CANADIAN NAVAL REVIEW

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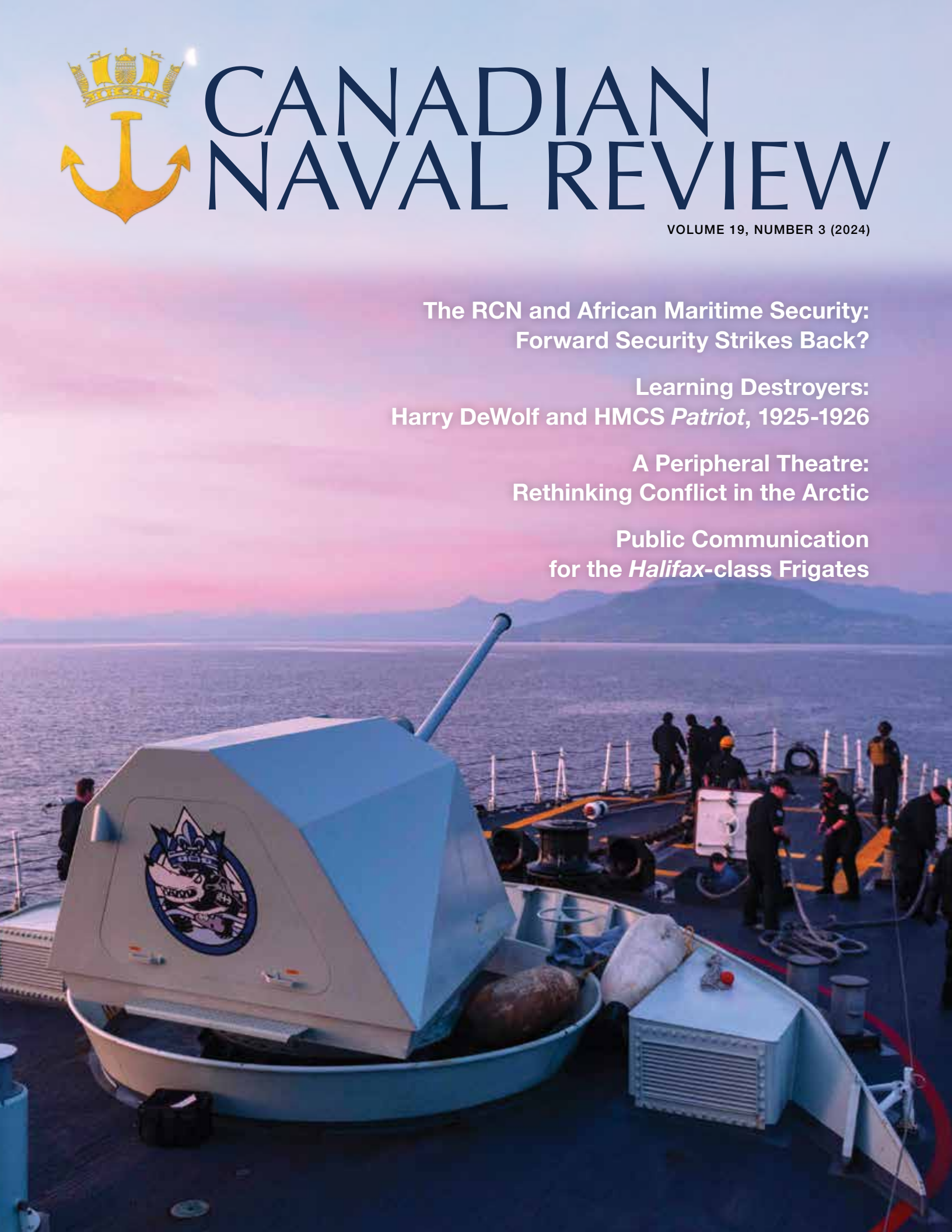

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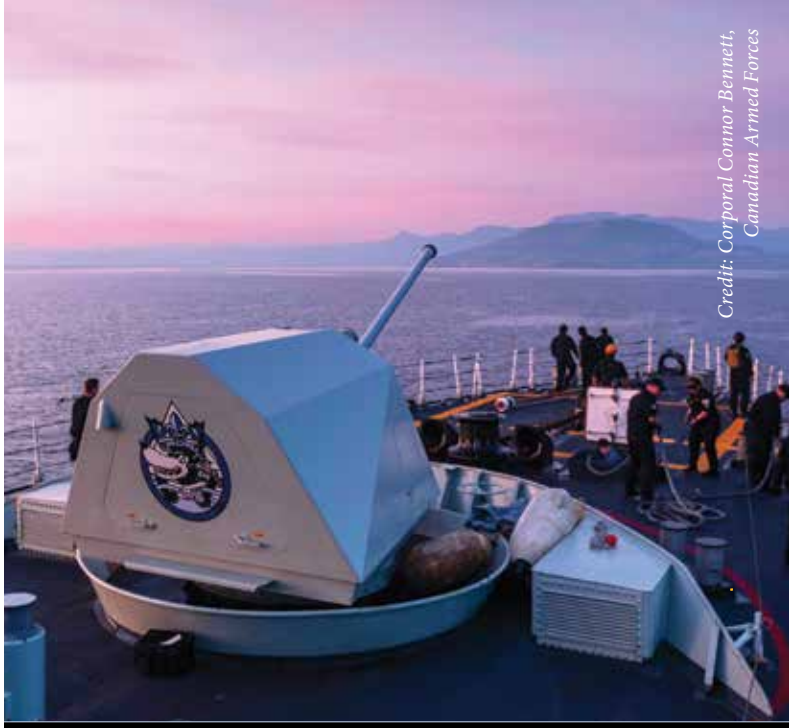

Credit: Corporal Connor Bennett, Canadian Armed Forces

*The sun rises as HMCS **Montreal** prepares to enter Souda Bay, Greece, on 14 April 2023.*

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Editorial

The Canadian Multi-Mission Aircraft Project: Some Recent Developments

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On 30 November 2023, the Minister of National Defence announced that Canada would purchase up to 16 P-8A Poseidon aircraft and associated equipment for an estimated cost of $10.4 billion CAD in order to meet the requirement for a replacement of the CP-140 Aurora.[1] For those accustomed to the glacial pace of the Canadian procurement process, this announcement appears to have come as a bolt from the blue and has reignited the debate over 'sole-source' or 'open competition' procurement options. This editorial will review the background of the project, reflect on the decision to pursue a sole-source contract, and sound a note of caution for the future.

The Canadian Multi-Mission Aircraft (CMMA) Project is not Canada's first foray into the development of a Canadian long-range patrol aircraft. In the 1950s, the Royal Canadian Air Force (RCAF) procured the Canadair CP-107 Argus, a major modification of the Bristol Britannia passenger aircraft. Several decades later, the CP-140 Aurora, a derivative of the Lockheed P-3, itself a modification of the Lockheed Electra passenger aircraft, replaced the Argus.[2] Both the Argus and Aurora were highly regarded in their day, principally because of the excellence of their mission systems, especially in the case of the CP-140 Aurora.[3]

Canada's defence policy, *Strong, Secure, Engaged*, issued in 2017, lays out an ambitious program for the recapitalization of the Canadian Armed Forces (CAF) including the CP-140 Aurora.[4] It was, therefore, not a surprise when, on 10 February 2022, the government issued a Request for Information (RFI) for the CMMA Project "seeking input from industry and other stakeholders … pertaining to the replacement of the CP-140 Aurora fleet."[5] While specifically not a bid solicitation, the RFI started a deliberate process which, in the normal course of events, would have led from Options Analysis (2022) through Project Definition (2025), Project Implementation (2029), Initial Operational Capability (2034) and Full Operational Capability (2040). Replies to the RFI were requested by 1 April 2022.

In a related development, the government of Canada issued its much-anticipated Indo-Pacific Strategy on 27 November 2022. The strategy states that Canada's Defence Policy Update will support Canada's Indo-Pacific Strategy and its implementation.[6] While the update, promised in late 2022 is still pending, given the vastness of the Indo-Pacific theatre, there is clearly a requirement for a long-range, multi-mission aircraft if Canada is serious about demonstrating its resolve and capability in the theatre.[7]

Credit: Timothy Choi

A US Navy P-8A Poseidon is displayed at the Abbotsford International Airshow in August 2022.

Credit: Major Trevor Reid, RCAF

A CP-140 Aurora arrives at Marine Corps Base Hawaii, Kaneohe Bay, Hawaii, 6 July, for Rim of the Pacific (RIMPAC) 2022.

Looking at the competing bids, Boeing offered its P-8A, a well-proven weapons system with a high degree of commonality with the Boeing 737 Next-Generation airliner, ensuring sustainability well into the future.[8] More importantly, the P-8A has been chosen by most of Canada's partners in long-range patrol operations thereby achieving not only interoperability but also interchangeability, a key requirement on deployed operations. However, the P-8 is an aging airframe/engine combination with a mission system that, based on recent head-to-head competition, will struggle to match the CP-140M mission system developed by General Dynamics Mission Systems-Canada (GDMS-C).[9]

Bombardier, partnered with GDMS-C, offered the Global 6500 business jet with a derivative of the CP-140M mission system. The Global 6500 airframe, already in service, is a growth platform and the Bombardier proposal may well be suitable for other countries looking to replace their own maritime or multi-mission aircraft. However, it is a 'paper airplane' which will not fly until the early 2030s. A significant challenge will be the incorporation of a bomb bay for a variety of weapons and past experience would indicate that this is not a simple engineering fix.

All was proceeding in accordance with the steps laid out in the RFI when a series of head-snapping events took place beginning with the announcement on 23 March 2023 by Public Services and Procurement Canada that "[f]ollowing engagements with industry and Canada's closest allies, the government has determined that the P-8A Poseidon is the only currently available aircraft that meets all of the CMMA operational requirements." The press release went on to add that Canada had submitted a Letter of Request to the United States outlining Canada's requirements and requesting an offer.[10]

Why was the deliberate RFI process, issued in February 2022, short-circuited so soon? It seems that there is now a strong preference in government for sole-source procurement based largely on Canada's positive experience with projects such as acquisition of the CC-117 Globemaster transport aircraft – an unmodified, off-the-shelf platform – and the M-777 Howitzer.[11]

On 15 June 2023, the Chief of Defence Staff (CDS), General Wayne Eyre, made a keynote presentation to the Canadian Global Affairs Institute (CGAI) entitled "ASW and the CAF's Outlook." Not only was it highly unusual for the CDS to mention anti-submarine warfare (ASW), he singled out the CMMA project, a move that can only have increased the pressure to advance the project.[12]

Finally, on 27 June 2023, the US Defense Security Cooperation Agency, in response to Canada's Letter of Request, approved the possible foreign military sale of the P-8A along with various sensors and onboard systems, spares, and technical and training support.[13]

It was now clear that the Canadian government was moving toward a sole-source contract for the P-8. This led Canadian aircraft manufacturer Bombardier to go into overdrive to object, arguing strongly for an open competition as anticipated by the RFI. While an open competition would take time, for those who see no downside to the sole-source option, Bombardier threatened the possibility of a court challenge, a process that would be guaranteed to impede progress.[14]

Subject to contract negotiations, Canada has therefore committed itself to a sole-source purchase of an off-the-shelf solution to the CMMA requirement, a move that will significantly advance the timeline for the replacement of the CP-140. It also removes the potential development challenges associated with the Bombardier proposal.

Credit: Bombardier Defence

A computer-generated graphic of Bombardier's proposal for the CMMA based on its Global 6500 business aircraft.

However, there are three important areas of concern. The first is financial and relates to the Canadian government's overall level of commitment to the CMMA project. The bills for this project come due after the next election and, given past procurement history, those who anticipate an uneventful flow of funds, let alone the purchase of 16 rather than 14 aircraft, may be sorely disappointed.[15]

Second, the much-vaunted interoperability with US and other forces may not only contribute to the success of missions of mutual interest, it may also pose a challenge to those missions that Canada may not wish to share with its allies. This creates an interesting dilemma not unlike that of the Royal Canadian Navy's involvement in network-centric warfare.

Finally, a sole-source contract may contribute to a further erosion of Canada's national strategic capabilities in the aerospace sector. The RCAF is completely reliant on industry for third-line Maintenance, Repair and Overhaul (MRO) of its aircraft fleet. Without a well-funded MRO capability, the RCAF will have to rely on the United States and cannot expect to get priority service at the expense of American needs. Also, while teaming arrangements will provide offsets to Canadian aerospace firms through the Industrial and Technological Benefits program, Boeing is the Prime Contractor and will make the final determination as to who benefits and who does not. Caveat emptor!

Notes

1. Department of National Defence, Media Release, "Canada Purchasing up to 16 P-8A Poseidon Multi Mission Aircraft for the Royal Canadian Air Force," 30 November 2023. This includes up to $5.9 billion USD for the aircraft, associated equipment, training devices and sustainment set-up with the balance to cover additional investments in simulators, infrastructure and weapons paid for by Canada.
2. For a discussion of both the Argus and Aurora projects, see Brigadier (Retired) R.D. Daly and Colonel (Retired) E.S.C. Cable, "Preserve Canada's Strategic Surveillance Capability: A Study by the Maritime Air Veterans Association," Maritime Air Veterans Association, 2016.
3. See Colonel Iain Huddleston, "Changing with the Times: The Evolution of Canada's CP-140 Aurora," *Canadian Naval Review*, Vol. 11, No. 1 (2015), p. 10. It is not too bold to suggest that Canada's capability in air anti-submarine warfare is based on the strength of its aviation industry and the cutting-edge research carried out by Canada's defence research laboratories.
4. Department of National Defence, *Strong, Secure, Engaged: Canada's Defence Policy*, Ottawa: DND Canada, 2017, p. 13.
5. Public Services and Procurement Canada, "Canadian Multi-Mission Aircraft (CMMA) Project Request for Information," 10 February 2022.
6. Global Affairs Canada, "Canada's Indo-Pacific Strategy," 30 November 2022.
7. See Marc Garneau, "Canada is a Latecomer to the Indo-Pacific – and We Need to Prove We're Serious Players," *The Globe and Mail*, 6 October 2023.
8. Parts of the discussion here rely on an article by Chris Thatcher, "Does Boeing Have an Edge with the P-8A Poseidon as a Solution for the CMMA Project?" *Skies Magazine*, 10 August 2023.
9. If proof is required as to the capability of the General Dynamics Canada mission system, see Chris Thatcher, "Exercise Sea Dragon Puts 407 Squadron, CP-140 Aurora to the Test," *Skies Magazine*, 10 August 2023.
10. Public Services and Procurement Canada, "Statement on the Canadian Multi-Mission Aircraft (CMMA) for the Royal Canadian Air Force," 27 March 2023.
11. For more on the procurement process, see David J. Bercuson, "Playing Politics: Insights from a Brief History of Canada's Military Procurement Processes," *Legion Magazine*, 14 November 2023.
12. General Wayne Eyre, "ASW and the CAF's Outlook with General Eyre," Keynote address to the Canadian Global Affairs Institute Conference "Canadian Anti-Submarine Warfare in the Future Strategic Environment," 15 June 2023.
13. US Department of Defense, Defense Security Cooperation Agency News Release, "Canada – P-8A Aircraft," 27 June 2023.
14. Joël-Denis Belleavance, Julien Arsenault, "Les tribunaux s'il le faut," *La Presse*, 9 Novembre 2023. Bombardier has since indicated that it will not sue the government.
15. The approved fleet sizing study for the Aurora project called for 24 aircraft, a number reduced to 18 with the promise that a further six aircraft would be added in the future. In the event, only three CP-140A Arcturus were purchased for pilot training and general reconnaissance duties.

Colonel (Ret'd) John L. Orr

The RCN and African Maritime Security: Forward Security Strikes Back?

Rob Huebert and Chris W.J. Roberts

Credit: Corporal Jaelyn Buell, Canadian Armed Forces

*Members of the Togo Military conduct a clearing exercise aboard HMCS **Moncton** off the coast of Ghana as part of Exercise Obangame Express during **Operation Projection** 12 March 2022.*

The African continent rarely registers in the minds of Canadians during discussions of foreign and defence policy and even less when the discussion turns to maritime concerns. And yet, Canada's long experience with expeditionary operations began on that continent when 386 'Nile Voyageurs' were recruited and sent to support the Sudan campaign of General Garnet Wolseley in 1884.[1] Most recently, and by pure serendipity, in April 2023 a Royal Canadian Navy (RCN) task force headed to boost Canada's presence in the Indo-Pacific region ended up at the right place at the right time as fighting broke out between rival military factions in Sudan. Alongside HMCS *Montreal*, the RCN's sole replenishment ship MV *Asterix* served as a critical asset in the Red Sea used by multiple allied navies to assist with personnel evacuations.[2] The 139 years between the Nile Voyageurs' (ultimately failed) attempt to relieve General Charles George Gordon at Khartoum and the RCN's support in 2023 of successful evacuations from Sudan under *Operation Savanne* bookend numerous land, air and sea deployments by the Canadian Armed Forces (CAF) to the continent.

As John Holmes said in 1987, "[t]he first priority of Canadian defence policy is not and has not been for a century the defence of Canada ... [it] is the defence of an international system favourable to our security and survival."[3] What is almost always neglected in any such considerations is the role that the RCN has played when Canada has acted in Africa.

Canadians are likely to have minimal appreciation for the developing use of Canadian seapower in African waters. This is a development which requires more strategic focus and rationale, both to avoid policy whims and misinterpretations but also to enhance intended effects. Assessment of recent Canadian naval deployments indicates that African waters are becoming increasingly important for Canadian applications of seapower far from Canada's 'traditional' maritime regions. While this is not a new development – the RCN helped to deploy and sustain peacekeepers in Suez in the 1950s, supported humanitarian intervention in Somalia in the early 1990s and anti-piracy efforts in the late 2000s, and frigates were integral to the 2011 United Nations-authorized military operations against the Muammar Gaddafi regime in Libya – the challenge in understanding the recent regularization of Canadian seapower in African waters remains. Too often these deployments are understood as discrete events, not in relation to the African continent as an important geopolitical subject of its own.

A review of 114 expert submissions to the defence policy review process in 2016 indicates that only eight experts referenced Africa in any way.[4] The updated *Leadmark 2050* mentioned the continent eight times in 2016,[5] and the 2017 Canadian defence policy, *Strong, Secure, Engaged* (SSE), mentioned the continent nine times.[6] However since 2017, RCN attention to building relationships with African navies and experience in African waters has increased.[7]

There has not been any systematic consideration of why the RCN increasingly deploys to African waters compared to the analysis of Canadian seapower elsewhere. Even before the new Indo-Pacific Strategy (IPS) was released in November 2022, analysis of Canadian security policy in the *Indo-* part of the Indo-Pacific region often failed to mention Africa,[8] even though East Africa, including various island states, makes up the western boundary of the Indian Ocean.

There is no official pronouncement or policy on Canada's projection of seapower around the continent. However, *SSE* provides some minimal clues, as does the more recent attention to broader policy adjustments. There are diplomatic and economic cooperation issues on which the Canadian government is working to incorporate in new strategies for foreign and trade policy in relation to the African region.[9] So, why is Canada not prioritizing these deployments on an ongoing basis? And, if this reorientation makes sense, what might be done better?

This discussion of Canadian seapower and African maritime security will first examine the presence of the RCN around the continent since 2017 including operations, exercises and 'defence diplomacy.' Second, it will examine *SSE* and the RCN's *Leadmark 2050* which provide *some* of the strategic context for those deployments, while identifying how Canadian deployments are slotting into American grand strategy. Finally, a deeper analysis of Africa in the context of Canadian seapower provides some initial considerations for maximizing limited resources towards security and other foreign policy objectives. Deploying to the continent is not an easy task and there are clearly opportunity costs involved when vessels and personnel are not being sent elsewhere. These deployments are neither an aberration nor unwarranted, but they are ripe for strategic assessment and refinement.

Canadian Seapower 'Surge' in African Waters since 2017

What are some of the operations and exercises the RCN has undertaken in African waters in recent years? In 2019, the RCN deployed ships along both the West and East coasts of the African continent for extended periods, as well as in the Mediterranean. An entire Canadian headquarters staff under Commodore Darren Garnier commanded Combined Task Force 150 (CTF 150) from Bahrain between December 2018 and April 2019. CTF 150 is the multilateral mission under Combined Maritime Forces (CMF), a coalition of 39 states that has worked to promote security and stability in Middle Eastern and East African waters since 2001. Commodore Josée Kurtz took command of Standing NATO Maritime Group Two (SNMG2) in the Mediterranean in June 2019, with HMCS *Toronto* as her flagship. A separate initiative in Tunisia during 2016-2019 trained naval personnel in board-and-search operations.

Credit: S1 Taylor Congdon, Canadian Armed Forces

*Members of the US Navy and Naval Replenishment Unit **Asterix** assess plans for maritime coordination in support of **Operation Savanne** onboard MV **Asterix** in the Red Sea on 28 April 2023.*

At the beginning of 2021, Canadians took over leadership positions for two separate multilateral maritime commands around the African continent. Commodore Bradley Peats assumed command of Standing NATO Maritime Group One (SNMG1), which has responsibilities in northern Atlantic waters but has also operated off Africa. Commodore Dan Charlebois assumed command of CTF 150, the fifth time for a Canadian. While it is unusual to have two major multilateral naval missions commanded by Canadians concurrently, the fact is that both missions operate astride Africa and have in the past conducted operations and exercises in African waters. The RCN also resumed, after a one-year hiatus due to Covid-19, its annual winter training cruise that commenced in 2017 which sends two *Kingston*-class maritime coastal defence vessels (MCDVs) to West Africa as part of *Operation Projection-West Africa*.

In addition to *Operation Projection*, since 2017 the RCN has been a regular participant in the American-coordinated Obangame Express exercise in the Gulf of Guinea, followed by Phoenix Express off North Africa in 2018. During the 2018 cruise across the Atlantic, exchange officers from Ghana and Côte d'Ivoire were aboard Canadian vessels. While in West Africa, the ships and their crews conducted a range of activities, from improving maritime domain awareness and building strategic relationships with partner navies, to training and exercises focused on interdiction and boarding.[10] Table 1 highlights RCN deployments to West African waters since 2017.

