

# Making Waves

## *The National Shipbuilding Strategy: Flawed Premises*

Dan Middlemiss

As we look back at 10 years of the National Shipbuilding Strategy (NSS), there are many observations that can be made. I would like to offer some here.

Let me begin by focusing on the near exclusive industry-government orientation of the early deliberations on what was originally called the National Shipbuilding Procurement Strategy (NSPS). Put simply, there were no independent outside studies, parliamentary reports, or broader public consultations. There were perhaps good reasons for this omission: such studies take time and are expensive, and both government and industry wanted to get underway as quickly as possible. Yet wider consultations of this type were undertaken in Australia and the United Kingdom as these countries embarked on their own shipbuilding strategies.

Such broader enquiries, if they had been done, might have shed some critical light on several foundational premises of what has become the NSS. The premises that would have benefited from more thoughtful analysis include:

- The ‘build-in-Canada’ policy which applied to all major shipbuilding projects.
- The export potential of Canadian vessels constructed under the NSS.
- The NSS as a solution to Canada’s chronic shipbuilding ‘boom-and-bust’ syndrome.
- The flexibility of the NSS to adapt to changing requirements and circumstances.
- The job creation objective at the core of the NSS.

Let me comment briefly on each of these premises.

First, while a case can be made that building major classes of ships domestically is advantageous for reasons of strategic security and trade balance, surely the same cannot be said for one-off or limited production run projects. This is because economies of scale and learning curve considerations do not apply in these low quantity cases, sizeable cost overruns usually follow, and exports become a near impossibility. Because learning curve efficiencies tend to peak at about the ninth ship in a batch production run, many other shipbuilding countries have opted to purchase small batch (i.e., 1-4 ships) naval supply ships offshore. Canada’s decision to build two supply ships and a single Polar-class icebreaker seems to invite extra risk, and thus greater costs, given our inexperience in this field. So, from the outset, the NSS focus has been too broad. It would have made more sense for Canada to build only

those ships that have a large production run – but this would, of course, interfere with the other objectives of the NSS.

Second, there are no reported examples of a serious effort by Ottawa to explore the short- and long-term export potential of the various construction programs planned under the NSS. The Defence Analytics Institute set up in 2014 for this purpose seems to be moribund, and no RAND studies have been commissioned to this end. However, there is no shortage of studies demonstrating that purely domestic demand by Canadian government agencies has been grossly insufficient to sustain a viable shipbuilding industry in Canada. The fact that Canada has not managed to sell a single warship, supply ship, or icebreaker abroad in the entire post-World War 2 era, should give us all pause to consider what the realistic prospects are for exporting Canadianized versions of foreign-designed ships. Failure to explore this crucial issue has been a glaring oversight and could prove fatal to the NSS in the long run.

Third, and following from the previous point, the NSS as currently configured deals exclusively with the 25-30 year ‘boom’ phase of the much-discussed ‘boom-and-bust’ cyclical phenomenon. Nobody to date has convincingly explained what happens next in Canada. Experts in other countries have argued that strategies like the NSS need to project outward at least 100 years or more to prevent the so-called ‘valleys of death’ from reoccurring. But in typical aspirational fashion, Ottawa has opted for a ‘build-it-and-they-will-come’ mentality. The history of Canadian warship operations suggests that Ottawa will employ its warships for close to 40 years (and some Canadian Coast Guard (CCG) vessels for even longer) and this practice almost ensures that a long production ‘bust’ gap will develop well before these ships are replaced – unless, of course, Canada can convince some other country to buy ships



*A graphic of the **Protecteur**-class Joint Support Ship currently being built at Seaspan Shipyards. It ‘won out’ over the Canadian Coast Guard’s polar icebreaker to be built after the three Offshore Fisheries Science Vessels.*



Credit: Vard Marine

Fore and aft views of the Arctic and Offshore Patrol Ship design by Vard Marine. Although the general design appears to be available for foreign purchase, it is uncertain whether there are interested parties and, if so, whether they would be built in Canada.

built in Canada, which as I have suggested, is unlikely. Again, by not thinking this through in public, the NSS is almost surely setting itself up for failure in the long term.

