Submarines have had a long history as unconventional and menacing weapons in the world’s oceans. Yet Canada, a state which some may find great difficulty describing as either unconventional or menacing, has operated a motley fleet of submarines for several decades. The Canadian submarine service has drawn increasing ire and scrutiny from the public and politicians with growing maintenance costs and limited operability in recent years. Questions of utility also arise given apparent incompatibilities with new humanitarian and Arctic priorities.

For critics, a fundamental question remains unanswered: why has Canada continued to operate submarines despite these difficulties and an apparent incompatibility with Canadian policy? It must be noted that this essay does not search for reasons why Canada should operate submarines; many professionals have addressed this already. Instead, this article searches for ‘realistic’ motivations for why Canada operates submarines, and argues that the traditional reasons for operating submarines are largely absent from Canadian defence policy planning. This article concludes that constabulary and collective security needs are the predominant reasons for Canadian submarines. It also identifies a pressing need to address public relations deficiencies within the Canadian Forces and the federal government about the submarines.

**The Status of Submarines in Canada**

By the late 1990s, Canada’s Oberons had arrived at the end of their operational lives and were replaced by four used British diesel-powered submarines (SSKs) of the Victoria-class (ex-Upholder-class). The submarines – HMCS Victoria, Windsor, Corner Brook and Chicoutimi – were delivered beginning in 2000 and since then have been plagued by a variety of problems, including leaks, dents, cracks and fires. The greatest setback was in 2004 when partial swamping caused an electrical fire onboard HMCS Chicoutimi, claiming Lieutenant (Navy) Chris Saunders’ life and hospitalizing several others.
The thought of Canadian submarines as active and key components of Canada’s defence structure is firmly rooted in the 1987 White Paper, *Challenge and Commitment*. The White Paper advised acquiring 10-12 nuclear-powered submarines (SSNs) for “den[y]ing an opponent the use of sea areas.” Yet by what measure did these Members of Parliament decide the failure of the *Victoria*-class program? The late David Perkins argued that politicians have never had friendly relationships with submarines. As he stated, “quality, combat capability and numbers were all sacrificed in the name of politics, unrealistic fiscal restraints and lowered expectations.” Perkins noted that the *Victoria*-class submarines had anti-surface missile capabilities removed and fire control and electronic counter-measure suites replaced with refurbished equipment from the *Oberons*, leaving combat capability partially hamstrung.

Today, SSKs have fundamental difficulties in contributing to Canadian maritime security objectives. Arctic sovereignty gained prominence under Prime Minister Stephen Harper, yet the SSKs are excluded from under-ice operations due to limited submerged endurance. Upgrades to employ air independent propulsion (AIP) technology would rectify this disadvantage but the government has no intention of pursuing such an avenue. The SSKs are also excluded from participating in the Canadian Navy’s non-combat and humanitarian endeavours. The navy has established a humanitarian tradition in the last decade in such operations as *Operation Apollo* (October 2001-October 2003 in support of US operations in Afghanistan), *Operation Unison* (2005, in response to Hurricane Katrina) and *Operation Toucan* (1999, in East Timor). SSKs lack the armaments, speed, crew, or equipment necessary to participate in human security and relief missions.

**Contesting Theories on Canadian Submarines**

Accepting Perkins’ suggestion that Canadian governments have never viewed submarines favourably and the notion that Canada’s submarines are incompatible with the government’s two maritime priorities – the Arctic and humanitarian relief – what worth remains in Canadian submarines? This section presents the most prominent ideas explaining why Canada has operated submarines. In general, the submarines are seen to play three roles: (1) serving as active components of Canada’s defence structure; (2) acting in a constabulary role; and (3) existing for the benefit of allies.
Canada’s submarines have perhaps most popularly been identified as constabulary units. This role seems to be the most preferred by the government and is discussed ad nauseum in submarine-related press releases. With stealth, far-reaching sensors and long patrol endurance, submarines make excellent maritime policing platforms. Indeed, SSKs have promise in monitoring Canadian internal waters – DND claims a Victoria-class submarine can patrol an area of approximately 320,000 km² during a 40-50 day patrol.6

**With the exception of Operation Nanook in 2007, where HMCS Corner Brook participated in an Arctic sovereignty exercise, Canadian submarines have been excluded from northern power projection.**

According to this theory, SSKs can serve as hidden cameras within Canadian waters, employed by the Department of Fisheries and Oceans (DFO) and the RCMP to gather evidence to prosecute polluters, smugglers and those who violate fishery codes. These domestic operations were exemplified by HMCS Ojibwa’s participation, with DFO officials embarked, in Operation Ambuscade against illegal scalloping in 1993.7 Ojibwa conducted covert surveillance near Georges Bank and relayed evidence to aid prosecutors. The ability to obtain hard evidence – especially photographic, through use of periscope cameras – is a powerful legal tool for maintaining control over waterways. Since the game of ocean control now seems oriented towards total maritime domain awareness, constabulary submarines could contribute greatly to Canadian maritime security.

