STARSHELL

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NAVAL ASSOCIATION OF CANADA

Canadian Warship Growth & Costing

Arctic Defence has to be Joint

A New Look at National Security Policy and Strategy

Expanding Nanook to NATO

Starshell

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Cover Image: HMCS Margaret Brooke in the Arctic during Operation Nanook (Photo: Lt. Dionne, CAF)

Sailor Second Class Mohamed Ghanem descents a ladder to get in HMCS Fredericton's RHIB during Operation REASSURANCE in the Mediterranean Sea (photo: Cpl Noé Marchon, CAF Photo.

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HMCS FREDERICTON deck operations with an SH-101 helicopter from ITS MARGOTTINI during Operation REASSURANCE (Photo: Cpl Noé Marchon, CAF)

From the Bridge

Bruce Belliveau
President (NAC)

This Starshell comes as we finish the year long celebration of the 100th Anniversary of the Canadian Naval Reserve. Reserve Divisions across the country have been hosting galas and demonstration of the reserve force capabilities. For its part, the NAC BOA Gala adopted the 100th Anniversary as the theme for this year's event, which was sold out and, by all accounts, a fantastic evening at the Canadian War Museum. A portion of the sponsorship funds went to support the refurbishment and re-commissioning of the National Naval Reserve Memorial in Ottawa. The NAC also played a role in many events by supporting local reserve divisions through sponsorship, attendance, and with financial support of the NAC Endowment Fund (EF). For instance, HMCS SCOTIAN commissioned a book: HMCS *SCOTIAN, Our Sailors, Our Stories*. The EF provided funds to help with the publication of this book of stories from sailors of the past up to today's serving reservists. A great effort put forth by the SCOTIAN Alumni, BZ. Funding was also provided by the EF for a commemorative bench to placed near the Halifax Memorial (Sailor's Memorial) at Point Pleasant Park, which will be installed in the next few months. All to say, the great work of reservists over the years has been appropriately and well feted. As we look to the future there is no doubt the Naval Reserve will continue to be a critical component of the RCN team as we mix crew the current and future ships of the fleet. The NAC's relationship with the Naval Reserve is long and storied and this year brought us even closer together. It is a relationship well worth the work to foster and grow.

As we see world events unfold on TV, we must never lose sight of the fact that Canadian Sailors, Soldiers, and Air personnel are serving around the globe, often in hostile environments. Our mission statement is clear: "to educate Canadians on the need for a capable Navy critical for our economic well-being, security and way of life." I would suggest this effort is as important now as any other time in our history. Our Naval Affairs team is hard at it, but it requires the involvement of every local branch and every member to impress upon the public and our politicians that we need a strong and capable maritime force now, not in the decades to follow. Canada needs to accelerate procurement of the Canadian Surface Combatant and the Canadian Submarine Replacement Programme in order to give our sailors the capabilities they need to be able to go into harms way with confidence that they can win the day and return home safely to their loved ones.

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Lastly, on a lighter note, some excellent news from the United Kingdom. Capt (Retd) Rolfe Montieth, RCN, celebrated a major milestone on October 29, 2023. He celebrated his 100th birthday and is still going strong! Rolfe was an engineering officer and served in World War II. He went on to a long and illustrious career and is the only RCN officer to serve both as the Ships' Engineer and as the Air Engineer with 18 Carrier Air Group. His wartime effort is beautifully captured in "Last Man Standing - A Naval Wartime Memoir" published in 2020. Rolfe is a longtime member of the NAC and has made generous donations to the Endowment fund and to branches over the years. He has advocated successfully to have the RCN contribution to the Battle of the Atlantic and the greater war-at-sea better recognized in the UK and I suspect some bureaucrats see him as a thorn in their side as a result. I met Rolfe in 2010 at HMS PRESIDENT (RNR) at a mess dinner organized by NAC member Capt (Retd) Harry Harsch to celebrate the 100th anniversary. Through our discussions it turns out my dad, who was an aircraft maintainer in the Fleet Air Arm, worked for and was fondly remembered by Rolfe. Rolfe should be an inspiration to us all as he continues to be active and vibrant at 100. The photo below is of Rolfe and his Granddaughters at the big party. Note he is wearing his SACKVILLE tie. BZ Rolfe.

From the Ops Room

Tim Addison, Naval Affairs

Welcome to the Naval Association's Fall edition of Starshell. NAC's Naval Affairs program continues to perk along. We have recommenced our monthly Speakers Evenings; plans are underway for a workshop in Calgary at the end of November; and we are supporting the RCN's developing mentorship program. The output of the workshop will be a draft paper on the big picture issues that we think should be included in the next version of the RCN's Leadmark, which we consider is in need of a refresh, given recent events that have destabilized peace and security around the world. You will see some of my personal observations on the fragile state of global peace and security and Canada's ability to respond should the situation worsen, in the comments below.

History has taught us how so many great nations became great because they had a great navy. Those great nations also survived challenges to their existence because they had powerful naval forces to defend their territory and their interests. Not that Canada is a world power, but our Royal Canadian Navy was used many times in the past as a tool of diplomacy, a means of deterrence, and on occasion as a participant in armed conflict. The Cold War demonstrated that deterrence can be as effective as offensive operations and it's far less costly. My concern these days is that Canada has lost its ability to generate and sustain naval forces for a deterrence mission, let alone a conflict.

Why do I have this concern? Well, let's take a few minutes to look at the current world security situation and how Canada is responding. Over the past two years Russia, China, and North Korea have all become increasingly adversarial. Russia recently pledged its "complete support" for North Korea and sent Foreign Minister Sergei Lavrov on an official trip to North Korea, where he thanked the country for its support in Ukraine. Reportedly, the North Korean regime is shipping thousands of tons of ammunition to use against Ukraine. The Biden Administration considers that the military partnership between North Korean dictator Kim Jong-un and Russian President Vladimir Putin is "growing and dangerous."

Similarly, Russia has deepened its relationship with China. Earlier this year Putin received red-carpet treatment at a global summit in Beijing, as the guest of honour among leaders and officials from more than 130 countries. Recently Putin signed a law revoking Russia's ratification of the Comprehensive Test Ban Treaty, which has helped keep a lid on nuclear testing for 27 years. While Russia remains one of the 187 signatories to the treaty, the Russian decision to de-ratify its membership raises questions as to whether it will resume nuclear testing. Earlier this month Russia took another step, which signals its deep mistrust of the west. The Kremlin pulled out of the Treaty of Conventional Armed Forces in Europe, which was created to prevent massing of forces near the borders between Russian and its satellite countries and western nations.

The war in the Ukraine is now in its second year and Israel is now at war with Hamas in the Middle East with no end in sight for either conflict. Normally when something happens that is an obvious threat to global peace and security, Canada comes to the support of our Allies through an increased naval commitment

to NATO, or a task group deployment in support of a US or UN led coalition, as we did several times in the 1990s and 2000s; or with major warships deploying with US Carrier Battle Groups, as we did for a number of years post 9/11 with OP APOLLO, DETERMINATION, ALTAIR, and AUGMENTATION .

The US has two carrier strike groups (USS *Gerald R. Ford* and USS *Dwight D. Eisenhower*), an amphibious ready group - assault ship and two dock landing ships with an embarked Marine Expeditionary Unit, and one or more attack submarines in the Eastern Mediterranean. Indeed, there are a reported 46 allied warships in the area. The White House has referred to these naval deployments as deterrence actions. Where is Canada in all this deterrence activity? Nowhere to be seen. Why? Well quite simply, it appears that the RCN's operational capabilities have been reduced to a point where the ability to deploy and maintain a Task Group of four combatants and a support ship on station for an extended period no longer exists.

Op REASSURANCE, currently Canada's largest overseas mission with approximately 1,000 members includes two minor warships, HMC Ships *Shawinigan* and *Summerside* as part of NATO's Standing Mine Countermeasures Group 1. Additionally, in October Canada deployed another maritime coastal defence vessel, HMCS *Moncton*, on Op CARIBBE, a US-led counterdrug operation in the Caribbean. Neither of these operations can be considered a naval Task Group deployment.

The 2023 version of a Naval Task Group deployment commenced in August when two MARPAC ships HMCS *Ottawa* and HMCS *Vancouver* joined logistics support vessel *Asterix* and sailed to the Indo-Pacific region as part of the government's new Indo-Pacific Strategy. The ships have conducted patrols to signal deterrence to North Korea and to China who, as we know as designs on Taiwan. Our warships, in company with USN ships, have transited the Taiwan Strait and exercised recently with Japanese Naval Forces in the Far East.

These operations have not gone unnoticed by the Peoples' Republic of China. On 29 October and 2 November Ottawa's helicopter was harassed by Chinese People's Liberation Army Navy J-11 fighter jets over international waters east of the Paracel Islands. The fighters got within 100 feet of our helicopter and, during the second incident, dropped flares in front of it, creating a dangerous situation which required avoidance action. *Ottawa* was operating in international waters 100 miles (160 kilometres) from the Paracels. China claims historic jurisdiction over almost all of the vast South China Sea, including the Paracels and, since 2014, has built up tiny reefs and sandbars into artificial islands heavily fortified with missiles, runways and weapons

systems. They continue to up the amperage on their rhetoric and their operations with unfounded claims that the west is encroaching on their territory. What will China do next and how and with what will Canada respond?

Recently the Canadian Armed Forces released a document which states that China and Russia are Canada's main enemies, with both nations considering themselves to be at war with the west. The Chief of the Defence Staff General Wayne Eyre states in the introduction to the Pan-Domain Force Employment Concept, "We must remember that Russia and China do not differentiate between peace and war. The hostile intentions and actions of our adversaries show that they consider themselves to be at war with the West. We must accept this reality and respond accordingly."

This is an ominous statement, which should get the attention of someone in the Prime Minister's Office. Yet, what is our government doing? As we all know, the government is cutting DND's budget, potentially by up to $1B. The media reported (9 November) that the cuts to DND will be in the form of reductions on travel and professional services provided by consultants. Let us hope that it is nothing more than that.

Defence Minister Bill Blair has reportedly instructed DND officials to revisit the defence policy update, which appeared to have been shelved in the spring. His intent is to give industry more clarity on long-term spending plans. He stated, "It is not merely a national defence policy. It's a national industry policy; it's a policy about innovation; it's a policy about workers. It's a policy about economic security and prosperity in this country. It's a foreign-policy initiative." Blair's comments follow a speech Foreign Affairs Minister Mélanie Joly gave Oct. 30, in which she promised that "we will increase our investments in our military, through the defence policy update." Is anyone confused yet?

Remembrance Day recently reminded us that it has been 70 years since the end of the Korean War, arguably the last time the RCN carried out offensive actions against an enemy force. Today in a very uncertain world, there is potential for a return to offensive operations against formidable adversaries. Canada has a long history of stepping up and deploying naval forces within weeks of the outbreak of conflict, but I question whether we have the capacity to show that initiative today.

It would seem that Canada and its allies are fast approaching a period of conflict, where defending oneself after or against a hostile attack at sea, an attack from land, or offensive anti-surface or anti-submarine warfare is a reality. There have been suggestions that China will invade Taiwan within five years. Such action should warrant an overwhelming response by western nations. The question for Canada is: will the RCN be capable of contributing with a self sufficient, globally deployable, well armed Task Group capable of contributing to the allied effort? Regrettable for at least the next ten to fifteen years, the answer will be, no.