Fourth, the NSS assumes an orderly progression of building projects to stay within budgets and to prevent expensive gaps from developing between the end of one construction program and the start of another. The Parliamentary Budget Officer has projected that production gaps of this nature can be eye-wateringly costly. For example, Irving desperately needed some gap-filler add-ons to its Arctic and Offshore Patrol Ship production line to avoid significant worker lay-offs before the start of its Canadian Surface Combatant program. To fill this gap, Ottawa ordered two additional patrol ships for the CCG, without, as far as we know, considering whether the coast guard had any prior requirement for these ships.

Moreover, an orderly progression of building ships may exist only in the imagination of planners. As we have seen in the case of the Joint Supply Ship program, when Canada's existing supply ships suddenly became unfit for service, there was an urgent need to find interim replacements. So, two limited-time lease arrangements were fashioned, and

a third shipyard was awarded a contract to convert a container ship to service the navy. All this occurred outside the ambit of the NSS and has potentially added a third shipyard to be kept afloat under the strategy. The NSS thus cannot be surged or its order of production quickly altered to meet new needs without adding to the cost to the taxpayer.

Fifth, from its inception, the NSS has fallen victim to the politicians' siren song of job creation. Put simply, from an economic standpoint, governments seldom 'create' jobs. They can entice workers to relocate from one region to another via major procurement contracts, but the net economic benefit to Canada as a whole is minimal at best. Shipbuilders are certainly not in the business of creating jobs; labour is clearly a cost of production – not a benefit – and is something that efficient shipyards try to minimize in order to maximize their profits. And this is one of the paradoxes at the heart of the NSS. On the one hand, the shipyards were required to make upgrades to their facilities as part of the groundwork for the NSS. And, as we all know, creating a modern production facility means minimizing human employees. The new facilities are highly automated. But, on the other hand, one of the stated purposes of the NSS is to create jobs for Canadians.



*Minister of National Defence Harjit Sajjan announces the decision to build the sixth Arctic and Offshore Patrol Ship on 2 November 2018, helping to prevent lay-offs in the period until construction of the Canadian Surface Combatant.*

Moreover, there is much statistical confusion involved with shipbuilding employment data. Most analyses use Full-Time Equivalents (FTEs) to measure the total labour input of an industry like shipbuilding. A FTE takes the total hours worked by all full-time, part-time, laid off and dismissed workers, plus any overtime hours they have accrued, and divides this by the hours worked by a full-time employee over a specified period of time, usually a 30-hour week. Thus, a single shipbuilding employee who works a full 40-hour week plus overtime, could be considered two or three FTE units. The confusion arises when industry and politicians then misleadingly portray these FTE numbers to mean two or three *actual* workers. FTEs are not a headcount of actual employees. Furthermore, some analysts point out that the Cost-Reimbursable Incentive Fee (CRIF) contract system being used in some NSS programs can create a perverse incentive for a shipbuilder to increase its labour costs to earn a higher profit. This is not a formula to develop a highly cost-efficient industry.

In summary, the NSS has serious flaws: its early consultations were too restrictive and narrowly focused; its build-in-Canada policy covers every project rather than focusing on those with the longest production runs; its temporal horizon for dealing with the boom-and-bust cycle is too short term; its production queue is too inflexible; and its job creation emphasis and messaging has been too contrived and misleading.

As originally conceived, the NSS involved a selection of two main shipyards for an ambitious list of build programs. Two somewhat competing objectives sat uneasily juxtaposed: first, providing vessels to the RCN and CCG within budget and in a timely manner; and second, sustaining a newly resuscitated domestic shipbuilding industry, and its supply chain, over the long term through various contractual mechanisms.

Despite some attempts to reform and streamline the process, the NSS never really tackled the persistent and seemingly intractable problems associated with Canada's dysfunctional defence procurement system. This shortcoming is not the fault of the NSS, but we may question the wisdom of proceeding with very complex and costly programs without a serious attempt to overhaul the existing procurement system beforehand. Why, for example, did Ottawa decide to hold a 'competition' for a Canadian Surface Combatant without any direct reference to costs? And even more important, what bargaining leverage does Ottawa now have over the winning design bidder?