It has become clear that the small size of the *Kingston*-class vessels eased port of call options as well as enhanced training alongside West African navies that mostly possess patrol vessels not frigates or larger ships. So, lower operating costs, vessel size, crew size, relevant capabilities and roles all make sense for training, operations and defence diplomacy purposes in West Africa. Defence diplomacy also plays a big part of port calls,[11] from hosting local military and political leaders aboard to crews' community

outreach to meet local kids, play sports, repair facilities and, often, highlight women's roles as leaders and skilled crewmembers as examples for local women and girls.

In addition to the regularization of these annual deployments (except 2021 due to Covid-19 restrictions), the RCN has quickly expanded its contact with navies across West Africa. Some countries, including Togo, received their first Canadian naval visit ever. Each deployment can involve five or more port calls plus interactions with additional African navies during exercises. In a few short years, the RCN has established both regular relationships and expectations of ongoing Canadian presence in the region. That the incidents of piracy in the Gulf of Guinea have dropped over the last few years cannot be attributed to the annual weeks-long presence of two small Canadian warships, but Canada's presence, training and support of regional capacity certainly enhances regional efforts under the 10-year old Yaoundé Code of Conduct.[12]

CMF-related activities in East Africa, participation in the American-led Phoenix Express exercise with North

Table 1. RCN Deployments to West Africa/Gulf of Guinea since 2017

2017-2023 Operation Projection - West Africa 2017-2023			
Dates	**RCN Ships**	**Visits and/or navy contacts**	**Exercises**
In 2017, the training task force sailed to West Africa under Neptune Trident 17-01			
(1) 18 Feb-May 2017	HMCS *Summerside*	Freetown, Sierra Leone	Obangame Express 2017
	HMCS *Moncton*	Abidjan, Côte d'Ivoire	
		Dakar, Senegal	
		Monrovia, Liberia	
Beginning in 2018, Operation Projection - West Africa			
(2) 26 Jan-April 2018	HMCS *Kingston*	Lagos, Nigeria	Obangame Express 2018
	HMCS *Summerside*	Dakar, Senegal	Phoenix Express 2018/land
		Abidjan, Côte d'Ivoire	
		Monrovia, Liberia	
		Ghana, Benin, Cape Verde	
		Togo, Guinea navies (at sea)	
(3) Jan-April 2019	HMCS *Shawinigan*	Abidjan, Côte d'Ivoire	Obangame Express 2019
	HMCS *Kingston*	Cotonou, Benin	Phoenix Express 2019/sea
	Command teams 50% female/male	Lomé, Togo	[Casablanca, Morocco]
		Takoradi, Ghana	
		Dakar, Senegal	
		Monrovia, Liberia	
(4) 26 Jan-9 April 2020	HMCS *Glace Bay*	Porto Grande, Cape Verde	~~Obangame Express 2020~~
	HMCS *Shawinigan*	(Recalled March 17th due to Covid-19)	~~Phoenix Express 2020~~
			Exercises cancelled/Covid-19
No deployment in 2021 due to Covid-19			
(5) 20 Jan-15 April 2022	HMCS *Goose Bay*	Freetown, Sierra Leone	Obangame Express 2022
	HMCS *Moncton*	Accra/Tema, Ghana	
		Abidjan, Côte d'Ivoire	
		Lagos, Nigeria	
		Dakar, Senegal	
		Togo, Benin Navies	
(6) 9 Jan-28 Feb 2023	HMCS *Glace Bay*	Cape Verde	Obangame Express 2023
	HMCS *Moncton*	Ghana	Feb. 28 retasked to Operation Globe/Haiti patrols
		Sierra Leone	
		Côte d'Ivoire	
		Liberia	
		Nigeria	

Credit: Provided by Authors

African navies and small-scale Maritime Tactical Operations Group capacity-building with the Tunisian Navy between 2016 and 2019 expand the network of recent interactions with West African navies to include many in North and East Africa. This interaction has resulted in an extensive network of partner relationships across more than half of African coastal states. Table 2 lists African navies with which RCN ships or personnel have interacted since 2017.

Overall, the RCN has not been this active in African maritime domains since the Second World War. This is the result of regionally-focused operations and exercises, and adjacent deployments in or near African waters including NATO, CMF and the recent *Operation Projection* task force to the Indo-Pacific region that put *Asterix* and *Montreal* near Sudan at the right time.

Domestic and International Policy Dimensions of Canadian Seapower and Africa

In a 2016 survey of 25 Canadian experts about how Canada should best engage in African security issues, there was limited consensus on specific policy ideas and priorities. However, one area of significant agreement was that the RCN "should play a bigger role in partnership with African navies and coast guards in terms of training, human smuggling and narcotics interdiction, and counter-piracy and [counter-]illegal fisheries patrols."[13] This also seems to have garnered consensus among policy-makers and planners in Ottawa. In the 2016 *Leadmark 2050* update, alongside regular references to frigate contributions to anti-piracy off the coast of Somalia from 2008, there are various forward-looking suggestions about operations in the Gulf of Guinea. This includes an imaginary vignette of a future deployment of two *Harry DeWolf*-class Arctic and Offshore Patrol Ships (AOPS), with a Cyclone helicopter detachment, conducting maritime surveillance, interdiction and local capacity-building with coastal states.[14] The entire vignette outlines the suitability of AOPS for distant, warm-water operations, fulfilling a range of tasks including those mentioned above plus defence diplomacy and inter-governmental cooperation. Despite their Arctic patrol duties, the AOPS are equipped with air conditioning whereas the *Kingston*-class vessels are not. However, none have yet conducted any cross-Atlantic deployments. Still, *Leadmark 2050* signalled RCN expectations for a greater presence in West African waters and acknowledged past, and potentially future, demands for anti-piracy and counter-terrorism tasks elsewhere.

While the promised defence policy update still seems far off, *SSE* provides some rationale for those regular *Kingston*-class deployments to West Africa. There is no mention of maritime piracy or the Gulf of Guinea, but there are broader guides to Canadian security engagement in Africa. First,

Table 2. RCN Interactions since 2017

REGION	AFRICAN NAVIES
West Africa	Benin
	Cape Verde
	Côte d'Ivoire
	Ghana
	Guinea
	Liberia
	Nigeria
	Senegal
	Sierra Leone
	Togo
North Africa	Algeria
	Egypt (CMF)
	Mauritania
	Morocco
	Tunisia
Eastern and Southern Africa	Comoros
	Djibouti (CMF)
	Kenya (CMF)
	Mozambique
	Seychelles (CMF)
	Tanzania

CMF = Combined Maritime Forces.

Credit: Provided by Authors

SSE recognizes rising regional and economic powers in Africa and that this requires "fostering new partnerships" to promote peace within the existing international system. With a youthful population and extensive natural resources, the continent will play a central role in global economic, demographic and energy transitions for decades to come. Second, *SSE* also recognizes that while some African states have made progress towards peace and prosperity, other states "struggle with conflict and fragility" as the characteristics of conflict change and the propensity to use violence (including terrorism) increases. Conflict resolution, including multilateral peace and stabilization missions, will require that the CAF "develop stronger relationships with other multilateral partners, such as the European Union, regional actors, such as the African Union, and like-minded states, like those of the *Francophonie*, to further enhance global capacity to promote peace and stability."[15]

Third, the global defence partnership section on Africa explicitly adopts an "integrated whole-of-government approach" for the defence team, invokes support for the UN Sustainable Development Goals, peace operations, development, "empowering women and girls" and stresses building new bilateral relationships. *Operation Projection-West Africa* incorporates most of these objectives.

Credit: U.S. Navy photo by Mass Communication Specialist 1st Class Fred Gray IV

*HMCS **Goose Bay** (MM 707) and HMCS **Moncton** (MM 708) participate in a passing exercise with the Expeditionary Sea Base USS **Hershel 'Woody' Williams** (ESB 4) while sailing near Dakar, Senegal, 20 March 2022.*

Fourth, *SSE* also points out the importance of working closely with traditional NATO allies. Canadian participation in US Africa Command's Obangame Express in the Gulf of Guinea, and occasional participation in Phoenix Express in the Mediterranean and Cutlass Express in East Africa, illustrates some new and sustained Canadian commitment to broader American and NATO efforts in African waters. The support provided by *Asterix* and *Montreal* to NATO partners during the Sudan evacuations in 2023 was important and may raise allied expectations about Canada's ongoing presence in African waters.

Those expectations will compete with Canada's explicit prioritization of the Indo-Pacific region, a term never used in *SSE* when the focus was on the Asia-Pacific region. Originally, 'Indo-Pacific' as a geographical construct, including under President Barack Obama, recognized the western boundary of the Indian Ocean as the East Coast of Africa including four African island states. But since a terminological change in the US National Security Strategy under the Donald Trump administration in late 2017, the emphasis on a "Free and Open Indo-Pacific" aligned geographically with US Pacific Command.[16] That meant the western Indian Ocean was divided between Central Command (CENTCOM) to the North (including the Red Sea and Egypt) and Africa Command (AFRICOM) from Kenya's Exclusive Economic Zone (EEZ) to the South.

It is no surprise, then, that neither Africa nor any specific African country is mentioned in Canada's recent Indo-Pacific Strategy.[17] Canada is aligning its strategic orientation to mirror the American command structure. But that ignores how those countries situated in the Indian Ocean organize themselves (e.g., the Indian Ocean Rim Association spearheaded by South Africa and India in the mid-1990s). If Canada is going to do this for the Indo-Pacific, should it then develop a broader Africa strategy that mirrors the operational area of AFRICOM? That seems to be happening by default as Canada 'chops in' late to various multinational exercises organized by AFRICOM and works closely with CMF which effectively multilateralized CENTCOM's areas of responsibility. However, there are drawbacks to positioning Canadian support for African maritime security simply through existing American (or any outsider) policy and structures.

Conclusion: Theorizing Canadian Seapower and Africa Maritime Security

In a strange coincidence, the 386 Nile Voyageurs who set out for Sudan via Egypt in 1884 are roughly the same number as the combined crews of HMCS *Montreal* and MV *Asterix* which provided evacuation support from Sudan in the Red Sea in April 2023. The presence of these ships lends credence to the fact that ships in the right place at the right time can deliver significant operational effects. Given global economic and geopolitical trends, the RCN deployments are neither an aberration nor unwarranted, but they are ripe for strategic refinement.

If Holmes was correct about the defence of Canada, support for the rules-based order everywhere includes the African maritime domain. The absence of African capacity to control territorial waters and patrol EEZs can lead to broader systemic breakdown. Somali piracy only emerged after the collapse of the Somali state in the early 1990s – and it has been argued that the piracy developed in response to illegal, unreported and unregulated (IUU) fishing, and exploitation and pollution of Somali waters by industrial fishing and shipping fleets that occurred without consequences in the absence of a functioning state.[18] Thus, the integration of African maritime security into Canadian forward security and seapower thinking would be a sign of a maturing strategic outlook.

There are additional considerations that support current trends but could also influence future procurements and planning. First, Canada needs to take Africans' agency over their maritime domains seriously. Where possible, Canada should differentiate its maritime partnership in African waters from others (United States, France, UK, NATO, China, Russia, India, etc.) especially in relation to IUU fisheries, pollution and biodiversity protection (e.g., support of new High Seas Treaty objectives), port security, and smaller vessel training and capacity building. As well, Canada should consider exercises outside AFRICOM or CMF frameworks which could include support for peace, humanitarian, or climate-response operations training (some African navies have capabilities that the RCN does not). Canada shares more resource constraints with African navies than large vessel, large fleet navies, and that reality can build stronger relationships especially if shared challenges and learning become a two-way street.

Credit: Timothy Choi

A model of the 'Vigilance' offshore patrol vessel proposed by Vard and SH Defence to replace the ***Kingston****-class. It incorporates a larger hull and modular equipment spaces to reflect expanded mission sets and operating areas.*

Second, Canadian regional and domain expertise should be built up so that it becomes a resource for both African maritime security partners and US/NATO/Indo-Pacific partners, showing direct support for the African Union's "Africa's Integrated Maritime (AIM) Strategy 2050," as well as regional and national maritime strategies. As well, Canada should investigate opportunities beyond CTF 150/151 to include the newer CTF 153 and 154 (Red Sea and overall training/capacity-building functions, respectively) initiatives of CMF.

Third, naval training and capacity building (including maritime domain awareness centres) mostly avoids dilemmas around training land forces. As the coup in Niger in July 2023 illustrates, training special forces or other army elements may have political implications. Rarely do African navies get heavily involved in domestic politics, except to plead for new ships or at least fuel to go to sea. Given their relatively small size, their offshore orientation and their ongoing struggles to retain capabilities, African navies in fragile or transitioning political systems may present low levels of partnership risk.

Fourth, few people thought that the *Kingston*-class MCDVs would end up on annual deployments to West Africa when they were first delivered in the 1990s. However, while the AOPS have been planned with that possibility in mind, they will be few in number, and their primary focus will be Canadian waters including the Arctic. AOPS are also much closer to frigate-sized and will remove the familiarity that many West African naval personnel have with ships more akin to the *Kingston*-class. While an occasional AOPS deployment to African waters will be desirable, as well as frigates and replenishment vessels, replacement design for the 12 *Kingston* MCDVs should acknowledge the likelihood of African maritime operations, incorporating lessons learned over the last few years. That might include better ocean-crossing capability (a bit larger and faster), capability in hot weather operations, and perhaps even specific capabilities that enhance training and operational requirements of African partner navies.[19]

As Lieutenant-Commander Matthew Woodburn, Commanding Officer of HMCS *Kingston*, said in a 2019 interview, "[m]aritime security is not just a West African problem, it is an international problem."[20] If that sentiment is fully integrated into a 21st century forward security framework, the RCN will be ready and equipped to build on the last seven years of operations in African waters and relationship-building with multiple African navies.

Notes

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6. Government of Canada, *Strong, Secure, Engaged: Canada's Defence Policy*, released 7 June 2017.
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10. The Canadian Coast Guard has also contributed land-based officers to conduct training during Obangame Express at the ECOWAS Multinational Maritime Coordination Centre (MMCC) in Ghana.
11. A good, recent overview of maritime defence diplomacy is Lieutenant-Commander Ryan G.S. Bell, "Canadian Maritime Defence Diplomacy: Canada's Ambassadors at Sea," CFC JSCP 46 Thesis, 2020.
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17. Global Affairs Canada, "Canada's Indo-Pacific Strategy," Ottawa, 27 November 2022.
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19. The limitations of the *Kingston*-class are known. See S.W.D. Swan, "Kingston-class Ships: Less Than Meets the Eye," RUSI (NS), 1 August 2023.
20. Lieutenant-Commander Matthew Woodburn, Commanding Officer of HMCS *Kingston*, 5 April 2019 (video interview), available at https://fb.watch/lNkrhC-8W8/.

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Learning Destroyers: Harry DeWolf and HMCS *Patriot*, 1925-1926

Michael Whitby

Surface ship sailors in the interwar Commonwealth navies, including the Royal Canadian Navy (RCN), often had clear preferences for the types of ships in which they wanted to serve. Some favoured so-called 'big ships' – battleships, carriers, cruisers and the like – preferring their grandeur and the sheer power they represented, while others sought the opposite, embracing the dashing, 'jacks of all trades' identity of destroyers. Harry DeWolf, the most celebrated sailor in Canada's naval history, was proud to reside in the destroyer camp. Although he achieved his legendary status from his exploits in command of HMCS *St. Laurent* and *Haida* during the Second World War, his love of destroyer life was sparked by his time in HMCS *Patriot* as a 22-year-old Sub-Lieutenant during the mid-1920s.

Credit: DeWolf family via author

A portrait of Harry G. DeWolf as a Lieutenant in the mid-1920s.

Upon joining the ship in August 1925, DeWolf found *Patriot* a revelation. His only previous sea time had been two years in the Royal Navy (RN) battleship HMS *Resolution*, a 31,000-ton behemoth boasting all the majesty and power of modern dreadnoughts. In comparison, *Patriot* must have seemed fragile and insignificant. Along with a wider variety of service, destroyer time presented an opportunity to a young officer like DeWolf. Rather than the dozens of officers in a battleship, there were just a handful in destroyers, which brought increased individual responsibility. A young British officer, who like DeWolf moved from capital ships to destroyers, hailed the contrast: "I [became] a fully fledged officer of the ship, though still very young and inexperienced, with proper duties and responsibilities."[1] As DeWolf would attest, destroyers provided a wonderful opportunity to achieve, and even accelerate, professional growth.

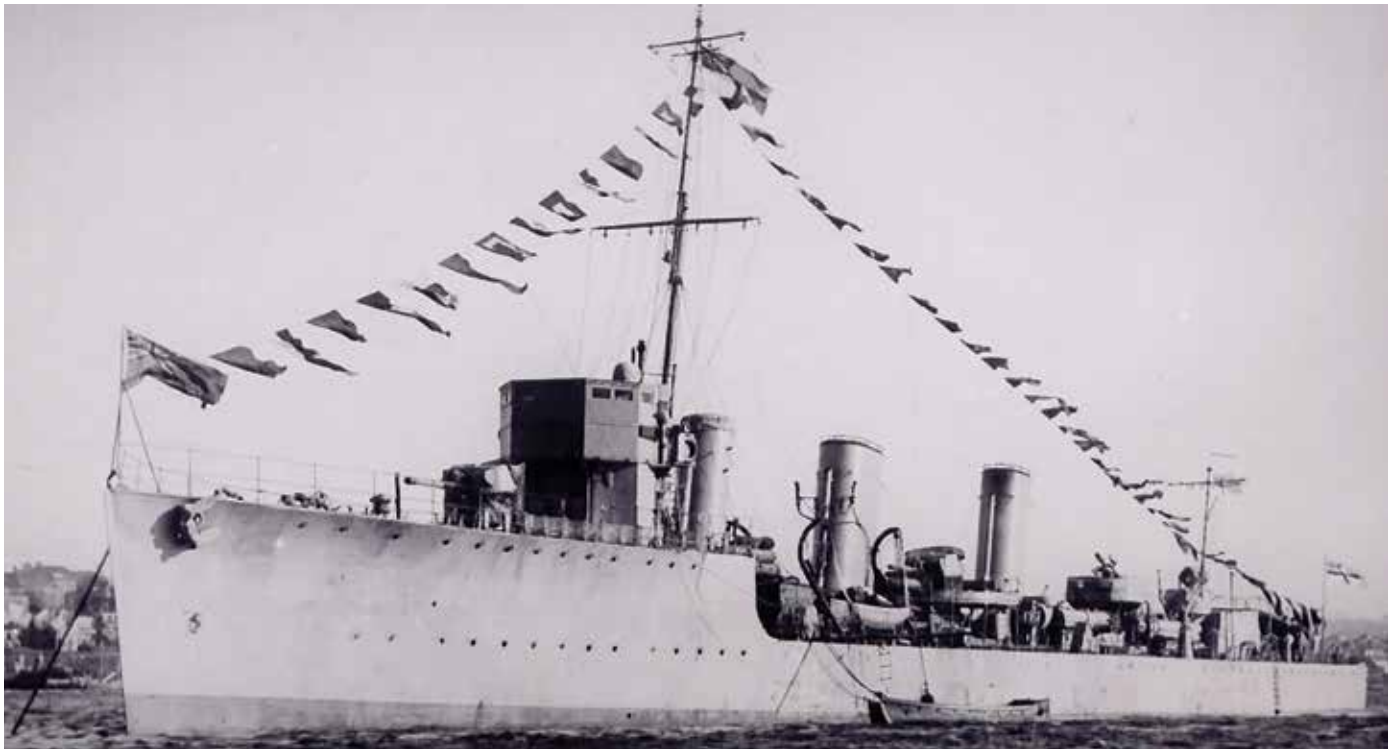
One of 85 British 'Admiralty M-class' destroyers ordered just before the First World War, *Patriot* displaced just 985 tons with a length 274 feet, a beam of 27 feet and a draught of 10 feet, making it much smaller than a modern Canadian *City*-class frigate. Armament consisted of three 4-inch guns, a 2-pounder pom-pom and two twin 21-inch torpedo mounts, but speed was the ship's key asset, and *Patriot*'s oil-fired turbines drove it to an impressive 37.34 knots on sea trials. Though a valuable warship, *Patriot* was not intended for long service. Explaining the planned longevity of Britain's war-built destroyers, the Admiralty emphasised that they "are for the present war," and that practical, short-term outlook applied readily to *Patriot* by the time it entered Canadian service.[2] Built with poor quality steel and to inferior construction standards typical of war time, after being commissioned in June 1916 the ship had sustained two-and-a-half years hard steaming with the Grand Fleet. Consequently, the fragile destroyer was run-down when the RCN accepted it and sister ship *Patrician* in November 1920. The initial inspection report noted that although "stable and seaworthy," the destroyer would require continual maintenance to keep it running.[3] That proved prescient. After four-and-a-half years in Canadian service, and two months after DeWolf joined, *Patriot*'s commanding officer reported that the ship had only been kept running through the "zeal" of the engineering department. According to him, "[t]he age of the ship, the lack of thoroughly satisfactory refits, chiefly due to the inferior quality of stores supplied for making good defects, greatly increase the responsibility of the Engineer officer" and "may cause a serious accident."[4]

Besides being run-down, *Patriot* had not been designed with comfort in mind. The M-class ships were intended for relatively short jaunts into the North Sea and thus featured austere facilities for their 80-odd sailors. There was

little shelter on deck, and the compass platform or 'monkey's island' where DeWolf stood watch, though covered, was badly exposed and, because it was situated relatively far forward, it vibrated heavily and was battered by waves under stormy conditions. Only a few square metres in size, it was cramped with little space for shelter. Accommodations were no more commodious. Officers had small single cabins, and sailors were allocated just 18-inches of space to sling their hammocks in their confined mess deck. Poor ventilation made for stuffy conditions below deck, messing arrangements were rudimentary and sailors had to bathe in portable hip baths. Also, though fast and manoeuvrable, *Patriot*'s narrow beam made it ill-suited for the northwest Atlantic and the ship rolled heavily in anything approaching rough seas causing further discomfort for sailors.

