



CANADIAN NAVAL REVIEW

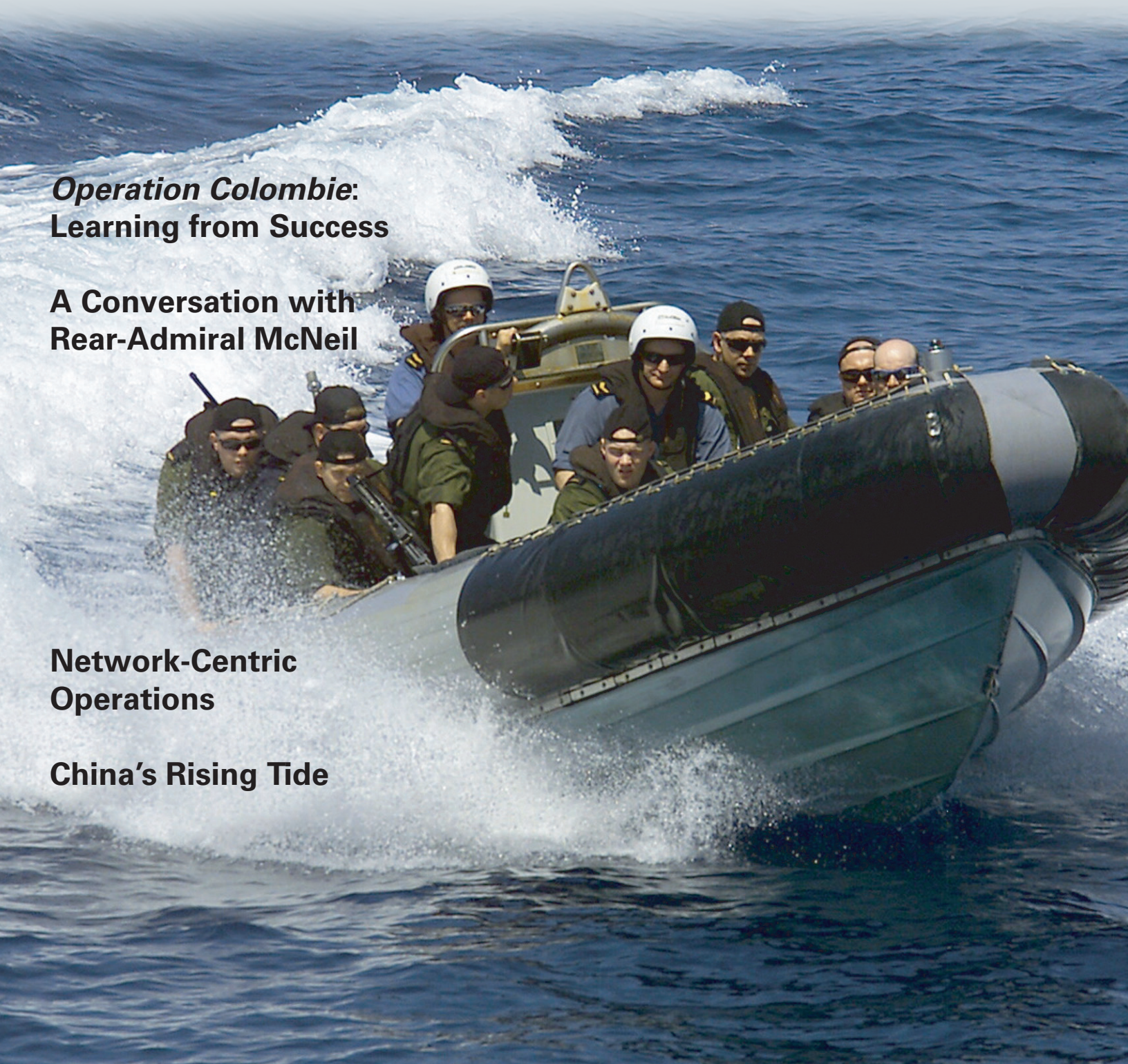
VOLUME 1, NUMBER 3 (FALL 2005)

Operation Colombie:
Learning from Success

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A naval boarding party in its RIB

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Editorial: The Canadian Navy and the “Home” Game

There is an emerging “conversation,” apparent in this journal and elsewhere, about the nature, requirements and relative priority of the navy’s “home” and “away” roles and missions. The release of a new Defence Policy Statement (DPS) in April 2005, and the infusion of significant additional funding over the next five years promised in the federal budget of February, together have given the “home” and “away” issue a focus plus a sense of urgency.

The DPS states clearly that “the first priority of our military will be the defence of Canada” (p. 17). It goes further in stating that Canada’s maritime forces will “place much greater emphasis on protecting Canada” and then detailing how they will contribute to this priority role in practice (p. 19).

So far, so clear – or is it? The Canadian Forces (CF) have been down this road before following the publication of the 1971 and 1987 White Papers on Defence. And, despite equally clear emphasis on the “home” game in both of these policy guides, in practice the priority activities of the CF and the navy were directed towards the “away” game.

So what are the key “home” game issues for the navy this time around? Four such issues suggest themselves. First, is the “home” game a meaningful role for the navy? Second, what capabilities are required? Third, are the roles and capabilities of the “home” game compatible or in some way inherently competitive with those of the “away” game? And fourth, will the government, and the navy, follow through with this new priority?

Despite Prime Minister Trudeau’s clear intention to re-orient Canadian defence from its post-World War Two emphasis on collective defence in NATO, in the early 1970s the Canadian military found it difficult to operationalize the requirements for what was then called “sovereignty protection.” How many fisheries, pollution



HMCS Summerside plays the home game

detection, Arctic and other patrols by navy ships and aircraft were necessary to enforce Canada’s legal jurisdictions? Deterring such illegal activities was difficult, if not impossible, to quantify legally, and just as problematic to implement politically insofar as many of the chief malefactors were our allies.

Today, following the events of 9/11, our “home” game now has important “away” dimensions in the sense that a good chunk of the activity we are trying to stop has its roots in foreign lands, whether it be illegal people and/or drug smuggling, or terrorism. But equally important is the fact that US concern for its own homeland security has now entered our equation. Indeed, the original post-war defence pact Canada entered into with the United States in 1938 – that Canada would not allow its territory to become a source of insecurity for the United States – now resonates strongly for both countries. And, in the early rounds of Canada-US negotiations on the renewal of NORAD, there is much speculation about an “expanded” NORAD that will certainly encompass the maritime defence of North America. Given these new realities, it would seem that the ‘defence of Canada’ role for the navy is not one that will go away or can be ignored.

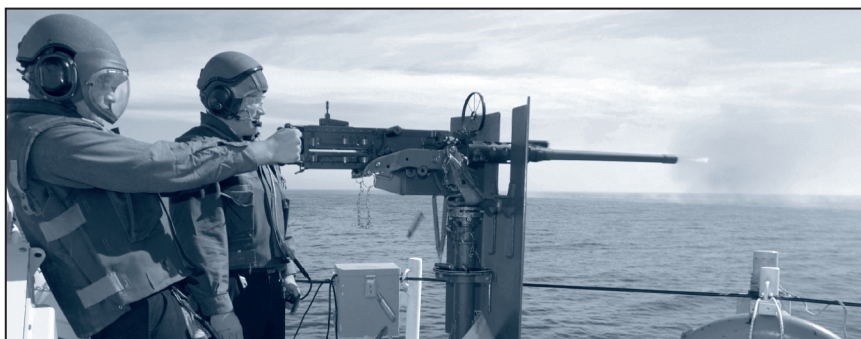
There is a lively debate emerging about what specific ca-

pabilities are required for the “home” game, and the article by Doug Thomas in this issue (“Canadian Offshore Patrol Vessels”) captures some of the key considerations nicely. Does Canada need specific naval, Coast Guard and RCMP “niche” capabilities dedicated primarily, if not exclusively, to the “home” game and its varied missions? Discussions of this nature always evoke arguments about cost-effectiveness and quality versus quantity, but it is clear that numbers matter given the sheer geographical scope of the air, surface and sub-surface approaches to Canada, plus the additional challenge of ice-covered waters. These factors will gain extra salience as the Canadian Forces consider future equipment requirements, and particularly as replacements are sought for the navy’s destroyers and frigates and for the air force’s fighters and maritime patrol aircraft. Will there be a preference for follow-on platforms or will there be a need for next-generation satellites, UAVs/UCAVs, dirigibles and sovereignty patrol vessels? The one-fleet versus two-fleet debate about the navy’s future capability requirements has already begun, and we expect to see the advocates of both sides plying their arguments in this journal.

No single platform provides a “magic bullet” (or a cheap one, for that matter) given the daunting requirements for continuous, multidimensional “domain awareness,” and a 24/7 rapid response for effective enforcement control. Moreover, given the newly-created Canada Command and its six regional sub-commands, plus the new Halifax-based Marine Security Operations Centre, it is equally clear that true “home” game capabilities will require close coordination and regular training exercises between the CF and various civilian authorities.

Over-arching all this is the small matter of funding future “home” game requirements, whatever they may be. And it is with respect to this that the lessons of the past may be most germane for the extent to which the “home” game will become a reality. There is already much public commentary about how ‘back-loaded’ the pledged additional funding is for the military – i.e., that the real increases will not kick in until years four and five of the current projections. This leaves far too much political “wiggle-room” for our leaders to claim that ‘unexpected’ economic exigencies and ‘new’ priorities (does our Prime Minister really have 163 “utmost priorities”?) require them to renege on their 2005 promises.

After the tabling of the 1987 Defence White Paper, with



“Force may be necessary!”

its special emphasis on Canada’s “three oceans” reality, the government cancelled outright or postponed most of its sovereignty-oriented equipment programs. These included a promised Arctic sub-surface sonar array system, nuclear-powered submarines, six additional long-range patrol aircraft, and modernized medium-range patrol aircraft, plus a Polar 8 icebreaker for the Coast Guard. All of these were deemed too ambitious and extravagant for the military.

But it is not only our elected politicians that play this game, our defence officials do it too. In the mid-1970s the latter sought escape from the government’s “sovereignty protection” priority by explaining that, while it may well be true that “sovereignty” was *the* “priority,” it was the most demanding operational tasks (i.e., confronting the Soviets through NATO) that ultimately determined the equipment mix. And in the 1980s, it was the navy that shelved plans for low-end minesweepers so as not to jeopardize its immediate preference for high-end frigates.

None of this is to say that history will necessarily repeat itself, nor that the “home” game itself will fall by the wayside owing to budgetary pressures, internal navy or inter-agency squabbling, or unexpected external events. Far from it. The Canadian Navy began with “fish & ships” concerns front and centre, and the navy has acquitted itself well in policing Canada’s territorial approaches over the years. Moreover, there is concrete evidence that much of the current “transformation” efforts in the CF are focused on the “home” game, and certainly the United States and its “homeland” concerns have spilled over into Canada, with much salutary effect on improved border and port security. But, in the past, it was clearly the “away” game that dominated navy planning and operations. It is precisely because the “home” game has been elevated in importance that we will now begin to see real policy trade-offs surfacing as the navy navigates its way through the coming decade. 🇨🇦

Danford W. Middlemiss

Operation Colombie: Learning from Success

Lieutenant (N) Mike McKinley

Introduction by Captain (N) Mark Norman

The following article has been skilfully crafted by Lieutenant (N) Mike McKinley who until recently served under my command in HMCS *St. John's*. Although I had intended to participate in the writing of the article, Mike beat me to the punch. So rather than trying to take credit for his work (a longstanding naval tradition), I instead asked for the opportunity to put Mike's article in context by way of some introductory remarks.

In the inaugural edition of *CNR* the editor challenged us to speak openly about issues relevant to our profession. In so doing Peter Haydon provided a convenient set of analogies of the "home" and "away" games. During 2004/5, HMCS *St. John's* had the pleasure of spending approximately 155 days at sea and sailing 35,000 miles – most of that "at home." In addition to several sovereignty patrols, routine exercises and the like, we participated in two major counter-narcotics operations. The first was *Operation Colombie* in July 2004, and the most recent was *Operation Board* in June of this year.

These sorts of operations are textbook examples of the missions undertaken in support of domestic maritime security. The observations in the article that follows are very relevant as they further the argument that such

missions, although essential to domestic security, are not what our current fleet is designed, nor optimized for. We of course execute these missions with our usual élan and professionalism but success is a result of training, ingenuity and cooperation at the tactical, operational and intra-departmental levels, not a result of a well-designed and resourced Maritime Security Policy. This, much to our frustration, is the current reality we find ourselves facing. Making do with what we have is the paradigm of the home game. This is not to say that the situation couldn't be improved significantly; but like everything it would be at a cost. In the "zero-sum" fiscal environment in which we find ourselves, we must ask how much of the away game capability we are willing to give up in order to please the home crowd. Nonetheless, and despite its warts, our "workable little fleet" gets the job done.

Although Mike's article is focused on *Operation Colombie*, the observations are relevant to most recent operation and reflect both the inherent strength and flexibility of our fleet in being, as well as its sub-optimal aspects particularly in the context of Peter Haydon's "home game." I hope you find it both interesting and enjoyable.

In the inaugural issue of the *Canadian Naval Review* Peter Haydon's article "Canada's Navy: A Good, Workable Little Fleet" discussed the Canadian Navy using baseball as an analogy. This article is intended to take the analogy one step further and examine maritime security – or the concept of the "home game" – from a tactical perspective using *Operation Colombie* as an example.

Since 11 September 2001 there has been an increased emphasis on maritime security and a growing need to enhance the navy's ability to cooperate with other government departments in the interest of national security. While several government departments have effective systems in place to monitor Canada's vast coastline, the magnitude of the problem dictates that no one depart-

ment can effectively carry out this task on its own. These departments must work together to create a system of systems that will ultimately become greater than the sum of its parts. To facilitate this process, information and experiences must be shared both within and between departments. Early in the summer of 2004 this was indeed the case when three government departments came together to execute *Operation Colombie*.

Colombie was an RCMP counter-drug operation which involved law enforcement teams from Quebec, New Brunswick and Nova Scotia. The operation had both a land and a sea component. Consequently, the Coast Guard and the Department of Defence were asked to contribute. In response to the request, both the navy and



Boarding VOIs is not an easy task, especially in a high sea state



Photo: HMCS St. John's

the Coast Guard were tasked to provide direct support to the RCMP. The navy tasked HMCS *St. John's* and the Coast Guard sent the *Edward Cornwallis*. The role of the Coast Guard was to provide transport for the RCMP rigid-hulled inflatable boats (RIBs) and boat drivers to the staging area off the eastern shore of Nova Scotia. In addition, after the takedown was complete, the *Cornwallis* was to act as an escort for the vessel of interest (VOI) during the transit back to Halifax.

The navy's involvement was more complex. *St. John's* was tasked to provide a base of operations for the sea-borne component of the RCMP. Particular tasks included planning and coordinating the activities in the staging area and providing protection for the RCMP boats during the approach to the takedown, covering fire – if required – during the takedown, a lock-up for suspects and a prize crew for the VOI. More significantly, the navy brings a certain level of expertise to such an operation. RCMP officers are not conversant with, nor educated in, naval architecture. This becomes extremely important when searching suspect vessels. Drug traffickers are very sophisticated and well funded and will go to great lengths to conceal their “real” cargo. That which may confound the RCMP search team is not likely to fool a hull technician or marine engineer who are well schooled in the finer points of ship structure.

By all accounts *Operation Colombie* was a resounding success. This in itself makes it more difficult to examine the operation critically. One tends to fall prey to the old adage “if it isn't broke, don't fix it.” Moreover, military failures can be catastrophic – we all know of several examples – so when an operation goes well, military organizations have a tendency to be self-laudatory. Despite this tendency and the success of the mission there are several lessons to be learned from the operation.

In the case of Colombie, communication was a double-edged sword.

I have heard it said many times in the past that communications are the bane of the navy. This holds true even today, despite satellite communications and the ability to transfer data at high speeds. In the case of *Colombie*, communication was a double-edged sword. On the one hand, difficulties in interoperability among departments resulted in degraded communications. For example, there was no secure means of effectively communicating intentions from *St. John's* to the naval liaison officer on board *Edward Cornwallis*. The initial plan was to use a secure “cellular type” phone system, but the system could not be installed and tested prior to *Cornwallis* departing Halifax.

Therefore, naval communicators developed a rudimentary system of codes for use on unencrypted voice circuits. This worked fairly well but only for short uncomplicated messages and even then the rate of information exchange was extremely slow. Fortunately, communications during the crucial point of the operation – the takedown phase – were largely restricted to one department only

and therefore did not constitute a centre of gravity for the mission. However, the requirement for a common, hand-held, secure UHF/VHF radio was readily apparent. A slightly different set of circumstances could have made rapid communication and coordination necessary. That is to say, the fog of war did not confound our efforts during this phase of the operation, but it may well have.

But this was only one phase of the operation. During the preparation phase, the other side of the sword revealed itself. The connectivity we enjoy at sea today allows every member of the crew access to communications ashore. This can be devastating to operational security, especially if the orders dispatching a ship are passed while the ship is at sea. Our current system of passing very sensitive message traffic intended for the Commanding Officer's (CO) eyes only had its roots firmly planted in a time when the individual sailor was not able to communicate ashore, which is no longer the case. As many as five personnel could view the message prior to it getting to the CO, all of whom could communicate the contents or the general theme of the message ashore.