Regarding the Government's upcoming budget cuts, all I ask is that, as our naval capabilities continue to decline, when considering cuts to the defence budget, the Government of Canada heeds that old adage, "don't throw the baby out with the bathwater", and avoid the cautionary tale, "Nero fiddled while Rome burned".

HMCS MONTREAL conducts a PHOTOEX with United States Ship (USS) Chung-Hoon while on Operation PROJECTION on 30 May 2023.(Photo Connor Bennett,CAF)

Halifax Shipyards (Image from ISI)

Canadian Warship Growth & Costing

A Matter Of Context

Norman Jolin

As Canada moves forward with its naval recapitalization, much ink has been spilt on warship designs and capabilities. While these tangible issues are obviously important, a major procurement lives and dies on more than numbers and industrial capacity. In a democracy, public support is critical. How Canadian governments have sold its naval building program is therefore an important consideration, and one rarely examined. Unfortunately, warship procurement in Canada continues to generate negative media attention, which tends to paint a rather dire picture to the uninformed general public. While the Fourth Estate is necessary to any democracy as a check to government, it also has a duty to provide balanced and accurate reporting. Regrettably in today's insatiable demand for instant information, balanced articles on defence are becoming increasingly rare. Few national reporters take the time to research and present a complete picture and instead have skewed towards the cherry-picking of facts to generate salacious headlines without looking at the history behind these numbers and the reality of warship construction.

The Canadian Surface Combatant (CSC) project is case in point. As the most expensive project in Canadian history, the CSC project cost estimates will likely continue to grow and the numbers will be sobering. Yet, this is not new, and the situation needs to be put into context. In simple terms, the CSC project today is where the Canadian Patrol Frigate (CPF) project – of 12 Halifax-class frigates – was in

1985, it is just that roughly 40 years later no one remembers how the now ‘venerable’ Halifax-class was, at the time, seen to be too big and too expensive. Notwithstanding the negative press that the project initially generated, by the time the entire class of ships entered service in 1996 the production costs were judged to be reasonably competitive with other nations, the frigates had generally exceeded both marine and combat systems characteristics of contemporary ships and the ships themselves had received positive international recognition from several expert sources.[1] Since then, media reporting of the ships has been usually positive, making them in effect “un-newsworthy.” To put the new warships into context it is worth briefly looking at post-war warship development and procurement in Canada.

In the 1950s the RCN started replacing its wartime fleet with the St. Laurent-class destroyer escorts, where between 1955 and 1964 some 20 ships of this baseline design were delivered.[2] As a median, in 1960 a Restigouche-class destroyer escort displaced 2,400 tons and cost $26 million, a rather substantial sum of money at the time.[3] Built with a 25-year design life, these ships served Canada well into the 1990s, with most ships significantly exceeding 30 years of service, when they were eventually replaced by the Halifax-class frigates.[4]

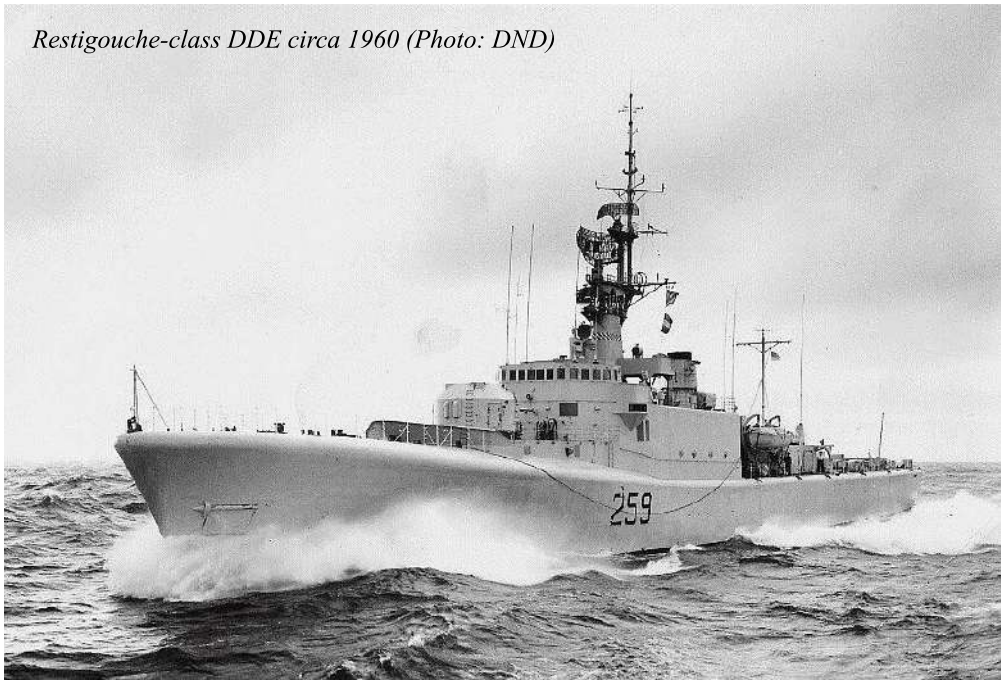
In 1992 a Halifax-class frigate displaced 4,800 tons and cost $437 million each in a total class of 12 ships which were delivered to Canada between 1992 and 1996.[5] These ships were built with a 30-year design life, and all are now at, or nearing, end of design life, with the anticipation of running the class into the 2040s as the CSC enter service.

Projected to enter service in the early 2030s, a CSC is now expected to displace more than 10,000 tons fully loaded and the last total project cost estimate (2017) was $60 billion for 15 ships, which is roughly $2 billion per ship (plus associated project costs). Six years later, these costs projections are expected to rise.

At this point it is worth clarifying what ‘costs’ mean in Canada, as there are many misconceptions, particularly when compared to media reports of foreign build costs. In Canada acquisition projects must report total project costs, which are all the costs associated with a project, not just the sail away cost of the ships themselves. In the case of the CSC project, it is worth quoting directly from a 2017 Public Services and Procurement Canada response to the CSC Request for Proposals:

> It is important to note that a warship project budget must cover more than just delivering the ships. It must also include the costs associated with design and definition work, infrastructure, spare parts, training, ammunition, contingencies and project management. Typically, the acquisition of the ships themselves only represents about 50-60% of the project’s overall budget. As

Restigouche-class DDE circa 1960 (Photo: DND)



> well, any prices cited without the context of applicable terms and conditions as indicated in the RFP (such as scope of work, divisions of responsibilities, intellectual property rights, warranties, limitations of liability, indemnities, etc.) are effectively meaningless.[6]

This is a well-defined metric, as in the case of the Canadian Patrol Frigate project, the 12 Halifax-class frigates accounted for 47% of the total project cost, as published in the July 2005 project report.[7] The point being, ship costs are roughly half of the total project costs. This is not news and should be reflected in responsible Canadian media reporting. Regrettably it is not.

So, what does this say? In Canada we build warships in batches with many decades between each building programme, and then we run them well beyond projected service life, because we can, as they are designed for Canadian requirements and well built. Unlike nations that run continuous build programmes (e.g. the USN), historically the extended time interval between Canadian build programmes sees the ships double in displacement and the costs multiply, which illustrates how warships are constantly evolving and, with over 40 years between build programmes, it should be anticipated that there will be significant change in size and cost from legacy fleets. To put this another way, at this stage of the CPF project the average home price in Toronto was $109,000; it is now $1,141,400 (a 10x increase). For a similar comparison, a Ford F-150 truck started at $8,400 in 1985 and now starts at $44,000 (a 5x increase).[8] Thus, one would think it reasonable to expect a fairly dramatic, and similar, change in warship costs over forty years.

There is also the misconception of size that invariably raises questions. Worldwide, the size of ships has grown over the decades, and for good reasons. I recall the introduction of the Halifax-class and the comment that it was the displacement of a light cruiser during the Second World War, and I am sure that, with a displacement of over 10,000 tons, the CSC will be compared to a war-time heavy cruiser. What comparisons like this miss is: why? Specifically, ships that will be in service for the majority of this century must account for many new developments.

To begin with, sensors are increasingly power hungry and demand more space for power generation and cooling. There is also the impact on ship stability, as sensors invariably need to be as high in the ship as

Halifax-class Frigate (Photo: DND)

possible. A ship also has to have a built-in growth margin as combat systems suites evolve over the life of the ship.

Weapons systems have also evolved, with a greater emphasis on missiles, which translates into more space required for missile launchers as modern missiles cannot be replenished at sea. Having more missile tubes is both an offensive and defensive necessity as today's (and tomorrow's) threats are and will be missile based.

Habitability is critical to crew recruiting and retention. A 1960 Restigouche-class DDE had large messdecks (in fact two messdecks accommodated 50 sailors each), the 1990s Halifax-class FFH reduced the size of the largest messdecks to 20 persons, but 21st century crews are looking for better personal accommodation and facilities, such as gyms and other recreational spaces. All this takes up space, which demands a bigger ship.

These requirements are not unique to Canada. The CSC is a derivative of the BAE Global Combat Ship (GCS) design and, contrary to inaccurate reporting, is not a UK Type 26 frigate. The UK is using the GCS design for their Type 26 frigate and because they are not fitting a long range phased array AESA radar and an AEGIS combat system the British ship is significantly smaller in displacement.[9] The Australian Hunter-class frigate is also a derivative of the GCS and, like the CSC, it will be fitted with a long range phased array AESA radar and AEGIS combat system, and the size of the ship is projected to be similar to that of the CSC.[10] Notably, the USN is developing a next generation destroyer as the 9,800 ton Arleigh Burke-class destroyer has no growth margin remaining and will need to get bigger. Both Japan and South Korea are building destroyers in excess of 10,000 tons and all these ships have large phased array radars with AEGIS. This is the new normal for blue water frigates and destroyers. It begs the question: what is in a name?

Today, few would call 5,000 tons displacement for a modern frigate excessive but in the mid-1980s, when the Halifax-class was designed, many considered it to be so. The fact is that modern warships are built around fitted weapons systems, which must allow for growth over the life of the platform – normally in excess of thirty years. Designers must address the question of what the likely requirements will be forty years hence, as the time span from design decision to the first operational ship is about ten years. This means that warship designers are looking at the 2060s, not the 2030s. In short, one cannot know the displacement size of the ship until the design is complete and that design must allow for the predicted service life. Those that served in the St. Laurent-class DDEs (1950s -1990s) will recall how the ships were unable to effectively defend themselves in a multi-threat environment, particularly air defence. The Halifax-class frigates addressed this by designing the ship around a modern integrated combat system with a proportionately larger ship to support the fitted systems. Forty years later, at the end of their designed lives, these ships continue to hold their own – this speaks to the foresight and determination of Canadian naval leadership in the 1980s.

The Canadian Surface Combatant project is arguably the jewel in the crown of the National Shipbuilding Strategy (NSS) which was designed to end the boom-and-bust cycle of naval contracts faced by Canadian shipyards. A decade after the announcement of the NSS, and years beyond the CSC contract award, there are still pundits that cannot accept the results of this competition. Regrettably, these pundits are determined to derail the project with misleading, and at times disingenuous, opinion pieces. While everyone has the right to their opinion, media reporting on something of this magnitude should be balanced and based on openly available facts.

