As proof of the ability to build such a system and make it work a recent US/CAN/AUS navy initiative in

secure computer based connectivity that has been used successfully for the past seven years will be discussed.

In an effort to harness technology and facilitate the information flow amongst allies at the tactical and operational levels, a multi-lateral team under the leadership of CINCPACFLT and COMD 3rd Fleet was stood up to develop a relatively inexpensive off-the-shelf computer network to share classified information between ships at sea and headquarters ashore. The result was a secret level system that used common equipment and existing allied crypto to pass information and was called the Coalition Wide Area Network (COWAN). The COWAN was first trialed in the biennial Rim of The Pacific (RIMPAC) exercise in 1998. While initial data throughput was limited by the available bandwidth this exercise did prove the concept of computer connectivity. After the success of the 1998 exercise more focus and resources were invested in the COWAN system and more nations were invited to participate. Subsequent advances in computer technology, bandwidth technology and information management have resulted in a robust, secure wide area network that enables a free interchange of classified and unclassified information amongst participating nations. The COWAN has the ability to be fused into other secure systems thereby making the passage of time-sensitive intelligence and other information achievable. While the COWAN was initially developed for exercises it's utility was recognized by all participants and it has evolved to be an integral system that contributes to the interoperability of Canada and her allies. In the recent Gulf War and Operation Apollo, the COWAN was used operationally with tremendous results. Intelligence information from the ships and aircraft could be transmitted quickly and efficiently to intelligence centers in theatre then assessed by intelligence analysts and the end product or determination made often within minutes. While conducting LIO in the

Gulf of Oman Canadian ships would routinely take digital images of merchant ships send them by COWAN to the Battle Group Intelligence Centre where they were assessed against an existing data base and a determination of whether to board or not could be made. This speedy information flow was also demonstrated between Canadian units in theatre and proved successful in the successful boarding of an Iraqi oil smuggler.

In this instance a Canadian CP 140 Aurora crew on a routine patrol spotted a small tanker off-loading to another tanker. They took pictures of the ships and sent them to the Task Group commander within minutes of touching down. The ships were positively identified as oil smugglers and the Task group commander dispatched a ship immediately to shadow and eventually board the smuggler. The time frame from initial detection by the CP 140 to a surface ship being in position to apprehend it was measured in hours as opposed to the normal days. The COWAN permitted this rapid and secure exchange of data, which then permitted rapid analysis and the subsequent successful apprehension.[17]

Could the COWAN concept be applied in a Canadian sense to link all government departments and agencies involved in maritime security? Absolutely. But to work all departments within government must be willing to share in the costs of building such a system and then must contribute to the staffing and operation of the system. A COWAN-like system would by its very design allow diverse intelligence requirements to be disseminated and permit a rapid transmission of time-sensitive information. A COWAN-like system could therefore satisfy the primary aim of intelligence gathering; getting the right information to the right person at the right time to make an informed decision. The

[17] Authors personal experience in the boarding of the M/V ROAA in April 2002 while in command of HMCS OTTAWA

three cornerstones of useable intelligence: collection, analysis, and dissemination can only be achieved if the many interdepartmental and international agencies work together.

If a cohesive, interdepartmental and interagency intelligence community is to be successful then it must have the right tools to be successful. It could be argued that the present fragmented and largely ineffective approach to intelligence work is caused by a lack of central clearinghouse for all matters in intelligence. If Canada is ever going to be successful in developing an intelligence organization that can meet the requirements of the nation in ensuring both national and maritime security then its visibility and priority within government must be raised. To work together harmoniously and to ensure adequate focus and support for intelligence then a new intelligence organization must be built that is led centrally from Ottawa from a Central Intelligence Fusion Centre. Representatives of all the major departments must staff it and it should be responsible to an appropriately senior and active governmental body. To be effective and to prove the utility of intelligence reports and the importance of it to national and maritime security briefings must be presented regularly to the highest levels of government.