A more secure system is needed to ensure both operational and communications security when there is a chance that orders will be viewed by anyone other than the Captain or his communications advisor – the senior naval communicator. But, sending critical messages directly to the CO via secure email is not a viable solution as there is no guarantee when any message will be read and precious hours may be lost. Consequently, direct communication between operation centres ashore and Commanding Officers at sea is a necessity today to ensure both a rapid response and operational security.

Once the initial order is passed, operational security is achieved by putting in place several measures which very effectively limit communications off the ship. These procedures are well established and the navy has employed them for the past few years. Moreover, the procedures provide sufficient flexibility to address almost any eventuality.

While every effort must be made to maintain security during covert operations, it is imperative that the need for operational security be tempered with the crew members' need to know what they are involved in and why they are there. During the initial stages, the operation was disguised as a routine training mission. The ruse worked very well to quell suspicion, particularly in CCGS *Cornwallis*, however, it is doubtful that such a cover story would have much effect for future operations. *St.*



The Vessel of Interest (VOI)

John's found that engaging the crew gradually by keeping them informed as required increased their confidence and resulted in a commensurate increase in their performance. Scheduling regular exercises that involve two or more government departments and mirror this type of operation would increase crew proficiency while decreasing suspicion.

As with land-based manoeuvre warfare – and let us not deceive ourselves, this is manoeuvre warfare – speed is of the essence. In fact, two aspects of speed are required during this type of operation. The first has to do with a logistical component. In this instance, minimizing the time required to embark personnel and equipment is the goal. During the initial phase of the sea component of the operation it was necessary to carry out the embarkation both rapidly and covertly. The covert embarkation of RCMP personnel and their associated equipment worked extremely well. The articulating ladder, which is much like a set of steps up the side of a ship, was used during the embarkation and proved to be very effective. However, it was not used during any other phase due to the sea state. This type of ladder is largely unusable in even minimal wave height conditions at sea. The jumping ladder, which is a vertical ladder made of rope and wood that hangs over the side of the ship, has long been used on vessels of all types and is far more effective at sea.

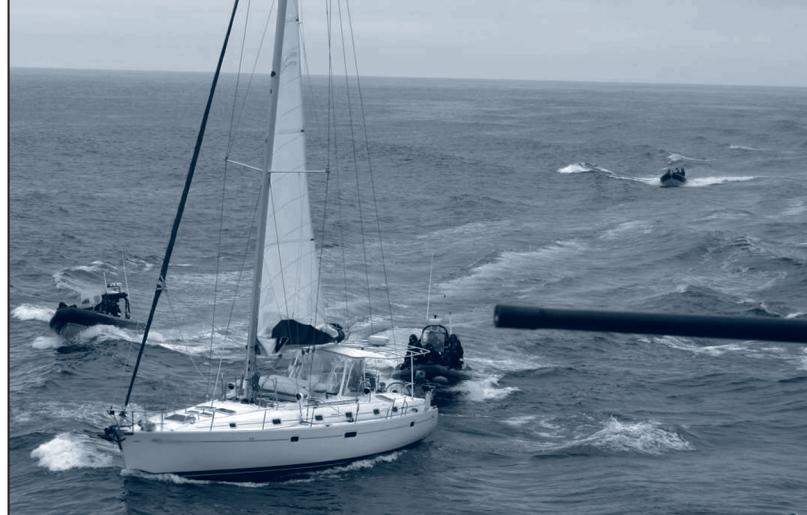
Apart from the RCMP equipment, *St. John's* did not sail with any equipment embarked specifically for the operation. It soon became apparent that there is a need to match the ship's capability with the assigned mission. Equipment such as night vision scopes, C-7 scopes, voice activated communications for boat drivers, secure hand-held communications devices, and high-speed digital imagery processing equipment should all be made available as part of a pack-up for ships engaged in operations with other government departments and delivered to the ship prior to deploying on such missions. This pre-planned pack-up would result in a better mission fit for the ship and allow for a shorter response time with a commensurate increase in battle space.

The second aspect of speed involves speed of manoeuvre. Speed of manoeuvre is essential during the takedown phase of the operation. It is imperative that the RIBs used during this phase are able to cover a significant amount of water in a short period of time. The approach from the shadowing position to the takedown position may require a transit of several miles and must be made at speed to be effective. In order to mitigate the risk of capsizing one or more of the RIBs during the approach, it is best for the RIBs to follow in the lee of the ship's wake, approximately 200 yards astern. The RCMP RIBs had a top speed which was significantly greater than that of *St. John's* RIB, which had a maximum speed of 25 knots fully loaded. As a result, the approach speed during the actual takedown had to be decreased; this had the potential to increase the target's battle space and decrease the chances of mission success. Due to the high approach speed for several miles it was necessary for the RIBs to follow in *St. John's* wake approximately 200 yards astern.

It soon became apparent that there is a need to match the ship's capability with the assigned mission.

Due to the lack of secure radio communications between the ship and the RIBs it was necessary to improvise a visual communication system. Flight deck lights (trafficators) were used to signal the "standby" and "go" to the RIBs. It was found during the night rehearsal that even minimal light from the trafficators could disclose the ship's position to the vessel of interest. During a long run-in at night a chem-light hung over the stern may be sufficient for the RIBs to follow while greatly decreasing the vessel's ability to detect the approaching warship.

For this particular mission, *St. John's* RIB was used to transport the RCMP divers and medical staff during the takedown phase. This meant that all RIBs were employed and consequently, there was no backup. The loss of one of the RCMP RIBs would have meant a team would have to go in without a backup team at the ready. The entire mission would be jeopardized. This gives rise to a very significant point; the centre of gravity for this mission was a RIB. The mechanical failure of a RIB would have resulted in thousands of dollars in man-hours, fuel and other resources being wasted and the mission failing. Like the old story goes – for want of a nail, the battle was lost. This possibility must be eliminated. The pack-up for vessels operating with other government departments must include two RIBs capable of high speed. This



Another vessel of interest

would eliminate the necessity to decrease the approach speed during the takedown, allow for a backup RIB and, more significantly, shift the centre of gravity of the mission away from a potentially unreliable piece of equipment and thereby increasing the chances for success.

In the past, naval commanders intent on carrying out covert operations at sea prayed for fog or laid smoke to conceal their position. This has been the case for centuries and holds true today. While fog is able to conceal your position it also, however, conceals other vessels, for example small pleasure craft or vessels engaged in fishing. Travelling at the speeds required for the takedown phase while in dense fog could be construed as being in contravention of the International Regulations for the Prevention of Collisions at Sea and, in any event, is very dangerous. But, no matter how dangerous, it is necessary for success of the mission. Fortunately the navy has recently procured equipment that will greatly enhance its visual capability in fog. The new electro-optical capability allows bridge personnel essentially to see through fog, dramatically increasing their ability to magnify a vessel of interest and greatly enhancing their night-vision capability. This new capability is very significant for all types of missions and is roughly equivalent to the development of radar during World War II. A future analysis of this procurement will undoubtedly reveal that the benefits of this sensor far outweigh the cost.

One of the most important aspects of this type of operation is the collection, preservation and dissemination of evidence. Although the standard evidence-gathering plan used proved somewhat effective, several shortcomings were revealed. The storage capacity for digital photography and operations room data was found to be inadequate. In addition, there was a significant lack of imagery processing capability. Ships engaged in this type of operation require an enhanced digital processing capability through the use of a high-speed computer and CD burner. This type of equipment would also be



HMCS *St. John's* entering St. John's, Newfoundland

very useful for other operations, such as fisheries patrols. One way to achieve this digital processing requirement would be to embark personnel from Formation Imaging Services for all missions in support of other government departments.

Once the takedown is complete, the mission is not over. If suspects are to be held on board, it falls to the Captain to ensure their proper care. RCMP officers handle all suspects, however, when suspects are moved throughout the ship, naval boarding party personnel may be required to act as guides and sentries to keep unauthorized personnel away from the transport route. Another requirement of ship's staff was to provide mats, pillows, food and water. *St. John's* kept a custodial record and command made regular rounds aft to ensure suspects were being treated properly. For the most part, the procedures employed worked very well.

The primary legal concern during the post-takedown phase is ensuring the suspects are served with a charge within 24 hours. Therefore, it is imperative that a plan be formulated well in advance to ensure a judicial representative is available either at Halifax or in the nearest accessible port of call. There may also be a requirement to fly the individuals to another part of the country to have them served with a charge.

In addition to the suspects, evidence must also be transported to a suitable port. *St. John's* placed a prize crew with the necessary sailing skills on the VOI to sail it back to Halifax. The movement of a small vessel is much different than a large ship and it soon became apparent that all members of such a prize crew should take seasickness pills well in advance of boarding the VOI. There may be a requirement to fuel the VOI prior to departing the takedown area for port, and depending on the transit distance, the prize crew may need to take diesel fuel with them. To facilitate the fuelling process it would be prudent to have sufficient quantities of various types of fuel

available for the mission. This fuel must be in addition to a frigate's normal pack-up.

Once on board the VOI, the prize crew, which was mainly comprised of personnel from the engineering department, discovered that none of the indicator dials worked and the radio was inoperable. Additionally, the hand-held VHF radios from the ship did not work well – the only reliable communications were through the RCMP secure VHF radios. Again, this indicates the need for such equipment.

The mission of the prize crew was care and custody of the VOI during the transit into port. The prize crew was augmented by two RCMP personnel who were to safeguard the evidence. The overall safety of the VOI was provided by *Cornwallis*, with the RCMP Emergency Response Team embarked and in constant visual and radio communications with the VOI. All measures must be taken to safeguard the evidence and a plan must be in place to have an escort meet the VOI upon entering harbour to ensure the evidence is delivered on time and intact.

There were several specific aspects of the operation that contributed greatly to its success and I would be remiss not to discuss them briefly. It is often said that practice makes perfect, and in the case of *Operation Colombie* this held true. Several rehearsals were conducted prior to the actual event and each rehearsal revealed small adjustments that were needed to perfect the plan. In addition to conducting rehearsals, it is imperative that speed-time-distance equations be constantly monitored. Careful positioning is essential to success. Having a sound plan and personnel at the ready will come to nothing if the ship is not at the proper place at the proper time.

This article has only examined one very small aspect of the "home game." As Peter Haydon alluded to in his article, Canada's vast coastline makes the "home game" extremely complex and a game that is very difficult to win. But, win it we must. Even Canadians who have only a very rudimentary knowledge of the Canadian Forces expect us to protect our coastline and as a military force we must fulfill this expectation. We must take the "home game" seriously.

It is imperative that departmental interoperability be developed and that the key players examine where they need to be and how they will get there. Standard operating procedures developed at the Marine Security Op-



The RCMP RIB

Photo: HMCS St. John's

erations Centres (MSOCs) on each coast will undoubtedly iron out some of the tactical issues; however, the effort must not stop at the tactical level. Although the *Halifax*-class Canadian Patrol Frigate was effective in this instance, it was far from efficient – the frigates are too heavily armed, too heavily manned and consume far too much fuel for such an operation. A more suitable class of vessel must be developed as part of a larger naval policy; our geography demands it.

*Although the **Halifax**-class Canadian Patrol Frigate was effective in this instance, it was far from efficient – the frigates are too heavily armed, too heavily manned and consume far too much fuel for such an operation.*

As a starting point, this vessel will require a command and control capability, deck space for four RIBs, accommodation for approximately 25 personnel in addition to the normal ship's complement, a minimum speed of 25

knots, an increased medical capability, and a crew large enough to place a prize crew on a second vessel.

In addition, old strategies based on the exigencies of the Cold War are no longer suited to the geo-political climate of today – we have departed the GI-UK Gap (Greenland, Iceland and the United Kingdom), our traditional operating area throughout the Cold War. Clearly, we are no longer able to conduct the navy's business with our current force structure and careful planning today will pay dividends in the future. This, intuitively, begs the question, how do we get through the next 15 to 20 years until such a vessel becomes available. And, more importantly, how does this vessel affect our overall force structure and our ability to carry out both the "home" and "away" game.

Operation Colombie went extremely well. In no small part, the success was due to cooperation between the various departments involved, support at all levels, a sound planning process, and the conduct of several dry runs prior to the event. But, above all, success was due to the ingenuity of personnel involved in the operation. However, several points must not be lost in the euphoria of success. The centre of gravity for the entire mission was essentially one rigid-hulled inflatable boat, the cost of which is a mere pittance compared to the man-hours and resources expended for the operation. There was a need for more advanced information technology to ensure all digital imagery and other evidence was collected, processed and disseminated effectively. The ability for the three departments to communicate was largely non-existent. Effective communications are difficult to achieve yet they are essential for all types of missions. The level of difficulty increases exponentially when several entities are operating together to achieve the aim of the mission.

The current Maritime Security Policy may very well lead to more operations such as *Colombie* and therefore we must endeavour to learn from this experience so that we may create a system of systems and better protect our national interests. The status quo is functional but far from optimal. 🇨🇦

*Lt. (N) Mike McKinley was the Command Control Information Systems Officer on St. John's. During **Operation Colombie** he was the naval liaison officer in the Coast Guard ship. He is now posted to the Canadian Forces Naval Operations School doing the Operations Room Officer Course.*

A Conversation with Rear-Admiral Dan McNeil, Part II

*On Monday, 9 May 2005, Dr. Dan Middlemiss and Mr. Peter Haydon of the **Canadian Naval Review** Editorial Board talked to Rear-Admiral Dan McNeil, Commander Maritime Forces Atlantic. This is the second part of that interview. Part I of the interview appears in Volume 1, Number 2 (Summer 2005).*

HAYDON

In terms of material resources, what is the top of your priority list? If you had your wish list, what would you say is number one after people?"

MCNEIL

My number one priority would be to change the process to make things more do-able and manageable. We're so bureaucratic and process-driven from the centre now it's hard to get things done. You could even give us the cash and it would still be hard to get things done. The limitations are, yes, human resources, but the limitations are also the risk-averse climate. How are we going to get a medium-lift helicopter in a short time-frame? How are we going to get a "big honking ship" in a short time-frame? How are we actually going to build and put together this main contingency task force? We've got all the bits and pieces now but the process is the most difficult part. And that's part of command and control and a better understanding of force generation. And I now know that these action teams are not working independently. They understand perfectly well that you can't do the command and control part without looking at the force generation part.

HAYDON

Do you think that any one piece of equipment is more important than any other, either to be replaced or to be acquired?

MCNEIL

Yes, the Joint Support Ship is a great enabler.

HAYDON

This is the "honking great ship"?

MCNEIL

No, they are separate. The Joint Support Ship is going to bring a certain level of amphibious capability and transport for the army. The "honking great ship" is also extremely important because I think it will lead to the ultimate amphibious, marine-like capability for the Ca-



Rear-Admiral Dan McNeil

Photo: CNR

nadian Forces. But in terms of joint support, the JSS is – and everybody should be clear about this – different from the "big honking ship." The reason it's different is the JSS cannot support the mass of soldiers that we're talking about with the contingency task forces. At best, I think we can get the equipment and resources for about 200-250 soldiers on one of those ships, when in fact we have the need for anywhere from 800 to 1,200, potentially 1,500.

MIDDLEMISS

I know this isn't your job really, but there was some discussion a year ago when the JSS first came that the navy was holding out the option for five rather than three.

MCNEIL

Well, of course you're quite correct, this is not my area of responsibility right now, other than if I am offered the opportunity to provide advice to the Chief of Maritime Staff, who will consider this advice in conjunction with a lot of other advice from the Armed Forces Council and the Defence Management Committee. But, anyway, we always thought a minimum number of ships to do the job was three. A better number was four. And if we're serious now about the marine-like capability and the Canadian Forces working together, then maybe the number

is five, six, or even seven. And maybe this “great honking ship” is just a temporary vehicle. That’s the way I’d like to think about it. And, you keep moving forward with the JSS concept and that’s how the Canadian Forces is going to be integrated and unified.

MIDDLEMISS

Are there operational considerations from your standpoint here? For instance, are there difficulties of marrying a high-readiness task group with a sea-lift requirement?

MCNEIL

That’s why the JSS is not the “big honking ship.” The JSS right now is the AOR replacement, fleet support vehicle prioritized for fleet support, which by the way, can carry (in lane metres) a whole bunch of equipment for about 200-250 soldiers. So, you can solve the problem with another class of ship, or you can help solve the problem with maybe more JSS. Then you’ve also got to start looking at the lifecycle costs and manpower costs for running the ship and all those other things. And maybe the answer is one or two more JSS and some temporarily leased Ro-Ros.

HAYDON

You are just finishing the refit of the AOR, but how much longer do you see that ship being useful?

MCNEIL

Preserver and *Protecteur* will continue to be extremely useful until the new ships are actually operational.

HAYDON

Will be you be working some of the new, evolutionary concepts into the new ships?