A third theory suggests operating SSKs for the purpose of providing training exercise for the anti-submarine warfare (ASW) components of allied navies. Canadian journalist Peter C. Newman posits that the “real reason we have submarines is for target practice by the Americans.”8 This thought cannot be easily dismissed – DND lists participating in a “military exercise with our allies” as an example of an international role of Canadian submarines.9 Over 50 states operate submarines, most of which are diesel-powered like Canada’s, and which, under the right circumstances, are more difficult to detect than their nuclear counterparts. Foreign SSKs have been a source of frustration for Western navies. The presence of Chinese submarines near US naval exercises in November 2007 is testament to the pressure upon allies to sharpen ASW capabilities. Thus, allies supposedly pressure Canada to continue operating SSKs for the sake of participating in naval exercises.

It is true that Canada has deployed its SSKs to participate in international naval exercises. A recent example was HMCS Corner Brook’s approaching and rendering ‘sunk’ the British carrier Illustrious in the 2007 exercise Noble Mariner. This instance essentially mirrored the embarrassment inflicted on the US Navy by Chinese submarines in November 2007, and demonstrated that incorporating Canadian SSKs in exercises is a way to practice tracking foreign submarines. Yet submarines are hardly inexpensive investments. With future refits potentially costing almost $900 million each and with the submarines absorbing the largest portion of the navy’s maintenance budget,10 it would be fair to wonder what, if any, return Canada gets on its investment.

**Evaluating Theories**

The theory that envisions Canadian submarines fulfilling classical military roles seems plausible. Sinking ships, projecting power and sea denial have been historic and appropriate tasks for submarines. Submarines are “quintessentially focused on war fighting,” and required to maintain “multi-purpose, combat capable force” and “balanced maritime forces.”11 Yet an analysis of Canadian military doctrine in conjunction with a comparison between the capabilities of the Canadian SSKs themselves and contemporary security objectives suggests that while these roles suit the submarines of other national navies, they are difficult to apply to Canada’s.

Elementary examinations of Canadian naval doctrine yield mixed results for this theory. In Leadmark, the word ‘submarine’ appears 88 times. Few instances explicitly relate to discussions of the roles and necessity of Canadian submarines – most deal with the submarines of other states or ASW. However, the first discussion of the submarine fleet’s place in the Canadian Navy does indeed point to a more traditional role, noting that the Oberons “had evolved by the mid-1970s into a significant operational capability assigned to support national and NATO commitments.”12 Yet Leadmark admits that there is more, stating that “submarines also quite literally have brought a new dimension to such sovereignty activities as fisheries patrols and counter-drug operations, being able to approach violators unobserved.”13 The latter provides further evidence of departure from pure defence roles and approaching the constabulary role.

In comparable documents written by other states – for example, the US Naval Doctrine Publication – the roles of submarines are less ambiguous and more congruent
Besides lacking AIP, actual submarine capabilities have also been reduced with the removal of missile systems as discussed earlier, and the persistent delays in the repairs to the fire-stricken HMCS Chicoutimi. Chicoutimi’s repairs have been deferred to begin in 2010, after which she is expected to rejoin the fleet in 2012. If a significant need existed to project the power of the Canadian Forces through the operation of submarines, it seems strange that repairs would be postponed to such an extent. From these indications, it is unlikely that Canadian submarines are utilized exclusively for traditional defence roles. Definitions and practices remain ambiguous, and coupled with the Canadian submarine fleet’s relative incompatibility with Canadian maritime security objectives and a reduction in operational status and capabilities we must consider other reasons to justify Canada’s operation of submarines.

The constabulary role has a more promising supply of evidence. The case of Operation Ambuscade and a published commitment by DND to use submarines for intercepting with traditional roles. Specifically, this publication posits that submarine-launched cruise missiles “are a key element of power projection and provide a flexible and powerful application of force.” Leadmark does not provide for such specific applications of submarines, or at least does not make public such provisions. It is granted that submarines do not need to be shooting missiles to project power. Where, then, does Canada need to project power and how does it do so? Perhaps the theatre most prominently demanding the projection of Canadian power has been the Arctic. The Arctic was featured as a component of the 1987 White Paper’s ‘three oceans’ approach to Canadian sovereignty, and has been prioritized again by the Conservative Party. For example, in the 2007 Speech from the Throne, Prime Minister Harper asserted that “Canada will not be left behind when it comes to our Arctic.”