The Canadian Surface Combatant represents the largest procurement in Canadian history and, in fairness to the media, communication has not been this project's strong point. As major fleet replacement is a generational event in Canada, there needs to be much greater communications from government to avoid misconception and clarify false or misleading reports, otherwise the inevitable negative rhetoric will follow. The cost of these ships is great, but direct comparisons to other platforms, whose costs are often calculated very differently is an exercise in comparing apples and oranges. Likewise, failing to understand and report on the dynamics of project costs versus ship costs, or the impact of inflation and systems growth, results in analysis that is lacking in vital context. Overstretched and understaffed, Canadian news agencies can be forgiven for looking for easy answers, but in shipbuilding those are few and far between. The subject is complex and pretending otherwise does a disservice to Canadians.

Notes

[1] Canada, DND, Report on Canadian Patrol Frigate Cost and Capability Comparison (Chief Review Services), Ottawa, 26 March 1999, p.3.

[2] Derivatives were: St-Laurent (7), Restigouche (7), Mackenzie (4) and Annapolis (2)

[3] At the time Canada conformed to US Navy practice of designating this class of ship as a destroyer escort (DDE), whereas other NATO navies designated this class of ship as a frigate (FF). Canada subsequently returned to this classification designation with the Halifax-class frigates (FFH).

[4] e.g. HMCS *Terra Nova* was in active service for 38 years

[5] the total project cost of 12 Halifax-class frigates was $9.3B of which 47% of total project costs was the ships themselves.

[6] 2017 Update on the Canadian Surface Combatant Request for Proposals, available here.

[7] Canada, DND, Canadian Patrol Frigate Project Completion Report (DGMEPM), Ottawa, 27 July 2005, p.39. For an excellent overall summary see: Eric Lerhe, Vimy Paper 32.

[8] The Canadian Magazine of Immigration, available here.

[9] AESA – Active Electronically Scanned Array, available here. AEGIS combat system, see here. The UK is fitting their Type 26 frigates with a legacy Type 997 Artisan radar which is a medium range radar currently used on the in-service Type 23 frigates. See here.

[10] Australia is fitting their Hunter-class frigates with the long range CEAFAR active phased array radar. See here.

Capt(N) [Ret'd] Norman Jolin served 37 years in the Royal Canadian Navy with the majority of his career at sea in both ships and submarines, culminating in the command of HMCS Montréal. He was a member of the Directing Staff at the Canadian Forces College and later the Branch Head for Exercises at NATO's Strategic Transformation Command in Norfolk Virginia. Subsequently he served as the Naval Adviser to the UK and Defence Attaché to Denmark and his final service appointment was as a member of NATO's International Military Staff in Brussels Belgium. On retiring from naval service, he set up a private consulting firm and, in 2017, he joined CFN Consultants as the associate specializing in support to acquisition projects for the Royal Canadian Navy and the Canadian Coast Guard.

Special Section

Watching the Arctic

USS Skate in the Arctic in 1962 (Photo: US Arctic Submarine Laboratory)

Arctic Maritime Defence has to be a Joint Effort

Adam Lajeunesse

In the wake of the 2022 Russian invasion of Ukraine the subject of Canada's Arctic defences has once again jumped to the fore in defence circles. Indeed, the threat seems just over the horizon – both literally and figuratively. A recent Senate report recommended a greater focus on Arctic underwater domain awareness and response to underwater threats with a plan for expeditiously replacing Canada's existing submarines with submarines that could operate better in the Arctic.[1] This call for Arctic-capable submarines was matched by a public opinion poll in which 51% of Canadians (amazingly) supported the acquisition of nuclear submarines to defend the region.[2] In an August editorial, James Stavridis, a retired U.S. Navy admiral and the former supreme allied commander of NATO, called Canada out for its defence parsimony, and specifically pushed for a Canadian SSN program given that "the reality is that both Russia and China have global ambitions in the Pacific, Atlantic and the Arctic."[3] A slew of opinion pieces and expert testimonials have followed this same trend: a more assertive approach to Arctic defence is needed.

Yet, as in all areas of defence and security Canada seems torn between competing priorities. There is naturally the urgent requirement to push back against authoritarian aggression and rebuild national defences. Addressing the House of Commons in March 2022, Finance Minister Chrystia Freeland delivered what the media called a wartime speech, insisting that "we know that freedom does not come for free, and that peace is guaranteed only by our readiness to fight for it."[4] In spite of this rhetoric, seventeen months later, little extra funding has arrived at the Department of National Defence – where Minister Freeland is now looking for budget cuts.

While Canada does need to refocus on its Arctic defences, the idea that it can – or even should – go it alone must be dispensed with. A strictly national approach to Arctic security may satisfy sovereignty sensibilities but it is neither the most efficient path forward, nor an affordable one. The defence of the Arctic waters has long been done in partnership with the United States and, as the country's defence requirement go up, and government spending down – Canada must rebuild that partnership to get both the best result and value.

The More Things Change, the More they Stay the Same

The need to watch the Arctic waters for hostile intrusion is nothing new. The March 2023 discovery of a Chinese buoy in Canadian waters echoes similar Cold War fears of Soviet intrusions. Throughout the 1970s and 1980s – as today – politics played an

important role in how this threat was addressed, at least in public. Sovereignty crises in 1969 and 1985 – with American vessels transiting the Northwest Passage without requesting Canadian permission – provoked a backlash against cooperation and a desire for unilateral action, that meant CAF deployments to 'show the flag' and an aversion to involving the US or NATO in the region's defence. Indeed, that aversion lives on well into the 21st century.

While it is true that the legal status of the Northwest Passage remains in dispute, the politically driven, unilateral approach to Arctic maritime defence is not the best path forward. Nor has it ever really been the way Canada has done business. Behind the sovereignty rhetoric and the political battles of the Trudeau (the elder) and Mulroney years, Arctic defence has actually been deeply integrated and defined by cooperation rather than competition.

Canadian governments started to feel the need to monitor the Arctic waters for hostile intrusions as far back as the 1960s. The arrival of nuclear powered submarines meant that the Northwest Passage was open to Soviet incursions, particularly missile-firing SSBNs or attack submarines transiting to the Atlantic. While sovereignty sensibilities precluded close and open cooperation with the Americans, the reality was that Canada could not watch these waters alone. By the end of the decade, the Defence Research Establishment(s) Pacific and Atlantic (DREP/DREA) were conducting some of the first experiments with Arctic detection systems at strategic choke points in the Arctic Archipelago. While Prime Minister Trudeau fought with President Nixon over the status of the Northwest Passage, the military was working with the US Underwater Sound Laboratory, the US Naval Ordinance Laboratory, and the US Naval Underwater Weapons Research and Engineering Station to perfect their listening buoys.[5]

In April 1970, as the American supertanker SS *Manhattan* was beginning its second controversial voyage through the Northwest Passage and diplomats were still arguing over the legality of the new Arctic Waters Pollution Protection Act, defence cooperation

USS Hartford (Source: US Navy)

was actually expanding. The RCN and DREA were deploying listening systems from McClure Strait to the Labrador Sea and from Davis Strait to Baffin Bay to measure ice drift and under-ice ambient noise.[6] To the north, the DREP was also working on a trial detection system in Robeson Channel.[7] All of this was done in partnership with American labs and defence agencies and continued until the end of the Cold War.

Cooperation in Arctic monitoring was naturally connected with a close partnership on Arctic submarine deployments. While the routes and missions of American SSNs were never fully disclosed, records show an extraordinary degree of cooperation, just beneath the surface. US transits of Canadian waters were relatively infrequent but, when they were undertaken, the most common task listed (aside from survey work) was the testing of Canadian under-water detection systems. The first American voyage in Canadian waters since the early 1960s appears to have taken place in 1977, when the USS *Flying Fish* conducted operations in the Arctic Archipelago.[8] While complete records of this operation are unavailable, one of that boat's missions was listed as providing services to Canadian ASW research personnel in Barrow Strait and to acoustic research studies in the Kane Basin.[9] Whatever the details of its mission, it must have been important since *Flying Fish* was awarded a Navy Unit Commendation for having made "a unique contribution to Arctic knowledge."[10]

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By the 1980s this cooperation had become more formal (if still secret). In 1981, Canada was involved in a joint 'Canada-UK-US' submarine exercise, labeled SUBICEX 1-81. One of the participating American boats, the USS *Silversides*, was tasked with providing "a realistic target for the Canadian sensor system in the Canadian archipelago, which is designed to interdict submarine infiltration from across the polar cap."[11] In 1983 the USS *L. Mendel Rivers* was again testing what were described as acoustic sensors in Nares Strait and magnetic sensors in Barrow Strait, the same areas where *Flying Fish* had provided research support four years earlier. That year, American defence scientist, Waldo K. Lyon, cited this capability in a report, stating that the Canadian defence establishment was currently operating acoustic and magnetic sensors in chokepoints in certain key passages "which have been tested against U.S. submarines many times."[12] Lyon even assumed their integration into the US command structure in the event of a war.

From 1960 to 1985 (when all available records end), there were a total of nine American SSN operations in Canadian Arctic waters. Records indicate that the majority (and perhaps all) of these were undertaken with the full knowledge, concurrence, and participation of the Canadian government. The USS *Seadragon* and *Skate* (1960 and 1962) requested concurrence to transit the Northwest Passage[13] and Canadian Commodore O.C. Robertson was invited aboard both *Seadragon* and *Sargo* when they entered Canadian waters. The next submarine in the Canadian Arctic was likely USS *Flying Fish* in 1977 and its activities in Canadian waters actually appear to have been undertaken at the request of the Canadian government. In a message to the Commander of the Atlantic Fleet, offering details of the operation, the boat's presence in the Barrow Strait was said to have been made "in accordance with the Canadian request for services."[14] The next SSN in the Canadian Arctic was the USS *Archerfish* in 1979. This mission was a cooperative venture and officially labeled a joint "Canada-UK-US" exercise. On its northbound passage through the Labrador Sea and Davis Strait it engaged in war games with Canadian Forces aircraft and HMCS *Ojibwa*. The second such three-nation-exercise was undertaken in 1981 when the USS *Silversides*, as already mentioned, provided detection services to Canadian arrays. Two years later, the USS *L. Mendel Rivers* undertook similar duties, testing magnetic sensors in the Barrow Strait and acoustic devices in the Nares Strait.[15] By the end of the 1980s Canadian defence scientists were studying detection systems with a reach that extended into the Polar Basin – with bases on Ellesmere Island and US SSNs serving as guinea pigs.[16]

Sovereignty or Security?

Canada's track record of defence cooperation in the Arctic maritime realm is extensive, if not commonly understood. Indeed, these operations were typically hidden from the public, both because of sensitivities surrounding submarine detection and because of the political price that a government would have to pay if it was seen 'weakening' its Arctic sovereignty through cooperation. In 1985, when the USCG icebreaker *Polar Sea* transited the passage, Jean Chrétien (then in opposition) declared that this was "part of the cronyism between Brian Mulroney and the Americans." Chrétien went on to say of Mulroney: "[h]e goes on his knees all the time."[17] Despite that heated concern, is there really any truth to the widely-held assumption that working with the American damaged – or could damage – Canadian sovereignty in the Arctic? Almost certainly not.

These sovereignty fears stem, in part, from a misplaced sense of insecurity in Canada over its position in the North, as well as a poor understanding of the link between sovereignty and defence cooperation. Over the course of the Cold War, the Department of National Defence studied the issue extensively and, as early as 1971, concluded that working with the Americans had no impact on Canadian sovereignty. Nor, in their view would an American submarine transit establish any kind of right of passage.[18] In a more recent study of the issue, political scientist Rob Huebert's examination of International Court of Justice records showed no examples of a state using a secret voyage as a precedent for freedom of navigation. Huebert explains that international tribunals can only base decisions on evidence that is publicly acknowledged or declassified. As state secrets, submarine voyages

would have no such standing.[19]

If the fact that Canada knew about the transits removed the secret nature of the operations then a case would have to be made that they were being undertaken without Canadian consent. Yet, these voyages were being undertaken with Canadian concurrence and even cooperation. These operations were part of the decades long joint continental defence effort and were no more likely to establish a right of international navigation than the Distant Early Warning (DEW) Line resupply voyages or icebreaker expeditions of the 1950s.