Since Harry DeWolf suffered from chronic seasickness, *Patriot*'s 'tenderness' at sea emerged as a rare blemish upon destroyer life. "The sea," in the words of one seasoned officer, "is an unnatural element for man, and his system revolts against it. Nearly everyone feels sick, or senses some degree of nausea, on putting to sea."[5] Whereas most sailors get over the condition within a day or so of leaving harbour, it lingered wretchedly for chronic sufferers like DeWolf. *Mal de mer* plagued him his entire career, and its effects were particularly brutal in small destroyers. DeWolf was typically sick for days after leaving harbour, retching into the bucket he always kept in close reach. One sailor remembered, "he would carry his bucket with him up to the bridge, hang it on a voice pipe, use it if necessary, and afterward carry it down and wash it out himself. I thought it was a damned good show."[6] Although remaining a chronic victim, DeWolf learned to ameliorate symptoms so that it never became debilitating – rather than sleeping horizontally in his bunk, for example, he propped his back against the bulkhead to lessen the effects of vertigo. Despite such efforts, the symptoms never fully dissipated. In the end, as with many others, it was just something he learned to withstand and accepted it as a necessary price of service in destroyers.[7]

Despite *Patriot*'s imperfections, DeWolf immediately felt at home. As the junior 'Sub' in a wardroom of six officers – he was promoted Lieutenant on 1 April 1926 – he was saddled with myriad responsibilities. Besides formal appointments as navigator and gunnery officer, he assumed the tasks of mess secretary, wine caterer and correspondence officer. Additionally, as a divisional officer, he worked with a senior rating to oversee the discipline, welfare and training of a small group of sailors. So, there was lots to experience, and even more to learn. DeWolf's first commanding officer moved on after six weeks so had little influence, but the same cannot be said of his successor, Lieutenant Cuthbert Taylor, who ensured DeWolf received "a very good upbringing." Looking every inch the grizzled sea dog, the stocky, barrel-chested Taylor "was a fine skipper and a real traditionalist." DeWolf recalled that "he believed in all the things we were brought up to believe in those days. He was a very good sailor; good seaman." He had a bite and "would curse an officer in very coarse language in front of the crew; but that was why he



Credit: Royal Canadian Navy, MC-10024

HMCS ***Patriot****, dressed overall circa 1922.*

was so respected." Most significant to DeWolf's development, Taylor taught him the finer points of being a ship's pilot. According to DeWolf, "[i]t was not so much learning the navigation from him, rather I learned to do my job as navigator…. If we didn't end up in the right place, at the right time, he would want to know why." With increased responsibility, a captain to admire, a collegial wardroom and a ship's company small enough for a young officer to get to know on an individual basis, it is no surprise that DeWolf described his time in *Patriot* as "delightful."[8]

DeWolf's experience in *Patriot* was shaped by the seasons. Summers were spent in local waters conducting exercises, training reservists and visiting ports around the Maritimes and up the St. Lawrence River. In winter, when the northwest Atlantic was at its harshest, the destroyer rarely stuck its bow outside Halifax and spent most of its time alongside the dockyard. The work during summer sharpened DeWolf's growing skill as a navigator. *Patriot* would often head into the limited waters of the Bras d'Or Lakes in the interior of Cape Breton Island for gunnery and torpedo exercises. Not only were the lakes restricted for a vessel the size and performance of a destroyer, but passage from the Atlantic was made via the narrow St. Peter's Canal. His navigation was further challenged by numerous entries into smaller harbours such as Charlottetown, Chester and Shelburne.

Patriot's movements were often hampered by the thick fog that typically enveloped the Maritimes in summer, and with radar an innovation far in the future, the destroyer often had to anchor in harbour approaches to await clear visibility. All the while, Taylor's scrutiny was tight, and one can imagine his wrath if his navigator let him down. Beyond testing DeWolf's skills, the seemingly endless port visits taxed the destroyer in other ways. Each time *Patriot* opened its brow to the public, the ship and its sailors came under the sharp eye of local dignitaries and press. Since the object was to create a favourable impression of the navy to spur recruitment, the ship had to be kept in sparkling condition meaning considerable time had to be devoted to polishing brightwork and otherwise keeping the ship immaculate. Ashore the ship's company was largely at the beck and call of local organizers, and mingled with the communities in many ways, but mostly playing sports against local teams – an outstanding athlete, DeWolf typically shone in those matches. A bout of shore leave usually followed activities but sailors, some of whom were 'seeing the world' for the first time, had to guard against any misbehaviour that could taint *Patriot*'s reputation. All of this added to the education of a divisional officer, who, too, was adjusting to the life.[9]

An incident in DeWolf's second summer in *Patriot* encompassed the challenges that destroyer service could offer a young officer – it also gave him his first taste of the perils of the sea. On the evening of Thursday, 7 August 1926, *Patriot* was anchored off Louisburg, Nova Scotia, on the northeast coast of Cape Breton Island awaiting fog to lift to enter the harbour for yet another port visit. Shortly before 2230 the destroyer picked up a distress call from the 1,063-ton steamship SS *Ringhorn* reporting it was aground on Portnova Rock less than an hour's steaming to the northeast. Lieutenant-Commander Taylor recognized that any rescue would be difficult "in view of the dense fog and extremely dangerous nature of the coast in the vicinity," so "rather than risk HMC Ship under my command," he queried *Ringhorn*'s Master by radio if he could get his crew to safety by boat. The merchant skipper replied that his ship was pounding badly, so Taylor weighed anchor.

*Harry G. DeWolf, as Commander and Commanding Officer of the destroyer HMCS **Haida**, 5 May 1944. His love of destroyers began with the much more humble HMCS **Patriot**.*

DeWolf had the middle watch from midnight to 0400 but, under such circumstances, as navigator he would have been on the cramped compass platform in any event. With lookouts straining to see through the darkness and fog, the destroyer edged its way northeast, the powerful 20-inch searchlight beaming vertically into the heavens in hope that *Ringhorn* would spot it and guide them to its position. For the moment, seas remained fairly docile. When *Patriot* approached Portnova Rock at 0015, the fog lifted

momentarily, and Taylor gingerly moved through the area shining the searchlight on the rocks and shoals looking for the steamer but to no avail. Meanwhile, DeWolf pinpointed the location of a particularly threatening reef just southwest of Portnova Rock, and when the fog closed down again at 0040, "in view of the extremely dangerous nature of the coast, and no lights or buoys in the vicinity," Taylor decided to anchor until visibility improved. There *Patriot* waited, exposed amongst the hazardous rocks and shoals, watchkeepers and lookouts peering into the murk for the rockets Taylor had asked *Ringhorn* to fire off.[10]

With little warning the northwest Atlantic introduced its harsh whimsies into the drama. The barometer had begun falling rapidly at midnight and at 0130 the wind rose from the east-southeast churning up a moderate swell. Although they were in contact by radio there was still no sign of *Ringhorn*. Heavy rain reinforced the fog at 0300, and conditions quickly deteriorated. When Taylor checked the anchor cable an hour later, he discovered it was "coming home," and immediately weighed. When sailors led by Lieutenant Frederick Hart began to haul in the anchor, "the wind suddenly increased to storm force, and the seas were washing down the forecastle making it dangerous to work cables." *Patriot* now found itself at the mercy of a full gale, and the log recorded Force 10 winds with seas running from 9 to 10 feet. Adding to the peril, the anchor had dragged more than appreciated and when the rain stopped for an instant, the reef that dominated Taylor's attention was unveiled "close under the beam."

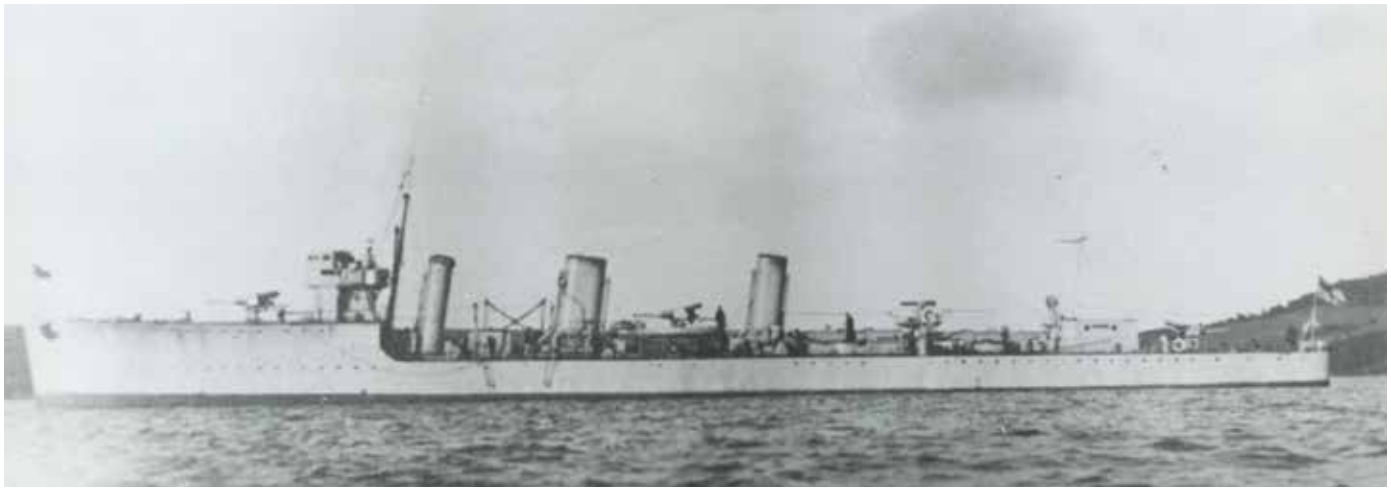
In danger of going on the rocks to be torn apart by the breaking seas, Taylor ordered Hart, who had been "nearly washed over the side twice by green seas breaking over the forecastle," to slip the anchor cable. It was a dicey moment. "As the ship had been dragging sideways down unto the reefs during this operation," Taylor reported, "it was necessary to back full speed astern. In so doing the after storerooms, cabins, and engine room were flooded

Credit: Royal Canadian Navy

*An undated overhead photo shows HMCS **Patriot**'s narrow lines.*

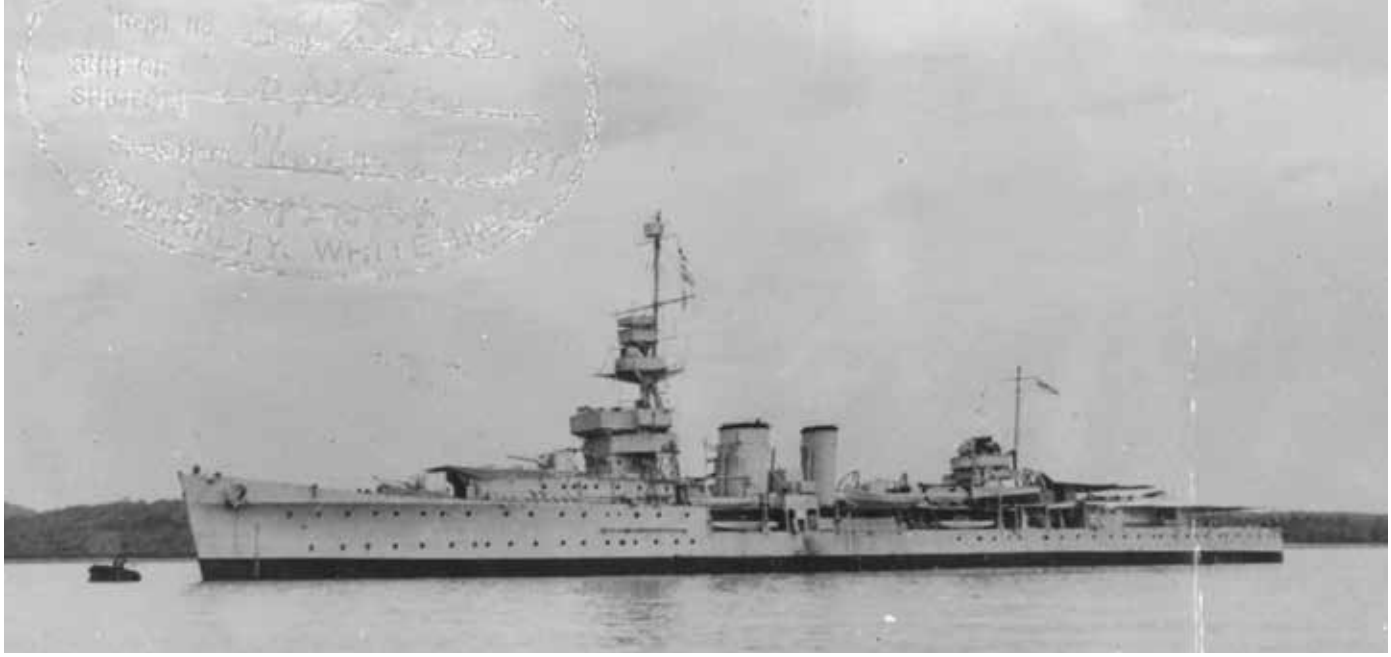
by being pooped." Once the anchor was jettisoned, Taylor set revolutions for 15 knots, the most the destroyer could manage in the heavy seas. Once clear, he informed Halifax that he had not communicated with *Ringhorn* since 0256, and "owing to weather conditions I did not think *Patriot* could be of any assistance to *Ringhorn*, and in view of the present weather conditions it was impossible for *Patriot* to remain in such a dangerous vicinity."[11]

Plunging through the gale at eight knots, a battered *Patriot* reached Halifax at 1400 the next day. Besides the lost anchor and cable, upper deck fittings had been ripped away, hull and electrical gear damaged, and spaces aft flooded. To their frustration, *Patriot*'s sailors learned "that *Ringhorn* was not on reefs in vicinity of Portnova, but on rocks in Tin Cove Scatari, about four miles to the NE of Portnova."[12] It was probably of no consequence. Even if *Ringhorn* had reported its position accurately, unless the destroyer had found the steamer before the gale hit, there was little it could have done. As it was, *Ringhorn* was a



Credit: Royal Canadian Navy

*Undated image of HMCS **Patriot**.*



Credit: Imperial War Museums

The ***C****-class cruiser HMS* ***Capetown*** *on which Harry DeWolf served while* ***Patriot*** *was in winter refit.*

total loss and, sadly, five of the crew perished. *Patriot* had come close to sharing the same fate. Captain Walter Hose, Director of the Naval Service, applauded *Patriot*'s effort, observing "seamanship ability of a very high order was displayed in extricating her from her dangerous position."[13] In the end, the incident had to be an eye-opener for *Patriot*'s young navigator. DeWolf would have been on the cramped, exposed compass platform throughout, and though he might have been remiss in failing to detect the changing anchor bearings, the evidence available suggests he performed well under trying conditions. Beyond the confidence that instilled, the affair provided an enduring lesson about the vulnerability of ships to the breathtaking power of the sea.

DeWolf was to spend only a few more months in *Patriot*. Plans called for the destroyer to spend the winter of 1926/27 working out of Bermuda, but RCN authorities thought the ship's fragile condition made the deployment too risky and instead put it into refit at Halifax. Rather than languishing there, its officers and key ratings were scattered amongst the cruisers of the RN's Americas and West Indies Squadron at Bermuda. DeWolf joined HMS *Capetown* for a show-the-flag cruise around South America via Cape Horn, which added to his education as a navigator. *Patriot* only emerged from refit in June 1927 and DeWolf's short remaining time in the destroyer amounted to a brief cruise up the St. Lawrence before he left the ship for good in September to attend specialist navigation courses in the UK.[14] Taylor's final report evaluated him as "Exceptional" in "Power of Command" and "Reliability," "Above Average" in everything else, and described him as "a born leader."[15]

A British officer trumpeting the benefits of destroyer service during the interwar period claimed that "they inculcate dash, nerve, initiative; and service in them brings out all the sailor in officers and men."[16] Harry DeWolf would have agreed, and he later reflected that his time in *Patriot* prepared him well for service in Canada's destroyer navy. Over the next dozen years, interspersed with training and operational service with the RN, he expanded his destroyer experience in *Vancouver*, *Champlain*, *Skeena* and *Ottawa* before taking command of *St. Laurent* in October 1939. By then, he had grown to excel at the destroyer business and would go on to meet great success, the foundation of which had been laid in those early days in *Patriot*.

Notes

1. Commander A.F.C. Layard, RN, quoted in Michael Whitby (ed.), *Commanding Canadians: The Second World War Diaries of A.F.C. Layard* (Vancouver: UBC Press, 2005), p. 17.
2. E.J. March, *British Destroyers: A History of Development, 1892-1953* (London: Seeley Service, 1966), p. 175.
3. Consulting Naval Engineer, "Condition of *Aurora*, *Patriot* and *Patrician*," 10 January 1921, Library and Archives Canada (LAC), RG 24, Vol. 5633, NSS33-1-1 Vol. 1.
4. *Patriot*, Report of Proceedings (ROP), 6 October 1925, LAC, RG 24, Vol. 5633, File NSS 33-7-5 Vol. 1.
5. Sam Lombard-Hobson, *A Sailor's War* (New York: St Martin's Press, 1983), p. 53.
6. W.A. Manfield, quoted in Hal Lawrence, *Tales of the North Atlantic* (Toronto: McClelland & Stewart, 1985), p. 107.
7. The author once asked Harry DeWolf if he'd ever gone to sea in a corvette, which had the reputation of rolling heavily in even light seas, "God no," he replied "it would have killed me!"
8. DeWolf to author, 10 November 1992. Taylor also lived hard. When officers at Stadacona held a mess dinner to mourn draconian cuts the RCN suffered in the 1922 federal budget, having dined well indeed, he was carried from the wardroom by his mates slurring "I've seen a Navy die, boys; I've seen a Navy die."
9. "Brief History of HMCS *Patriot*," Directorate of History and Heritage (DHH), 81/520 Patriot 8000, pp. 45-47.
10. *Patriot*, Monthly Log, 9 August 1926, LAC, RG 24 Vol. 7728: and *Patriot* ROP, 10 August 1926.
11. *Patriot* ROP, 10 August 1926.
12. *Ibid*.
13. *Ibid*.; Senior Naval Officer Halifax to NAVSEC, 9 August 1926, LAC, RG 24 Vol. 5633 NSS 33-1-1 Vol. 1.
14. "Brief History of HMCS *Patriot*," pp. 45-47.
15. S-206, 21 October 1927.
16. Lionel Dawson, *Flotillas: A Hard-Lying Story* (London: Rich & Cowan Ltd, 1933), p. 266.

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A Peripheral Theatre: Rethinking Conflict in the Arctic

Mihai Giboi

Credit: US Navy photo by Chief Mass Communication Specialist Tiffini Jones Vanderwyst

Ships of Russia's Northern Fleet seen at Severomorsk, April 2011.

Once considered a cooperative and exceptional region, the Arctic is no longer a zone of peace. The Arctic Council has been in hiatus since Russia's invasion of Ukraine in 2022[1] and, after Finland refused to hand over the chairship of the Barents Euro-Arctic Council to Russia, it withdrew from the council in September 2023. These events demonstrate that external international affairs indeed affect the region. Furthermore, tensions in Europe and the Pacific – between NATO and Russia, and the United States and China, respectively – risk spilling over into the Arctic, resulting in a hostile security environment where military dominance will be prioritized over cooperation.

Much of the Arctic security literature examines the possibility of conflict in the region. However, most analysts have downplayed it by debunking what this article calls 'a resource war narrative,' which claims that circumpolar states will confront each other militarily over newly available resources or territorial disputes as climate change makes the region more accessible.[2] Critics are correct to identify faults with this narrative because it misconceptualizes conflict in the Arctic, but they do not consider more plausible motivations for armed engagement, arguing in favour of cooperation instead. The problem with this approach stems from its inapplicability to the current international security environment and the risk of aggression. Consequently, this article proposes a framework of Arctic peripheralism, which perceives international relations in the circumpolar North as dependent on geopolitical dynamics in Europe and the Pacific.

Misconceptualizing and Downplaying Conflict

The resource war narrative has two elements. First, it frames the region as ripe for conflict over natural resources, contending that armed confrontations are most likely to occur where energy resources are at stake.[3] Second, emphasis is placed on territorial sovereignty, which is strongly related to resource ownership. Russia, for instance, sees the Arctic as an area of vast resources and, fearing that the West will seize them, seeks to prevent foreign appropriation.[4] Additionally, concerns have been expressed that Chinese icebreakers and submarines could be used to challenge the sovereignty of Arctic states, such as Canada's claims to the Northwest Passage, as Beijing aims to control the region's resources.[5]

The problem with suggesting that these issues will lead to conflict is twofold. First, a conventional war occurring in the Arctic Ocean, akin to the Second World War's Battle of the Atlantic, is unlikely. Conducting surface naval operations would be challenging due to harsh environmental conditions. Second, critics use this to downplay the

possibility of conflict in the Arctic in favour of cooperation. For example, Elizabeth Buchanan counters assertions that Russia seeks to conquer the region by identifying odd sources used to support this view, like Aleksandr Dugin's neoimperialist rhetoric, which likely has little influence in Moscow's inner decision-making circles. Instead, she contends that the Kremlin's strategy is geared towards cooperation, while maintaining a confrontational approach elsewhere.[6] Additionally, P. Whitney Lackenbauer, Adam Lajeunesse and Ryan Dean respond to claims that China seeks to secure the Arctic's resources and reshape the rules governing the region in its favour by arguing against framing Beijing as a peer competitor. Alternatively, they claim that overinflating fears about China's military threat to the Arctic could allow it to bait circumpolar states into directing resources away from its real focus in the Pacific. They also suggest that the rights upheld by the international order should be extended to Beijing which, they believe, has legitimate interests in the Arctic, like scientific research and prospective shipping routes.[7]

Even though these critiques correctly identify why conflict over resources or territorial disputes is unlikely, they do not consider alternative motivations for armed engagement. What made sense 20 years ago, when the international system was unipolar, is no longer applicable to the current security environment. Consequently, continuing to downplay conflict based on an unrealistic narrative is dangerous since it maintains a theoretical basis that is ill-equipped to explain more likely security threats: for example, Russia and China militarily engaging in the Arctic to gain a strategic advantage in Europe and the Pacific, if conflict breaks out.