MCNEIL

I think we should. I think we will. I think we can start graceful degradation of some of the old capability and try to introduce the new. As a commander of *Protecteur*, I have a good appreciation for what it and *Preserver* can and cannot do. And you know, I think they use 15,000 tonnes of their total 22,000 tonnes for fuel, which means there’s not much volume there to do much more. It’s very constrained in what you can actually do.

HAYDON

Would you ever get to the point in a future exercise, a MARCOT ’06 or MARCOT ’08 for instance, that you would go to one of the shipping lines and saying, “I want to lease one of your smaller Ro-Ro vessels and use it for three months to practice and conduct a full exercise”?



“Big, honking ship?”

MCNEIL

Absolutely. I believe that there are companies out there that have ships that are useful. And I believe that if we put forward a proposal and offer the opportunity for these companies to come and tell us what they have or what they can do, there is wonderful opportunity to do just that.

HAYDON

This whole business of using commercial vessels to augment your capability really goes back to the Falklands War in 1982. The way the British exploited the commercial fleets to support that operation must hold some lessons that can be applied to future operations?

MCNEIL

Absolutely. Ships Taken Up From Trade (STUFT) I think they called it. They put liaison officers on those ships. They had a huge job to do with communications to make sure they could communicate with them all.

HAYDON

Earlier, we talked about the Coast Guard and putting naval detachments on to do additional things when they sail. Again, part of the overall evolutionary process might be the generation of communication teams. Do you see them coming out of the Naval Reserve or will they be regular force?

MCNEIL

I think we can make better use of the Naval Reserve. We are already starting to look at involving them more in intelligence programs that we’re running here. So, to use the reserves in that way is sensible. It would be interesting work for them to do. They would enjoy it.

HAYDON

Is it a big problem to call out the reserves? Or is that one of those political problems that has to be dealt with?

MCNEIL

There’s no simple solution. People talk about legislation where we would have legal authority to call out reserves when we needed them. There are many people who are



A *Victoria*-class submarine

not in favour of that because they believe it will create more problems than it solves, in terms of employer companies not wanting to have people that may be taken away from them. I lean towards the current system where when the country needs them, under the principle of citizenship, their employers let them go, whether it's a Manitoba flood or SwissAir crash. That's what I'm in favour of actually.

HAYDON

We have to ask the submarine question. How do they fit into the whole picture?

MCNEIL

Well, first, I'll start with the word "essential." They are an essential part of the big picture. And one of the more pleasing things to me – it's a small thing but it really pleases me and makes me feel good – is seeing the responsibility for surveillance clearly in the new policy. That was not clear in any previous policy, even in terms of sovereignty in the 1970s. We talked about our responsibilities in this matter, but nobody ever said the Canadian Forces were responsible for the surveillance of the country. The new policy says that. And I'll tell you we cannot do surveillance in the Atlantic and Pacific and Arctic without submarines. It's physics. The oceans are not transparent and you simply will not know what's going on under your waters unless you've got a submarine there. Your *own* submarine. Now, you can say the Americans can look after it for us, but is that what you want? So, submarines are absolutely essential, given the mandate now for surveillance.

Second, when we bought these submarines we always thought it was nice that they had a lock-out capability, they were designed to operate with special forces. But we never thought that we, the Maritime Staff doing the force development, would actually plan on using it. Well, in a post-9/11 world with the National Security Policy, and now the identification in the Defence Policy of Special Forces as an essential component, submarines become *more* important. You put the Special Forces on top of the surveillance role, and this is even before you go to the *nth* degree which is a Mark 48 torpedo when the ultimate happens and you want to take somebody out, and it is

asymmetric warfare at its best.

I'd match one of our *Victoria*-class submarines with Mark 48 against anybody's aircraft carrier. I wouldn't want to be on the aircraft carrier. I think that the diesel submarine would win. So, right from surveillance, to special operations, to the ability to take out the biggest combatant, submarines are essential for the future.

MIDDLEMISS

That's still a tough sell.

MCNEIL

Well, we've got a whole department to sell. I speak to my American friends and my French friends, and when they talk now about operating somewhere in the world where nasty things are happening, they don't want to go there until they send one or two of their submarines there first. So, for the main contingency force, anywhere you're going to send it, you want to send a submarine there for weeks in advance doing signals intelligence, electronics intelligence, acoustic monitoring to find out what the environment is really like. You're not going to know unless you have a submarine there.

HAYDON

Do submarines have that capability now, or is it something that has to be added?

MCNEIL

This also comes in the area that I'm pushing big time with the new policy of operational security. If you don't have a platform for submarines, you don't have capability. The level of signals, electronics and acoustic intelligence that we're going to put into them, we're not going to tell you. But it'll be there. It's there to a certain extent now, but we're going to get better.

HAYDON

There are interesting stories of the Americans learning to use their nuclear submarines in surveillance and reconnaissance roles. They are singing the praises of some of the electronic equipment and robotics they have.

MCNEIL

I talked to the US amphibious group commander last November and he told me he's got a submarine attached to his task force, and that's how he uses it. It goes on ahead and does all the surveillance and intelligence and sends all that information back before he'll move those valuable amphibious ships anywhere near where they need to go. You can do a certain amount with satellites, you can do a certain amount with Special Forces, but the submarines are now an essential part of that package.

We're sensing the environment before we go in harm's way.

HAYDON

So the quicker they're back to sea, the better.

MCNEIL

Absolutely.

HAYDON

When's that going to take place?

MCNEIL

There were a couple of articles over the weekend that I didn't like about submarines. In one of them a local reporter said, "you have to have an accident before you think about submarine safety? What's wrong with you people?" Well, excuse me but we are deep into the submarine safety world with this regime we inherited from the Royal Navy based upon nuclear safety and risk management and it ties us to this engineering cycle of refits that is inflexible. I couldn't get *Windsor* to sea until the middle of May, because she's locked into this cycle, so, the middle of May it has to be. We've got *La Groupe aéronaval* (GAN) coming here to Halifax in June – this includes the *Charles de Gaulle* carrier with a couple frigates, a nuclear-powered submarine, *Rubis*, and one of their support ships. We'll be operating with the French off the coast with the Americans as well doing some pretty neat operations, and we hope to have *Windsor* involved in those exercises.

HAYDON

There has been a lot of criticism over the years that operations have always seemed to be a secondary factor in the Canadian Forces. Do you think that with the changes being made in your organization, that this is the beginning of a reversal and that operations will now become foremost?

MCNEIL

I don't agree with that. Generally, in terms of the Canadian Forces, during the "management" era there was a general feeling that operations came second, but that was not the case in Maritime Forces Atlantic. That's one of the reasons why, once again, the Canadian Forces in the Atlantic will be the model for the new structure. When the Cold War ended we did not stop doing operations; we continued doing operations every single day off the coast, whether environmental monitoring, fisheries patrols, or turbot wars. In partnership with Norfolk, but now much more in cooperation with Boston and the United States Coast Guard, we never stopped doing

operations. And now in the post-9/11 world, with the broader definition of security, which always existed, this is even more true. I continually tell people that one of the first, most important things I did in the navy when I joined as a sub-lieutenant, was to go out and do a fisheries patrol against a the Soviet fleet.

HAYDON

You talked about the link with Norfolk and Boston. How about transatlantic links?

MCNEIL

They are very strong, very important, and starting with the Joint Rescue Coordination Centre and those transatlantic links, and less so the NATO command and control structure although we've got the two MCDVs – *Shawinigan* and *Goose Bay* – operating under NATO now in the Baltic. We haven't broken the NATO connections, but Admiral King said it best when he said to the Senate committee last week that NATO is less a military organization now and more a political organization.

It has to do with our change, from where we didn't do any command and control in the Canadian Forces and let NATO do it, to now when we understand we have to do our own command and control. And this main contingency force is a huge leap forward with that, too, because one of the main pieces of that is that a couple of Hercules in Africa, a couple of ships in the Mediterranean, and the army in Afghanistan, is not going to do it. We're still piecemealing our forces and not being meaningful on the world stage. A hundred people in Sudan and 170 in the Golan, and 30 in Côte d'Ivoire, and 20 there and 10 here, won't do it.

HAYDON

Is Canada becoming a more independent nation, and less concerned with alliance activity – going into ad hoc arrangements rather than standing arrangements?

MCNEIL

That's interesting. It's the way of the world now, isn't it? We all know now that the United Nations is a great organization. It's altruistic and we love it but it can't organize anything, and it can't execute anything. It's the ultimate bureaucracy. NATO now has, what, 29 countries and building? What's its relationship to the European Union? The European Union is taking responsibility for Bosnia and the former Yugoslavia and is now talking about taking responsibility for out-of-European operations.

MIDDLEMISS

Admiral, this has been great. Thank you very much. 🍷

STANAVFORLANT in 1970: The First Canadian Command

Michael Young



HMCS *Restigouche* in the Inner Leads, Norway

Photo: Michael Young

In 1970, for the first time since its formation, Canadian ships participated in the NATO Standing Naval Force Atlantic (STANAVFORLANT or SNFL) on a full-time basis. This participation was essential since the force would be under the command of a Canadian naval officer (then Commodore D.S. Boyle), also for the first time. At the time, SNFL was arguably the largest and most active operational unit in the West outside the US Navy (USN). It offered many advantages to Maritime Command and presented a unique opportunity to broaden the base of tactical experience in the command.

The Commander's flagships were successively HMC Ships *Restigouche*, *Nipigon* and *Saskatchewan*. I was the Weapons Officer in *Restigouche* during her deployment. Afterwards I wrote an article on the experience which was published in the Maritime Tactical Bulletin in 1971. The following is a revised version of the original, with additional comment from the perspective of more than 35 years later.

It should be remembered that in 1970 the Soviet Union was the enemy and a formidable one at that. From a naval

warfare perspective, NATO was totally focussed on the reinforcement and resupply of Europe. Also, Maritime Command itself was in a state of flux in 1970 dealing with the implementation of unification, severe budget cuts and the imminent demise of HMCS *Bonaventure* after the very public fiasco of her refit costs.

Having finished refit and trials, *Restigouche* sailed from Halifax in early January 1970 so as to join the force on 20 January. We were to embark the Commodore and his Canadian staff in the Azores. A short work up in local areas was hampered by poor weather and was eventually curtailed – an inauspicious beginning. Then more poor weather prevented the Commodore's aircraft from landing at Lajes. We eventually embarked him on entering the Tagus River on the way up to Lisbon. His flagship was somewhat the worse for wear in appearance after the rough passage and the fall months spent alongside in Halifax getting ready. He was not pleased.

Restigouche relieved HNLMS *Isaac Sweers* as the SNFL Flagship in a formal ceremony dockside with a full guard composed of sailors from *Restigouche* and Dutch Ma-



HNoMS *Stavanger* at anchor

Photo: Michael Young

rines. For the next five months the force steamed as far south as Madeira and north across the Arctic Circle to the Tromsø area of northern Norway. The ships comprising the force were all of basically similar type – primarily anti-submarine warfare (ASW) destroyers/frigates with limited above-water defensive capability – but the operations in which they were employed covered the spectrum of what used to be known as “destroyer-type” operations. As many as nine and as few as six ships formed the force with participants joining and leaving on a regular basis.

After harbour procedural training, inter-ship familiarization visits and maintenance, SNFL sailed from Lisbon on 2 February for Exercise Sunny Seas. Intended as a short work up in the calm seas around Madeira, this was a disappointing beginning, as it turned out to be an example of how an exercise should not be organized. There was confusion over communications and basic procedures and relatively simple things like formation manoeuvring became difficult. Even the routine public relations shot of the ships steaming in formation was difficult due to poor station-keeping skills on the part of some ships. In the end there was no formal ‘portrait’ approved!

Exercise Sunny Seas . . . was a disappointing beginning, as it turned out to be an example of how an exercise should not be organized.

Departing from the Madeira area, the force headed north to the Portland area in the UK. In Portland for only six days, a great deal was achieved under the expert tutelage of the Flag Officer Sea Training’s Staff. On completion of

the time in Portland it could be said the force was worked up, albeit a long way from the precision and understanding that came later. SNFL then comprised *Restigouche*, HNIMS *Isaac Sweers*, USS *Steinaker*, HMS *Leander*, and HNoM Ships *Trondheim* and *Stavanger*. The other member, FGS *Augsburg*, developed engine trouble, returned to Lisbon for repairs and did not rejoin the group until after Portland. The two Portuguese frigates returned home as well.

The next scheduled commitment was Exercise Arctic Ice – the naval side of the major land forces Exercise Arctic Express in northern Norway. The transit to north Norway from Portland was routed through the English Channel. Normally, individual ships in formation would be given freedom of manoeuvre to avoid collision in this dangerous passage. Such was not the case this time. We were formed into a double diamond formation with all manoeuvres controlled by the Commodore and his staff in the flagship. The passage was made at night and constant manoeuvring strained all involved. This was the first and last time such a formation was attempted.

Exercise Arctic Ice was the most demanding and challenging exercise ever experienced by anyone in *Restigouche*. The political setting involved NATO forces in the form of the Allied Command Europe (ACE) Mobile Force and STANAVFORLANT (Blue), supporting Norwegian national units repelling the Orange force which was invading the Norwegian Arctic. The tasks allotted Blue Force included the repulsing of Orange incursions, and the support and supply of Blue land forces. This entailed convoy escort, interdicting landings, aggressive penetration of enemy-held fjords, naval gunfire support for Blue landings, and attacking enemy shipping and na-



Three NATO warships alongside in Trondheim

Photo: Michael Young

val forces. Only the Norwegians had much concept of the scope or type of operations involved in this part of the Arctic. In many ways, there was much activity reminiscent of the British operations against German forces in the same region in 1940.

The weather in the Tromsø district at that time of the year is very similar to the weather on the East Coast of Canada, but the water conditions bear no comparison. Because of the influence of the Gulf Stream this area remains mainly ice free but the resulting ASW problem is horrendous. With the sea surface temperature near zero degrees Celsius the gradient then goes positive until about a depth of 60 to 80 feet when it goes very sharply positive. This layer can result in a change of as much as 25 degrees. The depth of the layer is in the region of 100 feet, so that at about 200 feet the gradient goes sharply negative. In such conditions the small, German-built Norwegian submarines had a field day in the exercise and inflicted 'casualties' out of all proportion to their number.

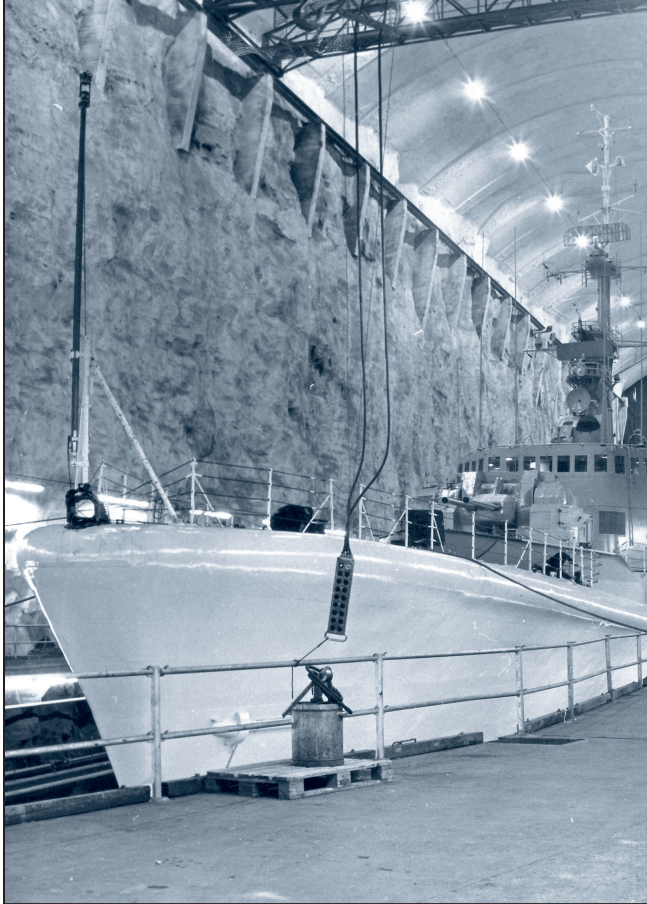
[The exercise] entailed convoy escort, interdicting landings, aggressive penetration of enemy-held fjords, naval gunfire support for Blue landings, and attacking enemy shipping and naval forces.

In addition to the submarines the Orange naval force had a formidable arsenal. There were Phantom, F-104, and NF-5 strike aircraft, two Norwegian frigates, several squadrons of fast patrol boats (FPBs), units of

the coastal radar and artillery batteries as well as teams of attack swimmers who operated from submarines. The artillery batteries were the most difficult to neutralise as they are impossible to detect until they open fire. Even when far out of the range of the FPB and coastal artillery, the force was continually under threat of air and submarine attack so that the environment was multi-threat at all times throughout the exercise. When in fjords or coastal waters the enemy FPB could set ambushes and concentration points under the guns of the shore batteries with strike aircraft lurking on call behind the nearest mountain and a submarine in torpedo range up fjord.

Of course it was not always so one-sided as that – friendly air cover was nearly always handy – it just seemed that way at the time. The result of this exercise was that the command teams and action crews were honed very quickly into effective fighting units. After the first couple of serials when we began to appreciate what was happening, no enemy aircraft attacked the force unscathed on its first pass.