After 10 years, the NSS seems to be increasingly oriented towards propping up Canada's shipbuilding industry, and far less geared towards providing affordable ships on time and on budget. Only time will tell if we can get the NSS back on course. 🍷

### ***Sustaining Seapower: Domestic Shipbuilding is Not Just about Jobs***

Timothy Choi

Throughout the past decade of the National Shipbuilding Strategy (NSS), one of the primary debates has been the cost-benefits of establishing and sustaining a domestic shipbuilding industry. The arguments tend to run along the following lines. Those people in favour of the existing NSS arrangement argue that it creates a long run of well-paying, high-skilled jobs that ensures future fleet construction can take place without having to rebuild the shipbuilding industry. The opposition argues that the job-creation aspect takes away from the actual objective of delivering ships to the government in a timely manner and means a significantly higher cost to the taxpayer.<sup>1</sup> I won't delve into these arguments, and instead will question whether the objective of shipbuilding is limited solely to the ships themselves and if the benefit of domestic shipbuilding is solely in job creation. I put forth three suggestions: first, national seapower requires more than just ships; second, domestic shipbuilding is vital for establishing and sustaining a country's seapower *beyond delivering the ships themselves*; and third, building ships abroad is no guarantee of quicker and more reliable timeframes for entry into service, and exposes Canada to increased political risks.

Before I discuss my first point, let me first distinguish between seapower and sea power. *Seapower* is the ability to influence behaviour at sea and from the sea, and a *sea power* is any actor that has some amount of seapower.



Credit: Irving Shipbuilding

The first two Arctic and Offshore Patrol Vessels, **Harry DeWolf** and **Margaret Brooke**, sit outside Irving Shipbuilding during the former's naming ceremony on 5 October 2018.

While this definition has been subject to interpretation and some disagreement, it is commonly used and encompasses the wide range of interactions that humans have with each other in the maritime realm.

Seapower consists of two basic components: inputs and outputs.<sup>2</sup> In the common imagination, seapower inputs are ships and watercraft, while outputs include specific actions such as projecting lethal force inland from the sea via such weapons as cruise missiles. Yet, ships do not operate on their own in some oceanic void: more than anything else, they require people, whether traditional crews onboard or remote operators offboard.

Thus even if Canada had gone with the option of buying its future fleet from a shipyard abroad, it would have the same requirement for recruiting crews. It has been well-reported that both the RCN and the Canadian Coast Guard (CCG) face recruitment challenges now and into the future.<sup>3</sup> This then begs the question of how Canada can expect to increase public awareness and appreciation, if not understanding, of the RCN and CCG, especially as a potential career option. Certainly, the notion of building ships abroad would do nothing to support this need. In contrast, building them at home results in

Canadian shipyard and supply chain workers developing and sustaining that awareness over the next several decades. While these workers themselves are unlikely to be the actual recruits into RCN and CCG service, they serve as community nodes through which their family, friends and neighbours (whether they live on the coasts or the prairies) become conscious of the existence of Canada's seapower. Some of these Canadians, who otherwise may be experiencing the oft-bemoaned 'seablindness,' may now consider a career in the government maritime services. In this way, establishing a domestic shipbuilding industry is not just about ensuring jobs for shipbuilders, but recruiting sailors to crew those ships.

Alfred Thayer Mahan, in the first chapter of *The Influence of Sea Power Upon History*, noted that one of the determinants of a successful sea power is the character of its people and government. Does the populace have an enduring connection with the sea? Do they make their livelihoods from it? Are the governments representing these people thus endowed with an understanding that the fates of their constituents are intimately tied to policies enabling the country's ability to use the seas? Answering yes to these questions helps determine the degree to which the country is both a serious sea power and recognized globally as such. Having a domestic shipbuilding industry is a fundamental component of being able to say yes. One might think of countries which regularly buy modern warships from abroad and receive them in a relatively expeditious manner. Egypt and Saudi Arabia are perhaps



Credit: DCNS/Naval Group

The Egyptian amphibious assault ship ENS **Anwar El Sadat** and its sister were originally built in France for Russia. The Russian occupation of Crimea resulted in the cancellation of the sale and delivery of the **Mistral**-class ships to Russia.



Credit: Lockheed Martin

An overhead view of the Canadian Surface Combatant shows one of its possible configurations. With 15 ships slated to be built, the program will occur over a long time whether they are built domestically or abroad.

two countries that stand out as recent examples: the former with its French-built *Aquitaine*-class frigate and pair of *Mistral*-class amphibious assault ships, the latter with its *Al-Riyadh*-class derivatives of the French *Lafayette* frigates and upcoming upgunned versions of the American *Freedom*-class littoral combat ships. Despite such acquisitions that, arguably, give their navies a wider range of capabilities than the RCN, hardly anyone would consider either country to be a sea power worthy of emulation and inspiration. While the RCN's relatively humble 700-ton *Kingston*-class 'coastal' defence vessels sail across the Atlantic to help train West African navies, Egypt's massive amphibious assault ships sit close to home, influencing observers only to the extent of causing them to ask what purpose they serve.