Credit: US Navy

*Crew on the Russian **Udaloy**-class destroyer **Admiral Tributs** observe USS **Chafee** (DDG 90) in international waters in the Sea of Japan, 15 October 2021.*

Explaining the circumstances under which this may occur requires a framework that does not examine the Arctic in isolation from external geopolitics and accounts for spillover effects. To fill this gap, Arctic peripheralism posits that the region is geopolitically connected with great power rivalries in Europe and the Pacific. Rather than a region insulated from outside affairs, international relations in the circumpolar North are dependent on external geopolitical dynamics. Conflict in the region, for instance, depends on whether tensions between NATO and Russia in Europe, and the United States and China in the Pacific, escalate to war. However, rather than a battle over territory or resources, the Arctic would be used as a peripheral theatre to support operations elsewhere. Furthermore, to demonstrate how Russia or China would militarily engage in the North, this framework accounts for their military doctrine instead of their Arctic policies.

It also builds upon two theoretical approaches to explain how armed conflict between NATO and Russia, and the United States and China, would affect the region. It first draws from Rob Huebert's argument that "the real military challenge is not about a conflict over the Arctic … but rather how the Arctic is being used by the predominant military powers" to obtain benefits elsewhere.[8] Secondly, it considers threats through and to the Arctic, in line with Lackenbauer's Arctic security framework.[9]

Escalate to De-escalate

When making her case that Russia does not intend to dominate the Arctic, Buchanan asks why, despite modernizing its military capabilities and outposts, it has not "claimed the North Pole by military might," rather than following "the agreed international channels in its ongoing claim to an extended continental shelf."[10] This section addresses this question.

Russia has not 'conquered' the North Pole because it stands to gain more strategically by using its military capabilities in the Arctic to project power. For many years, NATO members have held exercises in the North to prepare for a possible Russian invasion. Conversely, Russia has usually utilized its northern military forces either to posture against the West or to reinforce operations elsewhere. In 2015 Russian forces conducted an exercise to practice an invasion of the Nordic countries. Additionally, in 2018, elements of the Northern Fleet were deployed to bolster Russian operations in Syria, and 11 Russian fighter jets conducted a mock attack on a Norwegian radar station. Furthermore, in 2019 Canadian and American fighter

Credit: U.S. Coast Guard photo by Ensign Bridget Boyle

*US Coast Guard Cutter **Bertholf** observes a Chinese navy task force in the US Exclusive Economic Zone off Alaska, 30 August 2021.*

jets encountered Russian bombers near North America's coastline. Finally, in 2022, the Kremlin redeployed much of its Arctic brigades to reinforce its 'special military operation' in Ukraine. However, they suffered heavy casualties. As these cases suggest, attempting to physically seize Arctic territory would unnecessarily drain Russian military personnel and materiel needed for more pressing missions.

Relations between Russia and the West in the Arctic are also influenced by events outside the Arctic. We have seen how crises in Europe have spillover effects in the Arctic. After Russia annexed Crimea in 2014, Western states suspended military cooperation with the Kremlin in the Arctic. However, the West and Moscow continued collaborating on issues regarding search and rescue, fishing quotas, continental shelf claims and navigation. This was not the case after Russia directly attacked Ukraine in 2022. As noted earlier, shortly after the invasion, Western countries suspended cooperation with Moscow in the Arctic Council, the Arctic Coast Guard Forum and the Barents Euro-Arctic Council, effectively ending the era of Arctic cooperation.

Another potential crisis would be the war in Ukraine spilling over into NATO-aligned Europe. Once a conflict becomes protracted, the risk of escalation emerges and an unintended incident could drag the alliance into war. This in turn could plunge the Arctic into geopolitical dynamics worse than the Cold War. Considering Russian military doctrine, an escalation in the war in Ukraine may result in the Kremlin projecting power in the Arctic against the West more aggressively to obtain strategic gains in Eastern Europe.

While Russia has sustained heavy losses in Ukraine, its northern naval assets could still be used to threaten the West. In addition to its nuclear submarines, which are meant to provide a retaliatory strike capability, the Northern Fleet has approximately 16 active combat submarines that can operate under the ice. Many of these submarines are armed with the Kalibr cruise missile – which is classified as a non-strategic nuclear weapon, designed primarily for combat rather than deterrence – that can hit land targets from 1,500 to 2,500 kilometres away.[11] Even though Moscow would be unlikely to target North America with strategic nuclear weapons during its war in Ukraine, since it would trigger NATO's Article 5 and a retaliatory nuclear strike, the same cannot be stated for its non-strategic missiles if the war escalates.

Furthermore, Russia adheres to what the West refers to as a strategy of 'escalate to de-escalate.' The purpose is to inflict a limited nuclear strike on enemy targets outside the zone of regular operations to de-escalate a regional war it is losing. This policy demonstrates Russia's willingness to use strategic nuclear strikes to convince an adversary to back down.[12] In the context of the Arctic, this indicates that if Russia found itself at war with NATO, it would try to project force into North America to secure

an advantage in Europe. While Moscow denies this doctrine exists, its nuclear deterrence policy highlights the right to use nuclear weapons "in the event of aggression against the Russian Federation with the use of conventional weapons" when the state's existence is threatened.[13]

Since its war in Ukraine exposed the Russian army's severe operational and tactical limitations, Moscow would have an incentive to use nuclear weapons to prevent a disastrous defeat, and force the West to negotiate on its terms. One scenario could include the Kremlin using non-strategic nuclear weapons, via its submarines, to target military bases and infrastructure in the North American Arctic, then threaten to escalate to strategic strikes on Canadian and American cities, to end a conflict in Europe. The Northern Fleet is experienced in under-ice operations and Russian submarines have frequently conducted mission rehearsals for striking Canada and the United States from outside of NORAD's radar coverage.[14]

Active Defence

In contrast to Lackenbauer, Lajeunesse and Dean's position, it is clear that the Arctic is strategically connected to the Pacific. According to John Mearsheimer's assessment of China's rise, as Beijing becomes more powerful economically and militarily, it will try to create security problems for the United States in the Western Hemisphere to limit Washington's ability to project power into Asia.[15] China's current military (and economic) engagements in Latin America strongly suggest it is acting in this manner, and since the Arctic – particularly Alaska via the Pacific Ocean – may be part of Chinese efforts to undermine American regional hegemony, there is a risk of confrontational and aggressive activity in the region.

Like Russia, China could decide that military action in the North would support geopolitical ambitions elsewhere, in this case forcibly integrating Taiwan with the mainland. As Huebert notes, geostrategic considerations indicate that, in conflict, China may engage the United States in the Arctic to deny its navy safe sanctuary in the region.[16] Beijing is also developing submarines, potentially with under-ice capabilities, that could be used to challenge Washington's nuclear deterrent or pursue American submarines during conflict. Additionally, according to a RAND report on China's Arctic Strategy, a reformed, more capable Chinese military with greater power projection abilities could target US forces, bases and facilities in Alaska that would otherwise allow Washington to project power in a crisis or conflict.[17]

It is true that for economic reasons China seeks to maintain a cordial relationship with the United States, but it also believes Washington poses grave security threats. As US-Chinese relations deteriorate, this dichotomy may not last, since Beijing will likely prioritize its security interests – particularly regarding Taiwan – over economic considerations, if the former are threatened. This is because economic interdependence does not guarantee peace, especially between great powers. When security is at stake, it is prioritized over concerns about prosperity; if a state does not survive, it cannot thrive.[18]

China also perceives the United States as an obstacle to asserting its territorial claims in the East and South China Seas, the source of subversive Western ideas about individual rights and freedoms, and a threat to its second-strike nuclear capabilities. Its military strategy and defence policy are also concerned about separatism, especially in Taiwan, and considers Washington's relations with Taipei as provocative. Consequently, if the United States, through its diplomatic engagements with Taiwan, becomes viewed as a direct threat to Chinese sovereignty, it will likely provide incentive for Beijing to prioritize security concerns over economic goals.

Once China believes its security interests regarding Taiwan are threatened, its military strategy indicates Beijing will take offensive action, with the pretense that it is acting defensively. This is the premise that comprises active defence. Conceptualized by the Communist Party in the 1930s, during the Chinese Civil War, it aims to combine strategically defensive objectives with offensive campaigns, operations and tactics. It is also not limited to territorial defence, and can apply to external action to defend China's national interests, which include pre-emptive

Credit: US Navy

Russian Su-35 aircraft unsafely intercept a P-8A Poseidon patrol aircraft assigned to the USN 6th Fleet over the Mediterranean Sea, 26 May 2020.

assaults against an adversary that Beijing believes will inevitably attack.[19]

Its operational experience is also concerning. The Chinese People's Liberation Army Navy (PLAN) is growing more capable of projecting power beyond its territory, including as far as Alaska. In 2015, the PLAN sent five ships toward the northernmost American state in a possible attempt to send a message to then President Barack Obama during his visit to Alaska, and in 2017, it returned to observe an American missile defence test. In July 2023, China and Russia conducted a joint naval exercise in international waters near the Aleutian Islands, demonstrating their ability to operate near the United States. This close proximity prompted Washington to dispatch four warships and a reconnaissance plane.

Consequently, the West should understand how China will operate in the Pacific if war breaks out with the United States over Taiwan. Once Beijing believes the perceived breakaway province cannot be reintegrated peacefully, it will try to achieve it through force: a route to reunification that China will not renounce. Additionally, because China knows the United States will aid Taiwan if it is invaded, Beijing could attempt a pre-emptive strike on the US Navy (USN) in the Pacific to limit its ability to come to Taipei's rescue. Alongside Guam and Hawaii, China could attack Alaska to destroy Washington's ballistic missile defence sites near Fairbanks. Although the stated purpose of the sites is to intercept North Korean missiles, Beijing may perceive them as a means to hinder China's nuclear retaliatory capability. Targeting Alaska would also, as mentioned earlier, deny the USN safe sanctuary, which would otherwise allow it to regroup and counterattack.

However, this does not mean it will be successful. Pre-emptive wars promise quick political and military success, but, despite delivering early tactical advantages, they rarely result in victory.[20] Thus, even though Chinese naval power projection abilities are improving, joint operational capabilities among its military branches are still limited past the First Island Chain,[21] which could hinder attempts to pin down the USN. An attack in the Arctic might result

Credit: Petty Officer 3rd Class Corey Hensley, US Navy

*USS **McCampbell** (DDG 85), left, leads the Russian Federation navy **Slava**-class guided-missile cruiser **Varyag** and **Irkut**, a tanker, during Pacific Eagle, October 2011, a bilateral exercise with the Russian Federation navy.*

in distracting American and possibly NATO forces, but would not necessarily lead to an outcome China wants. Consequently the risk is not dependent on whether China can win such an engagement, but how a pressured Beijing would act to ensure its security.

Conclusion

Serious questions must be asked about how the wider international security environment will affect the Arctic.[22] Discussing hard security threats often makes for a difficult conversation, but the more aware analysts and policy-makers are about the effect of great power politics on the region, especially during conflict, the better prepared they would be to suggest appropriate policy solutions to minimize the risk of escalation.

This awareness requires using a framework of Arctic peripheralism which breaks away from the resource war narrative that renders academic debates stagnant. It is not the location, but the objective, that is consistently mischaracterized when discussing conflict in the circumpolar North. Since it is no longer a geopolitical sanctuary, it is necessary to conceptualize how it may be used by adversarial states to obtain strategic gains elsewhere. Without considering approaches that address conflict in the North, analysts and policy-makers will miss out on important conversations about legitimate hard security threats that will not be resolved on their own. However, normative perceptions of Russian and Chinese interests must be avoided when examining the possibility of either state acting aggressively. We made that mistake before Russia invaded Ukraine and repeating it will have disastrous results.

Credit: NORAD

An F-22 Raptor, under NORAD command, intercepts a Russian Tu-95 bomber within 32 nautical miles of the Alaskan coast on 16 June 2020.

Notes

1. Under the Norwegian chairship, there is an agreement for work with Russia to begin again in the Working Groups. However, certain countries (like the United States) have sanctions in place that make it impossible for official government representatives to work with Russians so cooperation will be difficult.
2. For a more detailed explanation about this perspective, See P. Whitney Lackenbauer and Ryan Dean. "Arctic Exceptionalisms," in Rob Huebert and P. Whitney Lackenbauer (eds), *Debating Arctic Security: Selected Writings by Rob Huebert and P. Whitney Lackenbauer* (Peterborough, ON: NAADSN, 2021), pp. 144-146. For the most recent contribution to the literature that criticizes this lens, see Elizabeth Buchanan, *Red Arctic: Russian Strategy Under Putin* (Washington DC: Brookings, 2023).
3. Buchanan, *Red Arctic*, p. 8.
4. Aurel Braun and Stephen J. Blank, "The Cold Reality Behind Russia's Charm Offensive: Why Canada Needs a Realistic Arctic Policy," Macdonald-Laurier Institute, April 2020, p. 13.
5. P. Whitney Lackenbauer, Adam Lajeunesse and Ryan Dean, "Why China is Not a Peer Competitor in the Arctic," *Journal of Indo-Pacific Affairs*, Vol. 5, No. 5 (September-October 2022), p. 90; and P. Whitney Lackenbauer, Adam Lajeunesse, James Manicom and Frédéric Lassere, *China's Arctic Ambitions and What They Mean for Canada* (Calgary: University of Calgary Press, 2018), pp. 11-13.
6. Buchanan, *Red Arctic*, pp. 8-9, 11-12.
7. Lackenbauer, Lajeunesse and Dean, "Why China is Not a Peer Competitor in the Arctic," pp. 84, 89, 90-91, 82-83.
8. Rob Huebert, "The Evolving Arctic Security Environment," in Huebert and Lackenbauer (eds), *Debating Arctic Security*, p. 463; and Rob Huebert, "Cooperation or Conflict in the New Arctic? Too Simple of a Dichotomy," in Huebert and Lackenbauer (eds), *Debating Arctic Security*, p. 134.
9. See P. Whitney Lackenbauer, "Threats Through, To, and In the Arctic: A Framework for Analysis," NAADSN Policy Brief, March 2021, pp. 1-7.
10. Buchanan, *Red Arctic*, pp. 9-10.
11. See Colin Wall and Njord Wegge, "The Russian Arctic Threat: Consequences of the Ukraine War," Center for Strategic and International Studies, 25 January 2023, pp. 4, 6-8; Maren Garberg Bredesen and Karsten Friis, "Missile, Vessels and Active Defence: What Potential Threat do the Russian Armed Forces Represent?" *RUSI Journal*, Vol. 165, No. 5/6 (September 2020), pp. 73-74.
12. For a discussion see Stefan Forss, "Russian Nuclear Policy, Doctrine and Strategy" and Stephen Blank, "Putin's 'Asymmetric Strategy': Nuclear and New-Type Weapons in Russian Defense Policy," in Glen E. Howard and Matthew Czekaj (eds), *Russia's Military Strategy and Doctrine* (Washington DC: The Jamestown Foundation, February 2019).
13. Forss, "Russian Nuclear Policy, Doctrine and Strategy," in Howard and Czekaj (eds), *Russia's Military Strategy and Doctrine*, p. 231; and Russia Studies Program, *Foundations of State Policy of the Russian Federation in the Area of Nuclear Deterrence*, translated by CNA's Russia Studies Program (Washington DC: Center for Naval Analyses, June 2020), p. 5.
14. Alte Staalesen, "Russia's Newest Strategic Sub Shoots Torpedoes through Arctic Ice," *Barents Observer*, 20 May 2022.
15. John J. Mearsheimer, *The Tragedy of Great Power Politics* (2nd ed.; New York; London: W.W. Norton and Co., 2014), pp. 368, 370.
16. Rob Huebert, "The New Arctic Strategic Triangle Environment," in Huebert and Lackenbauer (eds), *Debating Arctic Security*, pp. 411, 434.
17. Stephanie Pezard, Stephen J. Flanagan, Scott W. Harold, Irina A. Chindea, Benjamin J. Sacks, Abbie Tingstad, Tristan Finazzo and Soo Kim, *China's Strategy and Activities in the Arctic: Implications for North American and Transatlantic Security* (Santa Monica, CA: RAND Corporation, 2022), pp. 15-16.
18. Mearsheimer, *The Tragedy of Great Power Politics*, p. 408.
19. See Xiao Tianliang, Lou Yaoliang, Kang Wuchao and Cai Renzhao (eds), *Science of Military Strategy*, translated by the China Aerospace Studies Institute (Beijing: National Defense University Press, revised 2020 edition), p. 31; Office of the Secretary of Defense, Department of Defense, Media Release, "Military and Security Developments Involving the People's Republic of China," Washington DC, 29 November 2022, pp. 35-36.
20. Matthew Flynn, *First Strike: Preemptive War in Modern History* (New York; London: Routledge, 2008), pp. 1-2, 235.
21. US Department of Defense, "Military and Security Developments Involving the People's Republic of China," p. 81.
22. See Rob Huebert, "Understanding Arctic Security: A Defence of Traditional Security Analysis," in Wilfrid Greaves and P. Whitney Lackenbauer (eds), *Breaking Through: Understanding Sovereignty and Security in the Circumpolar Arctic* (Toronto: University of Toronto Press, 2021), pp. 85, 91.

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Public Communication for the *Halifax*-class Frigates*

Thomas Turmel

Credit: Davie Shipbuilding

The future HMCS ***Ville de Québec*** *(FFH 332) is seen on the slipway at MIL-Davie shipyard in Levis, Quebec, shortly before its launching in May 1991.*

In 2008, Stephen Harper's government committed Canada to building 15 new Canadian Surface Combatants (CSC) for the Royal Canadian Navy (RCN) as part of the largest procurement program ever. This project has continued under the Justin Trudeau government. The construction of the CSC represents the first time that Canada has procured surface combatants since the *Halifax*-class frigates in the 1990s. Parallels have been drawn between the CSC's (ongoing) tumultuous and lengthy procurement process and that of the *Halifax*-class. Although conceived as early as the 1970s, the first ship of the class, HMCS *Halifax*, was only commissioned in 1992. The awarding of the contract was plagued by competition among shipyards and an unclear naval doctrine to guide program requirements. The program, however, achieved its objective to consolidate Canada's eclectic collection of destroyer escorts into a harmonized frigate class focused on anti-submarine warfare.

This article will examine a sample of the media coverage of the *Halifax*-class frigate procurement for the opportunity it presents to see how it was perceived in the media and to highlight factors that could possibly shape the coverage of the CSC. The article will conclude by offering concrete recommendations to Canada's naval community regarding public communication for naval procurement.

The Politicization of Canadian Naval Procurement

Why is naval procurement so hard? For one thing, warships are extremely complex and technologically advanced. But the most convincing explanation might be the simplest: because it is expensive and takes time.[1] The larger the federal contract, the higher the stakes for the shipbuilder receiving the contract, the bureaucracy shepherding the process and perhaps most importantly for the government in power overseeing it. This has led the

procurement process to be highly codified to ensure that public funds are used responsibly. This means that multiple stakeholders within government have a role to play. This includes, at least, the Department of National Defence for the project requirements, Public Services and Procurement Canada which manages the process, Treasury Board for funding allocation and Innovation, Science and Economic Development Canada (formerly Industry Canada) to ensure that Canada benefits economically from defence procurement.[2]

As well, the government must wrestle with an oligopoly of shipyards capable of fulfilling these large contracts. In Canada's contemporary naval history, there has been only a handful of domestic shipyards capable of fulfilling large surface combatant contracts. Even then, the government is under intense pressure to divide the work. Although this may be inefficient, Ottawa has often acquiesced as it tries to satisfy regional demands and shipyards which are important regional economic players with vast lobbying budgets.[3] The involvement of foreign firms, often as part of a consortium, complicates matters further. This has led to fierce 'shipyard politics.' The division of the *Halifax*-class contract between two of Canada's then three main shipyards illustrates this trend.[4] And, indeed, it led to a huge lawsuit and resulted in a 'Battle of the Shipyards.' This resulted in public claims that Saint John Shipbuilding (now Irving) was attempting to force its East Coast competitor MIL-Davie out of business. The controversy also nearly led to the cancellation of the three ships MIL-Davie was building.

The length of naval acquisition contracts represents two distinct dangers. On the one hand, the defence priorities – and political ones – change as governments are replaced and the geopolitical landscape evolves. This has at times jeopardized naval procurement programs. For instance, the *Halifax*-class should have numbered around 20 ships, but the last batch of ships was canceled following the collapse of the Soviet Union in late 1991.[5] On the other hand, the lengthy process of procuring a ship requires that the RCN stay the course doctrinally while the ship is being developed. This is complicated by the central importance of technology-based systems on modern warships, and changing technology is usually the source of the urge to 'tinker' with naval projects even after construction begins. This description of the situation in the 1990s continues to reflect the present situation as the procurement landscape has hardly changed.

The Role of Media in Defence Procurement

The media have an important role to play in the procurement process by informing the public and keeping Canada's bureaucracy and its political masters accountable. The media are the channel by which Canadians acquire the background information needed to understand and develop an opinion on procurement programs. Their unique discursive position also enables them to frame the issue because most Canadians only learn about defence procurement through the news media.[6] Notwithstanding this important role, news media have remained generally uninterested in the subject. Now, as at the time of the *Halifax*-class program, the journalists who cover it systematically can be counted on one hand. The rise of a procurement program to public consciousness is linked to either (1) the 'sticker shock' caused by the sheer cost of large procurement programs or (2) the politicization of the procurement process. The *Halifax* program was both a very expensive program (valued at $15.66 billion in today's dollar) and the subject of extensive political machinations.[7] In fact, there was deep regional divide in Prime Minister Pierre Elliot Trudeau's cabinet regarding the allocation of naval contracts, particularly in an effort to support Quebec's struggling Davie Shipbuilding shipyard.[8]

Another factor to consider is that media coverage of defence procurement is largely negative in nature. This has become a truism of sorts in Canadian defence circles: if a procurement program is the subject of media coverage, something has gone (usually very) awry.

In historical studies like this one, the media offer a rare trove of artifacts (i.e., themes, angles, opinions) from which to understand prevailing opinions on defence procurement.

*A pair of **Halifax**-class frigates are seen at the Saint John Shipbuilding shipyard in the early 1990s.*

It is important to acknowledge that media both shape opinion and are shaped by it; a truly dialectic relationship.[9] A study of media coverage is one of the few windows outside government record and academia on how the Canadian public perceived a particular program.