Like those icebreaker missions, American submarine operations were also covered – and are still covered today – by pre-existing joint defence arrangements. In 1952, the Permanent Joint Board on Defence (PJBD) decided that it needed to streamline and simplify the notification process for Canadian and American warships engaged in continental defence. Vessels often travelled into the waters of the other state and constant diplomatic applications for clearance were considered both unnecessary and inefficient. As such, the PJBD established simpler rules for naval clearance in the form of Recommendation 52/1:

> In the interests of the security of the northern part of the Western Hemisphere, Canada and the United States should make provisions to ensure that public vessels of either country engaged in matters of concern to mutual defence should be able to visit ports or territorial waters of the other country, or its possessions, with a minimum of formality. [20]

To ensure that this was the case, the PJBD stipulated that, while diplomatic visits should continue to be coordinated through diplomatic channels, "informal or operational visits" would require only "advanced notification through service channels."[21] Since American submarine transits are engaged in matters of mutual defence, and clearly operational and not diplomatic in nature, there is no need for a formal

diplomatic request and no need for Ottawa to grant any formal permission.

Don't Reinvent the Wheel

As Canada looks towards a defence policy update, it will invariably pay more attention to the Arctic. Emerging Chinese interests and increased Russian activity in the region makes that inevitable. Yet, notions of how the country should enhance its defence in the region has long been more closely aligned with nationalist sentiment and sovereignty concerns than a realistic understanding of threats, capabilities, and alliances. Building an all-Canadian Arctic maritime defence is possible but would require considerable resources – resources which are badly needed elsewhere. In any fight against a peer competitor, Canda and its NATO allies will invariably find themselves fighting a global conflict and the Arctic is not likely to be a centre of gravity in such a war. A nationalist, unilateral, focus on Arctic defence would not only be inefficient, it would ignore the decades of cooperation between Canada and the United States (and to a lesser extent Great Britain) in the North; cooperation which has been effective at leveraging each partner's assets towards a common objective.

While the Arctic may not be the focal point for any future conflict, it must still be defended. As Russia – and perhaps China – build and expand their Arctic maritime presence, Canada should look to these effective (and cost-efficient) partnerships as a template for the future. It is probably safe to say that Ottawa will never approve the acquisition of SSNs, which means that American or British vessels will continue to play a role in the defence of the Canadian Arctic. These vessels will have to be supported by fixed listening systems and Canada has spent years redeveloping that capability. Again, working with the Americans to leverage their capabilities is common sense.

Shifting Canadians conceptualization of Arctic defence will become increasingly important. Most of Canada's effective Cold War defence arrangements were kept secret out of concern that the Canadian public would label them a sacrifice of sovereignty. Yet, the very purpose of an alliance is to allow each member to leverage the capabilities of the other for mutual benefit. Canada's presence in Latvia does not diminish Latvian sovereignty, nor do American airbases in Germany or Japan render those states less sovereign. The defence of the Canadian Arctic will become increasingly important and complex in the years ahead and Canada must dispense with the notion that it can be undertaken unilaterally. The country's sovereignty insecurities of the past must be put aside to share the costs of Arctic defence with our willing partners.

Notes

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[2] David Baxter, "How do Canadians view the military? Most see it as 'old and antiquated,' poll finds," *Global News* (August 4, 2023).

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[6] Defence Research Board Progress Report, December 31, 1970, LAC, RG 112, vol. 29804, file 170-80/A6, pt.12.

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there exists no direct reference of the boat operating in Canadian waters; NHH, Waldo K. Lyon Papers.

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[11] PJBD, Journal of Discussions, 160th meeting, October 20-23, 1981, DHH, 82/196.

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[18] Letter from Deputy Minister of National Defence, E.B. Armstrong, to the Minster of National Defence, February 8, 1971, DHH, 85/333.069.080.

[19] Rob Huebert, "US Subs do not Threaten our Sovereignty," National Post (December 21, 2005), p. A16.

[20] PJBD Recommendation 52/1, NARA, RG 59, General Records of the Department of State, PJBD Subject File 1940-59, box 6.

[21] Ibid.

USS Hartford at the Arctic in 2016 (Source: US

HMCS HARRY DEWOLF at Crocker Bay during NANOOK-NUNAKPUT (Photo: Simon Arcand, CAF)

We are Arctic: Expanding NATO Participation in Operation Nanook

Cate Belbin

Canada is an Arctic nation and has a responsibility to ensure the security and defence of the region, as a fundamental expression of sovereignty. Politically, Canadians have long looked with suspicion at any foreign presence in the region, and even at American defence support. Yet, defence of the region is becoming more complex and the leveraging the capabilities of Canada's alliance partners is becoming increasingly important. While there are uncomfortable politics inherent to this decision, circumstances demand that Canada lean more heavily on its NATO partners to counter emerging threats from an increasingly hostile collection of authoritarian adversaries.

Six (soon seven) of the Arctic nations are or will be NATO member States and, in the face of Russian aggression in Ukraine, Canada must begin to look not only to its own defence but to lead in the Arctic more broadly. This is a long-term project, but this article will examine one achievable, short-term option to begin this process. A clear first step would be to incorporate NATO into the existing framework of Canada's Operation *Nanook*, Canada's signature annual joint and combined Arctic sovereignty and security exercise. This would achieve several objectives; it would ameliorate concerns that NATO Allies may have vis-à-vis Canada's burden sharing responsibilities as well as generating improved interoperability in an area where collaboration is more important than ever. In the past, Canada has invited American, French, British, and Danish Allies to participate in *Nanook* but there is increasing interest amongst other non-Arctic NATO Allies and partners to expand their presence in the region – more so than ever as Russia reemerges as a serious defence threat.

Welcoming more NATO participation into *Nanook* will be a cost-effective measure of ensuring security and defence of the North American Arctic, bringing new resources, such as nuclear attack submarines and AWACS (Boeing E-3 Sentry), that would significantly increase joint capabilities. Within this framework, Canada should also be leveraging existing infrastructure and capabilities, which include, but are not limited to Canada's Arctic and Offshore Patrol Vessels ('AOPVs') and the CP-Aurora anti-submarine warfare and surveillance aircraft, in concert with the NATO AWACS and drones.

There is certainly a NATO interest in Arctic deployments. As recently as August 2022, NATO Secretary General Jens Stoltenberg visited the Canadian Arctic and reiterated to Canadian Prime Minister Trudeau, the importance of the region for Euro-Atlantic security. Stoltenberg reiterated the

purpose of NATO as a defensive alliance, and the importance of the preservation of peace, but did not hide the reality facing the Arctic – there are emerging tensions because of the melting ice, geopolitical conflicts, and increased aggressive posturing from adversaries. Russian aggression is an obvious problem, but so too is China's growing interest in the region. Pursuant to NATO's Strategic Concept, China is currently labelled as a 'challenge,'[1] and this extends to their potential (and emerging) reach north of the 60th parallel. Stoltenberg pointed to China's unilateral identification as a 'near-Arctic State', the issues connected to China's 'Polar Silk Road', and the rapid expansion of the Chinese Navy as illustrating China's intentions in the North, as well as observing Moscow and Beijing's growing cooperation on matters in the Arctic.[2]

Managing adversary activity in the Arctic will naturally be an alliance responsibility, and that alliance is expanding. The admission of Finland into the Alliance, and soon Sweden, will only strengthen NATO's defence posture in the Arctic and therefore necessitate greater engagement from the Alliance in Arctic governance, security, and defence. As such, NATO views exercises as important tools to test the Alliance, as well as to validate the Alliance's concepts, systems, tactics, and procedures.[3] These exercises are designed to test the capabilities of military and civilian organizations, deployed to various theatres of operation, and work together during a crisis.[4] Given the changing geopolitical and security environment in the Arctic, and NATO's resolute commitment to the defence of every inch of Allied territory, NATO involvement in *Nanook* may allow for greater expressions of strength and unity,

deter aggression from adversaries, and continue to keep NATO member States citizens safe, especially in the Arctic region.

The need for greater surveillance in the Arctic is also clear. In *Strong, Secure, Engaged*, the government noted that "in North America, Arctic surveillance poses particular challenges. In addition to being a vast, sparsely populated area, satellite coverage at extreme northern latitudes and the nature of the polar ionosphere creates unique issues for sensor and communications capabilities."[5] Canada needs Joint Intelligence, Surveillance, and Reconnaissance solutions that are specifically tailored to the Arctic environment and American and Scandinavian partners can clearly support the CAF in this regard. *Nanook* is the obvious vehicle for that partnership.

Each year, Canada undertakes four expeditionary deployments to the Canadian Arctic, each with a different objective. *Nanook* has been taking place annually since 2007, and the four annual deployments include:[6]

1. Operation *Nanook-Nunalivut*: High Arctic conditions are utilized to sustain forces, test new capabilities, and interoperability.

2. Operation *Nanook-Tatigiit*: This operation is a 'whole-of-government' response, which involves addressing key threats identified by the territorial governments of Canada.

3. Operation *Nanook-Tuugaalik*: Focused upon the RCN and their ability to demonstrate presence patrols and undertake surveillance of the North alongside Allies and partners.

4. Operation *Nanook-Nanakput*: Increasingly focused upon the Northwest Passage in cooperation with identified mission partners.

It is into this framework that more NATO participation can be explored. To begin with, Operations *Nanook-Tuugaalik* and/or *Nanook-Nanakput* would be best placed to accommodate NATO participation. Indeed, there is precedent: the United States, France, and Denmark all participated in this exercise in 2023. These operations are well suited to NATO since they are more focused upon the maritime domain, with expanding participation of high-end aerospace assets. NATO AWACS and/or NATO drones would be valuable additions.

Operation *Nanook-Nunalivut* also offers opportunities for NATO involvement. This deployment is analogous to Norway's Exercise *Cold Response*. However, it should be noted that Norway's lead is taken in the European Arctic, which presents different, unique challenges than those seen in the Canadian Arctic. In particular, this exercise offers an opportunity to harmonize Exercise Cold Response and integrate a similar structure and/or framework into *Nanook* in the North American Arctic on alternate years.

One of Canada's current Arctic weaknesses is aerial surveillance. The North Warning System requires replacement and Canada still cannot monitor all the airspace that falls within its Air Defence Identification Zone ('ADIZ'). NATO capability can help. NATO currently has fourteen AWACS aircraft that can be operated around the world. The AWACS are unique, as they are an asset owned by NATO itself. Their radar range can exceed 400 kilometres, providing an ideal platform for the detection of air and/or surface contacts over vast distances.[7] The participation of the AWACS in *Nanook* may provide a notable opportunity to better understand the Canadian Arctic as a multi-domain operation.

There is precedent for an AWACS aircraft being used in the European Arctic, with Arctic Challenge Exercise ('ACE') in June 2023.[8] The ACE is part of Nordic Defence Cooperation (NORDEFCO), which involves the joint training of personnel between Norway, Sweden, and Finland, and is explicitly not a NATO exercise, but is led by NATO ally Finland. *Arctic Challenge 2023* engaged Belgium, the Netherlands, the United Kingdom, the United States, Italy, Canada, France, Germany, Switzerland, Denmark, the Czech Republic, and NATO via the AWACS.