One night in particular was memorable. The force had split into two surface action groups (SAGs) one on each side of the fjord near Harstad. The objective was to interdict an expected enemy landing several miles up the fjord. At about 0300, steaming in line abreast at 25 knots, in the Operations Room of *Restigouche* we heard a voice message from USS *Steinaker* that she was attacking FPBs on the western flank of the line. Then there was a report of a submarine-launched green flare, followed by reports of landings on the eastern shore. In the middle of this *Steinaker* reported she was aground. It turned out the FPB was a large protruding rock and the American had run over one end of it. *Steinaker* badly damaged both shafts and tore a hole in a stern compartment. At



HMCS *Restigouche* in the "bunker"

Photo: Michael Young

daylight, down by the stern but with the flooding under control, she was towed the two miles into Harstad and withdrew from the exercise.

In this exercise *Restigouche* used sonobuoys for early warning of FPB ambush against convoys transiting the Inner Leads (the passage along the Norwegian coast inside the chain of offshore islands). Air reconnaissance failed to reveal the main concentration of boats as they were superbly camouflaged and tucked into coves in the fjords. A friendly FPB of the convoy escort was detached with codar plants and *Restigouche* personnel embarked. It proceeded about 10 miles ahead of the convoy or main SAG and laid the plants in predetermined locations at specified times. The locations were chosen as likely spots for ambush and within UHF range of the main group. Camouflaged enemy FPBs would not reveal their presence to a single unit apparently on reconnaissance. The only communication between the dropping boat and the OTC were the words 'sweet' or 'sour.' If the latter word was used the next plant in sequence was automatically laid. An instant reference signal was given by the engines of the dropping unit as it cleared the plant so that as soon as any other FPB started engines for an attack, the plant gave a fine enough bearing for the gunnery teams to train mountings. The technique proved so successful that only once did an FPB get to open fire first on the group.

The majestic grandeur of the coastline has to be seen to be appreciated – it is a coastline that is the worst enemy of friend and foe alike. Bearing witness are the groundings of *Steinaker* and the Norwegian frigate *Stavanger*, and three other groundings by FPBs. *Stavanger* ran aground after sheering out of a narrow passage between fjords. *Restigouche* had to tow her off the rocks in a narrow channel after the first on the scene, HMS *Leander*, got the tow line wrapped around her screw. The force lost another member.

On completion of this exercise SNFL steamed south to Haakonvern, the main Norwegian naval base near Bergen, for an assisted maintenance period over the Easter holiday. By this time *Restigouche* was really showing the effects of the tempo of operations, much sea time and the weather. She did not sparkle in appearance as a flagship. The Commodore, used to the standards of the Esquimalt-based squadrons and especially the training squadron which he had commanded, was not pleased with how his flagship looked.

Accordingly, arrangements were made for her to go into the enclosed dock to paint ship. This dock is literally a hole cut into the side of a mountain and can handle ships up to large destroyer size, although we had to remove an antenna at the masthead to clear the roof. Closing the doors at the entrance seals off the interior and ship's external work can be done regardless of the weather. There are several such caverns in various parts of Norway, some of them a legacy of the German occupation. The dock in Haakonvern, like the base itself, was built on a NATO/Norwegian cost-sharing basis by the Norwegians. The time in dock was limited and the ship's company worked round the clock to complete the job. The result met with the approval of the Commodore when he inspected the ship. We also sported a blue-painted bullring in the bow in recognition of our passage across the Arctic Circle. After we cleared the dock, USS *Steinaker* entered and remained there for several months.

Following the maintenance period the force spent the first two weeks of April operating with Norwegian national forces in the Bergen exercise areas. Included in this phase was a series of tactical serials which consolidated the experience gained in Exercise Arctic Ice. Time was spent on the bombardment range – located between two inhabited islands and constrained by stringent safety rules. There was also a surface shoot where *Restigouche* fired a full broadside under director control. This would be the last time the after gun would be fired. It was re-



The Standing Naval Force Atlantic

Photo: Michael Young

moved during the IRE conversion when *Restigouche* returned to Canada. A further two days were spent conducting junior officer navigation training. These days provided a grand tour of some of the lesser known fjords and produced much shutter clicking by the ship's company. There was also a period of general drills at anchor on a Sunday afternoon. This initially caused confusion as only the British and Canadian ships knew what 'general drills' were all about. *Restigouche* also spent a weekend in a remote town named Sauda. There was a banquet for the ship's company and it seemed all the locals attended. Then we took to the ski hills (the Norwegian Navy had lent us 40 pairs of skis and boots and the town provided the rest!), where the Canadians provided the locals with great entertainment as most of the sailors were not proficient skiers!

At the end of the two weeks the force visited Oslo. En route, *Restigouche* made a rendezvous with HMCS *Bonaventure* to replenish our supply of Canadian cash. *Bonaventure* had some peripheral involvement in Exercise Arctic Ice and was returning army equipment to Canada. It was good fortune she was in the same area to resolve the Supply Officer's dilemma.

After Oslo the force split into two divisions. Changes in the ships of the force had taken place and new ships had joined including HMS *Bacchante*, USS *Hawkins*, HNIMS *Amsterdam*, HNoMS *Narvik*, and HDMS *Peder Skram*. The Danish ship quickly became known as *Peter Pan*, and her arrival caused a stir because of the fact that hair length in the Danish Navy was a matter of individual preference. The honour guard that paraded for the Commodore to a man had almost shoulder-length hair. The comments of the inspecting officer are not on record although he did not seem impressed!

Restigouche, together with the British, Dutch and American ships, formed a division which joined Exercise Dain-

ty Dance. The other division joined Exercise Dark Dive, an ASW exercise in the North Sea and German Bight. Dainty Dance was another multi-mission, multi-threat exercise but without submarines. It took place in the Skaggerak, Kattegat and Western Baltic. The ubiquitous FPB was again the major adversary and had heavy air support. The FPBs came from Norway, Denmark and West Germany. Again the sonobuoy provided its worth as an early warning aid and was invaluable to the AIO in sorting out the FPB from the mass of fishermen and non-exercise shipping in the area. The German boats were easiest to distinguish on radar – whenever there were two or more German FPBs they steamed in formation.

The friendly air support was the best to date and included Gannet AEW aircraft. Despite pleas, coddling and threats, the AEW receivers in *Restigouche* only managed to produce spoking on the PPI but at least we tried. Another interesting feature of this exercise was the Danish mobile Operations Room which travelled with the 'front,' and produced much valuable information in EW and intelligence. It also directed AEW and CAP aircraft as well as acting as an AA control unit. Thus some of the sting was taken out of enemy air strikes.

On completion of the exercise the force reunited in Kiel and then proceeded to Copenhagen in mid-May. The passage through the Baltic drew attention from East German patrols and we were shadowed for a while. After Copenhagen there was a 'show the flag' visit to Antwerp followed by one to Plymouth. Leaving Plymouth, the force exercised with a French submarine and LRMP aircraft in the Bay of Biscay and then conducted a night encounter exercise with three British frigates before returning to Lisbon at the end of May.

Restigouche was then relieved by *Nipigon* on 31 May and with much relief we became a private ship again. This

meant those displaced from their usual cabins by the staff could return to familiar quarters.

There was one more task for *Restigouche* before she returned to Canada (where she was paid off and taken in hand for the IRE conversion), and that was joining the Orange side of Exercise Night Patrol. This exercise gave us a chance to put all the experience of the previous five months to use in playing the role of the bad guy. Playing the part of a Soviet *Kynda*-class CLGM, and in company with HNIMS *Gelderland*, *Restigouche* harassed and attacked both the USS *Wasp* and her group and STANAVFORLANT. There was also a Canadian task group in the exercise.

Exercise Night Patrol . . . gave us a chance to put all the experience of the previous five months to use in playing the role of the bad guy.

In the end, the whole experience was very worthwhile. In that era the force had received some criticism for the nature of its employment – too much emphasis on public relations and not enough on operational matters. However, during the time *Restigouche* was involved the employment generally was meaningful. A disappointing episode occurred when we were not permitted, for political reasons, to sail from Oslo early to carry out surveillance on the concentration of Soviet units then leaving the Baltic.

Another disadvantage was the state of training of the force. Here the blame can be laid on the need for ships to rotate back to national control. This can and is alleviated by ships staying for a useful period – not less than three months. In this case, it was quite noticeable which ships had worked up in Portland. Most of the European states participating in the force sent their earmarked units to Portland to work up before joining the force. These ships then spend three to four months operating with the force and as a result were very efficient and operationally impressive. The American, Canadian and Portuguese navies did not follow this practice. Thus the training standards of the force proceeded at the pace of the slowest member and this could be frustrating for the majority. In discussions during the time *Restigouche* spent in the force, the impression was that these remarks applied to Canadian ships when they join during the Westlant deployment.

My observations at the time, and in the context of the



HMCS *Restigouche* homeward bound

Photo: Michael Young

time, were aimed at keeping the level of Canadian participation as high as possible. So I made the point that Maritime Command could benefit greatly from participation in STANAVFORLANT but only if this participation was on a full-time basis as in 1970. Otherwise a Canadian presence would contribute little to the force and little would be gained by our ships being there. Exercises such as Arctic Ice added to our overall experience of operating in northern conditions, and increased our effectiveness in operating with land forces. The very scope of this type of exercise would enhance our weak capability in the above-water defence roles and could only make Maritime Command a more effective and credible force.

Again in the context of 1970, I argued that, with the demise of *Bonaventure*, the command was desperately in need of a focus for its operations. I suggested that the Standing Naval Force could provide the ‘other squadron’ and give us an avenue out of the doldrums. I also thought we could be very generous and send one of our much vaunted AORs as well – a truly useful contribution. My conclusion was that the Standing Naval Force offered much and, if we were willing to make the effort, we would receive far more than we would lose by full participation. This could be done without jeopardising the principal role of ASW, and could only improve the effectiveness of Maritime Command.

Looking back over 35 years, Canada did become more than a part-time participant. We did send an AOR from time to time, albeit mostly when the force was on the western side of the Atlantic. I was enthusiastic about STANAVFORLANT in 1970. I’m pleased to see it still going strong even if its name has changed. 🇨🇦

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Network-Centric Operations and Interdepartmental Marine Security

Greg Aikins

The tactics and the tools of war fighting have historically reflected prevailing technological trends and socio-economic factors. In the context of the information age, it is therefore natural that the nature of military operations is rapidly evolving from the industrial age that preceded it. The explosion of new information technology is forcing changes not only to the tools of war but also to the methodologies used to employ them, and even the environment in which they are employed. The term “Net-Centric Warfare” (NCW) is often used as a term to describe one of the key facets of this evolution, yet a common understanding of what the term actually means seems to be less prevalent than it should be. Other terms for this important development such as “Network-Centric Operations” (NCO), or the Canadian “Network Enabled Operations” (NEO) shed little additional light on the concepts underlying NCW. The purpose of this paper is to explore this evolving trend in military operations and examine some of its implications in the context of Canadian interdepartmental marine security. In the interest of serving the widest possible readership, the more commonly accepted Network-Centric Operations nomenclature will be used herein.

The explosion of new information technology is forcing changes not only to the tools of war but also to the methodologies used to employ them, and even the environment in which they are employed.

While there are other definitions of NCO available, the seminal work, *Network Centric Warfare*, sponsored by the US Department of Defense C4ISR Co-operative Re-

search Programme, is probably the most useful. *Network Centric Warfare* defines it as:

An information superiority-enabled concept of operations that generates increased combat power by networking sensors, decision makers, and shooters to achieve shared awareness, increased speed of command, higher tempo of operations, greater lethality, increased survivability, and a degree of self synchronization.¹

As can be understood from this definition, NCO is not about the network so much as the potential for leaps in capability enabled by having this “infostructure” available to support operations. The network links dispersed entities that are geographically and hierarchically independent “nodes” that nonetheless rely on a high degree of interdependence.

The concept of network-centric operations evolved from commercial applications of modern communications technology, which provided a significant competitive edge to those who embraced not the technology itself but the capability that it promised. A commonly cited example of this phenomenon is the replacement of inventory with information. Walmart for instance networks suppliers and freely provides them with information that at one time would have been considered sensitive commercial intelligence. For example, when one buys a light bulb at the checkout counter the computer there not only updates the internal corporate accounting system in real-time, but orders a replacement bulb directly from the manufacturer. The store and manufacturer are co-dependent nodes that are networked. This not only replaces costly inventory by allowing just-in-time manufacturing and delivery, it eliminates production level risks and a whole level of vendor/supplier bureaucracy. This has provided a significant competitive advantage to

the retailer and to some extent the supplier alike.

The US military was the first to understand that dramatic process changes such as this one should be examined to see if they had application to the art of war. The desire was to increase operational and combat effectiveness by using networking as a force multiplier. By collaborating and sharing information in real-time the expectation is that entities or “nodes” can use that information to be extremely nimble and self-synchronizing in achieving the mission. The speed at which the traditional observe-orient-decide-act (OODA) loop will operate will become much faster. While it was seen as desirable to enhance combat capability in the traditional military environment, it is now seen as essential if the armed forces of liberal democratic regimes are to get the upper hand against the asymmetric terrorist threat they will continue to face well into the future.

NCO does not alter the timeless principles of war, it simply offers the opportunity to improve how these principles are achieved. NCO is really about leveraging information from a collaborative intelligence/operations environment so that all combatants have a common perception of the situation, enabling war-fighting assets to be brought to bear more effectively and efficiently. It promises to increase the speed of command, but this will depend on evolving concepts of command and control to support the network capability. By creating a seamless and collaborative intelligence and decision-making environment, command and control has to be re-thought so that nodes (which could be small units) can be self-synchronizing. The nodes need to be able to use the information quickly to execute operations in support of the commander’s intent, without requiring the intervention of a cumbersome command and control structure. Fortunately for naval forces they have some experience with concepts such as “command by veto,” which decentralizes decision making.

NCO does not alter the timeless principles of war, it simply offers the opportunity to improve how these principles are achieved.

This requirement to re-vamp processes as military hardware evolves is nothing new. As was the case with all other dramatic developments in military technology in history, the potential of NCO cannot be realized unless there is a simultaneous evolution in organization and

processes. As with commercial applications, information superiority provides no advantage unless it can be translated into a competitive advantage. It must be supported by a structure that allows decentralized and rapid decision making that can capitalize on fleeting intelligence opportunities in order to get inside the adversary’s OODA loop and disrupt his operations. If the new inter-agency Marine Security Operations Centres are properly empowered they will provide an opportunity for Canada to achieve this and become more nimble and proactive in its approach to terrorism. In other words, information superiority is about effectively exploiting a superior information position, rather than simply achieving that position.

Net-Centric Operations in the Context of Interdepartmental Marine Security

From an intelligence perspective NCO clearly offers a higher level of awareness but, more importantly, it can provide dramatically improved collaboration in the analysis of information by virtual teams that may be dispersed not only in time zones and geography, but also in terms of culture and professional background. It is precisely in this area that the application of NCO to interdepartmental marine security holds the most promise.

In asymmetric warfare the adversary is playing by his own set of rules and is seeking to exploit vulnerabilities in our rules or *modus operandi*. Being a free and open society bound by legal constraints presents key vulnerabilities that terrorists have successfully exploited in New York, Madrid and London. Terrorists are often well funded with access to high quality imagery, organizational information, secure communications and (in some cases) our operational information. This capability reduces the time-lines available to decision makers to disrupt their activities.

If one examines the circumstances surrounding 11 September 2001, the value of collaborative interdepartmental intelligence becomes evident. A number of known but disparate events took place within the United States leading up to the tragedy. Four people were taking flying lessons in three different flight training schools, all on visas from Arab countries, and none of them were doing very well. One student had disrupted the class by wrestling away the controls from the instructor, two students indicated that they were not interested in take-off and landing, and all of them wanted to learn to fly only Boeing aircraft. (Airbus has a computer that prevents the

plane from making a steep dive.) Finally, three of the terrorists were stopped by the Computer Assisted Passenger Pre-screening System (CAPPS) before boarding, but the response was to hand inspect their luggage.

Although various authorities knew these facts in isolation, at the time no one in the United States had a system that could “connect the dots,” with tragic results. Had the various security players known the above facts and had they been using a collaborative intelligence system, they would, potentially, have been able to stop the flights. This would have required an NCO approach to security with various players in different agencies networked and collaborating as a single intelligence and operations team.

In Canada, the lack of such a system for exchanging relevant information and “connecting the dots” within the marine sphere was recognized by the Interdepartmental Marine Security Working Group (IMSWG) as a key security deficiency when it commissioned a study in 2002 to examine information exchange requirements between various departments and agencies with mandates or information holdings related to marine security. This study recommended a “one-stop-shopping” approach to the sharing of information, and proposed that the concept be taken further by putting into place a networked collaborative intelligence system to fill a yawning gap in Canada’s indication and warning (I&W) ability.

Unfortunately the pace of progress has been glacial in the face of legal and bureaucratic stumbling blocks.