Surveillance

> *The provision of surveillance and control is an integral part of the Forces' activities in Canada…in and of itself, maintaining the capability to field a presence anywhere where Canada maintains sovereign jurisdiction sends a clear signal that Canadians will not have their security compromised.*[18]

Like intelligence the ability to exert influence over an area of responsibility by the conduct of surveillance is a defence against threats to our maritime security. The function of surveillance is a critical activity that supports all five main areas of control in maritime security. Surveillance of Canada's sovereign waters permits the management of marine

[18] Department of National Defence. *1994 Defence White Paper.* (Ottawa: Canada Communications Group, 1994),Chapter 4

resources, maintenance of territorial integrity, the protection and preservation of the environment, the prevention of illegal activity and contributes to the safety of life at sea and the safe conduct of shipping. Surveillance of Canada's maritime areas will always be a challenge. The sheer size of our areas of responsibility, low population base, and the relative inaccessibility by conventional modes of transport require new thinking and a better use of technology. Today, surveillance is conducted by DND, the CCG and to a lesser extent by the RCMP and is woefully inadequate. Another of the recommendations put forward by the Senate Committee in its Eighth Report to government was:

> Effective coordination and utilization of the numerous monitoring resources such as: position reporting systems, Canadian Navy assets to include the Maritime Coastal Defence Vessels and Canadian Patrol Frigates, satellite tracking resources, routine Aurora flights, department of Fisheries and Oceans patrols and intelligence, the Canadian Coast Guard patrols and intelligence and the Royal Canadian Mounted Police patrols and intelligence;[19]

The basic aim of surveillance is to know what is going on in one's backyard at all times. Only with this information can control of territory be claimed with any degree of certainty. With the paucity of resources allocated to surveillance today it is a fair assertion to say that Canada has inadequate resources to fulfill the most basic requirements of sovereignty. A recent newspaper article that appeared in the Victoria Times Colonist on 2 October 2003 entitled " Hard-up navy looks to hire out. Private companies may conduct coastal air patrols."[20] reinforces that assertion.

Whether a civilian contractor, the Coast Guard or the Department of National

[19] Standing Senate Committee on National Security and Defence, *Proceedings Eighth Report*, (Ottawa: 2002), 7.
[20] Victoria Times Colonist, 2 October 2003.

Defence conducts surveillance patrols is not that important what is more important is to know is what is going on in our waters. It is however a sad reflection of our national interest in maritime security that due to budgets and resources that Canada's defence department is only able to provide 700 hours of Aurora patrol plane hours annually to each coast. An aircraft is the best surveillance platform to cover wide areas of ocean quickly and linger to investigate potential risks or threats, ships on the other hand are the best means of interdicting a threat at range but needs intelligence and accurate surveillance data to position themselves. There are a number of initiatives being pursued by the Coast Guard and DND to enhance the surveillance effort of our waters, but is it enough? Surveillance from space-based satellites is a technology that has progressed at a tremendous rate and is not constrained to military organizations. In fact, there are several commercial providers of space-based imagery that could be contracted to supply surveillance data in remote areas thereby giving us a near real-time window into those areas at all times. Another potential source of surveillance capability that needs to be more fully exploited by Canada is remotely piloted vehicles (RPV) or unmanned aerial vehicles (UAV). These vehicles are controlled at a distance, have good endurance and can provide a wide variety of information to fill in our surveillance picture in remote areas, particularly the Arctic. The data from these vehicles can be downloaded to a central fusion centres and complement other more traditional surveillance measures. UAV's are extremely versatile and can be equipped with a number of sensor packages that can provide, in addition to raw surveillance, information of value to the Canadian scientific community thereby enhancing the data collection and analysis requirements that are core requirements for security. The navy is presently establishing a series of High Frequency Surface Wave Radars (HFSWR) on both coasts to cover the gaps in

surveillance coverage and provide some early warning capability on our coasts. The HFSWR systems are designed to look beyond the radar horizon and employs ground wave transmissions to look out 120-180 miles. The HFSWR system can detect ships over 3000 tonnes and will be particularly useful in detecting vessels that are not complying with our existing marine management systems.[21]

A new initiative of the International Maritime Organization that Canada supports is the introduction of an Automated Identification System (AIS) for vessels greater than 500 tonnes[22]. Similar to the transponders commercial aircraft use the AIS will provide positional information on shipping worldwide, these transponders will greatly assist the picture compilation problems that presently exist and will certainly help in focusing the attention of surveillance assets on the unidentified contacts. Another complement to the layered approach in surveillance is the Coast Guard operated Vessel Traffic Management Systems (VTMS). VTMS centres are located on both coasts and in the St Lawrence seaway in areas of high density shipping and assist in the orderly flow of marine traffic. The VTMS centres also provide the first information dialogue between the merchant ships and Canada, and verify the port of destination, cargo, and seaworthiness of vessels before that vessel enters Canadian territorial waters. An interdepartmental initiative between the Coast Guard and Navy allowed the VTMS traffic picture to be input into the navy recognized maritime picture to enhance the overall surveillance awareness. The Coast Guard and Department of Fisheries also utilize a private contractor, Provincial Airlines, to patrol the coastal areas for fisheries support and environmental pollution surveillance. This information is also shared with DND, utilizing the CANMARNET to