This article is quantitative and as such engages in a systematic survey of the *Halifax*-class coverage. The articles on which the following sections are based were sourced from *The Globe and Mail*. The choice of this newspaper was guided by its status and its editorial concern with Canadian politics and defence affairs. Using ProQuest Historical Newspapers database and querying the articles published between 1970 and 1990 containing both the keywords 'halifax' and 'frigate,' I found that 144 articles had been published, but only 111 proved relevant.[10] From there, the articles were preprocessed which involved a conversion from scanned images to text (corrected for possible errors in optical character recognition with the Python Package TextBlob) and words without semantic meaning (eg., 'and,' 'a,' 'are,' 'also') removed from the corpus. I also generated a list of tokenized sentences which mentioned 'shipyard' for closer analysis. The date of publication of each article was also collated and is discussed below. In sum, this article is based on a method which enables the graphic representation of a large media corpus for more macro (or structural) analysis.[11]

Trends in Coverage

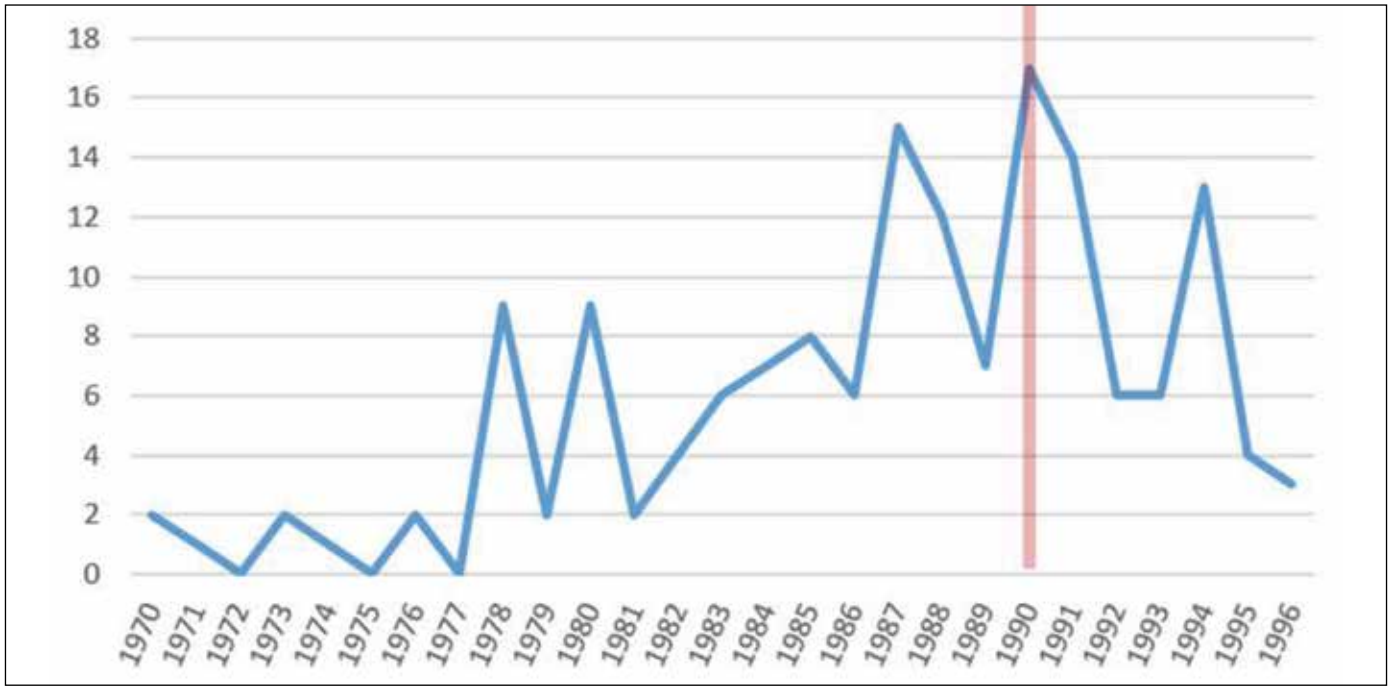
Figure 1 is a graphical representation of the number of articles published yearly in *The Globe and Mail* between 1970 and 1996 (the year the last *Halifax*-class frigate was delivered). The red line denotes the temporal limit of this essay, set in 1990. The most intense coverage occurred in 1987 and 1990 with 15 and 19 articles, respectively. These two years were marked by politicized elements of the program. Most notable in 1987 was the awarding of the contracts by the government of Brian Mulroney to the shipyards and lengthy discussions on the underlying regional motives, while 1990 was characterized by delays in the delivery of the ships to the RCN caused by design changes and industry failures.

Yet for a program of this magnitude, the coverage is, in aggregate, modest with an article published every month and a half (if counting from 1977 when the coverage increases following the formal announcement of the program). This supports the assertion that media coverage of procurement programs is concentrated in the period where the large (and politically significant) contracts are awarded as well as the period when controversies arise. Significantly fewer articles were published in 1989 because this was the period after the major contracts were awarded and before shortcomings came to light. In this sense, the media did not report on the progress of the construction as this was not newsworthy. This highlights that the negative penchant of defence procurement coverage applied to the *Halifax*-class.

Framing Procurement

The following section explores the content of the articles. The four most common words in the corpus are 'Canada'

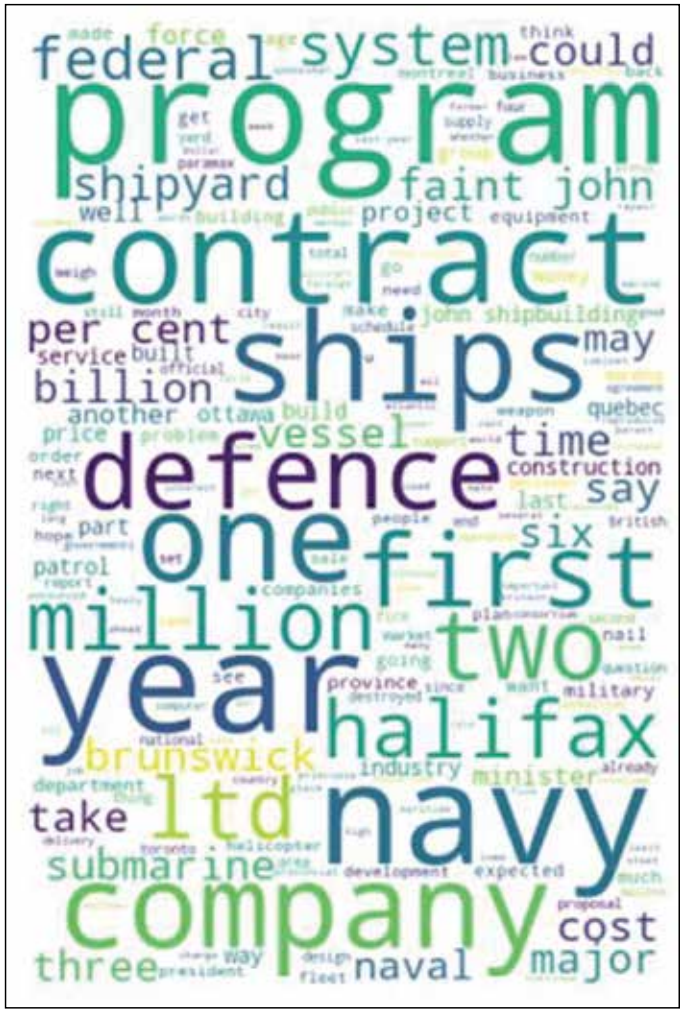
Figure 1. Number of articles published yearly by** The Globe and Mail **containing the keywords 'halifax' and 'frigate' between 1970 and 1996.



Credit: Author

***Figure 2. Wordcloud of the most common words in the* corpus.**

Credit: Author



(along with 'Canadian'), 'government' and 'defence.' They appear 505, 174 and 174 times respectively. In Figure 2, I removed these words and generated a WordCloud, that is a statistical representation of the most common words remaining in the corpus (i.e., in the WordCloud the larger the word the more prevalent it is). A linguistic-driven exploration of the words present in this figure yields a list of the key themes.

Two clear lexical fields emerge from Figure 2. The first one is centred on the doctrinal component of naval procurement. Words such as 'navy' and 'program' highlight the purpose of the *Halifax*-class. The rather central presence of 'system' at the top of the figure highlights the articles that debated which electronic system should be installed in the *Halifax*-class. A lengthy December 1986 article lauds the RCN's transition from "vacuum-tube obsolescence to world leadership" while highlighting how these systems are crucial to maintain Canada's expertise in anti-submarine warfare.[12] This highlights that a portion of the media coverage of naval procurement is dedicated to explaining what is being acquired with an emphasis on technology. The presence of the word 'submarine' is also telling of coverage that emphasized the role Canada's frigates would have within the RCN fleet as whole. Some articles towards the end of the data collection period were written at a time when Canada was considering the purchase of the UK's Type 2400 submarines (now the *Victoria*-class) only as a stopgap measure while it was considering the procurement of nuclear submarines.[13]

The topics discussed above are staples of discussion of naval procurement in naval circles, the discussion of the CSC is a testament to this. However, this is not the main angle of media coverage of naval procurement: it is economics which constitutes the most prominent lexical field. Three of the most common words in Figure 2 (that have relevant semantic meaning) are 'company,' 'contract' and 'Ltd' (as in a *limited* business incorporation). This is indicative of the corporate side of naval procurement as, after all, procurement is a transaction between the public and private sectors. The sheer cost of the contract for these ships is emphasized by references to billions of dollars in terms of the whole program or millions for certain systems – or, as it happened, for cost overruns and forced government subsidies to struggling shipyards.[14]

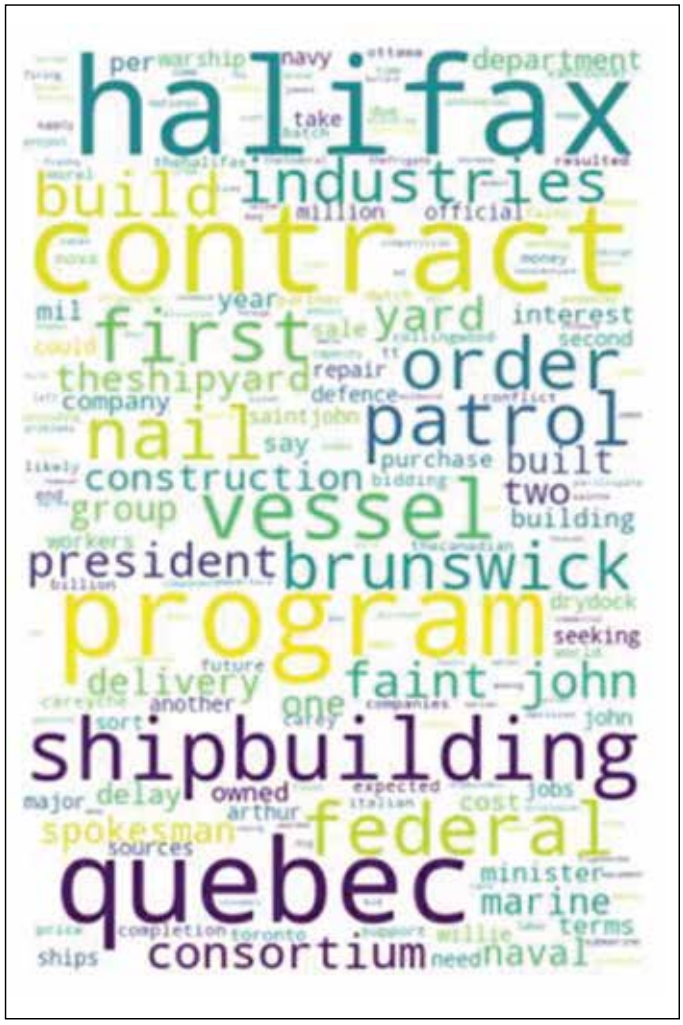
Moreover, the prominent mention of the word 'shipyard' illustrates how these actors were central in the coverage of the *Halifax*-class as a whole in *The Globe and Mail*. A systematic review of the news articles reveals that eight directly addressed the politicization of the contract attribution. Figure 3 shows the words most common in sentences that contain the word 'shipyard.' Regionalism played a central role in the decision to split the contract between Saint John Shipbuilding and Davie shipyard. Both are referenced in Figure 3 as Saint 'John' and the location of Davie in 'Quebec.' This is a significant observation as this highlights the role that industry (also present in Figure 2) plays in naval procurement and how they (with their strong lobbying) are important components of procurement politics.

The Need for Public Communications in Naval Procurement

I appreciate that at times this granular exploration of lexical fields through quantitative mechanisms may appear greatly removed from naval policy and history discussions. However, this is partially the point. I believe that leaders throughout Canada's naval community ought to pay more attention to public communication as they have an interest in the timely and efficient acquisition of naval assets for the RCN. This article is an articulation of my belief that the first step is to ask how naval procurement programs are covered in the media. Drawing from the procurement of the *Halifax*-class, the answer is that the programs are covered (1) through a negative lens and (2) largely focus on the commercial aspect.[15] The articles that are studied here were published more than 35

Figure 3. Wordcloud of the most common words in sentences containing the keyword 'shipyard'

Credit: Author



years ago, almost 50 for some, but I hold that the conclusions they support are still applicable, especially to the CSC program. The naval procurement structure and the tensions in Canada that existed then are still well and alive.

I therefore make the argument that public communication should be a more integral part of the procurement process for the CSC. That is because Canadian confidence in the capacity of Canada's naval community to acquire naval assets for acceptable costs and reasonable timelines is crucial. At times, this support has waned, and Canadians have pressured their political representatives to reduce military spending; rarely have they pressed for the opposite.[16] Better public communication can only increase public confidence in both the CSC and other ongoing shipbuilding programs which are after all substituting Canadian 'butter for guns.'

The perennial question then is *what* to communicate about, *how* and *when*? It is here I believe that the historical analysis conducted above can provide key insights to the naval community. Indeed, I believe that all stakeholders – whether commercial, military or political – must collaborate to ensure that the shared enterprise of the CSC comes to fruition to meet ongoing maritime challenges. They all have a shared interest in it. It is not question of dystopian (or Orwellian) guiding of Canada's polity, but of promoting more informed media coverage that would frame the issues of naval procurement along terms needed to revitalize Canada's naval capability.

I believe Canada's naval community should work to enhance the 'why' in naval procurement as opposed to the economic 'how' which dominated in the example presented here. That is not to say that the economic component of naval procurement is not important, but rather that it should not be the main frame. As shown in Figure 1, the impetus to procure the *Halifax*-class (i.e., the doctrinal foundation and broader strategic environment) was a secondary topic to economic matters. We can see this trend in discussion of the CSC which tends to emphasize job creation rather than the growing obsolescence of current RCN ships and the changed geopolitical environment.[17] Thus, naval stakeholders should work to emphasize why they need particular ships.

The vehicles for the communication about naval procurement ought to be varied to reach as much of Canada's population as possible. Journalists should be engaged in frank conversations about Canada's geopolitical situation and the key role maritime power is to play. Canada's political class must also frame naval procurement projects for what they are – i.e., capability acquisition for the RCN, rather than a disguised stimulus cheque to regions or industries. Industry and shipyards must work diligently to fulfill their contractual obligations in good faith to prevent media backlash. I believe this would at the very least promote a more central place for doctrinal considerations in naval procurement.

I did not conduct a study of the CSC program itself, focusing rather on the *Halifax*-class program, because the program is still too young for a serious aggregate study. The contract has not even entered the fourth stage (Implementation) which resulted in the 1988 and 1990 peaks in coverage for the *Halifax*-class. Nonetheless it is not too early to begin communicating with Canadians. The naval community should be especially careful to communicate transparently about the awarding of the contract and key milestones (especially delivery). I believe this would foster confidence in the program and allow for serious discussions of the CSC capabilities and role in Canada's international environment.

Conclusion

This article used the procurement of the *Halifax*-class frigates as a case study before putting forward data-driven

Credit: Lockheed Martin

A graphic posted on Lockheed Martin Canada's website in Fall 2023 shows five Canadian Surface Combatants.

recommendations to enhance public communication surrounding Canadian naval procurement. I have conceived of this article as much a reflection on the *Halifax*-class as on Canadian naval procurement in general, in particular communication during the process.

My conclusions aspire to be contemporary, although they draw on historical precedents. Over the last decade, the Canadian Armed Forces have been under increased media pressure and scrutiny, stemming from a broad range of procurement failures. The failures stem from a variety of sources, but one of them is failure of public communication, the focus of this article. More analysis is required to discover the impact of public opinion on naval procurement, and the role of public opinion in the *Halifax* frigate case relative to other explanatory factors. But what is clear is that negative framing in the media has impeded operational capacity and the public's confidence in Canada's uniformed services. This negative media coverage could have been avoided in some cases by timely communication.

By putting its best foot forward in communication relating to procurement and learning from past shortcomings, the RCN can make the CSC an example of a well-guided procurement program, well perceived by the Canadian public. This ought to be led by both the democratic need for public support of the armed forces and the increasing prominence of media (of all forms) in defence policy.

Notes

* This article solely represents the opinion of the author.

1. Zvi A. Livne and Martin Shubik, "Naval Procurement Problems: Theory and Practice," Cowles Foundation Discussion Papers, 1982, pp. 13-35.
2. Public Services and Procurement Canada, "Defence Procurement Strategy," 3 November 2021.
3. Alex Cooke, "Union Launches 'Ships Stay Here' Campaign to Keep Shipbuilding Work in Halifax," CBC, 13 October 2018.
4. The National Shipbuilding Procurement Strategy continues this tendency. It was split into two packages: Arctic and Offshore Patrol Ship and CSC to Irving Shipyard in Halifax; and Joint Support Ships plus icebreaker and a number of Coast Guard vessels awarded to Seaspan Vancouver. And a third shipyard was later added.
5. Roy Remper, "Achieving Consensus and Effectiveness in Canadian Defense Policy," in Thomas Juneau, Philippe Lagassé and Srdjan Vucetic (eds), *Canadian Defence Policy in Theory and Practice* (Toronto: Palgrave Macmillan, 2019), pp. 262-265.
6. See Srdjan Vucetic, "Who Framed the F-35? Government-Media Relations in Canadian Defence Procurement," *International Journal*, Vol. 71, No. 2 (2016), p. 234.
7. *Ibid*.
8. Carey French, "Frigate Repair Awards Worry Shipyard," *The Globe and Mail*, 30 September 1985.
9. Adrian Bingham, "Media Products as Historical Artifacts," in Martin Conboy and John Steel (eds), *The Routledge Companion to British Media History* (London: Routledge, 2014), pp. 19-28.
10. Other search terms, of course, could be used – such as 'Canadian Patrol Frigate,' 'Saint John Shipbuilding' and 'MIL-Davie' – but this article has limited its search terms to avoid false positive and redundant searches. Moreover, the 1970 to 1990 timeframe was chosen to highlight the period leading to the unveiling of the program which has seldom been studied compared to the post-1990 period which this study also ignores for this reason.
11. The methods deployed in this essay loosely belong to the computational social science approach. See David Lazer, Alex Pentland, Lada Adamic, Sinan Aral, Albert-László Barabási, Devon Brewer, Nicholas Christakis, et al., "Computational Social Science," *Science*, Vol. 323, No. 5915 (2009), pp. 721-723.
12. *Ibid*.
13. See David Cox, "Where Will Ottawa Find the Money?" *The Globe and Mail*, 18 March 1988; and Department of National Defence, *Defence Update: 1988-1989*, 1988, p. 10.
14. Ken Romain, "Saint John Set to Finish Floundering Frigates," *The Globe and Mail*, 31 August 1990.
15. I acknowledge that *The Globe and Mail* is particularly oriented towards Canada's business world, but still I believe this is a systematic pattern in coverage. It may be more pronounced in *The Globe,* however.
16. Jean-Christophe Boucher, "Public Opinion and Canadian Defense Policy," in Juneau, Lagassé and Vucetic (eds), *Canadian Defence Policy in Theory and Practice*, p. 167.
17. Michael Tutton, "Top General Worries about Maintaining Pacific Fleet on Current Budget 'Trajectory,'" CTV News, 18 November 2023.

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Making Waves

(Note: These commentaries represent the opinion of the authors, not of *CNR*, the Editorial Board or sponsors.)

A Successful Pilot Project of MDA Afloat

Andrea Charron

In the Fall 2023 edition of *Canadian Naval Review* I outlined a brand-new pilot project by the Canadian Coast Guard (CCG) in the Arctic. A 'mobile' maritime domain awareness (MDA) kit was to be brought onboard a CCG vessel operating in the Arctic for part of the summer to add to the ship crew's general awareness of activities and potential vessels of interest.

From 23 August to 20 September 2023, the CCG underwent that pilot test. MDA Afloat, a portable MDA system, was brought onboard CCGS *Henry Larsen*. By all accounts, the test trial was a success. The key problem the CCG sought to tackle was the siloed nature of missions that collect awareness information particular only to the mission at hand. This means activities outside of a particular mission can be observed, recorded and reported, but live footage cannot be captured. MDA Afloat was a small step in addressing this gap.

MDA Afloat included a remotely piloted aerial system (RPAS or drone) that arrived in an impact-resistant and waterproof case with a laptop. The operator, a Maritime Security

*A screenshot from a video posted by the Canadian Coast Guard on 18 April 2023 shows the icebreaker CCGS **Henry Larsen**, taken from an aerial drone.*

*A map shows the voyage of CCGS **Henry Larsen** during the trials period in summer 2023 when it operated an uncrewed aerial vehicle for enhanced maritime domain awareness.*

Officer on assignment from the region, quickly became part of the crew. The RPAS was manoeuvred ahead of the ship to collect general information that was relayed back to *Henry Larsen* and then later relayed to the Marine Security Operation Centre (MSOC) watch floor in Halifax, Nova Scotia, where all Canadian maritime agencies are represented. While the RPAS was limited to line-of-sight sorties, it was able to fly higher than expected and could relay both day-time and night-time footage. The RPAS provided more footage than previously available of what ship traffic was coming at the horizon. In the future, perhaps real-time imaging can be relayed to the MSOC and to nearby CCG and government of Canada vessels.