As a result the Marine Security Information Management and Data Exchange system (MIMDEX) project was approved by IMSWG, which is the most ambitious inter-agency information system initiative since 9/11. Unfortunately the pace of progress has been glacial in the face of legal and bureaucratic stumbling blocks. This continuing capability gap has been decried by both the Senate and the Auditor-General within the past year. In the words of the Auditor-General, “The importance of intelligence in the fight against terrorism cannot be overstated. Co-ordinating the efforts of the agencies involved is acknowledged as critical to their overall effectiveness.” This is why the Senate specifically recommended the MIMDEX system for fast-tracking.

Inter-Agency NCO Intelligence with the MIMDEX System

Intelligence is often formed from relatively innocuous and seemingly unrelated pieces of information that only take on significance once joined together and analysed from a holistic perspective. Because there are so many players with marine security information it makes this a challenging environment in which to conduct intelligence gathering and analysis. However, the very nature of intelligence makes it critical that meaningful information flows between agencies and departments so that innocuous events or information can take on their true meaning. What is required then is not simply to share information, but to enable each player to analyse this information and then collaborate in joining analysed pieces to formulate an intelligence picture. MIMDEX must be such a system, but there are significant constraints that must also be taken into account when developing an information management model that will meet public safety requirements.

Within MIMDEX, the intelligence collaboration and threat anticipation capability is the core function. The purpose is to gather and analyse data collected from various government agencies, users and open sources, compare that data against user-generated alerting conditions or internal departmental data, and then alert other users if there are indications or warning of potential threat activity. Each of the pieces of information could be innocuous on its own, but cobbled together by an information system with appropriate weighting and logic, the pieces become valuable intelligence. Therefore, MIMDEX will be more than a network system that enables information exchange, coordination and communication; it is an I&W or threat anticipation system that helps organizations “connect the dots.” By networking players with any information or analysis contribution (no matter how small), Canada will move from a very ad hoc and reactive approach to marine security to a net-centric, proactive intelligence and operations posture.

Privacy laws, the *Charter of Rights and Freedoms*, third party legal constraints and inadequate departmental legal mandates have delayed the deployment of MIMDEX despite an urgent public security requirement. Without strong leadership by the government these barriers may derail the project before it sees the light of day. Critics need to be assured that the system was precisely designed to ensure that all of these legal bounds are respected.

This will be accomplished primarily in two ways. Each

data element that requires limited access will be strictly controlled so that only users with a specific clearance to do so in their user profile can see it. This will be driven by departmental mandates and their specific operational requirement, and will be controlled by the agency contributing the data. The robust security architecture will be complemented by creative processes. In order to ensure that other legal constraints are respected, users will have the ability to indicate interest or concern regarding a vessel without necessarily indicating *why* they are concerned. This generic flagging capability enables the development of situational awareness as a virtual team while staying within the bounds of the law.

The “need to share” [must] trump traditional restrictions regarding the “need to know.” Only in that way can all of the dots be gathered, understood and connected.

Shifting the Paradigm from “Need to Know” to “Need to Share”

The key to success of a net-centric approach to security is to ensure that all possible input sources and analysis capability are tapped. The players have to be the traditional marine security organizations, but also others such as port operational authorities, various waterfront operations officers and police intelligence units. This requires a shift in the traditional approach to intelligence that is being pioneered in the United States as it seeks to widen the gene pool as it were, to ensure maximum participation and benefit is derived from similar initiatives. The speed at which terrorists can shift their plans and focus requires a more participatory and devolved concept of operations, where the “need to share” trumps traditional restrictions regarding the “need to know.” Only in that way can all of the dots be gathered, understood and connected.

From a security perspective there has been much debate as to what level would be most appropriate to accomplish the aim. The automatic response coming from the old paradigm has been that the system should operate at the “Secret” level, but this should be challenged to ensure the system’s capability is optimized. At the outset MIMDEX will be capable of processing “Protected A” information, with the capability of evolving to process “Protected B” or “Secret” information at a later date when other govern-

ment infrastructure is in place to support such a migration. Even at the “Protected A” level it will be a powerful counter-terrorism tool. The United States has had significant success in achieving greater security information sharing in an unclassified (trusted partner) environment with their Joint Protection Enterprise Network (JPEN) system. Even at the “Protected” level, the volume of data flowing into MIMDEX will enable the system’s users to leverage each other’s information to make meaningful security assessments. As an added bonus the one-stop-shopping approach to information sharing will provide a useful tool to improve each agency’s mandate execution while economizing on research time.

Conclusion

By taking a net-centric approach to marine security Canada could move to the forefront of counter-terrorism capability. MIMDEX holds out the promise that Canada will evolve from a reactionary approach to the asymmetrical threat to an aggressive proactive stance that places public safety as a single goal for a single team formed of players from various backgrounds and organizations. But all this will be for naught unless there is a commensurate shift in the capability to respond with significantly increased speed to the indication and warning provided by MIMDEX. MSOCs must be empowered to take action using any available resources from any level of government to counter threats, but this will require a higher degree of risk tolerance by our political masters.

By taking a net-centric approach to marine security Canada could move to the forefront of counter-terrorism capability. 🇨🇦

Note

1. *Network Centric Warfare*, C4ISR Co-operative Research Programme, US Department of Defense, p. 2.

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*Our military forces are one team
– in the game to win regardless
of who carries the ball.*

– General Omar N. Bradley, 1949

China's Rising Tide

Joe Varner

China's continuing development of a modern war machine, and particularly naval forces geared for power projection, has sent shock waves through Asia and into the United States. Joint Sino-Russian war games this past summer involving all arms and Russian Backfire bomber aircraft will only add further concern around the Pacific rim. Whether or not these shock waves are from a tsunami remains to be seen.

On 3 June 2005, US Defense Secretary Donald Rumsfeld warned an international conference – inappropriately entitled the “Shangri-la Security Dialogue” – in Singapore about the growing might of the Chinese military. Rumsfeld also noted China's sharp increase in defence spending and that the United States now believes China places third in the world in overall military spending. On 9 June 2005, a classified report prepared for the Director of National Intelligence indicated that US intelligence analysts had missed several key Chinese military developments. The leaked report listed as many as six intelligence failures and used the word “surprise” a dozen times. At the same time, other reports appeared in the press that questioned the reasons behind the delay in the Department of Defense's Annual Report to the US Congress on the Chinese military. The report to Congress was due in March and is still delayed as of June 2005.

Clearly, the Chinese military is in a period of rapid development. Many analysts now believe that the People's Liberation Army Navy (PLAN) has turned away from its coastal defence-oriented past and moved to develop a power projection capability to seize Taiwan and project power out into the Pacific to the so-called “Second Island Chain” and even the Indian Ocean. A sign of the growing influence, power and importance of the navy came in 2004 when the head of the PLAN was for the first time given a permanent seat on the Central Military Commission and the navy was mentioned as a priority in China's Defence White Paper.¹

China reportedly commands a naval air force of 700 shore-based aircraft.

China reportedly maintains a surface fleet of some 21 destroyers, including two excellent Russian-built *Sovremenny*-class destroyers armed with the deadly and potentially nuclear-tipped, 120-250 kilometre-ranged SS-



PLAN Destroyer *Fuzhou*

N-22 *Sunburn* anti-ship cruise missiles (ASCMs), and two domestically produced *Luhai* and one modified *Luda*-class destroyers. The Mach 2.5 SS-N-22 *Sunburn* ASCM was specifically designed to penetrate the Aegis air defence system and to destroy American carriers. The *Sovremenny* destroyers also give the PLAN some air defence through their 25 kilometre-ranged SA-N-7 surface-to-air missiles (SAMs). The PLAN's frigate force reportedly includes some 42 combatants of which seven are modern domestically built *Jiangwei II*-class ships with limited anti-submarine warfare capabilities. China also has a force of some 50 amphibious vessels of varying age and capacity.²

The PLAN has a substantial submarine fleet comprised of around 69 vessels, including one *Xia*-class nuclear-powered ballistic missile submarine and five *Han*-class nuclear-powered attack submarines. This nuclear component is backed up by modified *Romeo*-class diesel-powered guided-missile submarines, a *Golf*-class diesel-powered submarine used to experiment with submarine-launched ballistic missiles (SLBMs), and by some 61 largely obsolete, diesel-powered patrol submarines of both domestic design and foreign-purchased vessels. The most important diesel boats are the four *Kilo*-class (two Project 877E and two improved Project 636) purchased from Russia, and three *Song*-class domestically produced boats.

China reportedly commands a naval air force of 700 shore-based aircraft including 18 H-6D heavy bombers (Tu-16 Badger) armed with YJ-6/61 air launch ASCMs. China is also believed to have somewhere between 180 and 200 J-11/Su-27 and 100 J-13/Su-30 multi-role strike

aircraft some of which are allocated for maritime operations.³ Lastly, the PLAN has a ground force of some 10,000 marines.⁴ As a sign of its growing confidence and capability, in June and July 2004 the PLAN conducted a military exercise around Dongshan Island aimed at a simulated seizure of Taiwan involving 27,000 troops, warships and Su-27 strike aircraft armed with KN59M guided air-to-surface missiles.⁵

To keep its substantial resources up to date, China has mounted a major modernization effort of its entire maritime force structure. In terms of its surface force, *The Military Balance 2004-2005*, states that the PLAN Project 9935 to build a fully fledged aircraft carrier remains a “key element” of the future force. It will be modelled on the Russian ship *Admiral Gorshkov* with a reported emphasis on amphibious, fleet protection and limited offensive strike capability. This is part of a plan to create a Chinese aircraft carrier group.

The report cast doubts on China’s ability to have three aircraft carrier groups ready by 2010⁶ in spite of its purchase of a couple of discarded former Soviet Navy carriers, the *Minsk*, now touted as a floating museum, and the *Varyag*. Much speculation continues to centre on Chinese intentions with regard to the 80 per cent complete, badly rusting, ex-*Kuznetsov*-class aircraft carrier *Varyag*, that was towed to China as a ‘floating casino’ in 2001. China currently has a 9,500 ton *Shichang* multi-role support ship that resembles the RFA *Argus*, and is capable of operating two helicopters from its aft deck. The *Shichang* appears to be a training vessel for the future leap to an aircraft carrier.

A March 2005 *Jane’s Defence Weekly* article by Eric McVadon warns that China has embarked on an “unprecedented construction and acquisition” program for its surface fleet. This program involves modern anti-ship cruise missiles and the order of two more *Sovremenny*-class destroyers from Russia, with an option for a further two.⁷ China has reportedly launched two new *Type 052*-class guided missile destroyers estimated in the range of 6,500 tons with advanced 120 kilometre-ranged HQ-9 SAMs. The *Type 052* appears to represent the first truly multi-role domestically produced surface combatant.

There are rumours that the new guided missile destroyers will be armed with something akin to the SS-N-22 *Sunburn* ASCM and suggestions that there are also plans to do this with the *Luhai*-class. Another class of air defence destroyer is reportedly being built at the Dalian

shipyard and the new 3,400 ton *Type 054* ‘*Lafayette*-like’ guided missile frigate is being built in Shanghai and Guangzhou incorporating Russian technology. China is continuing to develop the *Yuhai* medium-lift amphibious vessel along with the new large *Type 072*-class ships.⁸ The balance of the PLAN surface force’s older ships have reportedly been given enhanced sub-sonic ASCMs and longer range SAMs, giving them some additional, but limited air defence capability.⁹

While China’s surface fleet modernization program is steady, the real explosion in capability appears to come from the sub-surface arm of the PLAN.

While China’s surface fleet modernization program is steady, the real explosion in capability appears to come from the sub-surface arm of the PLAN. It is apparently not by accident that Admiral Zhang Dingfa, a submariner, became the head of the PLAN in 2004, bringing new emphasis to China’s submarine modernization plans.¹⁰ In a 14 June 2005 *Daily Press* article by David Lerman, USN Rear-Admiral John Butler is quoted as downplaying fears that the Chinese submarine fleet will outnumber US submarines two to one in five years, and calming fears about Chinese global influence by noting that most of China’s submarines are smaller diesel boats geared to coastal defence.¹¹

At a time when the United States is politically on the defensive, China is reportedly replacing its “marginally effective” five *Han*-class nuclear-powered attack boats with at least three new *Type 093* nuclear attack submarines employing Russian technology and design similar to the *Victor III*-class. The *Xia*-class nuclear-powered ballistic missile submarine, which is essentially not much more than an elongated *Han*, is due to be replaced by the new *Type 094*-class nuclear-powered ballistic missile submarine. The *Type 094* missile boat, which appears to be an elongated *Type 093* submarine, will be armed with 16, 8,000 kilometre-ranged, solid fuel, nuclear-tipped JL-2 SLBMs some time by the end of the decade.

China has purchased from Russia another eight Project 636 *Kilo*-class diesel-powered attack submarines to join its current four along with their wake-homing torpedoes and 220 kilometre-ranged 3M54E ASCMs. The Project 636 *Kilos* would be a potential weapon to take on the eight diesel patrol submarines the United States has promised to Taiwan. Previously, Russia had banned the



Fuzhou leaving Malta

sale of the Project 636 improved *Kilo*-class, but this is no longer the case.

Meanwhile, production is believed to have continued on the domestically produced *Song* and new 'Kilo-like' *Yuan*-class diesel-powered patrol submarines with enhanced torpedo and submerged C-801 ASCM capability.¹² At least two *Yuan*-class submarines are believed to be in building or recently launched. It is feared that they are in possession of an enhanced air-independent propulsion system.¹³ The *Song*-class has reportedly had teething troubles and might actually be abandoned for Russian-designed and built submarines such as the *Kilos* in the not-so-distant future, or the new domestically produced *Yuan*-class.

It is not just the production that counts, however, it is how the assets are used. China deployed a *Han*-class nuclear-powered attack submarine into Japanese waters in 2004 sparking a firestorm in Sino-Chinese relations. But this is often set against the 2003 maritime accident involving a diesel-powered *Ming*-class and the loss of 70 submariners, and the recent reports of another *Ming*-class submarine fire while at sea in the last month.¹⁴

Lastly, the PLAN and People's Liberation Army Air Forces (PLAAF) are modernizing and increasing their maritime strike capability which is still limited to shore-based aircraft. China has continued to develop its maritime air forces along the lines of its domestically produced J-10 fighter aircraft – believed to be similar to the US F-16 – and Russian-designed Su-27 air superiority fighter and Su-30 multi-role strike aircraft armed with ASCMs.¹⁵ The Su-30 Mk2s reportedly will be armed with the 1,500 kilometre-ranged Kh-31 ASCM.

It is believed that China is testing airborne early warning aircraft similar to the Russian A-50 mainstay. An article by Timothy Hu in the 13 April 2005 *Jane's Defence Weekly* says that it is expected that China will sign an agreement with Russia for a further 24 navalized Su-30 strike aircraft along with II-76 heavy transport aircraft and II-78 aerial tankers.¹⁶ Joint exercises with Russia involving Tu-22M3 *Backfire* strategic bombers have furthered rumours that China is on the verge of acquiring enhanced strategic airborne strike capability when coupled with new ASCMs. This was furthered by comments from

Russian General Vladimir Mikhilov that Russia could sell China both Tu-22 *Backfire* and Tu-95 *Bear* strategic bombers armed with cruise missiles.¹⁷

While the PLAN has increased its . . . maritime air capabilities, it is important to note that this high pace of development has left gaps.

In conclusion, we can see many similarities between China's intentions and ever-increasing naval capacity and the frenzied fashion the former Soviet Union took to developing a blue-water force in the 1970s and 1980s. While the PLAN has increased its surface, sub-surface and shore-based maritime air capabilities, however, it is important to note that this high pace of development has left gaps either through intention or lack of experience. Most experts agree that China still reportedly lacks in terms of its intelligence surveillance and reconnaissance (ISR), area air defence, naval air, anti-submarine warfare and mine warfare capabilities. It is in these finite areas of capability and capacity that the real strength of the PLAN and its future as a blue-water power projection force will be determined. Time will tell how successful China will be in its grasp for power projection capabilities in the Pacific Ocean and beyond. 🇨🇳

Notes

1. Lyle Goldstein and William Murray, "China Emerges as Maritime Power," *Jane's Intelligence Review*, 7 September 2004.
2. International Institute for Strategic Studies, *The Military Balance 2004-2005* (London: Oxford University Press, 2004), pp. 171-172.
3. Timothy Hu, "China: Ready, Steady, Go . . .," *Jane's Defence Weekly*, 13 April, 2005.
4. International Institute for Strategic Studies, *The Military Balance 2004-2005*, pp. 171-172.
5. *Ibid.*, p. 162.
6. *Ibid.*, p. 161.
7. Eric A. McVadon, "Opinion: Alarm Bells Ring as China Builds up its Armoury on a Massive Scale," *Jane's Defence Weekly*, 16 March 2005; Nikolai Novichkov, Yihong Chang and Richard Scott, "China Buys Two More Project 956EM Ships," *Jane's Defence Weekly*, 4 January 2002.
8. Hu, "China: Ready, Steady, Go . . ."; Robert Karniol, "China Constructing Two New Warships," *Jane's Defence Weekly*, 21 February 2002.
9. McVadon, "Opinion: Alarm Bells Ring as China Builds up its Armoury"; Novichkov, Chang and Scott, "China Buys Two More Project 956EM Ships."
10. Goldstein and Murray, "China Emerges as Maritime Power."
11. David Lerman, "Subs Draw Varying Views," *Daily Press*, 14 June, 2005.
12. McVadon, "Opinion: Alarm Bells Ring as China Builds up its Armoury"; Goldstein and Murray, "China Emerges as Maritime Power."
13. Hu, "China: Ready, Steady, Go . . ."
14. Goldstein and Murray, "China Emerges as Maritime Power."
15. McVadon, "Opinion: Alarm Bells Ring as China Builds up its Armoury."
16. Hu, "China: Ready, Steady, Go . . ."
17. Eric Koch, "The Increasingly Intertwined Bear and Dragon," *Jewish Institute for National Security Affairs* (JINSA) On-line, 7 April 2005.