[21] Captain (N) Peter Avis, "Surveillance and Canadian Maritime Domestic Security" *Canadian Military Journal,* Spring 2003: 9-14

[22] A proposal by the Department of Transport, the exact size of vessels requiring an AIS is yet to confirmed.

augment the surveillance effort. The penultimate surveillance tools in the toolbox are the ships of the RCMP, Coast Guard, and Navy. Every day in Canadian waters ships from any of the three departments are at sea patrolling the offshore and coastal areas of Canada's coasts. These ships do not cover a lot of ground but are pre-positioned based on

of Canada that manage the regional maritime picture a national surveillance facility could coordinate the allocation and employment of limited surveillance assets and provide a near real-time picture to government. How this important information gets managed has not been fully developed however a Central Intelligence and Surveillance Fusion Centre would be a logical site. A recent article in the Globe and Mail mentions a plan for a military data fusion centre.[23]

Enforcement

> *Sovereignty is a vital attribute of a nation-state. For Canada, sovereignty means ensuring that, within our area of jurisdiction, Canadian law is respected and enforced. The government is determined to see that this is so.*[24]

The ability to enforce the laws of a nation is the culminating sphere of control in maritime security. Without the enforcement legislation and means to conduct the enforcement the law is toothless. In Canada, there are a number of different agencies and departments that have some responsibility or jurisdictional authority in enforcing laws pertaining to maritime security. The RCMP has the mandate for enforcing federal statutes under the Criminal Code of Canada, the Controlled Substance Act, the Security Offences Act and the Customs Act other than at ports of entry.[25] This includes the provision of armed boarding teams to interdict and arrest ships engaged in illegal activity on the sea. The CCRA is the department charged with the legal responsibility and authority for the frontline interdiction of contraband and security threats at the various ports of entry and works closely with the RCMP when a high-risk vessel is suspected.

---

[23] Canadian Press, "Military call for data 'fusion' centre," Globe and Mail, 2 October 2003. 1.
[24] Department of National Defence. *1994 Defence White Paper.* (Ottawa: Canada Communications Group, 1994), Chapter 4
[25] Proceedings of the Standing Committee on National Security and Defence, *Proceedings Issue 14-Evidence (afternoon meeting)*

The Department of Fisheries and Oceans has the mandate to enforce legislation under the Canada Ocean's Act, which includes fishing violations and environmental pollution.[26]

While some departments have the organic capability to affect an arrest on the high seas it is limited to the closer inshore zones and only then in moderate weather. The RCMP have a handful of 16-19 metre catamarans spread across the country that they use to conduct coastal patrols, training missions for their ship boarding teams and interdiction activities. These small boats are not ideally suited for the unpredictable and stormy seas often found on the East and West Coasts of the country. Often the RCMP seeks the assistance of the Coast Guard or the Navy to provide the transport and support necessary to conduct an armed boarding. This mutual support has worked well for many years and has resulted in a number of successful apprehensions of drug smugglers and illegal migrant smugglers. The Coast Guard has no armed boarding capability but does have armed fisheries officers embarked when conducting fisheries patrols. The Coast guard has armed their ships in the past and they did arm a Fisheries Patrol Vessel during the "Turbot War" in the mid-nineties. The navy has developed and expanded the ability of their boarding teams in recent years and now has a comprehensive ability to successfully interdict ships on the high seas in any weather. The navy teams proved their ability and prowess during the war on terrorism and now present another tool in the toolbox for the enforcement of Canada's maritime security laws. As mentioned in the essay published in Maritime Affairs " Law enforcement requires that there be sufficient force available to compel compliance with the law."[27] While adequate legal frameworks and acts are in place and the ability to interdict and board shipping is available it could be better structured. The challenge in enforcement is one of first determining what constitutes a

[26] Oceans Act

threat, finding the threat and then translating that into action. If all intelligence information and surveillance data flows into a National Intelligence and Surveillance Fusion Centre then it would make organizational sense to add an operations centre that is comprised of all of the agencies in close proximity. This operational centre could then assimilate the information, make a determination on the preferred outcome, and issue the orders to effect an arrest with the participants and assets required all from one location. With senior representation from all involved departments resident in this National Operations Centre the timely, efficient and coordinated approach to enforcement of threats to marine security would be assured.