Analogous to the ownership regime of the AWACS, NATO also owns five Alliance Ground Surveillance ('AGS') aircraft (NATO RQ-4D "Phoenix" remotely piloted aircraft), stationed at the AGS Main Operating

HMCS MARGARET BROOKE, HDMS TRITON , FS RHONE, HMCS GOOSE BAY, UNITED STATES CUTTER COAST GUARD BEAR, and CCGS LEONARD J. CROWLEY during Operation NANOOK,August 6th, 2022 (Photo: Cpl Kuzma, CAF)

Base in Sigonella, Italy. These are drones, and can provide "state-of-the-art Intelligence, Surveillance, and Reconnaissance (ISR) capability to NATO."[9] The AGS aircraft can provide real-time situational awareness to deployed forces and can be utilized for a wide array of mission parameters, such as maritime safety, crisis management, and humanitarian purposes. The AGS system allows NATO to undertake "persistent surveillance over wide areas from the high-altitude, long-endurance ('HALE') aircraft, and can operate in any light and/or weather condition.[10] The primary function of this aircraft is to perform the HALE intelligence, surveillance, and reconnaissance, and has a range of 8,700 nautical miles (or 16,113km).[11] This aircraft can stay airborne for more than thirty hours at a time, and as such, it stands to reason that this drone capability may help improve North American Arctic situational awareness with respect to intelligence, surveillance, and reconnaissance.

During *Nanook*, the AWACS and/or AGS aircraft may be best suited to deploy on *Op Nanook-Tuugaalik*. This Operation is focused on the Royal Canadian Navy and its ability to demonstrate presence patrols and undertake surveillance of the North "alongside Allies and partners."[12] Canada may be able to utilize NATO airborne Intelligence, Surveillance, and Reconnaissance platforms in the Canadian Arctic, and while Op *Nanook-Tuugaalik* appears to be focused upon the maritime domain, there is a strong argument in favour of the nexus between surveillance, the aerial domain, and the maritime domain, especially because this proposal revolves around multi-domain situational and positional awareness.

While NATO air assets are important, so too are under-ice capabilities. Canada has no under-ice capabilities; an increasingly important gap as Russian (and perhaps Chinese) vessels use these waters. The United States, the United Kingdom, and France possess nuclear submarine capability and these assets should be folded into Arctic operations more comprehensively. While Sweden is not yet a NATO ally, its submarine capabilities are noteworthy. For example, Sweden's A-26 Blekinge Class submarines have a specific design feature that makes them ideal for covert operations, such as use in intelligence gathering.[13] While these are not nuclear submarines, they offer a unique capability from an Arctic ally with respect to intelligence, surveillance and/or reconnaissance, and offer Sweden a role in *Nanook*.

Again, there seems to be interest in this kind of cooperation. For Operation *Nanook-Tuugaalik 2023,* the United States dispatched USS *San Juan* (SSN 751), a Los Angeles-class fast-attack submarine, to travel alongside HMCS *Harry DeWolf*. If Canada is to rebuild its Arctic deterrence a submarine capability – working in combination with Canadian surface assets and listening systems will be essential. Redeveloping a working relationship, like that built up during the Cold War (as discussed by Adam Lajeunesse in this edition), will be essential, and *Nanook* is a good place to start.

Conclusion

Nanook has long been viewed as a purely domestic operation; however, growing regional and global security challenges are forcing a re-evaluation. This article has proposed tying together Canadian and

broader NATO exercises and assets and adapting them to fit within Canada's established *Nanook* framework. Adding NATO assets and partners to *Nanook* would build greater situational awareness, enhance interoperability and operational effectiveness, reinforce the capacity of partners, and exchange lessons learned and best practices, all of which is explicitly called for in *Strong, Secure, Engaged*.[14] All the while, it would allow Canada to illustrate its [stated] resolute commitment to the NATO Alliance.

Notes

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[3] North Atlantic Treaty Organization ('NATO'), "NATO Exercises" (July 27th, 2023) online (NATO Article).

[4] Ibid.

[5] Government of Canada, "Strong, Secure, Engaged: Canada's Defence Policy" (2017), p. 64, online (National Defence Policy Document).

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[9] North Atlantic Treaty Organization ('NATO'), "Alliance Ground Surveillance (AGS)" (September 4, 2023) online (NATO article)

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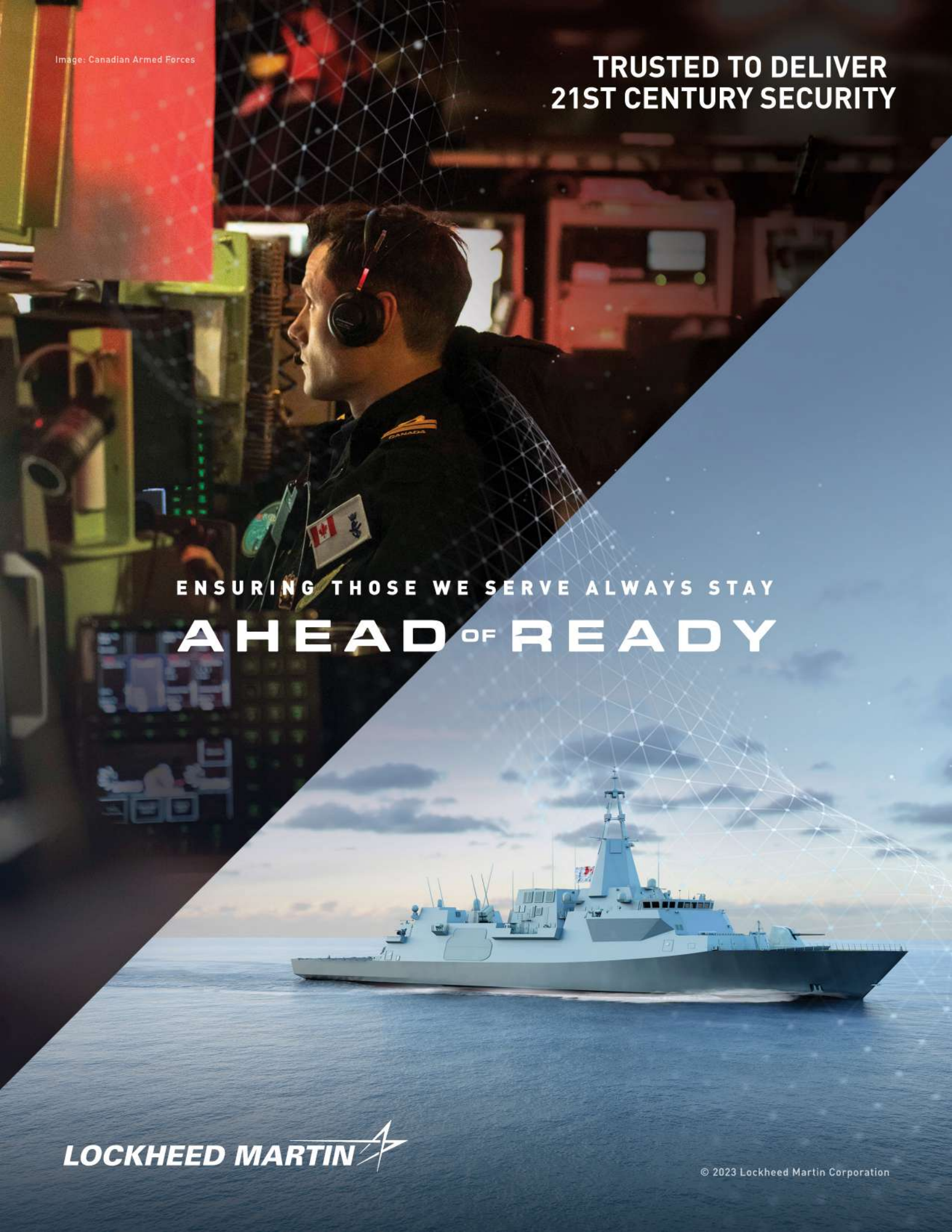
[11] Ibid.

[12] Government of Canada, *supra* note 5.

[13] H. Sutton, "Sweden's A-26 Submarine Creates New Possibilities For Seabed Warfare" (November 16, 2022) online (news media resource).

[14] It is further stated in *Strong, Secure, Engaged*, that Canada [will] 'To enhance the CAF's ability to operate in the Arctic and adapt to a changed security environment, the Defence team will: 'conduct joint exercises with Arctic allies and partners and support the strengthening of situational awareness and information-sharing in the Arctic, including with NATO (Government of Canada, *supra* note 15 at p. 80).

Cate received her B.A. from Trent University, her J.D. from Griffith University, and her LLM from Queen's University. Her LLM thesis focused upon her passion for the Canadian Arctic, where she investigated Arctic sovereignty issues under the Law of the Sea'. She would like to offer her sincere gratitude to all who assisted with this article, Dr. Adam Lajeunesse, Aleksi Kajander, and Commander Davide Giovannelli.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Xue Long (Image: Wikimedia)

China is on a Relentless Mission to Control Canada's Arctic Waters

Rob Huebert

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Ever since an icebreaker called *Xue Long* arrived in Tuktoyaktuk, NWT, in 1999, Canadians have been curious about China's interest in the Canadian Arctic. While some observers view China's presence in the region as benign, even benefiting Arctic science and research, recent Chinese actions and announcements are pointing to Beijing's determination to have a military capability in the region that will exceed that of Canada.

China has already developed the ability to deploy underwater listening devices that can be used to track American and other allied submarines in the Arctic, and in about two years the country will have deep-diving submersibles that can be used in those waters. So, unlike Canada, they will be able to listen to what is happening under the ice cap and will have the ability to deploy assets there accordingly.

Earlier this year, there was major news-media coverage of a series of Chinese high-altitude balloons (HABs) that flew over North American airspace, as well as Chinese monitoring buoys that floated (or were deployed) into Canadian waters.

What has not received as much attention is a research paper, published in 2021, in which Chinese scientists explain their success in developing Arctic-resilient underwater listening systems. The paper says the listening systems are for peaceful purposes, but the actual ramifications of the HABs, buoys and research systems are inescapable. China is refining its means of monitoring the Canadian North.

This ability to monitor underwater activity is troubling for Canada. First, Canada itself has no such ability to monitor its own regions. Second, it means that any allied submarines in or near these waters can be closely tracked by the Chinese, which is a tremendous strategic benefit considering that a submarine's main advantage in this situation is its ability to operate undetected. For years, American and British subs have worked carefully to utilize their ability to discreetly patrol Arctic waters. This advantage will soon end.

A second major announcement by China this summer is that it is building a third icebreaker. Expected to enter service in 2025, this one will be outfitted with

deep-diving submersibles. This development would enable China to interfere with any underwater cables or pipelines if it chooses to do so, since these deep-diving submersibles could likely attach listening devices to communications cables, or simply cut them, without Canada having any knowledge of who has taken such action. Canada has no such deep-diving capability and has never indicated any interest in acquiring such assets.

As its rapid Arctic expansion continues, Beijing will soon be able to monitor and act in Arctic waters, especially below the surface, at a level far beyond what Canada can do or respond to. Tracking an icebreaker's deep-sea submersibles will not be possible; Canada will have only a limited ability to monitor the mothership for these subs, for as long as it has the satellite capabilities to do so.