Making Waves

The Coastal Regime and Marine Security Operations Centres

Gary L. Garnett

The National Security Policy (NSP) gave the Department of National Defence (DND) the responsibility to coordinate the on-water response for security threats to Canada. To provide naval coastal Commanders the necessary information and resources to perform this new role, a project to build and operate Marine Security Operations Centres (MSOC) is underway.

Although still under development, there can be little doubt that the key element of an integrated marine security model is the MSOC, where all-source sensor and intelligence fusion can take place. By virtue of the presence of the main government of Canada departments and agencies involved in maritime security – DND, the Canadian Border Security Agency (CBSA), Transport Canada (TC), the RCMP, the Coast Guard and the Department of Fisheries and Oceans (DFO) likely to join – in the MSOC, they will be able to share information with the navy's Maritime Operations Centre (MOC). Thus they will be able also to perform the function of the regional decision-making and communications centre, both vertically to national authorities and horizontally throughout the coastal region.

Between the MSOC and the MOC a regional contribution will be made to the National Recognized Maritime Picture (NRMP), which will be collated, fused and maintained likely in the new Canada Command Headquarters when stood up in Ottawa. This NRMP will include all the maritime approaches to Canada and the major navigable waterways like the St Lawrence Seaway and the Great Lakes. From there it is likely that the NRMP will be shared with NORAD/Northern Command in Colorado Springs as the Canadian contribution to the North American Maritime Picture. Not to fuse it in Canada first could easily be seen as abrogating Canadian sovereignty.

On the coasts (and now being developed in a somewhat similar fashion in the Great Lakes), the Coastal Recognized Maritime Picture (CRMP) starts as far from the coast as possible. Thus, the port of departure forms the first point of information that should be available. In addition to open source information, including the

internet, surface observation systems, such as satellites and long-range patrol aircraft and their various sensors should form the basis for the first tracking and identification of contacts as they begin to approach the coast. The addition of information from the USA and/or through a future NORAD mission for the integration of the North American Maritime Surveillance Picture should be able to enhance significantly this long range CRMP.

At the 96 hour call-in point for all international arriving vessels, the objective should be to have identified and tracked all approaching contacts. The Canadian Coast Guard Vessel Traffic Management System (VTMS), the new High Frequency Surface Wave Radars (HFSWR), once installed, and the Automated Information System (AIS) are key tools in this architecture. From that point on, all contacts should be retained under positive identification until they reach their port of disembarkation.

The key to the successful functioning of the MSOCs – which will operate 24/7 – is the sharing of information and intelligence by all participating departments. Once fused along with the geospatial information into the CRMP, this information and intelligence will provide the basis for decision-making, both for the region and nationally in Ottawa.

It will be the Maritime Security Information Management and Data Exchange (MIMDEX) system, a new government of Canada interdepartmental and inter-agency information exchange network, that will bring information that can be shared in and out of the MSOC for each member department and agency and vertically to the headquarters of each member. MIMDEX will be the information highway and collaborative intelligence environment that links the MSOCs to other marine security partners and ideally the government of Canada Operations Centre as well as the Canada Command Headquarters.

The various departments and agencies will also be able to install their own primary information system in the MSOCs that is not shared with the other members but also provides direct contact with their superiors though their individual operational structures. MIMDEX will be a protected net with each of the users controlling the information that they enter into it. The MIMDEX project is being executed by DND/CF on behalf of TC's

Interdepartmental Marine Security Working Group, and has completed the proof of concept phase of its development. A budget of \$7 million has been allocated to have it in place in 2007. MIMDEX is also an important component of the integrated maritime security model.

Each individual department and agency working together in the MSOC has a different mandate, regulatory framework and operates under different legislation. This gives rise to a variety of information sharing, privacy and “need to know” problems some of which are embedded in legislation and some of which are based on their own operating procedures. This problem has the potential to negate the value of creating the MSOC in the first place. In order to mitigate the problem, MIMDEX has devised a system whereby a value-based interest-flagging system provides cumulative indication and warning, without necessarily attaching specific information. The indication and warning system can provide a sufficient basis for decision-making in the first instance. From that point onwards and within the assigned rules of engagement (ROE) the coastal Commander can take charge of the operation on behalf of the government of Canada.

What has been described above is a model that does not necessarily represent the reality of the current status or vision for the Marine Security Operations Centres – the fusion, handling, communication of intelligence and information – or the structure for decision-making. However it is argued that it *should* be. Setting up the MSOCs and the coastal Commanders to fail in their responsibility for the safety and security of Canada and Canadian is unacceptable. *All* information and intelligence *must* be brought to bear on any and every potential threat to Canada and Canadians. The MSOC and MIMDEX projects *must* gain momentum and move into *implementation* with all due dispatch. 🇨🇦

Major Breakthrough in Canadian Surveillance

Greg Aikins

In the initial issue of the *Canadian Naval Review* there was much discussion of the new National Security Policy and the navy’s role in the “home game.” Fortunately emerging technologies hold the promise of ensuring that the navy executes its surveillance mandate in support of national security without massive capital expenditures or impairing the “away game.” One of the best examples of the application of technology to support homeland security is the Advanced Vessel Monitoring System (AVMS). The Canadian Navy is on the cusp of making a significant breakthrough in surveillance technology as a result of a Defence Research and Development Canada (DRDC)-sponsored project on which Halifax-based CarteNav Solutions has been working.

As of July 2004 all merchant vessels 300 tons and larger have to carry the Automatic Information System (AIS) transponders, which transmit all sorts of static and voyage-specific data about each ship. In the future this requirement will extend to smaller vessels as well. Thus far there has not been a concerted effort by militaries

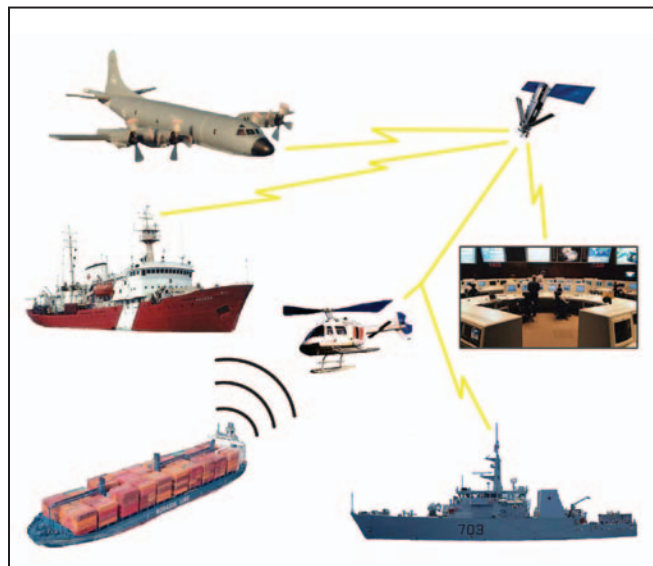


Figure 1. The Advanced Vessel Monitoring System
With AVMS, AIS information can be collected globally by any platform and fused into a shore-based Recognized Maritime Picture.

world-wide to exploit this rich source of information. By leveraging the inherent capability of AIS data the age-old problem of unresolved or unidentified contacts in the Recognized Maritime Picture (RMP) could be largely solved. The frequently heard quip that the navy actually has a small “r”MP due to rampant contact ambiguities may be a thing of the past should the technology be embraced as expected.

Ships are increasingly calling for a system to make AIS data available to bridge teams to conduct maritime interdiction operations (MIO) more effectively and to enhance their local operations picture. HMCS *Goose Bay* recently successfully tested CarteNav’s new AVMS system, which received AIS data and fed it to their ECPINS. This in itself is fairly routine, but the system’s Iridium rear link automatically fed the ship’s position and all AIS data and OPNOTES into the RMP in MARLANT HQ. This information was transmitted automatically every few minutes and this precluded *Goose Bay* having to frequently call in position updates manually, as is the normal procedure. Therefore, MARLANT HQ not only had the ship’s position in near-real-time, but also shared the exact same operational picture.

An encouraging aspect of the system is its low cost of installation and operation. With AVMS, at pennies per AIS burst transmission report (including OPNOTES), a ship can now have connectivity at a fraction of the cost of other systems, while providing a real-time local RMP to any operations centre in the world. A shore-based server fuses input from an unlimited number of remote receivers. The shore station can control the frequency at which updates are sent so that contacts of interest can be updated more often. The benefits of this to search and rescue would also be significant.

While all of this is interesting for the coastal defence vessels, the real significance comes from the prospect of having the remote units deployed not only in surface combatants but in aircraft, other government department vessels, platforms of opportunity or even moored buoys well to seaward of proposed Coast Guard AIS receivers. Once installed the system is completely transparent to the platform, with the exception that the AIS information is readily available onboard. Widely deployed, these fixed or temporary AVMS units mean that the dream of having a big “R”MP hundreds and even thousands of miles off-shore is now within Canada’s grasp.


CarteNav’s AVMS is deployed in HMCS *Halifax* for her four month NATO deployment. It will also be tested in Aurora patrol aircraft from Greenwood to complete the operational trials and will be ready for full operational implementation in October 2005. 🇨🇦

Setting the Record Straight

Ken Hansen

The sixtieth anniversary of the end of the war against Japan and the recent death of Sergeant E. A. “Smokey” Smith, VC, have kindled a renewed interest in the exploits of Canada’s two recipients of the Victoria Cross (VC) from the Pacific War – Warrant Officer Second Class John Robert Osborn, Company Sergeant-Major of the 1st Battalion, Winnipeg Grenadiers and Lt. (P) Robert Hampton ‘Hammy’ Gray, RCNVR. Articles about both Osborn and Gray have appeared recently in numerous newspapers and journals across Canada, recounting the exceptional events leading to their deaths as well as to their recognition with the highest award for valour in the Commonwealth. Lt. Hampton Gray is a unique case in that he was the only Canadian naval aviator and, indeed, the only member of the Canadian Navy to have his exploits recognized with such a prestigious award. However, nearly every report that has appeared about him in this last spate of coverage has contained an important error of historical fact. In order to properly portray Lt. Gray’s heroic deeds, this detail regarding the events must be corrected.

In the last days of the Pacific War during 1945, Lt. Gray distinguished himself during two daring low-level attacks against Japanese naval vessels. He did this as a flight leader of American-built Vought F4U ‘Corsair’ fighter-bombers from Fleet Air Arm (FAA) 1841 Squadron, while serving in the *Illustrious*-class fleet aircraft carrier HMS *Formidable* (R67). The first attack took place on 28 July against ships in the Japanese naval base at Matsuura, north of Kyoto. The second took place on 9 August against naval and commercial shipping in Onagawa Bay, at Honshu. In both cases, Lt. Gray is commonly credited with sinking a destroyer. In the first instance, his attack earned him a recommendation for the Distinguished Service Cross (DSC) from Admiral Sir Philip Vian, Commander of British carrier forces. In the second case, during which Gray was killed, his attack earned him a nomination for the VC. ‘Hammy’ Gray was posthumously awarded the DSC on 31 August 1945 and the VC followed on 13 November of the same year. In earlier



action on 29 August 1944, he also received a 'Mention in Dispatches' for a similarly daring low-level attack against a German destroyer at Kaafjord, Norway, during *Operation Goodwood*, which was an unsuccessful attempt by the FAA to disable the German battleship *Tirpitz*. The error of fact involves the type of ships sunk by Gray during his exploits in Japanese waters.

While it is reasonably clear that the ship Lt. Gray attacked in Norway was a destroyer, the Japanese warships sunk during his equally courageous attacks were not, as so many reports have claimed, destroyers. Rather, both ships were escort vessels. The warship sunk by him on 28 July was either Coastal Escort Vessel No. 4 or No. 30, both of which were Type D escorts (the only ships sunk by the British Pacific Fleet that day), and the one sunk on 9 August was definitely HIJMS *Amakusa*, an *Etorofu*-class escort. No destroyers were sunk by the Royal Navy in either location on the dates in question. The distinction between the types of ships involved is an important one, one which was laid out clearly by the contemporary typology of warships, stemming from the inter-war treaties on naval limitations.

The Japanese *Etorofu*-class escorts numbered 14 ships (ordered in 1941). This class was the second batch of this type, following the inaugural *Shumushu*-class of four ships (ordered in 1937). They were also known as the 'Modified Type A' and 'Type A' escorts, respectively. Their intended roles were coastal patrol, convoy escort and minesweeping. The Imperial Japanese Navy went on to build three subsequent variants of the first two classes, known as Types B, C and D. All four types of this group of Japanese escorts also went under the collective name '*Kaibokan*.' The ships of the last two types were not given names. Rather, they went only by number – odd numbers for Type C and even for Type D.

The *Kaibokan* designs were progressively simplified for mass production and became more angular in appearance. *Amakusa* was 255 feet long (over all) and displaced 870 tons (standard). Her top speed was 19.5 knots, keeping her well within treaty limits. The Type B ships, which also came in an original and a modified type, were larger at 940 tons, but both the C and D types were scaled back versions, displacing only 740 tons. By comparison, a

contemporary Japanese *Kagero*-class destroyer displaced 2,033 tons, was 388 feet long, and had a top speed of 35 knots. Clearly, a significant physical difference existed between Japanese fleet destroyers and escort vessels. This distinction stemmed from the naval limitation treaties and was well understood by naval officers of the day.

The 1930 International Treaty for the Limitation and Reduction of Naval Armament (a.k.a. the London Treaty) set restrictions on the tonnage available for the building of fleet destroyers at 150,000 tons for the United States and British Commonwealth, and 105,500 tons for Japan. Canadian destroyers were counted against the total allocated for the Commonwealth. Article 15 of the treaty classed destroyers as vessels not exceeding 1,850 tons (1,880 metric tons), and with a gun not above 5.1-inch (130-mm). Further, Article 16 prohibited more than 16 per cent of the allowed total destroyer tonnage from being employed for vessels of over 1,500 tons (1,524 metric tons) standard displacement.

This article acknowledged the use of larger destroyers as flotilla leaders, which were built to carry the commander for a division of eight destroyers that were normally all of one class. HMCS *Assiniboine* (I18) (ex-HMS *Kempenfelt*) was the flotilla leader of the four British C-class destroyers purchased by the RCN before the war. To avoid being classed as destroyers, Article 8 of the treaty stipulated that surface warships had to have a standard displacement of less than 2,000 tons, be armed with guns of less than 6.1-inch (155 mm), mount no more than four guns above 3-inch (76 mm), have a top speed of less than 20 knots, and could not be armed with torpedoes or be designed for fitting with torpedoes. The US Coast Guard's highly successful *Secretary*-class cutters (a.k.a. the *Treasury*-class) were the best example of ships built to exploit this category. Vessels of under 600 tons were not subject to restrictions, which resulted in a number of navies building large and fast torpedo-boats to take advantage of this provision.

As with most navies of the inter-war period, battlefleet requirements took higher priority over coastal patrol and surveillance craft, resulting in a desperate shortage of these flexible and economical ships when hostilities began. Destroyers and torpedo-boats were high prior-

ity items in national procurement plans, even though their high speed made them expensive and they lacked the utility to make them useful in most day-to-day operations. Sloops, gunboats and other patrol craft were junior appointments, whereas destroyer command was universally viewed as a key appointment needed before senior rank. Destroyers were the smallest warship that was relevant to battlefleet operations. The 'cutting of teeth' on the really 'serious business' of naval warfare was done in destroyers. Very few fleet commanders during the Second World War had not begun their ascent to flag rank by commanding a destroyer. That escorts also proved their worth during wartime is evidenced by their rising importance in Japanese shipbuilding plans.

When the first Type A *Kaibokans* were ordered in 1937, escorts ranked fifth in Japanese wartime shipbuilding priority behind carriers, submarines, destroyers and minesweepers. By the time the Type D ships were ordered in mid-1943, escorts had moved up to second place. Several hundred escorts were planned but final production totalled only about 100. During the war, the minesweeping gear was quickly dispensed with and all types received upgrades to their weapons and sensors. Japanese escorts were relatively few in number but proved to be seaworthy and effective vessels, with high endurance. *Kaibokans* were significantly smaller than *River*-class frigates (1,540 tons and 301 feet). The closest equivalents to the Type A escorts (870 tons and 255 feet) were the inter-war British sloops (*Halcyon*-class minesweeping sloops, 815 tons and 245 feet; and *Grimsby*-class patrol sloops, 990 tons and 265 feet). By comparison, the Type D *Kaibokans*, displaced 740 tons and were 228 feet long. Both *Amakusa* and Type D escorts were longer than a *Flower*-class corvette (205 feet) and were much more heavily armed, but they were certainly not destroyers.