Conclusion

Maritime security is a complex and multi-faceted problem that involves many departments and agencies to achieve success. This problem is exacerbated in Canada by the plethora of agencies involved and the lack of a central guiding hand. Maritime security to be effective requires seamless coordination, a free sharing of information, intelligence and ideas, and above all close cooperation. Canada's ad hoc approach to maritime security in the tumultuous and violent times we live in must change if order to ensure our sovereignty and security. If Canada expects wish to be treated equally and with respect by our neighbours and allies we must pull our continental weight and contribute to the overall security picture. Through aggressive collection, analysis and dissemination of intelligence; proactive and thorough surveillance of our sovereign waters; and a coordinated enforcement effort both within Canada and in close

[27] Maritime Affairs. *Canada, An Incomplete Maritime Nation*. Canada: The Navy League of Canada. 2003. Journal on-line;

cooperation with the United States will we achieve an adequate level of maritime security.

As discussed previously maritime security is comprised of five spheres of control that must be mastered to achieve a measure of that security. Canada must take charge of her own maritime security or stand to be marginalized by our neighbours. Any effort that can be taken to improve, upgrade, consolidate or strengthen our control of the five spheres is an effort in the right direction and should be commenced immediately. The basic components of a maritime security framework are in place and the glass is not half-empty. Everyday the various departments and agencies work hard in their own way to defend and protect the citizens of Canada. However, as the threats to Canadians evolve and become less predictable the machine that is designed to protect them must adapt. We are at that point in the conduct of maritime security, today the information and intelligence is presented in a number of ways to different agencies and the flow of this information is expanding exponentially. To be successful we must look at new ways and means to coordinate the various departments and agencies within Canada and with our allies abroad.

Ultimately the government is responsible for the security of its citizens, the citizens demand this. Therefore our national view of maritime security must change. A National Intelligence and Surveillance Fusion Centre is a much-needed step in the right direction and should be built and staffed as a matter of priority. Experts in intelligence and analysis from all the departments and agencies must staff this national centre and a liaison staff from similar agencies in the United States must also be included. Only through such a centre, comprised of a dedicated team and focused by the need for collective security will the many disparate pieces of information be processed into a

meaningful product. This output will enable timely and accurate decision-making. In turn, timely decision-making will allow our enforcement teams to be proactive vice reactive ensuring our security and sovereignty. The addition of a National Intelligence and Surveillance Fusion Centre will definitely assist government and with this powerful multi-departmental, interagency and multi-lateral Centre they will be able 'drive the bus.'

BIBLIOGRAPHY

Cited Works

Australian Defence Studies Centre and the Maritime Enforcement Coordinating Centre Joint Workshop report, *National Coordination of Maritime Surveillance and Enforcement.* Canberra: Australian Defence Force Academy, 1996.

Avis, Peter Captain (N), "Surveillance and Canadian Maritime Domestic Security" *Canadian Military Journal,* Spring 2003: 9-14

Canada. Department of National Defence. *1994 Defence White Paper.* Ottawa: Canada Communications Group, 1994,Chapter 4

Canada. Privy Council Office, *The Canadian Security and Intelligence Community.* Ottawa: Privy Council Office, 2001.

Canadian Press. "Military call for data 'fusion' centre." *Globe and Mail*. 2 October 2003.

Maritime Affairs. *Canada, An Incomplete Maritime Nation*. Canada: The Navy League of Canada. 2003. Journal on-line; available from http://www.navyleague.ca/eng/ma/2003paper.asp; Internet accessed 1 October 2003.

Proceedings of the Standing Committee on National Security and Defence, *Issue 1- Evidence.* Transcripts on-line; available from http://www.parl.gc.ca/37/1/parlbus/commbus/senate/Com-e/defe-e/01cv-e.htm?Language=E&Parl=37&Ses=1&comm_id=76 ; Internet accessed 25 September 2003.

Proceedings of the Standing Committee on National Security and Defence, *Issue 2 Evidence.* Transcripts on line; available from http://www.parl.gc.ca/37/1/parlbus/commbus/senate/Com-e/defe-e/02cv-e.htm?Language=E&Parl=37&Ses=1&comm_id=76; Internet accessed 25 September 2003.