The newly installed StarLink system onboard *Henry Larsen* provided higher transmission and receiving speeds of information to and from the ship than was possible previously, although there were gaps in coverage. Luckily, the Iridium constellation satellite systems on board

could operate in these dead spaces. This is an important reminder that 'redundant' systems like Iridium can ensure resiliency.

This pilot project has expanded the domain awareness of not only one ship, but also has the potential to network ships, operating centres and local populations for real-time or near real-time information. This capability helps to address a key concern that the Auditor-General (AG) raised in her 2022 "Arctic Waters Surveillance" Report. In this report, the AG lamented the fact that the federal government had not addressed longstanding issues that affect the surveillance of Canada's considerable Arctic coastline.[1] While not a CCG-only function, the AG found that "federal organizations responsible for safety and security in the Arctic region do not have a full awareness of maritime activities in Arctic waters and [are] not ready to respond to increased surveillance requirements."[2] MDA Afloat could be a surveillance multiplier.

Based on this pilot test, the CCG can identify and articulate the sensor and information deficiencies that will inform future requirements and could influence new ship designs. Its modular design means it could also be brought on board Arctic and Offshore Patrol Vessels, even though these ships are well past the design stage.

The pilot project is the first step to the CCG integrating missions and awareness across its fleet and to the efforts of other government of Canada and local operations in the Arctic. The next steps could include training CCG personnel to become the RPAS operators, tackling the line-of-sight limitation (which involve solving both legal and technical issues) and working with local communities to find ways to share information of relevance to them, including incoming cruise ships and any environmental pollution or spills.

While MDA Afloat is a modest project, the implications could be consequential, not only for the mission sets of the CCG and its culture (beyond safety to safety and security), but to moving closer to all-domain awareness and eventual CCG contributions to a data cloud that the United States, Canada and allies seek. Of course, there are many steps to be taken before this is possible – not least of which is a general increase in digital literacy across the Canadian government. Regardless, MDA Afloat is an important project for the CCG made possible by strategic thinking.

Notes

1. Office of the Auditor General of Canada, "Arctic Waters Surveillance," Report 6, 2022.
2. *Ibid*., paragraph 6.12.

Re-energizing Canada's Shipbuilding Industry

Roger Cyr

Canada has a long history of ship building, indeed ship building and ship repair are among Canada's oldest industries. The long inland waterways and coastlines, rich timber supplies, fisheries and offshore oil, together with the need to export natural resources, have generated a demand for ships. In 1859, responding to the demand, Robert Laing, a Scottish shipwright whose father had started

Credit: Timothy Choi

The Canadian-built 1960s-vintage BC Ferries ***Queen of New Westminster*** *awaits drydocking at the Esquimalt Graving Dock, 15 October 2018.*

Credit: Timothy Choi

North Vancouver's Lonsdale Quay, once home to the Wallace/Burrard/Yarrows/Versatile Pacific Shipyard that produced vessels before, during and after the Second World War, is now a restaurant, entertainment and shopping district as seen in this August 2017 photo. Nearby, Seaspan has Vancouver's remaining drydocking and shipbuilding facilities for large vessels.

a shipbuilding company in Scotland in the 1700s, founded Laing's Ways shipyard at Major Bay,[1] one of Victoria's earliest shipyards. The yard built at least three Fraser River stern-wheel steamers for the transportation of, and trade with, prospectors. The largest was the 110-foot *Fort Yale* constructed in 1860.

There was remarkable development and design in marine technology in Canada over the years. For example, although the Scandinavians claim they invented the roll-on/roll-off (RO-RO) concept, according to the Canadian Encyclopedia, the first purpose-built RO-RO ferry was *Motor Princess*, launched at Esquimalt, BC, in 1923 for Canadian Pacific. There was the HD-4 hydrofoil which was the creation of Alexander Graham Bell. On 9 September 1919, on the waters of the Bras d'Or Lake, Nova Scotia, the ship broke records for the fastest speed on water. At a time when the most impressive steamships could manage less than 60km/h, the hydrofoil was clocked at 114km/h.[2] Another interesting development has been used on *Abegweit*, a CN Marine ferry, which had icebreaking capacity and an air-bubbler system that eased the vessel through the ice by using air to lubricate the sides of the ship.

Shipbuilders in Canada have continued to build innovative ships. There has been a need for ferries – to cross rivers and lakes and to connect far flung outposts – since Canada's beginnings. I'll use British Columbia as an example of ferry construction in Canada. In 1958, British Columbia created the BC Ferry Corporation and major vessels were ordered from BC shipyards. The first two ferries became the *Sidney*-class ferries, *Queen of Sidney* and *Queen of Tsawwassen*. BC Ferries actually purchased the plans for the ships so not to have to make royalty payments for future construction. The *Victoria*-class was a continuation of the *Sidney*-class, and seven ships were built between 1962 and 1965. There was also the *Cowichan*-class (C-class), five double-ended RO-RO ferries constructed 1976-1981. Then came the *Spirit*-class (S-class) of two ships – *Spirit of British Columbia* and *Spirit of Vancouver Island* – completed in 1993-1994. The two ferries were constructed in two pieces – the foreparts were built by Allied Shipbuilders of North Vancouver and the rest of the ships was constructed by Integrated Ferry of Esquimalt.

This is when the story changes. The next three *Coastal*-class ferries were *acquired* not built. Unlike the previous vessels, these ferries were built offshore at the Flensburger Schiffbau-Gesellschaft shipyard in Flensburg, Germany. The vessels were delivered in 2008. Obtaining the ferries offshore was controversial and led to Canadian shipbuilders protesting the decision. But BC Ferries pointed out that the Canadian shipyards were not available, being too busy, and would have to delay the start of construction.

How does the situation look on the naval front in the post-WWII years? Starting in 1950, seven Canadian shipyards were kept busy designing and building 24 naval

ships. The first ships were the *St. Laurent*-class, seven ships that were built by Vickers, Yarrows, Halifax Shipyard and Marine Industries 1950-1956. The second batch was the *Restigouche*-class, seven ships that were built by Vickers, Burrard, Halifax Shipyard, Marine Industries, Davie and Victoria Machinery Depot 1953-1959. The third batch was the *Mackenzie*-class, four ships that were built by Vickers, Burrard, Victoria Machine Depot and Davie 1958-1963. The fourth batch was the *Annapolis*-class, two ships that were built by Halifax Shipyards and Marine Industries 1960-1964. These ships were classified as destroyers, and they were often referred to as 'Cadillacs' because of their looks and state-of-the-art fitment. Later, there were the four *Iroquois*-class, also known as *Tribal*-class, destroyers which were more sophisticated guided-missile destroyers that were built by Marine Industries and Davie, 1969-1973.

Thus, during the period of 1950 to 1973, seven Canadian shipyards were very busy and productive, designing and building 24 destroyers/frigates and two replenishment ships for the navy. For these 23 years, the navy had Canadian-built ships that were fully operational well-armed and state-of the-art.

Today there is the *Halifax*-class, also referred to as the *City*-class, which are multi-role patrol frigates. They are the outcome of the Canadian Patrol Frigate (CPF) Project, which dates to the mid-1970s. HMCS *Halifax* was the first of an eventual 12 Canadian-designed and Canadian-built vessels which combine traditional anti-submarine capabilities with systems to deal with surface and air threats as well. The 12 ships were built by two yards, Saint John Shipbuilding and Davie, 1987-1995. There were also the 12 Maritime Coastal Defence Vessels, or *Kingston*-class. These multi-role vessels were built and launched from the mid- to late 1990s. The main mission of the vessels is to train reservists, coastal patrol, minesweeping, law enforcement, pollution surveillance duties. The multi-purpose nature of the vessels led to their mixed construction between commercial and naval standards.

As can be seen from this, over the years the shipbuilding industrial sector became a vital element of the Canadian economy. The yards employed tradespeople with proven skills. However, although Canadians have demonstrated high-quality workmanship, and at times innovation on a world scale, success has been cyclical. In recent times, it seemed to have been neglected and faded away towards oblivion. Over the last few decades at least a dozen Canadian shipyards became defunct, most notably Burrard, Saint John, Vickers, Yarrow, Victoria Machinery Depot and Marine Industries.

In 2010, the government made the decision to support Canada's marine industry and build vessels here in Canada. This plan, originally called the National Shipbuilding Procurement Strategy but now the National Shipbuilding Strategy (NSS), is to develop a sustainable, long-term shipbuilding plan that will benefit the Canadian marine industry. The main purpose was to be a long-term project to renew Canada's fleet of combat and non-combat vessels. A partnership was formed between the government and two Canadian shipyards – and a third shipyard was later added – to deliver much-needed vessels to the Royal Canadian Navy and the Canadian Coast Guard. In addition to recapitalizing the fleets, the strategy is to provide economic benefits to Canada, and it is the hope that it will help to start rebuilding the country's shipbuilding industry. Three yards are specified for all of Canada's government shipbuilding needs: Irving, Seaspan and Davie.

The problem with the strategy is that it only covers federal government ships. Provinces should have been encouraged to join the strategy since ferries form a large part of the shipbuilding industry. Ferries should preferably be built in Canada instead of in offshore yards.

The costs of shipbuilding contracts keep escalating because only three shipyards are obviously not enough to build all the ships that are required for both the navy and the Coast Guard, plus provincial governments, and private commercial ferries. Hence, ferries are being built

Credit: Timothy Choi

Just recently entered service, the BC Ferries ***Salish Eagle*** *is seen here in August 2018 in Active Pass. Built in Poland, the ship and its sisters exemplify the ferry operator's current approach to procuring its vessels.*

offshore because the existing yards are too busy to take on this work. This points to the need for additional shipyards to be included in the NSS, which should include all shipbuilding needs.

A big government splash of ship expenditures at 30-year intervals will certainly not enhance the shipbuilding industry. The construction of the 15 Canadian Surface Combatants (CSC) is falling behind schedule and with greatly increasing costs. The cost highlighted by the Parliamentary Budget Office is $4.3 billion for development and $80.2 billion for the acquisition.[3] With delays, the first CSC frigate will not likely be delivered until the early 2030s. So, to keep the Irving yard afloat until it can build the ships, the government is giving it $463 million. This will certainly not contribute to the expansion of the industry.

More yards should be inserted into the NSS project. Other yards should be selected to join the NSS and possibly get seed funding from both the federal and the provincial governments to bring them to an acceptable competence level. There must be a strategy put in place that will promote this vital industry to encourage research and development of marine products, and possibly establish a profitable export market for the shipbuilding industry. In the future, Canada could become known as a country of shipbuilders. It would expand the workforce that is employed in marine activities and offer well-remunerated jobs. It would result in trades people with skills, and it would also encourage younger professionals to join this industry.

Notes

1. See Victoria Harbour History, Laings Ways.
2. See *Canadian Encyclopedia*, "Hydrofoil" entry.
3. Office of the Parliamentary Budget Officer, "Life Cycle Costs of the Canadian Surface Combatants: A Fiscal Analysis," 2022, p. 3.

The Maritime Gray Zone: Uncrewed Systems and Canada's Challenges

Emmanuel Akinbobola

The future of aerial (often referred to as drones), surface and sub-surface uncrewed vessels and autonomous vehicles (AVs) in contested maritime domains poses new challenges and opportunities for countries engaged in the use of maritime gray zone tactics – tactics which are neither clearly peaceful nor openly hostile – and is a topic of great interest and concern for many countries. In particular, countries with contested maritime claims and interests – such as, for example, Canada and a number of countries in the Indo-Pacific region – will be concerned about possible implications. The maritime gray zone tactics fall into the area between peace and war, where state actors use various means of coercion, unconventional means and influence to advance their interests without resorting to direct military confrontation.

For instance, in the Indo-Pacific region, particularly in the South and East China Seas, China has deployed *Zhu Hai Yun* an autonomous drone carrier with the capability to carry payloads such as unmanned surface vehicles (USVs), unmanned underwater vehicles (UUVs), and unmanned aerial vehicles (UAVs/drones). Although China claims that the autonomous devices are for 'non-military' objectives, the use of AVs or drones in the contested area implicitly endorses the practice of gray zone operations that is based on ambiguity rather than clarity. The capabilities of these drones and autonomous devices in the Indo-Pacific region, particularly in the contested regions, give China formidable intelligence, surveillance and reconnaissance capabilities that provide an edge over the navies (like the Canadian navy) that have not deployed such systems within the contested area.[1] This edge can alter the success of Canada's ongoing naval forward presence missions in the Indo-Pacific region which aim to deter coercion by enhancing situational awareness and exerting influence for the purpose of maintaining order within the region based on the principles of freedom of navigation.

Credit: China Central Television

Screenshot from China Central Television shows China's first 200 ton-class unmanned surface vessel during its first autonomous sea trial in Zhoushan, East China's Zhejiang Province on 7 June 2022.

The deployment of drones, USVs, UUVs and AVs by the United States and NATO allies, especially within the contested maritime areas during military exercises, not only indicates that the maritime domain has changed significantly, but also illustrates that Canada needs to improve the capabilities of its navy to meet these challenges.

Canada's coastlines are also subject to maritime disputes and gray zone tactics, especially drones and AVs. For instance, Canada claims sovereignty over the Northwest Passage, which is a potential shortcut for shipping between Asia and Europe. However, some other countries, such as the United States and China, regard it as an international strait that is open to transit passage. Actions by Russia in the Arctic are also of concern. The recent development of

Credit: Canadian Armed Forces

*A Royal Canadian Navy member aboard HMCS **Harry DeWolf** launches a Puma UAV in order to conduct drug interdiction surveillance during **Operation Caribbe** in the East Pacific Ocean, 6 November 2021.*

a Russian nuclear-powered torpedo/UUV increases the susceptibility of the Northwest Passage to enhanced gray zone tactics with highly lethal drones and AVs.[2]

As a maritime country with vast coastlines and interests in the Arctic, Pacific and Atlantic regions, Canada needs to adapt to the changing maritime security environment and the growing use of drones, UUVs and USVs by both allies and adversaries.

How Can Canada Adapt?

Canada needs to address the challenges and risks associated with uncrewed and autonomous systems in the maritime domain. One of the key challenges is to ensure compliance with international law and norms, especially in disputed or contested waters, starting with the contested elements of Canada's coastline.

Canada claims sovereignty over the Northwest Passage, but the detection of China's monitoring buoys in the Arctic region is an example of gray zone tactics that create tension in the relationship between both countries.[3] Furthermore, the continuous use of drones, USVs and UUVs and AVs by any party in this area could raise legal questions and provoke tensions.

Canada needs to clarify its legal position and communicate its rules of engagement for uncrewed vehicles in the Arctic and other regions. By simply maintaining the status quo of the current naval deterrence capabilities in the maritime domain, Canada is implicitly conceding its sovereignty and leadership role to other actors that have more advanced and/or aggressive uncrewed capabilities. Finally, Canada needs to emphasize that the naval uncrewed and/or autonomous system capabilities are strategic assets within its key industrial capabilities.

Notes

1. Prakash Panneerselvam, "Unmanned Systems in China's Maritime 'Gray Zone Operations,'" *The Diplomat*, 24 January 2023.
2. Ameya Paleja, "Russia Reportedly Produces First Batch of Poseidon Nuclear Torpedoes," *Interesting Engineering*, 17 January 2023.
3. Robert Fife and Steven Chase, "Canadian Military Found Chinese Monitoring Buoys in the Arctic," *The Globe and Mail*, 22 February 2023.

A Possible Amphibious Command and Control Concept

Major (Ret'd) Les Mader[1]

Both *Canadian Naval Review* (*CNR*) and *Canadian Army Journal* have published articles that have discussed various aspects of a basic and an intermediate level of Canadian Arctic amphibious capability.[2] The basic level would use Arctic and Offshore Patrol Ships (AOPS) and Joint Support Ships (JSS) as the amphibious transports, while the intermediate level would require custom-designed, Arctic-capable vessels. Both levels would employ existing infantry battalions and Cyclone helicopters to provide the relevant capabilities. The inclusion of the JSS in the basic capability level means that Canada would also be able to undertake some small amphibious operations outside of Arctic waters as soon as these ships enter service.

Unfortunately, thus far there has been no detailed discussion of the command and control (C^2) of such amphibious forces. This could lead to future operational problems, as the Canadian Armed Forces (CAF) and the Royal Canadian Navy (RCN) would have to improvise such C^2 arrangements during an Arctic or overseas crisis.

Some readers might dismiss the need to worry about such arrangements now. I would simply remind them of the embarrassing experience of the US Marine Corps (USMC) and US Navy (USN) during the 1983 Grenada invasion. Despite the vast amphibious expertise of the USMC and USN, this operation was noteworthy for the chaotic C^2 arrangements that forced the USMC battalion commander to chase his rifle companies around Grenada where they had been flung without his knowledge; only the Grenadians' low and declining will to fight avoided the Marines having to pay heavily for such tactical confusion.[3]

Seeking to avoid the risks and chaos inherent in hurried improvisation, the CAF and RCN could simply adopt the

amphibious C² structures used by the Royal Navy (RN) and Royal Marines (RM) and the USN and USMC. I believe, however, that Canada cannot blindly do this; it must consider how to adapt these structures to its needs. I will discuss this view, and offer a 'strawman' C² structure, as a contribution to a broader discussion of the topic.

It seems to me that two general approaches to the C² of amphibious forces have been used over the years. I will call them the 'collaborative approach' and the 'single-commander approach.' In the simplest version of the collaborative approach, the commander of the amphibious ships (CATF) and the commander of the landing force (CLF) are of equal rank and work collaboratively to achieve an amphibious mission under the overall command of a shared superior commander. The CATF has command of the entire force until the CLF confirms that the landing force is properly established ashore. Despite this naval supremacy, the CATF's plan for the landing is driven by the landing force's mission and needs once it has left its ships. This approach was successfully used by the RN and RM during the 1982 Anglo-Argentine Falklands War.[4]

The collaborative approach makes great sense when the landing force is of a size to justify a commander of equivalent rank to the naval CATF and to be self-sufficient ashore (apart from ongoing logistics – and perhaps fire – support). However, these conditions will not be true for the amphibious forces that Canada would likely deploy to the Arctic. In them, the naval commander will be far superior in rank and experience to the land force commander and the landing force will not be self-sustaining, and thus cannot be absent from its host ship(s) for lengthy periods of time. The most striking example of this situation is a single AOPS deployed on a mission with an embarked marine infantry platoon. In this case, the CATF would be at the rank of a naval Commander while the CLF would probably be at the rank of an army Lieutenant, who would likely lack the experience, training and staff support to collaborate effectively with the CATF.

Such circumstances lead to what I call the single-commander approach where the CATF has command of the entire force throughout, perhaps within 'rules of employment' similar to those used for the Cyclone detachments provided to deployed ships. Such an approach was used during the liberation of the South Georgia archipelago during the 1982 Falklands War when an RN Captain commanded the force of four ships and about two companies of RM/Special Forces.[5] Naval command primacy does not, however, prevent a wise commander from consulting with experienced land subordinates when developing the amphibious plan.[6] A way must be found for Canada to ensure such integration of naval and land operational expertise and doctrine, even when the CLF is very junior and inexperienced.

My suggestion to meet this need is to create a standing amphibious task force headquarters, which I am calling Headquarters Task Force 24 (HQ TF 24) for the purposes of this article. TF 24 would be a subordinate formation of the Canadian Joint Operations Command (CJOC). Except during major amphibious deployments, HQ TF 24

Credit: Corporal David Veldman, Canadian Armed Forces

Crew members, Canadian Rangers and members of the 5th Canadian Division prepare to board HMCS ***Harry DeWolf*** *near Bonavista, Newfoundland and Labrador, on 19 November 2020.*

would be located in Kingston, Ontario, to ease coordination with the CJOC's senior deployable subordinate headquarters (1st Canadian Division Headquarters).

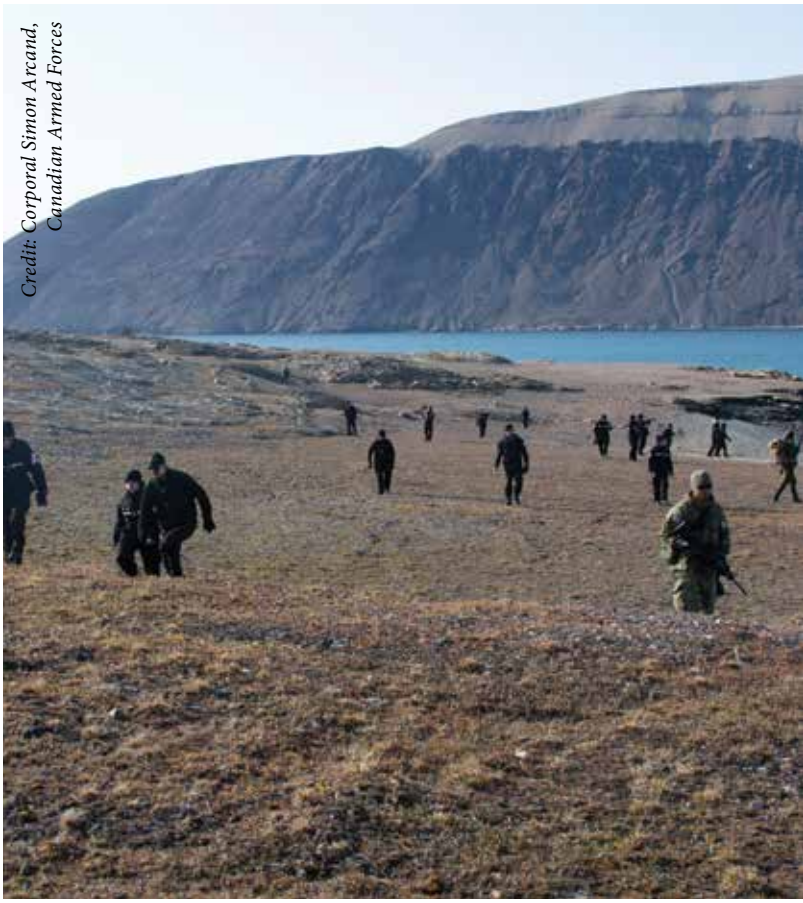
The rank of TF 24's permanently assigned CATF and CLF, and the size of their supporting staffs, would be commensurate with Canada's then-existing amphibious capability; a single AOPS deploying North with an infantry platoon does not require the same level of continuous and real-time command as a task force consisting of two amphibious task groups (TG). As a starting point, I would suggest the following: a naval Captain as the CATF; an army Colonel as the CLF; and a small staff, which includes aviation, operations, communications, intelligence, training, engineering and logistics experts. Depending on how much Canada invested in the establishment of an amphibious capability, this staff could grow. Potentially, it could include a full naval task force headquarters as well as a brigade headquarters and supporting signals squadron.