Furthermore, although there is a general assumption that building abroad means quicker ships, this ignores the history of large-ticket Canadian procurements sourced abroad that have languished for decades in the political and bureaucratic stages. The Maritime Helicopter and Future Fighter Replacement programs are two of the most obvious examples where a lack of domestic manufacturing options resulted in extensive delays to a speedy acquisition – despite the 'hot and ready' production lines available abroad.<sup>4</sup> And so, while foreign shipyards are ready and experienced, there is little incentive for Canadian politicians to expedite the processes necessary for those yards to commence construction as they have little vested interest in ensuring the shipyards and their workers have steady work: there are no votes to be had from French, Italian and South Korean shipyard workers, after all. Thus, while buying abroad may result in quicker and cheaper builds once steel is cut, there is a much longer delay to get to that point as successive governments treat any program progress as legacies from the former government that are ripe for scrutiny and review.

Finally, depending upon a foreign yard to build Canada's instruments of national sovereignty risks the scenario Russia faced with its French-built *Mistrals*. Russia had ordered two of the ships, but this order was cancelled by France after Russia annexed Crimea in 2014, and instead of going to Russia the ships eventually went to Egypt. While Canada is unlikely to engage in behaviour analogous to Russia's actions in Crimea, the case does highlight the risk of leaving one's navy effectively in the control of another country while it is being built. Would Canadian foreign and domestic policies need to be constrained to avoid running afoul of the country building the ships? What happens if the country of construction suffers from domestic unrest, adopts dubious labour standards, or experiences dramatic changes in its foreign policy that make the completion and transfer of the ships impracticable? Given the extensive time-scale of Canada's fleet replacement, much can change throughout the duration of the program. Canada's fleet is a tool for enabling *Canadian* policy, not leverage for a foreign power to hold those policies ransom.

And so, although there is little doubt that significant time and monetary penalties accompany the decision to build domestically, there are other factors at play that must be considered. In a sense, the heart of the issue is how much of a sea power Canada wants to be. Had the foreign build option been taken, Canada would have been the only G7 country without a domestic naval shipbuilding capability. While this seems to be a mere matter of prestige, it would have been accompanied by a gradual reduction in the perception of Canada as a mature and dependable sea power, a relatively reduced maritime consciousness on the part of Canadians that would exacerbate ongoing recruitment challenges, and long-term strategic vulnerabilities because of Canada's reliance on the goodwill and smooth operations of a foreign government and its shipyards. While domestic shipbuilding will not solve these problems on its own, at the very least it puts Canada in a better position to address them and sustain its seapower. 🇨🇦

#### Notes

1. One could question the veracity of the latter argument. The 1999 official review of the *Halifax*-class project found that the ships were generally comparable to foreign yards in terms of capability delivered for the cost paid, while the NSS 'delays' have resulted mostly from the years needed to rebuild the shipyards rather than any intractable failures in the physical shipbuilding itself. Chief of Review Services, "Report on Canadian Patrol Frigate Cost and Capability Comparison," Department of National Defence, 26 March 1999.
2. For an overview of these definitions, see Geoffrey Till, *Seapower: A Guide for the 21st Century* (4th ed.; New York: Routledge, 2018).
3. See, for example, Lee Berthiaume, "'I Need People': Canadian Navy, Coast Guard Need Hundreds to Man New Ships," *Global News*, 29 February 2020.
4. While some bidders, like Saab, include in-Canada production as part of their offer, this is packaged as part of the aircraft selection process rather than a precursor to it, as in the case of the ships.



## ***The NSS: A Canadian Submarine Response?***

David Dunlop

The National Shipbuilding Strategy (NSS) is a long-term, multi-billion-dollar program to renew the Royal Canadian Navy (RCN) and Canadian Coast Guard (CCG) fleets, support the Canadian marine industry and revitalize Canadian shipyards. The strategy was to bring long-term predictability to federal ship procurement and eliminate cycles of boom and bust, providing benefits to the entire marine industry. This strategic relationship with Canadian shipyards was to deliver predictability to the Canada First Defence Strategy, and enable Canada to provide the RCN and CCG with the modern ships they need to defend Canada's interests at home and abroad.