Proceedings of the Standing Committee on National Security and Defence, *Issue 4- Evidence.* Transcripts on line; available from http://www.parl.gc.ca/37/1/parlbus/commbus/senate/Com-e/defe-e/04cv-e.htm?Language=E&Parl=37&Ses=1&comm_id=76 ; Internet accessed 25 September 2003.

Proceedings of the Standing Committee on National Security and Defence, *Issue 5- Evidence.* Transcripts on line; available from http://www.parl.gc.ca/37/1/parlbus/commbus/senate/Com-e/defe-e/05cv-e.htm?Language=E&Parl=37&Ses=1&comm_id=76 ; Internet accessed 25 September 2003.

Proceedings of the Standing Committee on National Security and Defence, *Issue 6- Evidence.* Transcripts on line; available from http://www.parl.gc.ca/37/1/parlbus/commbus/senate/Com-e/defe-e/06cv-e.htm?Language=E&Parl=37&Ses=1&comm_id=76 ; Internet accessed 25 September 2003.

Proceedings of the Standing Committee on National Security and Defence, *Issue 7-Evidence.* Transcripts on line; available from http://www.parl.gc.ca/37/1/parlbus/commbus/senate/Com-e/defe-e/07cv-e.htm?Language=E&Parl=37&Ses=1&comm_id=76 ; Internet accessed 25 September 2003.

Proceedings of the Standing Committee on National Security and Defence, *Issue 8-Evidence.* Transcripts on line; available from http://www.parl.gc.ca/37/1/parlbus/commbus/senate/Com-e/defe-e/08cv-e.htm?Language=E&Parl=37&Ses=1&comm_id=76 ; Internet accessed 25 September 2003.

Proceedings of the Standing Committee on National Security and Defence, *Issue 9-Evidence.* Transcripts on line; available from http://www.parl.gc.ca/37/1/parlbus/commbus/senate/Com-e/defe-e/09cv-e.htm?Language=E&Parl=37&Ses=1&comm_id=76 ; Internet accessed 25 September 2003.

Proceedings of the Standing Committee on National Security and Defence, *Issue 10-Evidence.* Transcripts on line; available from http://www.parl.gc.ca/37/1/parlbus/commbus/senate/Com-e/defe-e/10cv-e.htm?Language=E&Parl=37&Ses=1&comm_id=76 ; Internet accessed 25 September 2003.

Proceedings of the Standing Committee on National Security and Defence, *Issue 11-Evidence.* Transcripts on line; available from http://www.parl.gc.ca/37/1/parlbus/commbus/senate/Com-e/defe-e/11cv-e.htm?Language=E&Parl=37&Ses=1&comm_id=76 ; Internet accessed 25 September 2003.

Proceedings of the Standing Committee on National Security and Defence, *Issue 12-Evidence.* Transcripts on line; available from http://www.parl.gc.ca/37/1/parlbus/commbus/senate/Com-e/defe-e/12cv-e.htm?Language=E&Parl=37&Ses=1&comm_id=76 ; Internet accessed 25 September 2003.

Proceedings of the Standing Committee on National Security and Defence, *Issue 13-Evidence.* Transcripts on line; available from http://www.parl.gc.ca/37/1/parlbus/commbus/senate/Com-e/defe-e/13cv-e.htm?Language=E&Parl=37&Ses=1&comm_id=76 ; Internet accessed 25 September 2003.

Proceedings of the Standing Committee on National Security and Defence, *Issue 14-Evidence.* Transcripts on line; available from http://www.parl.gc.ca/37/1/parlbus/commbus/senate/Com-e/defe-e/14cv-e.htm?Language=E&Parl=37&Ses=1&comm_id=76 ; Internet accessed 25 September 2003.

Proceedings of the Standing Committee on National Security and Defence, *Issue 15-Evidence.* Transcripts on line; available from http://www.parl.gc.ca/37/1/parlbus/commbus/senate/Com-e/defe-e/15cv-e.htm?Language=E&Parl=37&Ses=1&comm_id=76 ; Internet accessed 25 September 2003.

Proceedings of the Standing Committee on National Security and Defence, *Issue 16-Evidence.* Transcripts on line; available from http://www.parl.gc.ca/37/1/parlbus/commbus/senate/Com-e/defe-e/16cv-e.htm?Language=E&Parl=37&Ses=1&comm_id=76 ; Internet accessed 25 September 2003.

Proceedings of the Standing Committee on National Security and Defence, *Issue 17-Evidence.* Transcripts on line; available from http://www.parl.gc.ca/37/1/parlbus/commbus/senate/Com-e/defe-e/17cv-e.htm?Language=E&Parl=37&Ses=1&comm_id=76 ; Internet accessed 25 September 2003.