As a recent Auditor-General's report makes clear, Canada may soon lose the capacity to use its own satellites to monitor even surface activities in the Arctic. The potential ramifications are worrisome: For example, the Chinese could copy Russian capabilities and place deep-diving submersibles on nuclear-powered submarines designed to operate in Arctic waters. While there is no public information that China has or is building an equivalent to the Russian Belgorod submarine, which can carry the Losharik deep-diving mini-submarine (which can pick up objects from the sea floor), it is logical to assume China will soon advance to such systems.

China will very soon enjoy a major advantage in monitoring Arctic waters, especially under the surface, and it will have confidence that Canada has little ability to see what is going on or do anything about it. Factor in the overwhelming evidence of Beijing's efforts to target and interfere in our political system – and our reluctance or inability to respond to these actions – and the larger threat to Canada's very sovereignty comes starkly into view.

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Xue Long and Xue Long 2 (Image: CHINARE)

Counterpoint

China's Coming for the Arctic?
Worse News for Russia than Canada

Adam Lajeunesse

While the Sino-Russian friendship is officially a "no limits" partnership a more accurate description might be to call the two states "frenemies" whose ties are based on a temporary confluence of interests and shared distain for the West. And, while that relationship is outwardly cozy today, Russia's vulnerability in the North must surely leave it watching Chinese Arctic interest with dismay.

While scholars like Rob Huebert may lament the danger of Chinese encroachment on our traditional sphere of activity, the reality is that Russia has far more to fear from a Chinese presence in the Arctic waters than does the West. Simply put, Moscow has more invested in the region and much more to lose.

While neither Canada nor the US relies on the Arctic for significant trade, resources, or the strategic movement of ships or goods, Russia does. Roughly 22% of the Russia's export earnings come from the Arctic, with 90% of its natural gas and 12% of its oil produced in the Yamal Nenets region alone.[1]

It is therefore strange that Western observers never ask what impact Chinese icebreakers mapping the seafloor or PLAN warships exercising in the region might have on Russian sensibilities. A Chinese SSN operating in the Barents or Kara Seas, for instance, could cover the entire area from Novaya Zemlya to the Kola Peninsula, interdicting shipping or shutting it down simply by demonstrating the capability to do so – thereby landlocking the 70 million tons of LNG exports expected to be online by 2030.[2] Land-attack cruise missiles fired from the sea at vulnerable, high-value targets, like the $27 billion Yamal natural gas facilities or offshore platforms, could inflict crippling damage on Russia's economy.

Likely more impactful than any direct damage, a Chinese submarine presence in the Arctic would require the Russian Navy to deploy its best assets to track, monitor, and attack in the event of war. That task would force a disproportionate investment from the Russian Navy, tying up many high value SSNs and ASW assets. Even a small number of PLAN submarines in the Russian Arctic would limit the number of Russian ships that could be spared for the Pacific, while also putting those boats in ideal positions to interdict any ships that attempted the transfer. Interdicting Russian warships along the Siberian coast would certainly be easier than locating them after they slipped into the Pacific shipping lanes.

It should also be concerning to Russia that Chinese research vessels are creeping closer to the Siberian coast. Since the earliest Chinese Arctic expeditions, there has been a clear focus on the Bering, Chukchi, and Beaufort Seas off Alaska. Despite having the lions' share of the Arctic coast, Russia has rarely seen Chinese operations on its continental shelf, including beyond 200 nautical miles. In 2020 that changed. That year, China announced the inaugural research program for *Xue Long 2*'s maiden Arctic voyage, which centred on a survey of Gakkel Ridge. This area of seafloor is suspected of containing massive sulfides, rich in copper, zinc, and other minerals. The Chinese voyage, focused on such an important area, directly abutting Russia's continental shelf, rattled Moscow and prompted an official reaction. Following the announcement of *Xue Long 2*'s route, Russia submitted an addendum to the Commission on the Limits of the Continental Shelf (CLCS), which incorporated the Gakkel Ridge area into its extended continental shelf claim.

The 13th Arctic Expedition, which took place only a few months ago, is treading these same grounds,

again traveling to the Gakkel Ridge and Russia's Exclusive Economic Zone. While *Xue Long 2* is advertised as working with Russian partners, the nature of that partnership is never elaborated upon, leaving the impression that a Russian scientist may have been attached to the voyage as a sop to Moscow's growing unease at China's presence.

What exactly China's objectives are in the Arctic remain uncertain, though given its aggressive behaviour closer to home, its reasonable to look upon it with suspicion. Yet, the security picture in the region is often painted with far too simplistic a brush. As China maps out a longer-term Arctic presence, few if any Western vital interests seem threatened. The view from Moscow, however, may be far less comfortable. While today that relationship may be a friendship 'without limits', tomorrow may bring different political realities – and perhaps a Chinese presence in a region long seen by Moscow as vital to its national economy and strategic security.

Notes

[1] Rob Huebert, "Canada and the Newly Emerging international Arctic Security Regime," *Arctic Security in the Age of Climate Change,* James Kraska ed. (Cambridge: Cambridge University Press, 2011), 209 and Rebecca Pincus, "Three-Way Power Dynamics in the Arctic," *Strategic Studies Quarterly* 14:1 (Spring 2020), 49.

[2] "Russia Eyes Greater Energy Dominance with Arctic LNG Push," *The Moscow Times* (April 8, 2019).

Adam Lajeunesse, PhD is an Associate Professor at St. Francis Xavier University. He is the coauthor of the book *China's Arctic Ambitions and What They Mean for Canada.*

OPS Update

Every month the RCN produces a handy "Ops Update" to keep the public informed of the Navy's major deployments and other significant events. This section is a quick summary of the most important ship news. Stay up to date with *Your Navy Today* by subscribing to receive these updates directly. To subscribe email:

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Sailor First Class Ben Leahey onboard HMCS Montreal raises the Canadian Naval Ensign as the ship transits into Souda Bay, Greece (Photo: Corporal Connor Bennett, CAF Photo

On August 14th HMCS *Ottawa* and *Vancouver* were the second and third RCN ships deployed to the Indo-Pacific region in 2023 and were accompanied across the Pacific by MV *Asterix*. The deployment is scheduled to last for five months, and the ships will participate in a series of exercises with partner nations and as part of multinational training efforts.

On August 30th the two ships were part of an exercise with the Japan Maritime Self-Defence Force and the United States Navy from east of the Kuril Islands to South of Kanto. On September 9th *Ottawa* conducted a routine transit through the Taiwan Strait with *USS Ralph Johnson*. The ship then took part in Exercise *Noble Wolverine* focused on maneuvering drills, small boat operations, helicopter flight deck training as well as surface operations.

On September 1st *Vancouver* "chopped" into Operation *Neon* and will be monitoring United Nations sanctions compliance against North Korea. On September 14th the ship exercised with Republic of Korea Ship Seoul and USS *America* to prepare for the Incheon landings commemoration event on the 15th.

In Halifax, HMCS *Montréal's* ship company received a warm welcome home from family, friends and furry friends after it returned from a deployment on Op *Projection* Indo-Pacific. While deployed, the ship

participated exercises and engaged with regional militaries and international security partners. During its time at sea, *Montréal* supported Op *Savanne*, from April 23rd to May 6th, and participated in Exercise *Talisman Sabre* from July 22nd to August 4th, 2023. *Talisman Sabre* is a biennial exercise held in Australia aimed at improving the combat readiness and interoperability between Australian and United States forces and other partner nations. Additional activities conducted by HMCS *Montréal* included crew training and exercises, multiple port visits in Australia, Indonesia, Japan, and Singapore, as well as various locations in Europe and the Middle East.

HMCS *Shawinigan* and *Summerside* were deployed this FAll to the Baltic region on Op *Reassurance* as part of Standing NATO Mine Countermeasures Group 1. From August 21st to September 1st the two ships took part in Exercise *Sandy Coast 23*, hosted by the Royal Netherlands Navy. *Sandy Coast* is a mine action and port protection serial that included 500 military personnel from Poland, Belgium, Finland, and other NATO countries.

The ships also recently participated in Exercise *Northern Coasts 23* which kicked off on September 9th. The annual exercise saw some 30 warships and 3,200 personnel from 15 nations take part in serials focused on amphibious operations, air defence, strikes from sea to land and securing sea lanes. This was the first time the exercise was being run from Germany's new Navy Command in Rostock. They returned in Canada on November 5.

In the Arctic, HMCS *Harry DeWolf* engaged in a two-month deployment on Operation *Nanook*. On August 16th DeWolf discovered a 25 to 26-storey iceberg that was so cold it created its own clouds. Under the guidance of the embarked ice specialist the ship approached the iceberg for observation and data collection. Just a day later the AOPS led a combined maritime task group that included United States Coast Guard Cutter *Forward* and French Navy Ship *La Garonne*. The ships took the opportunity to conduct maneuvering and communications exercises in the Arctic environment.

On August 21st the ship made a stop in Iqaluit where the crew met with Elders from the Pairijait Tigummiaqtukkut Elder Society and hosted an open house meet and greet at Royal Canadian Legion Branch 168 to give locals a chance to meet their sailors. The ship also hosted some community members and government delegates onboard for a

A New Look at National Security Policy and Strategy

Ian Parker

Since the Second World War Canadian governments have published seven defence policies, either in the form of a White Paper, a policy statement, or a stand-alone policy document. In each case, governments have failed to adequately implement and fund these policies. Politically, governments have generally neglected to embrace the need for defence and, more specifically, Canada's military. treating them like a bad smell. As a result, the women and men of Canada's military have struggled, as best they could, to provide Canadians with the bare minimum defence capability. The delay in the current government's Defence Policy Update is an opportunity for government to re-evaluate how Canada develops and sustains its defence policy.

Over the years, Canada's Defence Budget has fallen from 4.2% as a percent of GDP in 1960 to 1.2% in 2023. Between 2008 and 2022, Canada transferred approximately $921 billion[1] to the provinces, yet spent only $287B on defence.[2] The impact has been significant, the Navy has been gutted, the Air Force eviscerated.

Historically, with rare exceptions, Canadian governments constrain defence spending yet support social programs. This is primarily because, in our peaceful part of the planet, (so far) it has been difficult for voters to grasp the full importance of defence spending, whereas social programs affect them in obvious ways. The current outcry over affordability and housing are good examples, yet there is no outcry for increased defence spending other than from our allies.

This article argues that Canadian governments of all stripes need to be realistic and take a top- down approach in developing an affordable defence policy and defence structure matching resources with government policy based on our national vital interests rather than the normal self—indulgent and wasteful Canadian game of cut, reorganize, redistribute, and shave the ice cube – a process which ensures that the Armed Forces continually struggle to do everything with less, which, ultimately, is never doable.

A national vital interest is that which is directly tied to Canada's peace and security, and if threatened, puts Canada at existential risk. Defense of vital interests requires a national commitment to expend Canada's youth, blood, and treasure so that the nation will survive. On the other hand, a non-vital national interest, or what is generally known as a "value;" it is softer, more intangible and perhaps, over time, changeable. Governments never really explain what values are except in broad fuzzy terms or what they expect our nation's military to be capable of protecting. Thus, Canada's Armed Forces continually struggle.