The question is whether or not the lack of certain elements in the NSS will affect government plans for a long-term sustainable shipbuilding industry, and instead create only shorter-term economic benefits. Is Canada going far enough to give the RCN the tools it needs now and will need in the future, and permanently break the boom-and-bust cycle? Is the NSS destined to fail in the long term? Unfortunately, Canadians will not know the answer to these questions for at least three decades when ships built today and in the near future need to be replaced. We should be thinking decades to come, and not just in the short term.

A more sustainable, forward thinking, long-term plan is required to keep Canadian shipyards active and vibrant on a multi-generational basis. While it may seem like the

construction will go on for a long time, after the CCG gets its ships, and the navy receives the six Arctic and Offshore Patrol Ships, the 15 Canadian Surface Combatant (CSC) Type 26 frigates and two *Protecteur*-class Joint Supply Ships (AORs), what next? In one word, nothing! The demise of the NSS will happen quickly if the strategy is not updated soon. Before we know it, we will be left with a rusted-out submarine fleet, aging CSC frigates and AORs that will need replacement, and no means to deploy Canadian assistance at home or worldwide during conflicts or global disasters. We will be back again to the old boom-and-bust times. Without a clear vision, the plan as it now exists will postpone the bust in shipyards but not end it. The navy will again decay if we do not change the NSS and have an ongoing plan in place.

What if we add something to the NSS – submarines. Why are replacement submarines not included in the NSS? A submarine replacement plan is a huge and long-term undertaking, and if Canada is going to stay in the submarine business, it should have included a replacement strategy in the NSS.

The navies of submarine-possessing states, including Canada, understand that submarines with their superior combat power and freedom of action are fundamental components of the seapower paradigm, possessing a level of strategic power that confers an influence out of proportion to initial investment. Canada cannot afford to ignore what happens below the surface of its three oceans which are so vital to national interests. The *Victoria*-class



*HMCS Victoria leaves Pearl Harbor on 16 July 2012 as part of RIMPAC 2012.*

Credit: Jacek Szymanski, Canadian Forces



Credit: Surgeon Oscar Parkes via Imperial War Museum

HMS H-4 in Brindisi, Italy, August 1916. H-4 was one of 10 H-class submarines built in the Vickers yard in Montreal during the First World War. After the war, two of the class served briefly with the RCN, though ironically they were built in the United States.

submarines are nearing the end of their service lives, and even if they are upgraded/modernized as currently planned, they do not possess an extensive under-ice capability, making them ineffective at best in Canada's high Arctic.

If a new element of the NSS is added to begin submarine replacement, the question then becomes: could Canada build submarines? The last time Canada built submarines was during the First World War for Britain, but there is a compelling argument to be made that with the assistance of an experienced submarine shipbuilder, Canada could produce a fleet of submarines.

In addition to coming up with a plan to build submarines in Canada, the necessary infrastructure, particularly the supply chain, more submariners and training must be in place to support these submarines throughout their service life from project inception to initial operation. A submarine replacement project will reap rewards in Canadian technology as well as leverage domestic capabilities arising from a revamped NSS.

In conclusion, the NSS was a conscious plan to build ships and maintain a strategic capability *in the long term*. But it has failed to deliver a long-term and sustainable strategic plan for Canada. I feel that the government has not thought the NSS through enough and in that respect, it will become a failure at some point down the line. We must think decades or generations in the future, not just the near future. There is no denying the current fiscal constraints on the Department of National Defence, but there is also no denying that the *Victoria*-class submarines will need to be replaced at some point, and if discussion begins now on this, the NSS could be a real long-term success for

Canadian shipbuilding. A revised NSS that fills the holes left in particular by the silence about submarines would ensure that the RCN gets capabilities it needs and Canadian shipbuilding avoids the persistent pattern of boom and bust far into the future. If not, Canada will never live up to its full potential as an influential global middle power. 🇨🇦

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### ***A Suggestion for an Intermediate Level of Arctic Amphibious Capability***

Major (Ret'd) Les Mader

In his Making Waves article "Arctic Amphibious Capabilities for Canada?" (CNR, Volume 15, Number 2 (2019)), Colonel (Ret'd) Brian K. Wentzell makes an articulate case for Canada's need to be able to respond to future crises in the Arctic and the benefits of having a sea-based polar response capability. Such crises could include challenges to Canada's Arctic sovereignty and humanitarian or environmental disasters. His solution makes thoughtful use of existing (or being procured) resources to be able to deploy up to 330 Canadian soldiers to the Arctic in a crisis using four Royal Canadian Navy (RCN) ships. His suggested solution could be implemented with minimal costs, including: the adaptation of the accommodations of the Arctic and Offshore Patrol Ships (AOPS); doctrine and command and control development; and training.