In the 20 years that have passed between the 1987 White Paper and the 2007 Speech from the Throne, Canadian submarines have not possessed true Arctic capabilities. SSKs must routinely approach the surface to draw air for diesel engines to recharge batteries, a serious hazard when operating beneath ice. This factor limits their areas of operation to ice-free regions. With the exception of Operation Nanook in 2007, where HMCS Corner Brook participated in an Arctic sovereignty exercise, Canadian submarines have been excluded from northern power projection. Besides lacking AIP, actual submarine capabilities have also been reduced with the removal of missile systems as discussed earlier, and the persistent delays in the repairs to the fire-stricken HMCS Chicoutimi. Chicoutimi’s repairs have been deferred to begin in 2010, after which she is expected to rejoin the fleet in 2012. If a significant need existed to project the power of the Canadian Forces through the operation of submarines, it seems strange that repairs would be postponed to such an extent. From these indications, it is unlikely that Canadian submarines are utilized exclusively for traditional defence roles. Definitions and practices remain ambiguous, and coupled with the Canadian submarine fleet’s relative incompatibility with Canadian maritime security objectives and a reduction in operational status and capabilities we must consider other reasons to justify Canada’s operation of submarines.

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Swedish SSK HMS Gotland with other countries. In 2005, the USN paid to lease the Blueback, in 1990. The Gotland experiment was a relatively inexpensive way to fulfill these needs. Thus, it seems feasible that the United States would pressure an even closer ally, Canada, to maintain an SSK fleet for exercises.

Unlike Sweden, Canada is not known to receive any monetary compensation for lending its SSKs to naval exercises. Possible returns lie within more abstract concepts of Canadian defence policy: collective security. The defence of Canada relies on participation in multinational alliances, to which Canada contributes some of its own forces. These alliances, like NATO and NORAD, have often yielded disproportionate contributions by states in absolute terms, with the United States typically the ‘800-pound gorilla’ in the structuring of collective security agreements. In order to maintain a place in collective security agreements, Canada has contributed resources beyond hard military assets. Historic examples include access to land and airspace granted to the United States as part of Canada’s membership in NORAD, and the training of allied pilots over Canada through the Commonwealth Air Training Plan.

When Canada declined to participate in the 2003 invasion of Iraq, responses from US officials were not encouraging and there were fears that Canada would face repercussions. Failing to contribute or withdrawing from defence agreements leaves Canadian defence in an awkward situation. Yet, as with Iraq, Canada cannot always afford to contribute thousands of troops to support allies in operations around the world, if the issue could be politically damaging, or if it simply does not have the resources. It follows that the Canadian government would seek other ways to uphold security agreements, and contributing Canadian SSKs for other states to learn how to detect foreign and possibly hostile SSKs can buy Canada a secure place in its most important military alliances.

**Conclusions**

From this analysis, it seems a combination of constabulary roles and support for our allies is the best argument for why Canada needs submarines. That the analysis supports these roles should not be seen as surprising or disappointing. The submarines in these roles do in fact support and maintain the defence of Canada by upholding maritime
sovereignty and collective security agreements. Yet this analysis identifies a pressing issue: the ambiguity between the government and military about the role of submarines. While both bodies present their own views on submarines, neither view is especially cogent or consistent. The fact that this debate about the role of Canadian submarines exists is perhaps a symptom of a larger disconnect between government and military direction that, despite numerous policy statements, remains uncorrected. Without concerted efforts by the government and military to justify submarines to Canadian taxpayers, they cannot be expected to support submarine programs.

While the submarines must be stealthy, their tasking need not be. Announcing the locations and objectives of submarines would betray their benefits, but rectifying a lack of publicized empirical evidence about the utility of Canada’s submarines would be a wise initiative in clearing the haze surrounding them. In sum, a comprehensive consensus about submarines must be reached between the government and the military, and a public relations plan must be prepared to circulate this consensus for public consumption.

Although Canadian submarines do not fit the popular stereotype of ‘unconventional and menacing,’ they contribute to Canadian maritime and collective security admirably in constabulary positions and in training our allies through multinational exercises. That the ambiguity in their roles exists, however, identifies failure on the part of DND and the federal government to report accurately and consistently on their tasks and successes. This leaves the Canadian public confused and apprehensive in supporting submarine repairs and upgrades. A public relations overhaul can perhaps save the submarines and see them supported to serve in the areas where they are needed, like the Arctic. While submarines can evade detection at sea, they need not dive and escape a proper place in the security of Canada.

Notes
3. Ibid., p. 25.
13. Ibid.
18. Ibid.