Proceedings of the Standing Committee on National Security and Defence, *Issue 18-Evidence.* Transcripts on line; available from http://www.parl.gc.ca/37/1/parlbus/commbus/senate/Com-e/defe-e/18cv-e.htm?Language=E&Parl=37&Ses=1&comm_id=76 ; Internet accessed 25 September 2003.

Proceedings of the Standing Committee on National Security and Defence, *Issue 19-Evidence.* Transcripts on line; available from http://www.parl.gc.ca/37/1/parlbus/commbus/senate/Com-e/defe-e/19cv-e.htm?Language=E&Parl=37&Ses=1&comm_id=76 ; Internet accessed 25 September 2003.

Proceedings of the Standing Committee on National Security and Defence, *Issue 20-Evidence.* Transcripts on line; available from http://www.parl.gc.ca/37/1/parlbus/commbus/senate/Com-e/defe-e/20cv-e.htm?Language=E&Parl=37&Ses=1&comm_id=76 ; Internet accessed 25 September 2003.

Proceedings of the Standing Committee on National Security and Defence, *Issue 21-Evidence.* Transcripts on line; available from http://www.parl.gc.ca/37/1/parlbus/commbus/senate/Com-e/defe-e/21cv-e.htm?Language=E&Parl=37&Ses=1&comm_id=76 ; Internet accessed 25 September 2003.

Proceedings of the Standing Committee on National Security and Defence, *Issue 22-Evidence.* Transcripts on line; available from http://www.parl.gc.ca/37/1/parlbus/commbus/senate/Com-e/defe-e/22cv-e.htm?Language=E&Parl=37&Ses=1&comm_id=76 ; Internet accessed 25 September 2003.

Pugliese David, "Hard-up navy looks to hire out." *Victoria Times Colonist*, 2 October 2003.

Savoie, Donald J. *Governing from the Centre: The Concentration of Power in Canadian Politics*. Toronto: University of Toronto Press, 1999.

Consulted Works

Centre for Foreign Policy Studies, T*he Changing Strategic Importance of International Shipping.* Halifax: Dalhousie University Press, 1997.

Centre for Foreign Policy Studies, *Maritime Security in The Twenty-First Century.* Halifax: Dalhousie University Press, 2000.

Centre for Foreign Policy Studies, *Maritime Forces in Global security*. Halifax: Dalhousie University Press, 1995.

The Naval Officers' Association of Canada. *The Niobe Papers, Ocean Policy in the 1990's: A Pacific Perspective. Volume 6.* Vancouver. 1995

Canada. Privy Council Office. *Decision-Making Processes and Central Agencies in Canada.* Ottawa: Canada Communications Group, 1999.

Ian O. Lesser, Bruce Hoffman, John Arquilla, David Ronfeldt and Michele Zanini. *Countering the New Terrorism*. Santa Monica: Rand, 1999.

Strategic and Defence Studies Centre. *Countering Terror: New direction Post'911'*. Canberra. Australian National University Press, 2003.

Internet Sites Consulted

http://www.cds.forces.gc.ca/pubs/anrpt2003/intro_e.asp CDS Strategic Report 2002-2003

http://laws.justice.gc.ca/en/O-2.4/87839.html oceans act

http://www.csis-scrs.gc.ca/eng/menu/menu_e.html

http://www.ccra-adrc.gc.ca/menu-e.html

http://laws.justice.gc.ca/en/C-52.6/index.html customs act

http://www.rcmp-grc.gc.ca/rpp/rpp_2003_toc_e.htm Annual report on plans and priorities

http://www.ocipep-bpiepc.gc.ca/whoweare/mission_e.asp

http://www.domesticpreparedness.com/links.lasso

http://www.tc.gc.ca/mediaroom/releases/nat/2003/03-gc001.htm

http://www.pacom.mil/speeches/sst2003/030601shangrila.shtml

http://usinfo.state.gov/topical/pol/terror/02043005.htm

http://www.jtfcs.northcom.mil/pressreleases/commandbasedinnorfolkmayshiftgearsinantiterror.htm

http://www.nci.org/01/07/24-reu-us_ports_vulnerable.htm

http://www.canadianembassy.org/defence/text-en.asp

http://www.fas.org/irp/threat/maritime2020/CHAPTER3.htm

http://www.tc.gc.ca/marine/menu.htm