However, his solution suffers from the disadvantage of its virtue; using existing resources, a response is limited by their capabilities. Half of the RCN's future AOPS and Joint Support Ship (JSS) fleets would have to be committed to deploying, landing and supporting a small infantry



half-battalion. This force would still only have seven helicopters and four small landing craft available to it. Additionally, sea-ice conditions could make the JSS unavailable, leaving the force with only some 180 soldiers, three helicopters and three landing craft.

Therefore, I would like to suggest an increased level of capability for responding to Arctic crises that would supplement the basic level suggested by Colonel Wentzell. This intermediate level would consist of five aspects. First, rather than Colonel Wentzell's suggested modification of a single infantry battalion to become a specialized landing force, I recommend that Canada's three non-mechanized Regular infantry battalions (3 RCR, 3 PPCLI and 3 R22eR) be converted into fully-fledged light infantry battalions that can deploy airborne and amphibious company groups as and where required. Having three such units, geographically dispersed, would greatly facilitate the sustained routine provision of infantry landing teams to the AOPS, the deployment of a surge capability of amphibious-operations trained infantry for a crisis, and the deployment of parachute-delivered infantry task forces, either to work with the sea-borne landing teams or to respond to another crisis elsewhere. The ability of the three battalions to prepare and deploy these forces would be eased by a modest increase in strength. An additional 100 personnel per battalion should allow each to be able to deploy an airborne company group and an amphibious company group simultaneously, if required, less hindered by illness, postings and the needs of individual training.

Landing forces are vulnerable to air interference and attack once their supporting ships have moved away from their location. Thus, second, each Regular brigade group should be provided with an air defence battery that can support landing forces with portable (i.e., 'man-portable') air defence missile detachments. Each of these new

batteries would need a minimum of 100 personnel to sustain routine operations.

Third, the utility of such landing forces would be significantly enhanced by the purchase of one to four Landing Platforms (Arctic) (LPAs) that could deploy, land, sustain and recover a landing force and its supporting elements. These ships would be globally-deployable Landing Platform Docks (LPDs) that are optimized for operations in the Arctic. A simple extrapolation from various existing ships<sup>1</sup> indicates that these LPAs would displace 16,000-20,000 tons and be able to deploy, land and support an embarked amphibious landing team of 350(+) personnel comprising a strongly-reinforced infantry company, command and support elements, mission-required vehicles and equipment, a transport aviation flight, and an amphibious boat troop with a mixture of landing craft. Four LPAs would allow two to be deployed permanently with both Maritime Forces Atlantic and Maritime Forces Pacific, thus allowing one to be available on each coast for deployment during the Arctic navigation season. Fewer LPAs would still provide a valuable reinforcement to the troop-carrying AOPS.

The provision of the troop transport elements needed by the LPAs is the fourth aspect of the suggested intermediate level. Each LPA's boat troop must be able to operate a 'golf bag' of landing craft (LCVP, LCM and hovercraft) in order to cater for different missions and changeable weather, sea and ice conditions. The boat troops could belong to their LPAs or be centralized into boat squadrons, if several troops are established on a coast. The aviation flights should each be equipped with at least six of the transport version of the Cyclone helicopter. The flights would form part of the existing maritime helicopter squadrons, unless sufficient flights are established on a coast to justify the creation of a new squadron.



The Singapore landing platform dock RSS *Endurance* sails off Guam 28 August 2017 during an exercise. It is one of the smaller ships of its type.