Thus, the argument stands that Canada should not expend its youth, blood, and treasure to counter threats to values. Except for the Second World War, the Cold War, and the direct response to 911 there have been no real threats to Canada's vital interests in the last or the current century. However, lacking a National Security Policy based on a firm understanding and articulation of Canada's vital interests, Canada has for many decades taken a series of short-term decisions focused on values rather than vital national interests - spending our youth, blood and treasure in the mistaken belief that defending these values contributes to Canada's security and curries favour with allies. These policies have undermined Canada's ability to defend her vital interests.

History teaches us that nations have interests, but they tend not to have long memories. Canada's boots on

the ground in both world wars had little effect on our post war international standing. As an example, one would think that our contribution to victory might have gotten Canada a seat on the Security Council but no. The endless draining rotations of battle groups through the Balkans in the 1990s failed to get Canada a seat at the table crafting the Dayton Accords; neither have our more recent efforts in Afghanistan realized any resolution of the significant cross-border trade or other issues vital to Canada. Consequently although "boots on the ground" may be required, they cannot be Canada's exclusive nor most important defence focus, yet they seem to be. To continue with this approach ignores the reality of real threats to Canadian vital interests and our means to defend against them. Essentially, Canada needs to be able to look after herself first. We must remember that no other nation will unless it is in their vital national interest to do so.

Because governments have generally not considered defence important and consequently have not taken a top-down approach based on vital interests, the evolution and the development of defence policy has generally been a "bubble-up" process to government from the CAF and DND. This approach has been fraught with internal departmental and military politics coupled with a desire within certain branches of the military to shape defence policy in their favour immaterial of government direction. The Army is a case in point, for most of the post Second World War period the Canadian Army institutionally was focused on itself, as Peter Kasurak has stated, "Belief in its own usefulness was accompanied by a blindness to national strategy at a higher level than the NATO requirement for land forces. If the army ever thought about trade-offs between the types of forces the country should maintain, its inevitable conclusion was that the air force and the navy should be sacrificed for the army."[3] This prediction was officially put in writing by then LGen Hillier in a letter to the Chief of the Defence Staff and the Deputy Minister of National Defence on 26 June 2003.[4] Given these attitudes, one can see that the evolution and development of defence policy without top-down direction based on vital interests has been less than successful.

Geography is a great, yet significantly unrecognized, Canadian strategic asset. In terms of security, Canada can almost be considered an island. Threats, other than internal, will most likely arrive on our shores by air/space/cyber or by sea. Surrounded by oceans and air space, only forces and agencies that can operate in these environments can defend our vital interests. The unfettered control of Canada's ocean areas including the air space above and the column below and the unrestricted use of the world's oceans, including our ability to deny their use to potential enemies, is a vital national interest to Canada and should be the key to Canada's defence strategy. Only a navy and an air force can fulfill this, as well as any expeditionary role. Noted British historian Paul Kennedy described the Allied navies as the constant and unchallengeable wall that stood against the Soviet Union throughout the Cold War. This strategic reality is illustrative of defending a vital interest against an existential threat.

Our constant historic strategic reality is that Canada has relied on the sea both to move her trade, to defend herself, and to go to war. Thus, strategically the most important aspect of our security supporting our vital national interests, has been and will continue to be the ability to move on, below or above the world's oceans.

Recognizing that Canada is unwilling to commit, short of war, adequate resources for defence, any National Security Policy and Defence Policy needs to ensure, first; the strategic security and well being of the nation, and second the maximum contribution to overall global security. We have in the past tended to seek balance on the assumption that strategic surprises can be countered. But balance has and never will be possible due to Canadian political and military partisan realities. Moreover, balance does not focus on the capabilities needed for Canada’s defence and security as it spreads limited resources thinly. Thus, Canada needs to tailor its defence policy and military capabilities to protecting its vital interests within the resources allocated by government. Only then can Canada implement an achievable defence policy. Tailoring defence forces based on the nation's vital interests will give government the forces and the flexibility to counter existential threats to Canada and the flexibility to deploy and support forces for international operations while managing constrained budgets. To do otherwise perpetuates the ongoing and inefficient process of reorganizing, redistributing, and shaving the ice cube.

The outcome should be a larger and more capable air force that can conduct combat operations over land, sea, and from the sea, plus a larger more combat and amphibious capable navy capable of combat operations on, below, and from the sea, able to extend influence on land with an army configured to conduct air-transportable and amphibious operations. Configured thus, and supported by government, the CAF would be able to protect our vital interests as well as contribute to global security. The force would be able to support Canadian foreign policy and be supported by an educated Canadian electorate.

To recognize and refocus the Canadian Armed Forces based our vital national interests, our strategic geographic reality, and our historic resource realities, will take courage, courage to think strategically, courage to place historic service and partisan rivalries aside, courage to act in the best interests of the nation, and courage to be honest with ourselves.

Notes

[1] National Bank of Canada, Market View 6 Jan 2021-22

[2] Macrotrends, Canada Military Spending/Defence Budget 1960-2023. At the same time Defence Spending as a percent of GDP on average remained at approximately 1.2%.

[3] A National Force, the evolution of Canada’s army,

Captain(N) (Retired) Ian Parker served 37 years in Canada’s Navy, commanded HMC Ships *Fraser* and *Provider*, held many force development and personnel related positions in NDHQ and served as Chief of Staff to three Commanders Maritime Staff/Commanders Maritime Command. Upon retirement from the CAF, Ian was a CFN associate for 10 years.

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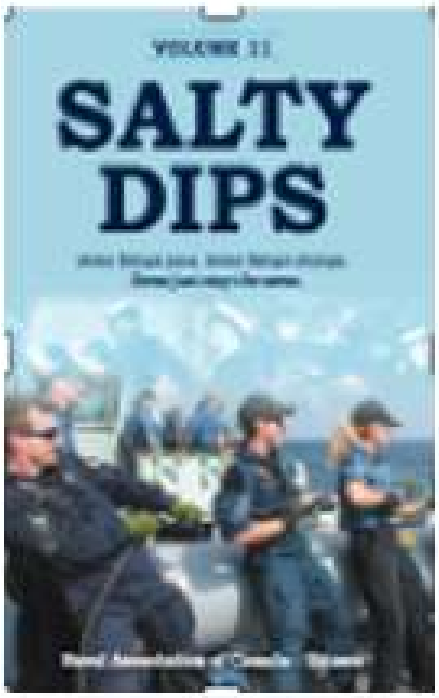

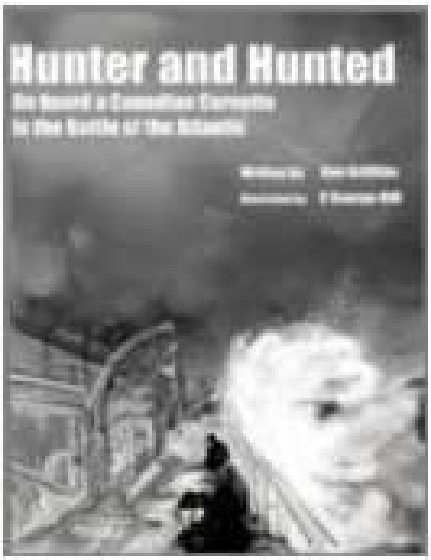

Hunter and Hunted –This story for young Adults follows our hero, Charlie, who like so many Canadians during WWII didn't want to miss out the action when Canada declared War on Nazi Germany. He signed up to join the Royal Canadian Navy and was soon to take part in the longest battle of the war – the Battle of the Atlantic. Order your copy today from the Naval Association of Canada.

Last Post

Compiled by Pat D.C. Barnhouse | Starshell Obituaries Editor

Kindly forward all obituaries to Pat at:
535 Kenwood Avenue, Ottawa, ON K2A 0L7
or by email: pat.barnhouse@sympatico.ca

NAC MEMBERS

LCdr[Maj(PLT)] Peter Norman BEY, CD, RCN(Ret'd)**

NAC-VI, 78 in Victoria 29/08/23. Jn'd *Venture* as RCN Cdt 01/09/64 and srv'd *Sussexvale* and *Margaree*. Prom A/S/Lt 03/07/66 and S/Lt same date; fll'd by CFB's Borden and Moose Jaw for flight trg. Prom Capt(PLT) 03/09/69 thence CFB Shearwater (VU-32) in '69, CFB Cold Lake in '72, CFB Portage La Prairie in '75 and Shearwater for HS-443 and HT-406. Prom Maj(PLT) 01/01/81 thence Moose Jaw and Portage La Prairie in '84, CFB Chilliwack in '89, *Naden* (Pat Bay) for HS-443) in '92, *Provider* in '94, Sea Training (Pacific) in '95 and Moose Jaw in '97. Ret'd in '98. Civ career as pilot for Helijet. Bronze Medallion 2018. (RH, RD)

Surg Capt David Bigelow COULSON, KStJ, CD*, RCN(R)(Ret'd)

Thunder Bay Br., 91 in Kingston, ON 29/12/22. Jn'd *Griffon* 05/57 as A/Surg S/Lt (sen. 25/05/57). Prom Surg Lt 15/05/55, LCdr(MED) 16/05/63 and later Surg Cdr and Surg Capt. CO *Griffon* 1983-87 and Senior Naval Reserve Medical Advisor. Bronze Medallion 1981. (WM)

Cdr Victor Garry ERNST, CD*, RCN(Ret'd)

NAC-O, 92 in Long Sault, ON 13/07/23. Jn'd *Royal Roads* as Cdt 09/49. Prom Mid(E) 12/08/51 thence RN for trg. (RNEC Manadon). Prom A/S/Lt(E) 12/12/52 fll'd bt *Ontario* 05/54. Prom Lt(E) 12/12/54 thence *Niobe* (RNEC Manadon) , *Ontario* 05/54, *Niobe* (AMEC Manadon) 05/58 and ,*Bytown* (DSDC) 08/60. Prom LCdr 12/12/62 fll'd by *Niobe* (RN Exchange) 08/63 and CFSC. Prom Cdr 01/01/71 thence Dkyd Hfx 0871 and CDLS(L) (Cdn Rep RNEC). Ret'd in '81. Civ career as teaching master (marine engineering) at St. Lawrence College, Cornwall.. (PMcG, WC)

Surg RAdm Charles Joseph KNIGHT, CMM, OStJ, CD, RCN(Ret'd)**

NAC-O, 91 in Ottawa 01/09/23. Srv'd COTC at university. Jn'd RCN as A/Surg S/Lt 15/09/55 at *Prevost* (UWO). Prom Surg Lt (sen. 01/09/54) thence *Naden* 07/58 and Sqn MO in *Ste Therese, Beacon Hill* and *Sussexvale*. Prom Surg LCdr 01/07/61 fll'd by *Niagara* (USN Diving Medical Cse.) 05/09/61. *Naden* 14/05/62 and *Shearwater* 12/08/63. Prom Surg Cdr 01/01/71, Surg Capt 01/01/76. and Surg Cmdre 15/07/82 thence Commandant NDMC in '82 and Deputy Surgeon General in '85. Prom Surg RAdm 04/01/88 fll'd by appointment as Surgeon General. Ret'd in '89. (*Citizen*, Canada's Admirals and Commodores)

LCdr Geoffrey Robert MEEK, CD*, RCN(Ret'd)

NAC-O, 92 in Victoria 28/07/23. Jn'd *Royal Roads* 09/49 and desig RCN(R) Cdt 29/04/50. Prom RCN Mid 12/98/51 fll'd by *Ontario* 08/51. Prom A/S/Lt 12/12/52 thence RN for trg. Prom S/Lt 12/12/52 thence *Niobe* (RN S/M trg) and qual S/M. Prom Lt