Part of the confusion over the type of ships sunk stems for comments made by Lt. Gray himself during his last attack. On 8 August, Gray took his formation of eight aircraft in a large circle around Onagawa Bay, surveying the ships at anchor while remaining at a safe distance from their guns. Gray reported that the group included destroyers. Later, during his attack run, Gray commented that he thought at least one ship was larger than a destroyer. Since the bay was surrounded by high hills that prohibited a safer and more effective simultaneous attack from multiple directions, Gray decided to attack by

approaching from inland along a single axis. Attacking in pairs, the Corsairs dove from 10,000 feet in order to achieve a high exit speed out the harbour mouth, minimizing their vulnerability to anti-aircraft fire. The Japanese defenders had considered this tactic and were well prepared. The defensive fire was concentrated and accurate. Gray's aircraft, being the leader of the first pair, bore the brunt of the defenders' efforts and was hit quickly and often. A fire broke out on board but Gray pressed his attack, having one of his 500-lb bombs shot away before he released the other from a distance of only 50 feet. Gray cleared *Amakusa*, but the combination of damage and high speed caused him to lose control of the aircraft, crashing into the sea. *Amakusa* capsized and sank, taking with her 71 of her crew members.

The attacks by Lt. Hampton Gray against the Japanese Type A and Type D *Kaibokans* should be remembered as courageous acts in the face of great danger. It is not necessary to embellish the type of warship sunk as a means of validating Gray's accomplishments. The distinction between destroyers and escort vessels (or sloops) was something set out by international treaties and was obvious to all naval personnel of the day. We owe it to the memory of our distinguished veterans to report the facts correctly and not let time distort history into some semi-fictional version of events. 🍷

Responding to Disaster Doug Thomas

On 6 September 2005, after a weekend of preparation and storing relief supplies, Canada deployed three warships: Her Majesty's Canadian Ships *Athabaskan*, *St. John's* and *Toronto*, together with the Coast Guard Ship (CCGS) *Sir William Alexander*, to assist with relief operations in the US Gulf Coast in the wake of Hurricane Katrina.

What can these ships do? From past experience, we have learned that they can help in a very material way. The ships are self-contained, self-supporting platforms that house a broad spectrum of talented and well-trained people. They can move along the coast to where they are needed and they carry helicopters and boats for moving people and materiel to and from work sites. They are fitted with superb communication and coordination capabilities and, with the Canadian contingent including more than 600 sailors and specialists on board, they are excellent sources of personnel to respond to a myriad of tasks. Thus, among other things, *Sir William Alexander*

has been able to help US Coast Guard vessels with restoration of navigation aids displaced by the storm, such as buoys marking safe passage through shipping lanes and the approaches to harbours.

Ideally, HMCS *Preserver*, the Halifax-based operational support ship, would have been sent on an operation such as this, perhaps with several smaller vessels. In 1992, her sistership, HMCS *Protecteur*, now based in Esquimalt, deployed to Miami and later to the Bahamas to provide disaster relief in the wake of Hurricane Andrew, a storm of similar intensity to Katrina. In that instance, the 22,000 tonne *Protecteur* carried large quantities of construction material and trucks to move it, the Halifax-based naval construction team, and naval work and technical parties to assist in reconstruction efforts and building emergency shelters ashore. However, in September 2005 the 35-year old *Preserver* was not yet available for deployment after a lengthy refit.

By 2011-2012, the Joint Support Ship (JSS) Program will start to replace *Protecteur* and *Preserver*. The three large and capable JSS vessels will be ideal for this kind of operation – assuming they are available. In addition, the vessel(s) envisaged as part of the new Standing Contingency Task Force (SCTF) capability could easily support such a humanitarian assistance/disaster relief operation.

While Canada has not suffered a coastal disaster on the scale of Hurricane Katrina in living memory, it may only be a matter of time before there is an earthquake or tsunami off the coast of British Columbia – as has been predicted – or perhaps a similar event along the coast of Newfoundland or Labrador. The sea-borne resources provided by a Joint Support Ship or large amphibious vessel with embarked helicopters would be of tremendous value to such a domestic emergency. Canadian vessels could embark additional specialist teams such as the Canadian Forces Disaster Assistance Response Team (DART) for a major emergency, and could also provide a base of operations for government and volunteer agencies. There are cases in which naval forces have been of great assistance in the aftermath of disasters. Thus, in 1991 US naval forces assisted flood victims in Bangladesh, and early in 2005 amphibious vessels from Australia and the United States were deployed to aid post-tsu-

nami reconstruction of Aceh in Indonesia.

The key issue to bear in mind is that such vessels are a national resource for more than waging war or supporting peacekeeping operations. They provide a self-sustaining base that can be placed close to the scene without imposing a burden on the land infrastructure or suffering from its limitations (as land-based units will). They can transport large quantities of materiel to a disaster area, and the embarked force (including selected crew members) can work ashore. In addition, they operate large helicop-



USS *Harper's Ferry* – Is this the type of vessel Canada needs?

ters and landing craft that can ferry supplies and people to and from the affected area, should infrastructure be totally destroyed – as was the case in some areas of the US Gulf Coast after Hurricane Katrina.

Can we afford to wait six to eight years for new vessels to be built in Canada, or should an interim capability be procured? Let us hope our luck continues to hold – there may be no warning of our next natural disaster. 🇨🇦

Slaughterhouse Rules

Lt. Commander P. Richard Moller

One doesn't have to spend much time in NDHQ these days to become battered, bruised and gored by herds of sacred cows fighting to gain access to feed troughs. Sacred cows are those hidden underlying assumptions, those unquestioned rules or systems, those pre-digested arguments used to stifle real debate, and those ways of behaving that prevent us from fundamentally changing our organizational culture.

In the Canadian Forces predictability can literally mean death to our subordinates and ourselves. The great challenge for all military and naval leaders is reconciling the apparent dichotomy of being predictable to our subordinates, and unpredictable to our enemies. Over the last several decades we have allowed ourselves to become an armed forces of predictable, domesticated “professionals.” If we truly mean to transform however we must root out the sacred cows and herd them into the nearest slaughterhouse. But what are our sacred cows?

- We spend so much time putting out fires that we execute fire drills flawlessly, but have become weak at developing and implementing grand strategy.
- We take, and order others to take, tremendous physical risks, but stand mute at the thought of challenging a policy from headquarters.
- We force people to water down ideas to avoid conflict, and then wonder why our organizations lack passion.
- We spend millions of dollars attracting potential new members, and then spend millions of dollars screening them out with an elaborate selection process.
- We create kilometres of spreadsheets analysing precisely how we spend our budgets, but often spend no time analysing how to make our subordinates happier.
- We reward obedience to a supervisor over loyalty to our Canadian Forces.
- We spend millions of dollars establishing and running bureaucratic redress of grievance and alternate dispute resolution systems rather than addressing the leadership flaws that feed the need.
- We entice new recruits with signing bonuses, and reward loyalty with a minimum annual raise.
- We treat equipment with more care than the people who operate it for us.
- We perpetuate systemic discrimination against one component of our “total force,” and then complain about a lack of commitment from the victims.

- Computer viruses are an emergency, but diseased morale is status quo.
- We concentrate on the easy measurement of educating managers, instead of the challenging goal of developing leaders.
- We demand fresh options, but spend more time looking at someone’s rank than evaluating their ideas.
- We focus so much on gaining and exercising command that we often forget to lead.

In order to transform our Canadian Forces we must examine every aspect of every process we have forced upon ourselves. If we fail to re-create ourselves, we risk being nothing but a footnote on the pages of history.

Looking back to what is the greatest organizational transformation in history we see that the story of the Magna Carta is not the history of a document, but the history of an argument. The barons who wrote the Magna Carta had in mind only the stabilization of their rights and privileges, and limiting those of the king, but the charter has taken on an enduring legacy in popular history. The Magna Carta embarked Britons, and eventually Western civilization, on a bold new adventure.

Our Canadian Forces are embarking on a bold new adventure, the dramatic restructuring of our organization. Reorganization, however, does not result in transformation unless it is rooted in an equally dramatic change in organizational culture. The Magna Carta is enduring because after its creation it was forged by leaders and honed by public will. Do the Canadian Forces have the leaders and the will to make our new change charter a magna carta? Time will tell. The more demanding and pertinent questions are: What part will you play in shaping the future? Which sacred cow will you help slay?

The current quest for massive reorganization is only a first step towards writing the history of our magna carta – our argument to the future – and is a sign that some still retain a vestigial, feral nature. It is a healthy sign that some of us are unwilling to domesticate ourselves through intellectual bondage. And it is a healthy sign that some of us are unsatisfied with the spatial limitations of a bureaucratic feedlot.

As you fight your way through the herds of sacred cows seek out others who share this feral nature, so that together we can lead our Canadian Forces to a feast on some bloody big steaks. 🍖

Plain Talk

Sharon Hobson

We are not the public service of Canada, we are not just another department. We are the Canadian Forces and our job is to be able to kill people.

— General Rick Hillier, Chief of the Defence Staff

Shocking? Yes. Simple? Yes. But clear, unequivocal, and immediately understandable. General Rick Hillier, Chief of the Defence Staff (CDS), is the first CDS in recent memory to speak to the Canadian public in plain language. He doesn't appear to shy from the controversial and seems to recognize that Canadians need to be told the truth about what the Canadian military does – at least to some limited extent.

Regardless of how far his openness goes – and there are some indications that it doesn't go as far as he'd like us to think – General Hillier is setting an example which hopefully will encourage others to open up and talk to the Canadian people. For years the Canadian political and military leadership has studiously avoided any suggestion that Canadian soldiers might actually engage in combat, instead treating the defence of Canada as just another “business line” in the budget, and lulling Canadians into believing that we're a gentle country of peacekeepers who mean no harm to anyone. It is thus no wonder every military death promotes an outpouring of national grief and parliamentary investigations. The leadership has not prepared Canadians for the real world, for the true nature of a military commitment.

The missions on which our young men and women are sent are not peacekeeping operations any more, and people die. As commentator Nic Boisvert recently pointed out, there were over 100 casualties in Bosnia, the majority the direct result of intentional enemy action. If you didn't know this it was because the government did not want you to, thinking you were not up to facing the hard truth, and the Department of National Defence went along with the charade.

If Hillier's early approach to communicating with the public is any indication of how he intends to continue that won't happen again. “These are detestable murderers and scumbags” he said at an informal luncheon with reporters in July when asked about the Taliban and al Qaeda terrorists the Canadian troops would be up against

in Afghanistan. “Being effective means, first of all, being combat capable,” he told the Conference of Defence Associations in February. “When you deploy to a mission area, somebody else makes the decision whether you go to high intensity combat once you're there. It is no longer your decision.... You've got to be prepared to handle it once you commit men and women into it.”

Many may complain about the lack of subtlety and nuance, but Hillier is reaching millions of Canadians with his straightforward words. Those souls who demand pinpoint accuracy in their defence discussions can talk to each other about strategic versus tactical airlift, C4ISR, logistical support, force generation and organic air, but if they want the Canadian public to understand and support the military, the senior leadership had better be prepared to follow Hillier's example.

The military leadership continually whines that the Canadian public does not understand them, that there is a lot of misinformation in the public domain about the Canadian military's needs and operations. Well, who is to blame for that? Just look at how the submarine purchase was handled.

In 1996, when the navy was still lobbying politicians to approve the *Victoria*-class acquisition, the *Globe and Mail* had a front page article which baldly stated, “the navy flatly refuses to explain why it wants [submarines].” It wasn't surprising that people thought that, given the navy's convoluted explanations of the value of a submarine. Navy officials talked about the need to have a “balanced fleet,” which, for most people only prompts the questions “why?” and “balanced with what?” The officials said such things as, without submarines, “we simply have no other way of being present in the third dimension that one finds at sea,” and “the covert stealth and the long endurance that only a submarine can give you mandate that they must remain a core feature of the combat capability of our navy today.”

That kind of ‘explanation’ may get military leaders through an uncomfortable moment, but in the long term it comes back to haunt them. If people are not told why the submarines are important and what they will be used for, who can blame them for thinking that Canada is wasting \$900 million when things go wrong with the program?

Why not tell people the truth about submarines? Why not use plain language to tell Canadians that submarines can be used to keep watch secretly over ocean areas and harbours. They can track illegal fishermen and smugglers in Canadian waters, they can fire torpedoes and sink ships, and the fact that the enemy doesn't know where they are can be enough to frighten the enemy into keeping its warships out of an area. A submarine can be used to land special forces on foreign shores secretly, and

it can be used by Canadian and allied warships to train their crews to track other submarines. As well, owning submarines means that other countries that operate subs will have to share information with Canada about the location of their boats so that no one bumps into anyone else. This is important given that some countries have been sending their submarines into Canadian waters without telling the Canadian government. They won't be able to do that anymore.

Plain language such as this may cause some people – reporters, politicians and various interest groups – to jump in with criticisms (for example, “Why would Canada want to land special forces on foreign shores secretly?”), but critics jump on unusual or plain language because it's so rarely heard. Initially, it's shocking. But eventually it loses its shock value, and promotes reasonable debate.

It's that fear of prompting a knee-jerk reaction and reducing the political wiggle-room that has caused bureaucratic blandness to be the language of choice when dealing with military matters. Politicians hate controversy and they hate to be pinned down with specifics. What politicians hate, military leaders learn to hate. So everyone retreats into passive and bland language and jargon.

As bad as the language they use is the spin-doctoring and the reluctance to provide detailed information on anything other than benign “feel good” missions. So in October 2001, when Canadian ships were prepared to deploy to southwest Asia in support of the “war on terrorism,” the navy wouldn't say where the ships were going or what they would be doing. Instead navy officials told reporters “we bring to the table a very versatile ca-



General Hillier (left), Vice-Admiral MacLean (right) and a Canadian submariner

pability,” and “this is a very competent, capable grouping of ships, which will make a large impact.”

Contrast this to the navy's willingness to provide information about the three ships that recently headed south to help the United States cope with the aftermath of Hurricane Katrina. Media were invited to observe the preparations, attend briefings and accompany the ships on their mission.

Even this was a missed opportunity for the navy to talk to the Canadian people. Those who follow defence issues immediately noticed that the task group being sent south did not include a support ship. This was because the east coast ship, HMCS *Preserver*, had generator problems (discovered during sea trials after a lengthy refit). The only other support ship, HMCS *Protecteur*, is on the West Coast.

This was a perfect opportunity for the navy to point out that frigates and destroyers are not the best kind of vessels to deploy on humanitarian relief operations, that it didn't have sufficient support ships, that the ones they had were really getting old and decrepit, and that it really needs the new Joint Support Ship – the first of which will not be operational for another eight years.

Instead, the navy did its usual thing – it played up its touchy-feely humanitarian role, played down any deficiencies, and pretended everything was just hunky dory. No wonder people don't understand. 🍷

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

Canadian Offshore Patrol Vessels

Doug Thomas

Sovereignty Operations

Lt (N) Mike McKinley's article in this issue describing the successful *Operation Colombie* brings up many excellent points. It also describes the participation of one of our superb Canadian Patrol Frigates in this counter-smuggling operation. Some readers may wonder why the navy would provide a 5,000 tonne warship with a ship's company of 220 people to support the RCMP in this role. The simple answer is that it was the only tool in the toolbox that they had to choose for this task.

A number of maritime countries operate a class of vessel that may be described as "Offshore Patrol Vessels" (OPVs). These vessels possess good seakeeping and endurance characteristics, are manned by a small crew, are fitted with light weapons, and most are able to recover and refuel a helicopter. Depending upon how national responsibilities are allocated, these OPVs are operated by navies or coast guards to conduct a range of constabulary tasks, such as control of seabed and fisheries resources, countering smuggling and illegal immigration, and sovereignty operations in (and occasionally beyond) national waters.

In today's less secure environment, Canada requires additional resources to protect its maritime approaches and borders. There are some capable vessels in the Department of Fisheries and Oceans (DFO) and the Canadian Coast Guard (CCG), however they are primarily tasked to conduct fisheries research and patrol, ice-breaking operations, service aids to navigation, and search and rescue (SAR). They are also very slow – most CCG vessels are capable of only 12-15 knots. If these vessels are to do more than merely report events and vessels of interest to a national or coastal operations centre, more training and better C³ capabilities are necessary. Steps are being taken to achieve this, but a ship-replacement program is also urgent for the DFO/CCG fleet.

The navy's 12 Maritime Coastal Defence Vessels (MCDVs), although not designed to fulfill the OPV role, are frequently employed in fisheries and sovereignty patrols. These 970 tonne, 55 m, 15 knot vessels perform such tasks inexpensively compared to a frigate; but are limited by their speed and C⁴I capability, and have less than stellar seakeeping abilities. Accordingly, the Canadian Navy may be considering a vessel with enhanced capabilities,

perhaps somewhat similar to the Canadian Surveillance and Sovereignty Enforcement Vessels (CASSEV) Project of the early 1990s.