Credit: Petty Officer 1<sup>st</sup> Class Benjamin Lewis, US Navy

Deploying poorly protected LPAs to the harsh, unforgiving Arctic Ocean during an evolving crisis would essentially give an adversary 500(+) potential Canadian hostages. Therefore, in addition to giving the LPAs a robust anti-air and anti-ship self-defence capability, fifth, Canada should provide them with a layered defence that can operate in the Arctic. Thus, the AOPS (including possibly the two currently planned for the Canadian Coast Guard) should be modified to be able to carry self-defence anti-air and anti-ship missile launchers. They should also be provided with the facilities needed to conduct anti-submarine warfare using an embarked Cyclone.

While the above suggestions may seem expensive, the cost of not preparing will be very high for some future Canadian government which has to improvise a response during a crisis. Such improvisation in the harsh, unforgiving polar region will virtually ensure a high risk of failure. Both the above suggestion and Colonel Wentzell's original proposal are completely consistent with current government policy.<sup>2</sup> The intermediate level would also provide Canada with a valuable capability to conduct sea-based evacuation operations anywhere, as required. The Department of National Defence should implement Colonel Wentzell's proposal soonest, using, however, the three infantry battalion modification described above. It should also seek government approval to develop an intermediate capability. 🇨🇦

#### Notes

1. Specifically, the AOPS, the Singaporean *Endurance*-class LPDs, and the Netherlands' *Johan de Witt* LPD.
2. See in particular the 14<sup>th</sup> and 15<sup>th</sup> paragraphs of the Prime Minister's December 2019 mandate letter to the Minister of National Defence.

## *The Battle of the Atlantic 75 Years Later* Christopher Perry

May 2020 marked the 75<sup>th</sup> anniversary of the end of the Second World War in Europe and the longest campaign of that war, the Battle of the Atlantic. The Battle of the Atlantic was the greatest struggle that the Royal Canadian Navy (RCN) has ever faced. Fighting against U-boats, mines, weather, inexperience, and at times with insufficient equipment, the RCN fought alongside allies to help keep open the vital supply lines between North America and Britain as well as the Soviet Union.

At the outbreak of the Second World War, the RCN had six *River*-class destroyers, five minesweepers and two training ships. In terms of personnel, there were under 2,000 regular force officers and men, and just over 3,000 naval reserve forces, for a total of 5,260 personnel.

Over the course of the war, Canada recruited over 100,000 men and women into the Royal Canadian Navy, Royal

Canadian Navy Reserves, Royal Canadian Navy Volunteer Reserves, and the Women's Royal Canadian Naval Service. And in the years of battle, the naval forces lost 2,059 men and women.

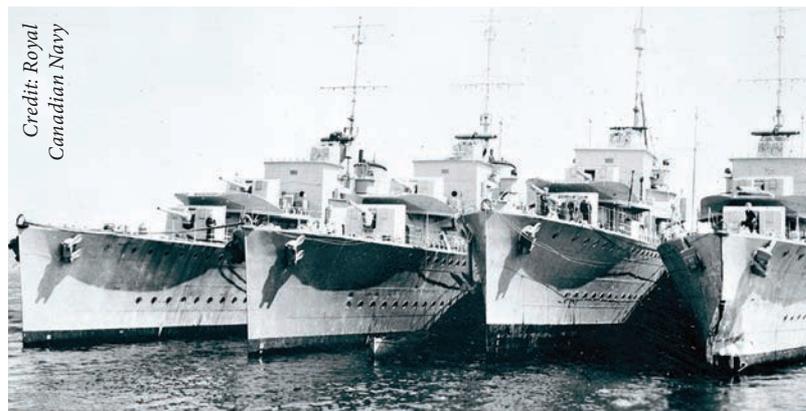
While Canada declared war on Germany on 10 September 1939, RCN ships began patrolling the approaches to Halifax Harbour on 3 September, within hours of Britain declaring war. The first trans-Atlantic convoy, HX-01 left Halifax on 16 September, beginning the longest campaign of the Second World War, which would end with the sinking of the Canadian merchant ship *Avondale Park* by U-2336 at 11 pm on 7 May 1945.

The Battle of the Atlantic was a defining campaign for the RCN, the navy's Vimy Ridge. Inexperienced, hastily trained crews put to sea in hastily built, small, often poorly equipped ships to shepherd the merchant ships carrying supplies and personnel to Britain. Canadian warships sailed with every Atlantic convoy of the war, and out of this a number of lasting national narratives arose.