In the same way that an increasing Canadian amphibious capability would change the size of HQ TF 24, it could also lead to the need for subordinate TG headquarters to command parts of an amphibious force. I would suggest that two standing TGs could be created to meet this requirement: TG 24.1 with the Pacific fleet; and TG 24.2 with the Atlantic fleet. The permanency and size of these headquarters would depend on the composition of the forces that they were called upon to command and the frequency of such employment.

Initially, at least, HQ TF 24 would have the following roles:

- Ensure the integration of land, naval and air considerations into all amphibious plans. This integration would be particularly important when the amphibious forces actually deployed are functioning under a single-commander structure, as it would give them the benefits of the collaborative approach.
- Command any amphibious forces deployed on operations, on behalf of CJOC and/or 1st Canadian Division Headquarters, either directly or through TG 24.1 and/or TG 24.2.
- Be the CAF's planning headquarters for amphibious training exercises on behalf of CJOC.
- Act as an 'informed consumer' pushing the development and refinement of Canadian amphibious doctrine, C^2, tactics, techniques and procedures.
- Support the evolution of Canadian amphibious C^2 structures as government policy requires.

The development of the proposed intermediate level Canadian amphibious capability would be a major undertaking.



Credit: Corporal Simon Arcand, Canadian Armed Forces

*HMCS **Harry DeWolf** members and Land Task Force escorts trek the rough terrain of Devon Island, during **Operation Nanook-Nunakput**, 21 August 2021.*

However, a basic level of Arctic amphibious capability could be created quickly using only existing resources. Given the ease and speed with which a Canadian government could order such a change, it is important that the CAF and RCN think now about how such a new capability would be commanded. This article has outlined one possible C^2 option. It is hoped that its merits and areas requiring improvement and amplification will be discussed and addressed soon, both officially and within *CNR*.

Notes

1. The author wishes to thank Guy Lavoie for his editorial input.
2. See in particular: Colonel (Ret'd) Brian K. Wentzell, "Arctic Amphibious Capabilities for Canada?" *Canadian Naval Review*, Vol. 15, No. 2 (2019), pp. 36 and 37; and Major (Ret'd) Les Mader, "A Suggestion for an Intermediate Level of Arctic Amphibious Capability," *Canadian Naval Review*, Vol. 16, No. 1 (2020), pp. 33 and 34.
3. Major Mark Adkin, *Urgent Fury: The Battle for Grenada* (Lanham, Maryland: Lexington Books, 1989), pp. 157, 233-239, 241, 242, 246-252, 254, 256, 257 and 287-291.
4. Michael Clapp and Ewen Southby-Tailyour, *Amphibious Assault Falklands: The Battle of San Carlos Water* (Annapolis, Maryland: Naval Institute Press, 1996/Pen & Sword Military, 2007), pp. 16, 26, 27, 34, 38, 50-53, 60, 62, 77-81, 99, 102, 104, 106, 112-114, 121-123, 137, 153 and 184.
5. Edward Hampshire, *The Falklands Naval Campaign 1982: War in the South Atlantic* (Oxford, UK: Osprey Publishing, 2021), pp. 32 and 33.
6. During the South Georgia operation, the Captain (RN) commanding consulted with the two army/RM Majors to develop the final landing plan. See Max Hastings and Simon Jenkins, *The Battle for the Falklands* (London, UK: Pan Books, 1983), pp. 150, 153 and 154.

A View from the West:

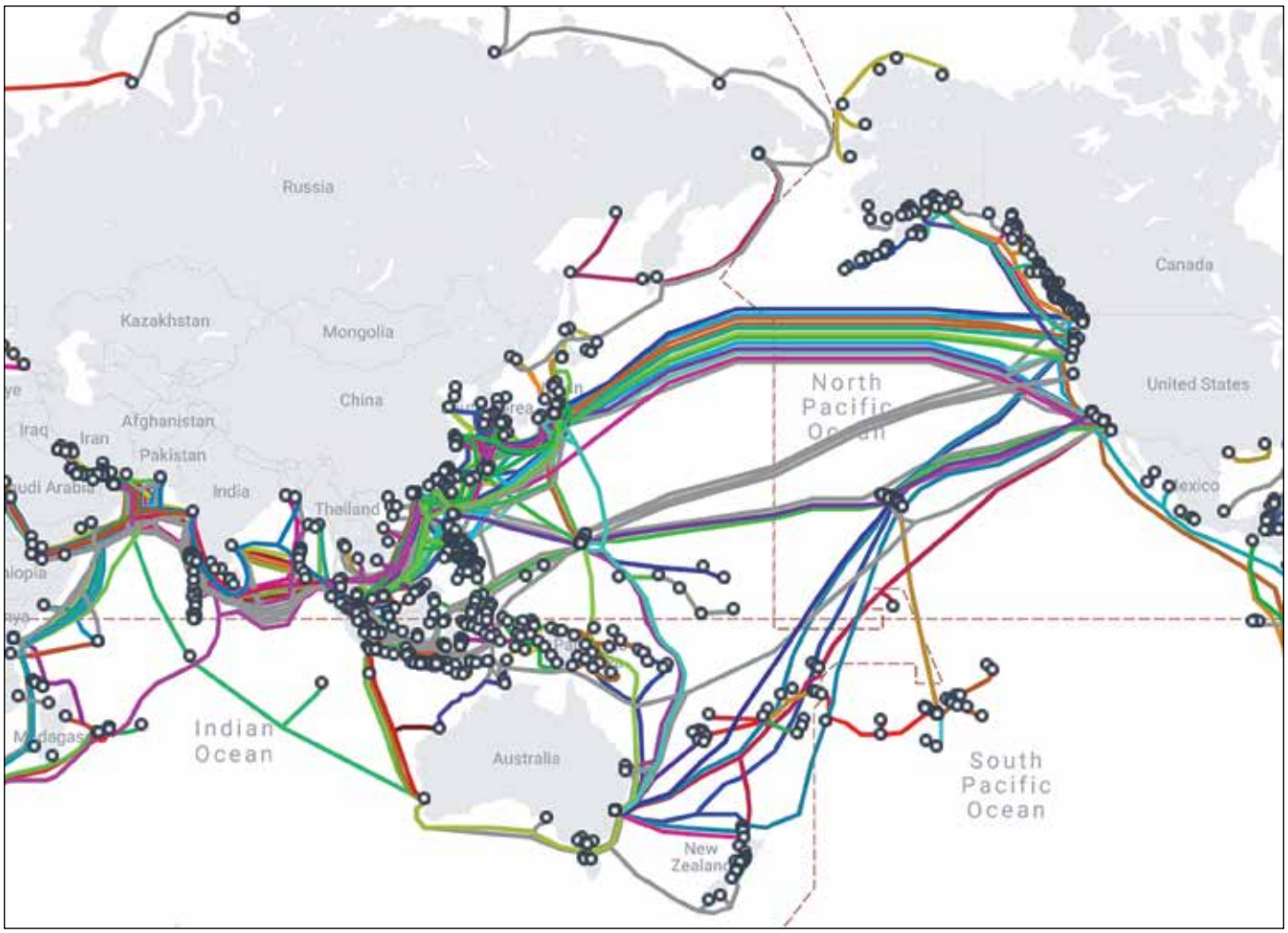
Subsea Cable Security in the Indo-Pacific Region

Rachel Martin*

Subsea cables, also known as submarine cables, carry over 95 per cent of intercontinental telecommunications traffic and data transfers through high-speed fiber-optic cables along the ocean floor. These cables are critical to national security as governments rely on them to transmit military orders and secure information. General threats to subsea cables include physical sabotage or theft, cyber threats such as data theft or espionage, damage from severe weather or natural disasters, or accidental damage by vessels. Natural phenomena and accidents are responsible for the majority of global cable faults.

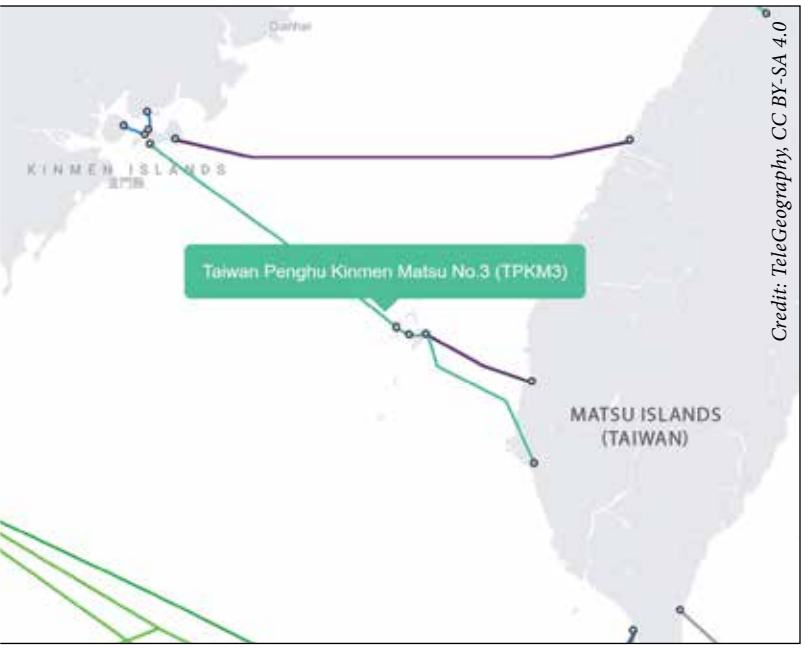
Recent high-profile incidents in the Euro-Atlantic region have called attention to threats against subsea cables and other critical infrastructure at sea. Incidents include the January 2022 Svalbard archipelago cable disruption, the September 2022 Nord Stream pipeline explosions and the October 2023 damage to the Balticconnector pipeline and telecommunication cable in the Gulf of Finland.[1]

Although threats to subsurface infrastructure have become a concern for the Atlantic community in light of these incidents and amid tensions related to the Russia-Ukraine war, similar threats should also be addressed in the Indo-Pacific region (IPR). In the IPR tensions emanating from territorial disputes and great power competition are heightening the threats to subsea cables and are impeding cable repairs and new projects. Yet the region lacks a comprehensive strategy to address this. Increasing demand for internet bandwidth by countries, demonstrated by the Malaysia Internet Exchange's threefold surge in internet use from May 2020 to December 2022[2] and the projected expansion of the Philippines' digital economy by up to 30 per cent by 2025,[3] will increase the impact



Credit: TeleGeography, CC BY-SA 4.0

A map showing undersea cables of the Indo-Pacific Region.



Cables near Taiwan's Matsu Islands, which are situated alongside the southeast coast of mainland China, have been cut 27 times in the past five years, suspending internet access for the islands' approximately 13,000 residents.

of interruptions to economic, social and defence sectors when critical subsurface infrastructure is damaged.

Geopolitical tensions between China and other Indo-Pacific states are perpetuated by China's disputed maritime claims in the South China Sea (SCS) – intensified by its land reclamation, military base construction and naval patrolling – as well as its claim to Taiwan. This geopolitical environment and increasing Chinese vessel traffic have contributed to accidental damage, or the suspected sabotage, of subsea cables by Chinese vessels. Incidents have most often affected Taiwan, the subsurface infrastructure of which has been cited as a potential Achilles Heel if China were to seek unification through force.[4] Cables near Taiwan's Matsu Islands, which are situated alongside the southeast coast of mainland China, have been cut 27 times in the past five years, suspending internet access for the islands' residents and forcing reliance on a microwave radio transmission system in the months until repairs were complete.[5] In the most recent incident, a Chinese fishing vessel and cargo ship were found responsible for cutting the two cables connecting the islands to Taiwan on 2 and 8 February 2023.

Although it is difficult to prove that the acts were deliberate, commentators have labelled these and similar acts as Chinese gray-zone aggression.[6] In response to the disruptions, Taiwan has invested in strengthened links with other IPR states through the approval of new lines such as the Apricot cable and TPU cable systems.[7] Interconnection through new cable projects will afford IPR states such as Taiwan and the Pacific island countries, which have few cable connections, more sources through which to reroute data and telecommunication traffic in cases of disruption. This necessity is highlighted in the case of Vietnam – five undersea internet cables have all had disruptions since November 2022, although the circumstances surrounding the disruptions have not been revealed.[8]

To improve interconnectivity, IPR governments need to work cooperatively with the private sector, which is almost entirely responsible for developing, installing, operating and repairing subsea cables. Strategic competition between China and the United States has, however, impeded public-private cooperation and highlighted the lack of a comprehensive international legal framework to regulate subsea cable maintenance and repairs. Competition between China and the United States, and subsequently between China's state-owned HMN Technologies Co. (previously Huawei Marine Network) and the American company SubCom – two of the largest global subsea cable suppliers – has impeded the approval of new subsea cable projects and threatens subsea cable repairs in the SCS.

The existing international legal framework (primarily the UN Convention on the Law of the Sea (UNCLOS)) does not outline a mandatory response to subsea cable damage, such as the requirement that swift repairs be approved within a country's 12 nautical mile territorial sea.[9] While the repair of subsea cables is already a lengthy process with only approximately 60 ships worldwide equipped to repair undersea cables,[10] the process is further complicated by the requirement that companies obtain permits when laying or repairing cables within a territorial sea. In cases where cables run through China's territorial sea, cable repairs may be subject to further delays by strict Chinese permit requirements. Chinese authorities have been known to delay permits for new cable projects for years, for example in the case of the Southeast Asia-Japan 2 (SJC2) project meant to link Japan to Singapore through the SCS. Concerns over national security were cited as the reason for the lengthy delays. Security concerns may have centred on the involvement of American company Meta and fears of American espionage.[11] These issues have prompted companies to try to bypass the SCS or exclude China from new international projects altogether.[12]

Although private companies are seeking to invest in new international and regional projects which will improve connectivity and mitigate the impact of damage to current networks in the IPR, further state-level action is needed to address threats to existing subsea cables. In response to the events in the Euro-Atlantic area, the North Atlantic Treaty Organization (NATO) has led efforts to address threats through the creation of a joint task force with the European Union (EU) on resilience and critical infrastructure and the launch of a centre for the protection of undersea pipelines and cables.[13] In the IPR, the Association of Southeast Asian Nations (ASEAN) has sought to mitigate cable disruptions through the creation

Credit: Wikimedia user Mak

A SEA-WE-ME 4 submarine cable landing station in Bangladesh, January 2006.

of the 2019 "ASEAN Guidelines for Strengthening Resilience and Repair of Submarine Cables" which centre on the legality of cable repair work and include a principle to streamline permits for cable repairs.[14] These guidelines, however, are not comprehensive and, unlike the EU-NATO response, do not focus on the security and protection of subsea cables, or address heightened risks for networks which run through the SCS.

To address this, IPR states could benefit from conducting more elaborate training for coast guards or initiating joint task force operations to monitor suspicious activity in targeted areas. The Quad – a partnership comprised of Australia, India, Japan and the United States – which has vested interest in the future order of the Indo-Pacific region, may also aid in monitoring suspicious activity through its 2022 Indo-Pacific Maritime Domain Awareness (IPMDA) initiative which pledges satellite-based radio frequency data to counter illegal, unreported and unregulated (IUU) fishing and improve law enforcement in territorial waters.

Investments from Quad members such as Australia, which pledged $50 million in funding for connectivity projects in the IPR, and the United States, which pledged $15 million, may also aid small IPR states with increased connectivity through new subsea cable projects.

While strategic partnerships such as the Quad are focusing attention on critical subsurface infrastructure in the IPR, ASEAN and bodies such as the Pacific Island Forum may serve well to discuss a comprehensive regional strategy for subsea cable security that would facilitate further cooperation and allowances between public and private sectors. As digital connectivity and the digital economy continue to grow in the Indo-Pacific region, home to the world's most rapidly growing internet user base, creating a comprehensive response to these threats is more critical than ever.

Notes

* The views expressed within this article are those of the author, and do not reflect the policies of the Royal Canadian Navy or the Department of National Defence.

1. Damage to four pieces of subsurface infrastructure – the Balticconnector gas pipeline and a subsea cable linking Finland and Estonia, a cable linking Sweden and Estonia, and a Russian cable linking the city of St. Petersburg to the Russian exclave Kaliningrad – occurred between 7-8 October 2023 in the Gulf of Finland, an arm of the Baltic Sea. The cases have so far been linked to the Chinese container ship *Newnew Polar Bear,* which was in the area at the time, and the anchor of which was retrieved from the seabed.
2. Bernama. "Internet Bandwidth Demand in Malaysia Soars to a Record High," *New Straits Times*, 17 January 2023.
3. "The Growing Digital Economy in the Philippines: Opportunities, Challenges, and Google's Contributions," Access Partnership, October 2021.
4. "Undersea Cables: Taiwan's Achilles Heel?" Project 2049 Institute, 28 April 2010.
5. Huizhong Wu and Johnson Lai. "Taiwan Suspects Chinese Ships Cut Islands' Internet Cables," Associated Press, 18 April 2023.
6. Jonathan Chin, "China Could Conduct 'Cable Sabotage': Security Analyst," *Taipei Times*, 24 February 2023.
7. The Apricot cable is set to be complete by 2026 and will connect Japan, Taiwan, Guam, the Philippines, Indonesia and Singapore while bypassing the South China Sea. The project's consortium includes Chunghwa Telecom (CHT) (Taiwan), NTT (Japan), PLDT (Philippines), Meta (previously Facebook) and Google. The TPU cable is privately owned by Google through its subsidies GU Holdings Inc., Google Taiwan Limited and Google Singapore Pte. Ltd. The project is set to be completed in 2025 and will connect the United States, Taiwan and the Philippines.
8. Lucas Snarski, "The Weakest Link: Securing Critical Undersea Infrastructure in ASEAN," *The Diplomat*, 23 June 2023.
9. The UN Convention on the Law of the Seas (UNCLOS) does stipulate allowances for the laying and maintenance of submarine cables on another state's continental shelf, or in cases where existing submarine cables were laid in an archipelagic state's waters prior to the establishment of UNCLOS.
10. Elsa B. Kania, "Enhancing the Resilience of Undersea Cables in the Indo-Pacific," S. Rajaratnam School of International Studies, Singapore, Report CO23113, August 2023.
11. Tsubasa Suruga, "Asia's Internet Cable Projects Delayed by South China Sea Tensions," *Nikkei Asia*, 19 May 2023.
12. Both the Google-Meta-invested Apricot cable and Echo cable systems are being built along more expensive pathways in order to bypass the South China Sea. In another cable project Cap-1, which was meant to connect California to Singapore, Malaysia and Hong Kong, China Mobile pulled out of the project, and it was later withdrawn altogether, even though most of the 12,000 km cable had already been laid.
13. NATO, "NATO and European Union Launch Task Force on Resilience of Critical Infrastructure," 16 March 2023; NATO, Media Release, "NATO Secretary General Addresses Protection of Critical Undersea Infrastructure, Support to Ukraine with EU Defence Ministers," 14 November 2023.
14. ASEAN, "Guidelines for Strengthening Resilience and Repair of Submarine Cables," adopted at the 19th Telecommunications and Information Technology Ministers Meeting (TELMIN), 24 October 2019, Vientiane, Laos PDR.

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Dollars and Sense:

The Canadian Armed Forces in 2024: Desperate for the Defence Policy Update

Dave Perry

Credit: Aviator Gregory Cole, Canadian Armed Forces

*HMCS **Vancouver** conducts Officer of the Watch manoeuvres in consort with HMCS **Ottawa** and MV **Asterix** while the ships transit the Pacific Ocean homebound on 4 December 2023.*

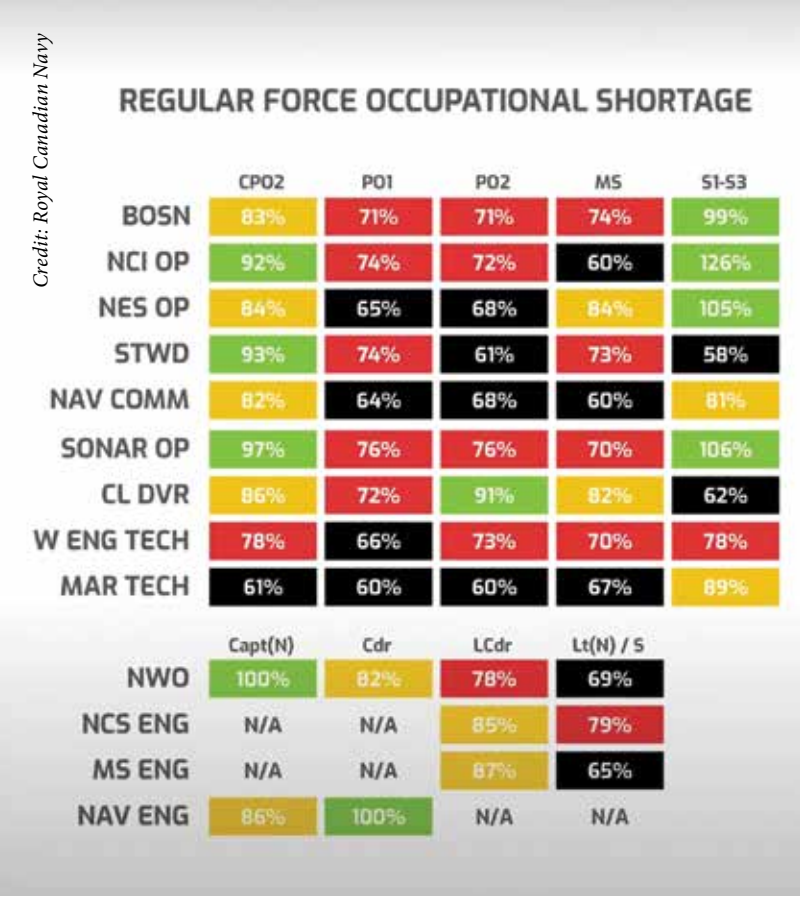
In late November the Royal Canadian Navy (RCN) released a video narrated by Vice-Admiral Angus Topshee that painted a stark picture of the state of Canada's naval forces. According to the video, the RCN is in "a critical state."[1] The video comes on the heels of reporting by *The Globe and Mail* at the end of October that Canada's fighter force "is in crisis."[2] Reporting over the summer of 2023 indicated that the Canadian Army has been struggling to equip its expanded NATO *Operation Reassurance* mission in Latvia.[3] Taken together, media reporting has painted a picture of a Canadian military increasingly struggling to deliver on operational commitments.