The Requirement

In an interview with Sharon Hobson for the September 2004 edition of *Jane's Navy International*, Captain (Navy) Kelly Williams, until recently the Chief of Maritime Staff's Directorate of Maritime Strategy, stated: "The offshore patrol vessel is an emergent requirement from the changed security environment; it's the cost of sovereignty." With only 12 *Halifax*-class frigates and three *Iroquois*-class destroyers in service, the navy is hard-pressed to respond to the increasing demands for security and sovereignty enforcement patrols in Canada's maritime economic zone *and* contribute to international operations such as the US-led 'war on terrorism.' Acquiring a medium-size patrol vessel would give the navy a ship capable of operating 300 nm off the Canadian coast, while freeing the frigates to undertake more demanding missions.

Captain Williams said that the navy is looking at the concept of a vessel displacing about 1,500 tonnes, 75 m long and with a maximum speed of 20-25 kt. He noted that the ships would need to be capable of year-round North Atlantic and North Pacific operations, and have a first-year ice capability and seakeeping up to Sea State 7.¹

The vessels would operate with a crew of 65, "with the possibility of interagency manning." While this raises concerns among some observers, Captain Williams noted that as joint interagency thinking matured "it would only make sense to have the people with the right jurisdictions and the right mandates on board," such as immigration officials or RCMP officers. As Williams explained, "What we're after here is the capabilities and the skills, not necessarily who's sitting on the Queen's list as a member of the navy."

The crews could be mixed in each ship, depending on the mission. Alternatively, it is possible that if, for example, Canada bought 10 ships, five of them would be operated by the coast guard and five operated by the navy. These are decisions that still have to be taken.

The ships would have basic combat control systems, domestic-focus communications and electronic surveil-

lance measures. They would also be fitted with a basic gun and would be capable of maritime interdiction, up to and including non-compliant boardings. The vessels would also have the capability to land a helicopter but they would not have a hangar. The navy will consider equipping the OPVs with unmanned aerial vehicles (UAVs).

Naturally, the cost would be a factor. According to Captain Williams “We’re going to have to deliver this at as low a cost as possible, and notionally we’re thinking of up to 10 vessels for around C\$250-300 million apiece.”

The topic of offshore patrol was discussed at Dalhousie University’s 2004 Seapower Conference, when the Commissioner of the Coast Guard expressed interest in the possibility of some type of cooperation between the coast guard and the navy – perhaps a combined shipbuilding program – in order to realize some economies of scale in the procurement of vessels and in their subsequent operations and maintenance. Certainly there was general agreement among conference participants that Canada must do more to secure our maritime borders.

Candidate Vessels

A survey of *Jane’s Fighting Ships* indicates a paucity of modern candidate designs in the size bracket mentioned by the Directorate of Maritime Strategy, most countries operating these vessels want a ship somewhat larger than 75 metres. The Japanese and Indian Navies/Coast Guards operate ocean-going patrol vessels that are quite large and well armed. Italy has recently completed four *Commandante*-class OPVs for the navy, and a further two funded by the Ministry of Transport (MOT), which are manned by the navy but equipped with simple command data systems for anti-pollution and SAR tasks. These OPVs are 1,500 tonnes full load displacement, 88 m long, 26 knots speed (22 knots for the MOT vessels), and could be employed effectively as corvettes.

In my opinion, the German MEKO 100 design would be an excellent choice for a Canadian offshore patrol vessel requirement, if we are looking at a vessel of the size described by Captain Williams. A MEKO 100 OPV is being built for the Malaysian Navy – the first of six ships to be delivered last year. A larger corvette variant is being built for the German Navy, as a replacement for many smaller missile patrol craft.

MEKO corvettes, frigates and destroyers can be found in many world navies. An interesting feature of the MEKO modular concept is the ability to quickly change sensor and weapon systems to respond to new missions. In Canadian use, a common design could be readily procured

for both civil and naval use, with naval vessels potentially being fitted with additional systems and manned by a larger ship’s company.

The Malaysian OPV is 1,300 tonnes full load displacement, 80 m long, a speed of 22 knots on twin diesel engines and a crew of 78. A Canadian MEKO OPV with basic weapons and sensors might be routinely manned by about 40 people in DFO/CCG use, and perhaps 60-70 in naval roles with enhanced sensor and weapons. Any unused accommodation space would be valuable for SAR operations, additional boarding parties, manning additional combat systems, and the performance of more complex missions. The German variant, with a larger hull affording better seakeeping, might be a better choice for Canada’s prevailing weather conditions in the North Atlantic and North Pacific Oceans.

I have purposely considered ships in the size range described by Captain Williams, and there is no doubt that ships in this range would provide a huge increase in capability over the MCDVs. However, we must remember that Canadian waters are amongst the most challenging anywhere. A Canadian OPV must have excellent seakeeping and endurance features so perhaps we should be looking at a larger vessel that would be inexpensive to operate.

The Norwegian Coast Guard and Danish Navy have big, capable vessels for patrol duties in the North Atlantic. For example, the Danish *Thetis*-class frigates are strengthened for operations in up to one metre of ice, are 369’ long x 47’ beam, are equipped with a hangar for a Lynx helicopter and have a flight deck large enough for the new Cyclone CH-148 maritime helicopter, a maximum speed of 20 knots, excellent endurance and a crew of only 60. We could man such vessels in a Blue and Gold two-crew concept (the CCG does something similar at the moment) in order to maximize on-station time, and we would then truly have the capability to monitor our coasts in extreme weather and icing conditions. Maybe we could even visit Hans Island!

A mix of two *Thetis* or similar vessels and 3-4 MEKO OPVs per coast is proposed as a solution to meet this operational requirement. If the propulsion plants could provide a speed of 25 knots to intercept smugglers and other suspect vessels, I believe that – together with all of the other “tools in the toolbox” – we would at last be able to effectively patrol our own maritime approaches. 🇨🇦

Note

1. The CASSEV was somewhat larger at about 2,500 tonnes. However the characteristics described above are otherwise similar to that program, which was cancelled by defence cuts in 1994.

Book Reviews

China's Nuclear Force Modernization, edited by Lyle Goldstein with Andrew Erickson, Naval War College Newport Papers 22, Naval War College Press, Newport, Rhode Island, 2005, 138 pages.

Reviewed by Captain (N) K.R. Stewart

In September of this year, President Hu Jintao of China visited Canada and met with Prime Minister Martin. They agreed that the value of trade between the two countries should aim to increase twofold over the next five years. That would see Canada and its number two trading partner reach \$30 billion in trade annually. Given that Canada is only China's number 10 trading partner, the growing global economic clout of the Asian giant is very evident.

The Chinese economy is moving full speed ahead but this is only one indication that the country is not interested in being just another state, content to be one of the pack. The "Middle Kingdom" does not want to be in the middle – it wants to be a mover and a shaker, it wants to take a leading role on the world stage and, as such, it is pursuing the various trappings of a great power. To see this we need only look at their space programme, and their nuclear weapons program. The not-so-quiet but somewhat secretive modernization of the People's Liberation Army (PLA) includes this world-power weapons system. Yet is this a realistic threat? Is it something about which we should be concerned?

These are some of the questions explored in *China's Nuclear Force Modernization*, the US Naval War College's Newport Papers Number 22. (The Newport Papers series is a venue used by the Naval War College to present extended research papers that, in a self-description, are "of particular interest to policy makers, scholars and analysts.")

The book presents four papers on Chinese nuclear forces, offered in a somewhat logical sequence. The authors consist of three serving US Navy officers (ranks indicated are those held when the respective paper was written) and a civilian.

The first paper, by aviator Lieutenant Stephen Polk, examines the basic question of: if you've got the weapon do you have the necessary nuclear command and control (NC2) to use it effectively? As a benchmark, the author uses US NC2 concepts such as survivability, redundant or

alternate NC2 in the event of leadership "decapitation," and assured retaliation. He notes that the Chinese seem well aware of the complexities of NC2. He also notes that the lessons of the past have made them conscious of the need for control and of the seductive danger of capable, reliable NC2 (the better it is, or the better you think it is, the more attractive its use becomes). In the end, he observes that not much is really known, but it is clear that the Chinese are improving in training, communications and technical capability.

The next two papers look at aspects of delivery. Lieutenant Chris McConnaughy, a submariner, writes about China's undersea nuclear deterrent and the preparedness of the US Navy to execute strategic (anti-SSBN) anti-submarine warfare (ASW). McConnaughy states that the Chinese are now in the global reach business, developing a true nuclear triad. The Chinese SSBN force is very small, but he points out the force-multiplier effect of submarines and, more importantly, that even only one SSBN can be a nightmare. He ends up by deploring the post-Cold War decline in strategic ASW expertise and warns that the United States cannot be complacent.

Commander Dominic DeScisciolo, an air defence specialist, looks skyward. There is no doubt in his mind that there is a definite link between the Chinese space and military programs. In fact, according to DeScisciolo not only are the programs related, but in reality the space program is managed by the military. In an interesting side note, the author talks briefly about the brilliant father of Chinese rocketry, Qian Xuesen, who received most of his advanced education from MIT and Cal Tech in the United States in the early 1950s.

The final paper by Andrew Erickson, a PhD candidate at Princeton specializing in Chinese aerospace development, looks at the impact the US ballistic missile defence (BMD) program has had on Chinese nuclear thinking. Erickson suggests that China is quite capable of developing serious, potentially effective, ways to neutralize US BMD protection. He also suggests that the Chinese perceive that the US BMD policy is a real threat to their status as a nuclear weapon state. Erickson proposes that the United States de-escalate the situation by clearly focusing BMD efforts towards "rogue" states such as North Korea.

Lyle Goldstein, the editor of this book, acknowledges that the submissions do not and, given the breadth of this question, cannot offer a comprehensive look at China's nuclear modernization. The book is short, and in many

aspects resembles other professional publications such as the *Canadian Military Journal* and, as a US Naval War College publication, it has an obvious naval slant (which is never a bad thing!). The papers vary in quality (almost in correlation to rank and sequence in the book) but for the most part are well written and presented. Some though, and especially those familiar with China and the People's Liberation Army, may find the considerable historical background provided in all papers more "filler" than anything else. On the other hand, newcomers to Asia-Pacific issues may consider the historical information worthwhile, particularly on missile and submarine development.

So, is the book worth a look? Yes. The Chinese remain a mystery, and an often-ignored enigma. The key messages in the book, which can be applied to many other fields than nuclear weapons, are that the Chinese are becoming better, more efficient – more proficient – at nearly everything that marks a great power, but we just don't know how much better and, more significantly, what they have in mind.

Do we need to be worried about what the Chinese have in mind? Some would suggest that the growing economic relation between China and the United States will trump any competitive and security concerns. Indeed just very recently, the value of Chinese exports to the United States exceeded the long-time first place holder, Canada.

But in July this year, Major General Zhu, a dean at China's National Defence University, stated that if the United States resorts to military force in support of Taiwan, China should respond with nuclear weapons. And, in June 2005 US Secretary of Defense, Donald Rumsfeld, at a speech the International Institute for Strategic Studies' Asia Security Conference, wondered aloud why China's declared defence budget was so obviously lower than its real one, and why it was building so many missiles.

In his introduction, Goldstein writes "it is simply prudent . . . to observe closely China's military modernization and the strategic implications that could follow from its true emergence as a major power." He's right. And that is why this book is worth a read. 🇨🇦

"Guarding the Continental Coasts: United States Maritime Homeland Security and Canada," by Joel J. Sokolsky, *Policy Matters*, Vol. 6, No. 1 (March 2005). Available at <http://www.irpp.org/indexe.htm>

Reviewed by Ed Tummers

There is no more important foreign policy issue for Canada than its bilateral relationship with the United States. And no better platform from which to examine that relationship than the Canadian Navy. The navy is the actual reflection of how a country sees itself in the world. Rhetoric costs next to nothing, but a navy is expensive. It takes great collective national willpower over a prolonged period of time for a country to build a navy. Few Canadians realize that the Canadian Patrol Frigate was the single most expensive capital project in Canadian history. The 12 frigates cost more than the Canadian Pacific Railway in the late 1800s, more than the St. Lawrence Seaway in the 1950s, and more than the recent improvements to Pearson International Airport. No wonder that it has taken so long to approve expenditures for its primary sensor and weapon system, the maritime helicopter.

In "Guarding the Continental Coasts: United States Maritime Homeland Security and Canada," Joel Sokolsky treats the reader to a fascinating journey through Canada-United States relations and the efforts by the United States to protect its people, territory and economy. Although the focus is on the so-called global war on terrorism and recent responses to the terrorist attacks of



HMCS Athabaskan and HMCS St. John's refuelling from USNS John Lenthall



Multinational Cooperation

11 September 2001, Sokolsky provides the reader with a comprehensive review of the past and present uses of sea power in American homeland security and defence, and Canada's participation in these missions. As Sokolsky stresses, the Canadian Navy will remain a major instrument for the projection of a Canadian presence overseas. He concludes that by cooperating with the United States in guarding the continental coasts, Canada will also safeguard and assure its own maritime security and sovereignty.

Several themes seem to persist throughout our shared history. One theme which permeates this history was of particular interest to this reader – the history of ballistic missile defence. Sokolsky notes that concern for the maritime dimension of North American defence has a long history going back to the establishment of the Permanent Joint Board on Defense in 1940. With the start of the Cold War, the major sea-based threat to North America itself came from nuclear-powered ballistic missile-firing submarines. Both countries maintained constant surveillance of the ocean approaches to the continent, using surface ships, maritime aircraft, submarines and underwater sensors. In the case of submarine-launched ballistic missiles (SLBMs), there was no real defence once the missile was launched. Ballistic missile defence meant destroying the launch platform before it launched a missile.

Sokolsky provides the reader with an excellent description of the command and control arrangements and the offshore barriers which were established, in particular Commander Barrier Force Atlantic which was established in 1955 with its headquarters in Argentia, Newfoundland. It would have been very interesting if Sokolsky had made available the Canadian side of the story. What were the factors behind the commissioning of HMCS *Shelburne* in that same year? What were

the sovereignty concerns at the time about collaborating with the US Navy (USN) in developing the SO-SUS system? What were the technical hurdles in developing this system and how did they cope with initial system failures? How was the Canadian fleet construction program driven by the overriding need for a strategic anti-submarine warfare (ASW) plan for ballistic missile defence? What were the concerns about weaponization of the sea bed? The answers to these

questions would certainly illuminate the contemporary debate about ballistic missile defence.

Sokolsky brings us to the present with a very good summary of the USN's Sea Power 21 concept which comprises three fundamental missions: sea strike; sea shield; and sea-basing. Sea shield encompasses homeland defence, but involves the protection of ships, ports and other assets around the world – i.e., projecting global defensive assurance. In terms of homeland defence, the USN would contribute to protection against ballistic missile attack as part of an overall ballistic missile defence system. On 24 February 2005 the Aegis Ballistic Missile Defense (BMD) Weapon System and Standard Missile-3 (SM-3) destroyed a ballistic missile outside the earth's atmosphere during an Aegis BMD Program flight test over the Pacific Ocean. The 24 February mission was the fifth successful intercept for SM-3, which was launched from the Aegis BMD cruiser USS *Lake Erie* (CG 70) and hit a target missile that had been launched from the US Navy's Pacific Missile Range Facility on Kauai, Hawaii.

It is a striking coincidence that at the same moment as this successful test firing, Prime Minister Paul Martin announced that Canada would not take part in the proposed continental ballistic missile defence system. What are the implications for future Canadian naval involvement in a theatre missile defence program in cooperation with the USN? Sokolsky would have provided a valuable service to the lay reader with a brief explanation of the differences between the two ballistic missile defence systems.

Sokolsky has made an important contribution to the understanding of how Canada's navy has been used effectively within the bilateral Canada-United States relationship. His observations are keen and his conclusions are sound. It remains to be seen how the fleet will evolve to meet the needs of the coming century. 🍷

The Oland Essay Contest

First Prize \$1,000

Second Prize \$500

Third Prize \$250

The top three essays will be published in the *Canadian Naval Review*. The first prize essay will be published in the Summer 2006 issue of *CNR*, and the second and third prize essays will be published in subsequent issues. (Other non-prize winning essays may also be considered for publication subject to editorial review.)

Essays must address issues – past and present – of relevance to current Canadian maritime security.

Submission deadline is **31 March 2006**

Contest Guidelines:

1. All essays must be original material. They must not have been submitted or published elsewhere.
2. Essays are to be no longer than 2,500 words. A limited number of graphics are acceptable.
3. Essays must contain appropriate citations in any acceptable format.
4. There is a limit of one submission per author.
5. Authors should put the title only on manuscripts. Names, addresses, phone numbers and email addresses should appear on a separate cover page.
6. The decision of judges is final. The essays will be judged in a two-stage process. First they will be assessed and shortlisted by the *CNR* Editorial Board and then the winning essays will be determined by a panel of three independent judges.

Please submit e-copies of entries to naval.review@dal.ca by the submission deadline.

Entrants will be notified of the decision within two months of the submission deadline.



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