In 1947 in a lecture on the Battle of the Atlantic, Rear-Admiral Leonard Murray stated:

... corvettes under my command were escorting the convoys between Newfoundland and Iceland in weather conditions for which they were not suited, and they were manned almost completely by amateurs. These officers and men of the Volunteer Reserves were better able to stand up to these than the hardened salts because they did not know enough to expect anything better. Technical and tactical aids were of infinite value but the battle was won by what is commonly called 'guts' and that applied not only to the escort forces but also to the Merchant Navy.<sup>1</sup>

Rear-Admiral Murray's statement encapsulates perfectly the legend of the 'prairie sailor.' This was the idea that the



Four of Canada's six destroyers at the start of the Second World War are pictured here in Halifax: HMCS *Assiniboine* (I-18), HMCS *Ottawa* (H-60), HMCS *Restigouche* (H00), HMCS *St-Laurent* (H83).



Credit: Royal Canadian Navy

For the 75<sup>th</sup> anniversary of the Battle of the Atlantic, the Royal Canadian Navy designed a new commemorative morale patch (centre) that can be worn by sailors.

best sailors came, not from the Maritimes or the West Coast, but from the prairies. The story also holds that these sailors were the bravest and most daring, mostly because they did not completely understand the danger they were in. This reinforces the national narrative that Canadians will give their all to help, jumping in with courage and enthusiasm, ‘guts’ as Rear-Admiral Murray called it. ‘Guts’ went a long way in overcoming the lack of training and proper equipment.

This goes hand in hand with the Canadian narrative of the citizen-soldier, or in this case, the citizen-sailor. The Volunteer Reserves (RCNVR), the ‘Wavy Navy,’ called that because of the wavy bars worn by the RCNVR officers, made up the largest part of the navy. These citizen-sailors, most having never been to sea before, provided the vast majority of the manpower for the navy. These narratives have helped shape the character of the RCN, the attitude of ‘Ready, Aye, Ready’ that is the core of the navy culture. No matter the adversity, the navy will step up, figure it out and accomplish the mission.

The RCN began the war with 13 ships and rapidly expanded to 471 ships ranging from cruisers to armed yachts and landing craft. This was a growth in tonnage of 51-fold, with many of the ships being built in Canadian shipyards across the country. This rapid expansion gave rise to the persistent myth that the RCN was the third largest navy in the world at the time. While this claim is not completely accurate, it does not take away from the astonishing feat that the navy, and Canada in general, accomplished. This growth was unparalleled among navies and, according to the Naval Historian E.C. Russell, at the height of the war in 1944, 1 out of every 116 Canadians was in the navy.<sup>2</sup> Of those 471 ships, 34 were lost to collisions, storm, mines, accidents and enemy action.

The most lasting impact of the Battle of the Atlantic was the cementing of Canada’s navy as an anti-submarine force, a role that Canada continued to play in the North Atlantic Treaty Organization (NATO) until the end of the Cold War. For 50 years after the Battle of the Atlantic, the RCN focused its technology, training, tactics and strategy on hunting submarines in the North Atlantic. Indeed, until the early 2000s, the reserves had an officer occupation, Naval Control of Shipping Officer, which was dedicated to controlling convoys and protecting shipping from submarines. The focus on anti-submarine warfare led to several breakthroughs and advancements by the Canadian military. The employment of helicopters on small warships revolutionized anti-submarine warfare and naval aviation. The development of the hydrofoil, HMCS *Bras D’Or*, which for many years held the record as the fastest warship, came out of experiments in different ways of conducting anti-submarine warfare.

The experience of the Battle of the Atlantic shaped the role and direction of the navy for decades after. The after-effects are still felt today, which is why we still commemorate Battle of the Atlantic Sunday on the first Sunday in May. This year marked the 75<sup>th</sup> anniversary of the battle, and even though the parades and commemorations were cancelled, please take a moment to reflect on the sacrifices the navy made, and still makes, on behalf of Canada and the world. 🇨🇦

#### Notes

1. Rear-Admiral Leonard Murray, Admiralty Conference on the Battle of the Atlantic, 12 February 1947.
2. Quoted from an unpublished manuscript used for an official history of the RCN during the Second World War. The actual ratio is 1 out of every 126 Canadians, based on a population of Canada in 1944 of 11,946,000 and total RCN personnel of 93,034. Statistics Canada, “Estimated Population of Canada 1605 to Present,” 26 August 2015, available at <https://www150.statcan.gc.ca/n1/pub/98-187-x/4151287-eng.htm#table2>.