Against that backdrop, the release of the Defence Policy Update – a process initiated in the April 2022 budget, when the Finance Minister and Deputy Prime Minister promised a 'swift' review in her budget speech – is becoming even more pressing. At the time of writing, that 'swift' review was at the 20-month mark and counting. While the Minister of National Defence indicated in the fall of 2023 that the update might be coming in a matter of months and that there were discussions happening about significant additional investment in the Canadian Armed Forces (CAF), there is ample room to question whether the review will meet the needs of the moment.[4]

The requirement for significant additional investment is evident across all of the major elements of the defence portfolio, detailed below. But, especially after the Fall Economic Statement in 2023,[5] it seems increasingly clear that there is an emerging disconnect between what the Justin Trudeau government would consider to be feasible significant spending and what the Department of National Defence (DND) and CAF would consider to be a significant enough investment. In its economic update, the government made clear that Canada's fiscal position, maintaining Canada's AAA credit rating, and favourable fiscal statistics compared to other G7 economies are key government priorities. In that context, the government outlined limited (by Trudeau government standards) additional spending despite sagging poll numbers while at the same time announced $691 million a year in budget cuts. DND's share of those additional reductions, over and above the cuts introduced in the 2023 budget were not specified. Unlike in Budget 2023, there was no language suggesting any exemption for defence.

Since DND represents roughly 25% of the government of Canada's operational spending (the basket captured by the Budget 2023 cuts), it would be reasonable to assume that defence's share would be somewhere around $170 million a year which, when combined with the over $900 million a year in cuts from the 2023 Budget, will result in a reduction of around $20 billion over the next 20 years. As it waits for the Defence Policy Update, the fiscal signal from the government about how much additional spending is reasonable to expect is not promising. Not only is the government clearly signalling that there is limited additional room for spending, it is further increasing the cuts it expects government departments to realize.

Credit: Royal Canadian Navy



The RCN's regular force shortages by occupation as seen in a recent video posted by the RCN.

And yet, as outlined at the outset, there are clear shortcomings in Canada's military that are already starting to limit its ability to carry out existing policy. On the personnel front, the CAF continues to deteriorate, despite years of efforts to address the situation. As Chief of the Defence Staff General Wayne Eyre testified to the House of Commons Defence Committee in the fall of 2023, the military continues to be roughly 16,000 troops short, split about equally between regular and reserve forces.[6] More recently, the latest Statistics Canada survey indicated that despite the numerous initiatives arising from the reports by retired Supreme Court Justices Marie Deschamps and Louise Arbour, the number of sexual assaults in the forces had more than doubled since their last survey.[7] Taken together, these two data points make clear that there are ongoing quantitative and qualitative personnel issues that must be resolved, requiring ongoing investments. Presuming the forces can arrest the drop in their numbers and return to even strength, that will put a significant financial pressure on the military that has essentially been saving hundreds of millions of dollars a year by being several thousand troops short of authorized strength. Beyond this, if the government remains committed to enacting meaningful culture change in the CAF, the latest survey results indicate that the measures to date have been insufficient and additional investments of staff time, if not money, will be needed affect change.

With respect to readiness, the RCN video made clear that Canada will need to operate the *Halifax*-class frigates for another 15 years. Those vessels, commissioned in the 1990s with a 25-year design life, are now 30 years old and experiencing the type of problems associated with operating assets in harsh conditions longer than they were meant to keep sailing. The ships' structure and components are reaching the point where structural issues are appearing that cannot be addressed within the normal funding envelopes and time allocated for docking work periods. This columnist recently had the opportunity to tour one of the RCN frigates immediately after it exited a docking work period. Even to a non-expert eye, the substantive issues with the structural integrity of the steel decking that could not be addressed within the normal maintenance interval are evident, and concerning. The frigates will need a significant injection of maintenance cash to keep sailing for another decade and a half beyond what they were designed to do as their structure and components progressively exceed their intended life span.

Lastly, without new funding commitments, soon, to initiate new capital replacement projects, Canada is in danger of seeing its submarine capability run out of useful life as the *Victoria*-class submarines reach the end of their lives, even with the Victoria Class Modernization Program. While the RCN's force development team has been undertaking substantial initial work to scope out potential replacements, including visiting with potential suppliers around the world, they will soon reach the limit of how much further the project can move forward without the government providing clear policy direction and at least a commitment of capital project funding to acquire new boats.

As the CAF moves into 2024, it is starting to face the impact of years of deferred decisions which are culminating in a personnel, readiness and capital equipment situation that is starting to limit the government's options. The longer we wait for an update to Canada's defence policy, the worse the situation will get.

Notes

1. Canada, Royal Canadian Navy, "The State of the Royal Canadian Navy," Ottawa, Royal Canadian Navy, Youtube video, 2023.
2. Steven Chase and Robert Fife, "Canada's CF-18 Fighter Jet Force 'in Crisis,' New Study Funded by DND Says," *The Globe and Mail*, 27 October 2023.
3. Murray Brewster, "An 'Embarrassing' Gear Shortage has Canadian Troops in Latvia Buying Their Own Helmets," CBC News, 5 June 2023.
4. David Baxter, "Defence Minister Says Plan in Talks for 'Significant' Military Investments," Global News, 3 December 2023.
5. Canada, Department of Finance, "2023 Fall Economic Statement," Ottawa, Department of Finance Canada, 2023.
6. General Wayne Eyre, "Evidence," Standing Committee on National Defence, 28 September 2023.
7. Spencer Van Dyk, "'Significant Increase' in Sexual Misconduct in the Canadian Armed Forces, Statistics Canada Reports," CTV News, 5 December 2023.

Dave Perry is President of the Canadian Global Affairs Institute and host of the Defence Deconstructed Podcast.

Naval Developments: A Potpourri

Doug Thomas

Credit: Boeing

A computer-generated graphic of a Boeing P-8A Poseidon in Canadian markings.

This column will highlight the impressive Australian nuclear-powered general-purpose attack submarine (SSN) AUKUS program. I can't help but compare this with the slow movement on the Canadian maritime front, where acquisition of the Canadian Surface Combatant (CSC) is making relatively slow progress. On the positive front, there is good news to report on replacement of Canada's Maritime Patrol Aircraft (MPA) capability.

Maritime Patrol Aircraft

Canada has operated the CP-140 Aurora anti-submarine warfare (ASW) MPA for over 40 years. Initially it was a Canadianized P-3 Orion, with electronics and sensors used in the carrier-based S-3 Viking ASW aircraft. The current Auroras, numbering 14 aircraft now, have many updated electronic systems and have had structural improvements such as a re-winging program. The completion of all the available update packages forms the Aurora Incremental Modernization Program (AIMP), and the resulting aircraft is known as the CP-140M. Allied countries operating variants of the P-3 have also addressed structural concerns and electronic system updating to extend the service lives of their aircraft.

The Royal Canadian Air Force (RCAF) has been exploring the purchase of 16 P-8A Poseidon aircraft which the US Navy is introducing into service as its replacement for its P-3 Orion. On 29 November 2023, Bill Blair, the Minister of National Defence, announced a government-to-government agreement with the United States to purchase 14 P-8A aircraft with an option to purchase another two.[1] With this announcement all five members of the 5 Eyes Intelligence Community – Australia, Canada, New Zealand, the United Kingdom and the United States – will operate a common aircraft. One of its obvious advantages is that it is based on the airframe of the successful and ubiquitous Boeing 737 passenger aircraft.

Canadian Surface Combatant

Long-lead components for the first three Canadian Surface Combatant ships have been ordered.[1] Components such as major weapon systems and main gear boxes cannot be ordered off the shelf – it may take years to procure them. This is a positive development in a program that should (hopefully) start accelerating soon.

Credit: Royal Canadian Navy

A June 2022 graphic the Canadian Surface Combatant posted by the RCN.

Credit: Australian Submarine Agency

A booth for the Australian Submarine Agency containing a preliminary model of a notional AUKUS submarine is seen at the Indo-Pacific International Maritime Exposition 2023.

Ship construction has been pushed back by another year; construction of the first unit will now commence in 2024-25 and be delivered to the RCN in the early 2030s. The delivery of the final ship has been pushed back to 2048-49. With a projected service life of at least 40 years, that will see the final units of this class lasting well into the 2090s!

AUKUS Submarines

Australia had been planning to replace its current six *Collins*-class conventional diesel-electric submarines (SS) with up to 12 larger conventional submarines from Group Navale. This deal was cancelled in 2021, and in 2022 Australia paid the French company €555 million (about $815 million Canadian) in compensation. The reason for the cancellation was Australia's decision to team up with the UK and USA in a trilateral AUKUS defence agreement to operate nuclear-powered (but not nuclear-armed) submarines (SSNs) instead. Such submarines will be far more effective in the huge expanse of their expected operating areas of the Indian and western Pacific Oceans. Quite simply, SSNs can sail much further and faster than conventional submarines, such as those operated by Canada, and many other countries. Conventional submarines are quiet and relatively undetectable, can operate over large distances albeit much more slowly than SSNs, and with advanced air-independent propulsion (AIP) systems can remain submerged for extended periods, but they are best used in choke points and restricted waters where they can loiter and attack transiting enemy forces, or work with Special Forces.

Australia will purchase three *Virginia*-class submarines and build five of the new SSN *AUKUS*-class in concert with the British *Astute*-class replacement, for a total of eight SSNs. Royal Australian Navy (RAN) Commodore Bradley Francis, Project Officer for Australia's new submarine program, told reporters at the annual Naval Submarine League symposium that "the SSN AUKUS will have a high level of interoperability with the [USN's] Virginia class." There will be certain technologies from the *Virginia*-class integrated with the AUKUS SSN, and by working with the USN now, the RAN will be familiar with them. Francis added that currently "the focus of the environment is building a workforce to operate [the] Virginia [class]."[2]

The new SSN will be a nuclear-powered attack submarine based on the United Kingdom's design for a replacement for its *Astute*-class. This is a crucial part of the new AUKUS technology-sharing agreement. The UK and the United States will help Australia develop an indigenous capability to build and maintain nuclear-powered submarines. While the new boats are being built, Australia will buy three *Virginia*-class attack boats from the United States. The first two running submarines, built between 2020 and 2026, will be sold in 2032 and 2035. The third *Virginia* will be a new boat to be delivered in 2038. Up to a total of five *Virginias* can be purchased by Australia if the AUKUS SSN program is delayed or for other reasons.

Conclusions

Australian naval personnel are currently undergoing training in the United States and with the USN to maintain and operate nuclear-powered submarines. RAN personnel will be embarked in US Pacific Fleet *Virginia*-class boats in increasing numbers to gain experience so that they will be able to 'hit the ground running' in the 2030s. This is a very impressive program which provides an important underwater component to Australia's fleet. Maritime Patrol Aircraft have not been forgotten: the Royal Australian Air Force (RAAF) has already taken delivery of 12 P-8s and has recently ordered two more. Australia is certainly 'putting its money where its mouth is' regarding its national security.

Notes

1. Government of Canada, Department of National Defence, News Release, "Canada Purchasing up to 16 P-8A Poseidon Multi Mission Aircraft for the Royal Canadian Air Force," 30 November 2023.
2. Royal Australian Navy Commodore Bradley Francis, quoted in Mallory Shelbourne, "Australia Will Announce AUKUS Nuclear Attack Boat Build Partner Next Year," US *Naval Institute News*, 9 November 2023.

Book Reviews

Battleship Bismarck: A Design and Operational History, by William H. Garzke Jr., Robert O. Dulin Jr. and William Jurens, with James Cameron, Annapolis, Maryland: Naval Institute Press, 2019, 610 pages, appendices, index, pictures, maps and diagrams, ISBN 978-1-59114-569-1

Reviewed by Colonel (Ret'd) Brian K. Wentzell

This voluminous book records the origin, design, construction, history and epic voyage leading to the final battle of the German battleship DKM *Bismarck*. The ship was launched, in the presence of Adolph Hitler, on 14 February 1939 at the Blohm and Voss Shipyard on the Elbe River at Hamburg, Germany. The ship's sponsor was Dorothea von Lowenfeld, the granddaughter of Prince Otto von Bismarck. It was a momentous occasion witnessed by 26,000 people. As quoted in the book, in his remarks at the launch, Hitler stated that "[w]e Germans still feel a terrific tug at our hearts when we think of the fate of the Fleet sunk twenty years ago, after its glorious struggle throughout four years" (p. 3). The expectations upon the Kreigsmarine could not have been higher. The German Navy would not be cowed by its fate after World War I.

As the book outlines, considerable effort went into the design of *Bismarck* and its sister battleship *Tirpitz*. Experience from World War I and subsequent design developments led decisions about the armament, protection, propulsion and anticipated use of these ships. The weapons were carefully designed to provide superior weight of shells, rate of fire and impact upon targets, which potentially included capital ships such as battleships and cruisers. Consideration was also given to defence against attacking aircraft. These ships were designed to absorb punishment by gunfire, torpedoes and aerial attack.

However, the design was not perfect. For example, modifications were made to the bow superstructure, by increasing its length by 5.1 metres and raising its height, to reduce the impact of the sea coming over the bow. The latter move was done after seas entered the forward Anton 380-mm/51.66-caliber gun turret and rendered it useless until the heavy seas abated and the turret cleared of the water.

The book describes the impressive armaments of the ship. The main armament was four twin 380-cm turrets, designated from forward to aft of the ship as Anton, Bruno, Caesar and Dora. The secondary armament of 12 15-cm surface action guns, arranged in six twin turrets, was deployed equally on each side of the ship. For close range engagements there were 16 105-mm dual purpose guns in twin turrets, 16 37-mm semi-automatic anti-aircraft guns in twin turrets, and 12 20-mm single machine guns distributed around the ship's superstructure.

Protective armour enabled the *Bismarck*-class to withstand punishment by enemy gunfire, bombs and torpedoes. The ships had strongly armoured sides, decks, gun shields and forward command tower superstructure. Oddly, the after gunnery control station, which also contained the alternate machinery, equipment and spaces for command and control of the ship in the event of the loss of the forward primary control spaces, was more lightly armoured.

In addition to armament, the reader learns about the propulsion system of the ship. The propulsion system comprised three separate engine rooms and six boiler rooms. There were three propeller shafts. The design provided redundancy in the event of loss of one or two turbines or several of the boilers. The propulsion system was not a significant factor in the loss of the ship, even with one damaged propeller blade. However, as the authors note, the twin rudders were closely placed to the propellers and battle damage to the rudders did restrict the steerage of the ship. This was a significant factor leading to its loss.

The overall structure of the ship was designed to provide stability in the event of damage at sea. However, as the book indicates, the design produced a rather lively ship in following seas. This produced a lively gun platform, not a good situation for a battleship engaged in a gunfight in heavy weather.

Although *Bismarck* had extensive armour protection at the hull sides and throughout the superstructure, the hull shape required to enable high speed meant that such protection was reduced in forward areas leading to the bow. Despite that reduction, the amount of punishment endured by the ship illustrated the effectiveness of its design and construction.

Having sunk HMS *Hood* on 24 May 1941 by fire from the main armament, which caused a massive explosion in the British ship and resulted in its quick sinking and loss of all but three of the crew, *Bismarck* had proven its potent capability. The Allies realized the ship had to be dealt with quickly.

As described in the book, the end came for *Bismarck* on 27 May 1941. The final battle involved two British battleships, HMS *King George V* and HMS *Rodney*, and two cruisers, HMS *Dorsetshire* and HMS *Norfolk*. *Rodney* fired the first salvo at 0847 hours and *King George V* fired the final salvo at 1021 hours. *Bismarck* sank at 1040 hours. The British cruisers focused their fire on the topside structures of *Bismarck* and this caused considerable damage to the superstructure and gun armament of the ship. In addition, the two cruisers fired a number of torpedoes and five are believed to have hit their target and caused damage to the armoured hull plating.

The crew of *Bismarck* abandoned ship into the heavy seas that had raged through the battle. A few had managed to get into a raft or lifeboat but over a thousand were floating in the cold storm-tossed waters. The Royal Navy ships picked up 110 survivors, the German U-boat U-74 saved three and the German weathership, *Saschenwald*, picked up two more later that night. Over a thousand crew succumbed to the effects of the cold Atlantic waters. Still, the result was much better than experienced by the crew of HMS *Hood*. The Royal Navy obtained revenge for the loss of HMS *Hood* but that was of little comfort for those who had lost relatives, friends and loved ones.

This book provides great detail of a significant ship, and its fate. It will be of interest to readers who are fascinated by naval ships and/or discussion of naval battles of World War II.

On Her Majesty's Nuclear Service, by Eric Thompson, Oxford: Casemate, 2018, 265 pages, ISBN 978-1-61200-571-3

Reviewed by Brian Bertosa

Eric Thompson MBE, Royal Navy, retired in 1998 as Commodore, HM Naval Base Clyde, and has used at least some of his free time since to create a splendid memoir of his career as a naval engineering officer. Starting as an electrical officer in conventional submarines, he later moved to nuclear-powered (and nuclear-armed) boats, followed by increasingly responsible staff appointments and shore commands. While nuclear submarine memoirs are no longer the novelty they once were, Thompson is probably the highest-ranking former member to pen an autobiography. Going well beyond the dust-jacket clichés of 'Cold War' and 'top secret' that seem to be used to publicize all of these books, *On Her Majesty's Nuclear Service* covers not only Thompson's time in nuclear boats but his entire Royal Navy career of 37 years (and a little bit before and after, as well). The book includes a glossary, which helps readers understand the material.

The 265 pages of main text are divided into a whopping 27 chapters, most of which cover a different course, ship, or posting to which the author was assigned. Clearly, a wide range of activities lay in store for an electrical engineer who was nuclear qualified and destined for high rank. None of the chapters is particularly long, and the narrative sometimes has the character of a quick overview. The author occasionally pauses to reflect on events, but such moments tend to be brief.

An exception to this is Thompson's engaging account of the event that led to his award of the Member of the Order of the British Empire (MBE). A steam leak in a particularly difficult portion of the secondary circuit in HMS *Revenge*, a missile boat, threatened the abandonment of the machinery spaces and the premature end of the deterrent patrol. This event is narrated over two chapters, with the first appearing right at the beginning of the book, to 'hook' the reader with something dramatic and action-packed, before Chapter 2, "In the Beginning," properly begins Thompson's story. In fact, when the mishap appears in its proper context, in Chapter 17, we are told to "see Chapter 1" (p. 161), which I frustratingly had to then go back and reread. I have seen a number of autobiographies that employ this somewhat cynical device, and I can only assume that the decision to use it lay with an editor, not the author.

For Thompson is anything but cynical. He is open, honest and forthright about his emotions during the most difficult points in his career – he was on the point of resigning twice. Arguably his best chapter is the one in which he describes his first boat, in which his lack of confidence and an absolutely toxic wardroom fed upon each other to the point where he was relieved of his duties. The account is an excruciating read, but gripping, with some wonderful psychological insight for a 'newbie' in any field. Nor is the author dour – he is a Scot – for he includes a bit of artwork, poetry and a full-length illustrated comic poem, all of his own creation.

Given that the final 10 chapters cover the period after his last patrol, this book can be said to function on two levels. Those with an interest primarily in what it was like to serve in a submarine of the Royal Navy, particularly the engineering department, will find Thompson's account fascinating. Others, perhaps some of Canada's Naval Technical Officers, will get a great deal of insight into what shore-side appointments can be like for naval engineers as we follow the author through, among others, the Mk24 Torpedo Trials Unit, the Directorate of Naval Logistic Planning, and the Chief Strategic Systems Executive.

About my only real complaint regarding the book is that, for reasons unknown, Thompson tells us next to nothing about his time at Britannia Royal Naval College Dartmouth, the Royal Naval Engineering College Manadon, and the Joint Service Defence College, which is unusual for books of this nature. In particular, an account of his years at Manadon would have been a nice fit with the career that followed.

It hardly needs to be pointed out that memoirs written by former naval engineers are exceedingly rare, but this book is much more than that. Probably the closest I've come in a long while to a perfect little autobiography, *On Her Majesty's Nuclear Service* is a candid and satisfying account of a whole life.

2024 Canadian Naval Memorial Trust

Essay Competition

Canadian Naval Review will be hosting the CNMT's annual essay competition again in 2024. There will be a prize of $1,000 for the best essay, provided by the **Canadian Naval Memorial Trust**. The winning essay will be published in *CNR*. (Other non-winning essays will also be considered for publication, subject to editorial review.)

Essays submitted to the contest should relate to the following topics:

- Canadian maritime security;
- Canadian naval policy;
- Canadian naval issues;
- Canadian naval operations;
- History/historical operations of the Canadian Navy;
- Global maritime issues (such as piracy, smuggling, fishing, environment);
- Canadian oceans policy and issues;
- Arctic maritime issues;
- Maritime transport and shipping.

If you have any questions about a particular topic, contact **cnrcoord@icloud.com**.

Contest Guidelines and Judging

- Submissions for the 2024 *CNR* essay competition must be received by **Friday, 31 May 2024**, at **cnrcoord@icloud.com**.
- Submissions are not to exceed 3,000 words (excluding references). Longer submissions will be penalized in the adjudication process.
- **Submissions cannot have been published elsewhere.**
- All submissions must be in electronic format and any accompanying photographs, images, or other graphics and tables must also be included as a separate file.

The essays will be assessed by a panel of judges on the basis of a number of criteria including readability, breadth, importance, accessibility and relevance. The decision of the judges is final. All authors will be notified of the judges' decision within two months of the submission deadline.

HMCS ***Harry DeWolf*** meets HMCS ***Haida***, Harry DeWolf's most well-known command, in Hamilton, Ontario, during the former ship's Great Lakes Deployment on 13 November 2023.

Credit: Master Corporal Djalma Vuong-De Ramos, Canadian Armed Forces