12/01/55 fll'd by *Cornwallis* 06/57. *Niobe* (RN N/D Cse.) 02/59, *Niobe* (RN S/M commitment) 03/60 and *Restigouche* 01/62. Prom LCdr 12/01/63 thence *Niobe* (RN S/M commitment as XO), *Onondaga* (i/c) 06/67, *Okanagan* (i/c) 08/69, *Onondaga* (i/c) 11/69, CFSS (DS) and NDHQ. Ret'd 1975. Civ career with Coast Guard and teaching at Georgian College. (GP)

OTHERS

Lt[Capt(AERE)] Alan Kevan ARDERN, CD, RCN(Ret'd)**

92 in Tatamagouche, NS 26/10/23. Srv'd RN(FAA) 1948-53. Jn'd RCN 07/53. CFR'd as Capt(AERE) in '74. Srv'd *Shearwater, Magnificent,* CFB Shearwater, *Ottawa, Preserver* and *Protecteur*. Ret'd 09/81. (PB)

LCdr [MAJ(PLT)] Henry Lyle BANNISTER, CD*, RCN(Ret'd)

88 in Victoria 30/06/23. Jn'd as Mid(SSA) 29/06/53, prom A/S/Lt(SSA) 24/07/54, S/Lt(P)(SSA) same date and Lt(P)(SSA) same date. Selected for Permanent Commission. Prom Maj 01/02/73. Srv;d *Cataraqui, Cornwallis, Ontario, Stettler, Niagara* (USN Flt Trg.), *Shearwater, Bonaventure*, RCAF Moose Jaw, CFB Winnipeg and *Huron*. Srv'd VT-40, VS-880, VU-32, VU-33, HS-50 and HS-443. Ret'd 11/79. (PB, Canada's Naval Aviators)

CPO2 [MWO] Noel BLACK, CD*, RCN(Ret'd)

85 in Bridgewater, NS 11/04/23. Jn'd in '57 in Aero Engineering trade. Srv'd, inter alia, *Cornwallis, Shearwater, Bonaventure*, CF Europe and CFB Borden. (SR, *Chronicle Herald*)

Capt Raymond Arbuthnot Bourchier CREERY, CD*, RCN(Ret'd)

99 in Mahone Bay, NS 04/07/23. Jn'd RCN as Cdt 01/01/41. Prom Mid 01/09/41, S/Lt 01/10/42, Lt 10/01/44, Qual "P", LCdr(P) 01/01/52, Cdr(P) 01/01/54, A/Capt (sen 01/01/56) and Capt 01/01/64. Srv'd RN for trg. (*HM Ships Nile, Valiant* and *Howe*), *Kootenay, Stadacona, Shearwater*, NSHQ, *Niobe, Magnificent* (Cdr Air), *Nootka* (i/c) and Attache Netherlands. Ret'd 1969. (WM)

CPO2 Stuart John Vere DAWS-KNOWLES, CD, RCN(Ret'd)**

83 in Ottawa 26/05/23. Jn'd in '58 in Pay Writer trade. Srv'd, inter alia, *Bonaventure, Hochelaga,* CDLS(L), NDMC, CFPD, NDHQ (NSA Project) and CFB Shilo. Ret'd in '92. (*Citizen*)

Cdr(Ret'd) Robert Henry EDWARDS, CD**

74 in Halifax 08/06/23. Jn'd as DEO S/Lt 03/06/71, prom Lt 03/06/74, LCdr 01/01/80 and Cdr 01/01/88. Srv'd both Halifax and Victoria, and, inter alia, CFCSC, NDHQ, SACLANT, *Gatineau* (i/c) and B Admin O CFB Halifax. (HS, SR, *Chronicle Herald*)

S/Lt Richard Colebrook HARRIS, OC, RCN(R)(Ret'd)

86 in Vancouver, BC 26/09/22. Jn'd *Discovery* as UNTD Cdt 02/01/56. Prom S/Lt 01/07/58 and to Ret'd List in '60. OC for services as an "eminent geographer", university professor and editor of Vol 1 of Historical Atlas of Canada. (WC)

Lt(E) Andrew Clinton Hodges HENNING, RCN

91 in Burlington, ON 10/10/23. Jn'd *Royal Roads* as Cdt 09/51 and desig RCN(R) Cdt 24/04/52. Tsf'd to RCN Ord Cdt 19/09/52, prom A/Ord S/Lt 01/06/56, A/Lt(E) 01/08/58 and Lt(E) 16/05/58. Srv'd *Montcalm, Bonaventure*, *Niobe* (RNEC Manadon) and *Gatineau* Rls'd in '60. (RGC, WC)

CPO1 Cecelia HUBBARD, CD*, RCN(Ret'd)

79 in St. John, NB 28/06/23. Jn'd in '63 as Oceanographic Op. Ret'd in '88

Cdr William KANWISHER, CD, RCN(Ret'd)

97 in Ottawa 09/10/23. Jn'd RCN as A/S/Lt(L) 04/04/49, prom S/Lt(L) same date, Lt(L) 01/02/49, LCdr(L) 01/02/57 and Cdr 01/01/64. Srv'd *Stadacona,*

Crusader (Korea), *Niagara, Naden* and CFHQ. Ret'd in '69. (*Citizen*)

Lt(S) Don Alan KING, RCN(R)(Ret'd)

91 in London, ON 08/06/23. Jn'd *Chippawa* as UNTD Cdt(S) 02/01/55, thence *Nonsuch* in '57. Prom A/S/Lt(S) 03/05/57, S/Lt(S) same date and Lt(S) 01/07/59. To Ret'd List in '62. (WC).

A/S/Lt(E) John Charles LANGE, RCN(R)(Ret'd)

87 in Winnipeg 08/10/23.Jn'd *Chippawa* as UNTD Cdt(E) and prom A/S/Lt(E) 01/07/56. To Ret'd List in '59. (WC)

LCdr Bernard StClair McCABE, RCN(R)(Ret'd)

84 in Toronto 03/08/23. Jn'd *Queen Charlotte* as UNTD Cdt 02/01/58, prom A/S/Lt 01/07/60 and S/Lt same date. Later JAG officer. (WC)

LCdr James Herbert MURWIN, CD*, RCN(Ret'd)

95 in Halifax 07/07/23. Jn'd *Royal Roads* as Cdt 29/08/45, prom Mid 03/07/47. A/S/Lt 03/11/48, Lt 03/06/51 and LCdr 03/06/59. Qual "C". Srv'd *Ontario,* RN (for trg.), *Magnificent, Cornwallis, Niagara* (SO Comm.), *Crescent* (Sqn. C), *Bytown, Bonaventure, Shearwater* and *Stadacona*. Ret'd in '72. (WM, e-Veritas)

CPO Charles Hugh NELSON, CD, RCN(Ret'd)

92 in Dartmouth, NS 11/10/23. Jn'd RCN as OS circa 1950 and qual Aviation Technician. Srv'd, inter alia, *Cornwallis, Shearwater, Magnificent, Bonaventure* and *Huron*. (PB)

Capt John NETHERCOTT, CD, RCNRet'd)**

83 in Ottawa 18/09/23. Jn'd *Venture* as RCN Cdt 03/09/58, prom A/S/Lt 09/09/60, S/Lt 01/05/61, Lt 01/01/66, LCdr 01/07/69, Cdr 01/01/78 and Capt 01/01/87. Srv'd, inter alia, *Stadacona, Iroquois, Nootka, Nipigon, Fraser*(i/c), *Annapolis*(i/c), *Mackenzie*(i/c), NOTC Venture(i/c) and CFB Halifax. (*Citizen*, WM)

LCdr(Ret'd) Sean Michael O'SULLIVAN, CD

58 IN Ottawa 07/10/23. Jn'd as S/Lt 03/09/91 and srv'd, inter alia, as CSE *Iroquois*. (*Citizen*)

Cdr[LCol(PLT)] Joseph Gilmore PAQUETTE, CD*, RCN(Ret'd)

81 in Dartmouth, NS 23/10/23. Jn'd *Venture* as Cdt 01/09/59, prom A/S/Lt 01/09/61, S/Lt 01/09/62. Lt 16/03/66, Maj(PLT) 01/01/76 and LCol(PLT) 01/06/86. Srv'd RCAF Stations Centralia, Penhold and Rivers (awarded Wings), *Shearwater, Bonaventure*, Training Command (Instrument Check Pilot), NDHQ, CFB Shearwater (Helo Conversion), CFCSC, CFB Summerside, VU-32, VS-880 and 413 Squadron (i/c 1988-90). Ret'd in 1990. (PB, WM, Canada's Naval Aviators)

Lt(MED) Michael Thomas RICHARD, RCN(R)

Former Member, 87 in Ottawa 15/06/23. Jn'd *Carleton* as UNTD Cdt 02/01/55. Prom S/Lt 01/07/57 thence designated S/Lt(MED) in '59. Prom Lt(MED) 01/07/59. Rls'd in '60. (WC, WM, *Citizen*).

Capt Kenneth Ralph SCOTTEN, OMM, MSC, CD, RCN(Ret'd)**

82 in Victoria 16/07/23. Jn'd RCN as *Venture* Cdt 02/09/59, prom A/S/Lt 01/09/69, S/Lt 16/04/66, Lt 16/04/66, LCdr 01/07/73, Cdr 01/01/79 and Capt 01/01/84. Srv'd, inter alia, *Assiniboine, Stadacona, Stettler, Beacon Hill,* CFCSC, NDC, *Athabaskan* (t/c) and *Provider* (t/c) (Rescue of Vietnamese "boat people" incident). Ret'd circa 2000. (RD)

S/Lt Robert John SKUFFHAM, RCN(R)

83 in Falmouth, NS 11/05/23, Jn'd *Scotian* as UNTD Cdt 02/01/57, prom A/S/Lt 01/07/59 and S/Lt same date. Also srv'd *Cornwallis* in .61 as a Special Duty Officer (Psychology). (WC)

Surg Lt Ralph William SUTHERLAND, RCN(R)((Ret'd)

97 In Perth, ON 08/06/23. Jn'd *Nonsuch* as UNTD Surg Cdt 08/11/48, prom Surg S/.Lt 06/02/50 and Surg Lt same date. To Ret'd List in '54. (WC, *Citizen*)

CPO2 Robert James TAYLOR, CD, RCN(Ret'd)

94 in Ottawa 25/06/23. Srv'd in Marine Engineering trade and closely associated in NDHQ/DMEE with CPF gas turbines. (*Citizen*)

LCdr Peter Gerald TOWNSEND, MMM. CD, RCN(Ret'd)**

87 in Annapolis County, NS 30/08/23. Srv'd as Boy Seaman with UK MM, in the RN as a yeoman and jn'd the RCN in '59. CFR'd as S/Lt 11/03/69, prom Lt 11/03/72 and LCdr 01/01/82/. Ret'd 2000. (HS, WM)

Lt[Capt(PLT)] Gerald Irwin WALLIS, CD*, RCN(Ret'd)

82 in Ottawa 09/12/22. Jn'd *Venture* as Cdt 03/09/58, prom A/S/Lt 01/09/61, S/Lt same date and Lt 16/09/65. Srv'd, inter alia, VS-880, VU-32, *Shearwater*, ICCS Vietnam and CFB Trenton. Ret'd in '89. (*Citizen*, Canada's Naval Aviators)

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Members of HMCS Ottawa's deck department maneuver a RHIB to conduct a boat transfer with MV Asterix (Image: Gregory Cole, CAF)