



# **‘LEFT of BANG’: NORAD’s Maritime Warning Mission and North American Domain Awareness**

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## 'LEFT of BANG': NORAD's Maritime Warning Mission and North American Domain Awareness

### About the Study

This represents the second tranche of a research project led by Andrea Charron and Jim Fergusson of the Centre for Defence and Security Studies (University of Manitoba) investigating the North American Aerospace Defense Command (NORAD). The first report, published in March 2014 entitled *NORAD in Perpetuity* focused on the “here and now” of NORAD.<sup>1</sup> In the process of completing this report, it became obvious that the newest of NORAD's missions, maritime warning, was not well understood by many on both sides of the border and that a closer look at NORAD and the other government departments charged with maritime domain awareness (MDA) was in order. It also became evident that questions existed within the Canadian and American maritime defence and security community as to whether NORAD's maritime warning mission provided any value-added contribution to the existing national and bilateral domain awareness/warning structures and processes. Finally, it also became clear that little information in the public domain existed on NORAD's maritime warning mission and the overarching structure and processes of MDA for North America.

As such, the central focus of this study is to examine the extent to which **NORAD's maritime warning mission provides a value added contribution to the maritime defence and security of Canada and of the United States (U.S.) in North America.** In order to do so, the study explores the origins and evolution of the NORAD maritime warning mission, and examines the current, overarching North American MDA architecture, and NORAD's place within it.

This report is intended for both Canadian and American policy makers and practitioners, as well as the academic and general public. Funding was provided by the Department of National Defence, through a Targeted Engagement Grant from the Defence Engagement Program. Our objective is to provide policy-relevant advice that is not encumbered by political, bureaucratic or command priorities and/or loyalties. Uninhibited by connections to any departments or chains of command, the authors are in a unique position to ask the questions others cannot.

We were assisted by a team of academics that included Joseph Jockel, St. Lawrence University, Joel Sokolsky, Royal Military College of Canada, Alan Stephenson, Carleton University, and Matthew Trudgen, Royal Military College of Canada as well as two, very talented graduate students from the University of Manitoba: Nicolas Allarie and Anastasia Narkevich. All were instrumental in aiding us with the research and this report. All errors and shortcomings remain the responsibility of the principal researchers, Andrea Charron and Jim Fergusson.

We are also very grateful to all of the representatives of government departments and of NORAD who we interviewed (grilled would be more accurate a term) on a non-attribution basis for their time and information. It was clear that the majority of interviewees were driven by an honest desire to serve and protect both countries and improve the state of maritime domain awareness generally. We endeavoured to make this report reflective of that passion. All correspondence should be directed to [Andrea.Charron@umanitoba.ca](mailto:Andrea.Charron@umanitoba.ca) and/or [James.Fergusson@umanitoba.ca](mailto:James.Fergusson@umanitoba.ca).

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<sup>1</sup>Available at

[http://umanitoba.ca/centres/cdss/media/0\\_NORAD\\_in\\_Perpetuity\\_final\\_report\\_March\\_2014.pdf](http://umanitoba.ca/centres/cdss/media/0_NORAD_in_Perpetuity_final_report_March_2014.pdf)



## Executive Summary

The North American maritime domain awareness/warning architecture is extremely complicated. It entails multiple national defence and security departments and agencies operating with different mandates, responsibilities, and legal jurisdictions, organized within formal and informal networks to facilitate the sharing of intelligence information in the construction of a 'North American' maritime common operating picture (COP). In addition, significant differences exist between Canada and the United States in terms of mandates, responsibilities, and legal jurisdictions among functionally similar organizations, as well as in terms of their respective networks. Layered on top of the national caveats resides a range of bilateral agreements, fora, and processes, which, serve on one hand to generate the 'North American' COP, and on the other to promote the transfer of knowledge, information, and lessons learned between the two states, which, in addition, is slowly being expanded to include the entire 'five eyes' community (Australia, New Zealand, Canada, United Kingdom, and the United States) when warranted.

The architecture, and with it enhanced national and bilateral intelligence information sharing among the actors, is a function of a series of steps undertaken by both governments in the wake of 9/11. The most important step included both governments agreeing, in 2006, to assign a North American maritime warning mission to NORAD, with the caveat that the mission was not to duplicate existing national structures and processes. Restricted to a maritime warning function based upon a North American COP constructed through national processes, and integrated and forwarded to NORAD by US Fleet Forces Command/NAVNORTH, the maritime defence and security community questioned the 'value-added' contribution of NORAD. Since the maritime community had little knowledge of the aerospace-centric NORAD, they perceived NORAD as lacking an understanding of, and experience with the 'unique' maritime defence and security environment. As well, many within the maritime community were suspicious of an ulterior motive – that NORAD would break out of its warning 'box' and acquire command of the entire maritime defence and security mission suite from surveillance through warning to control (threat response).

While these perceptions have largely, but not entirely, disappeared, primarily as a function of NORAD initiatives to engage and educate the maritime defence and security community about its role, the question of its 'value-added' contribution remains. In mapping the formal and informal networks and NORAD's place within the 'left of bang'<sup>2</sup> component of the North American maritime defence and security suite, we conclude it is evident that NORAD's 'value-added' contribution is significant. NORAD provides the only truly North American assessment of the maritime COP, possesses unique links to both countries' national command authorities, provides a measure of assurance that a potential threat is not missed due to bureaucratic and/or national factors/caveats, has facilitated enhanced information sharing and cooperation among the maritime actors, and has access to a range of informal intelligence links, especially as a function of its co-location with US Northern Command (USNORTHCOM) because of the representation of more than 60 national U.S. agencies within it. The colocation of USNORTHCOM with NORAD means Canada benefits tremendously from the information and intelligence shared by these extra agency linkages.

With regard to the "ulterior motive" and the assumption that NORAD will eventually take on a control function in addition to the maritime warning mission, it is clear that there is very little political appetite, few resources or capacity for NORAD to go beyond the maritime warning

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<sup>2</sup> Meaning before a threat reaches the homeland. Right of bang is the time period that covers a response to the threat. "Bang" represents the threat.

function for now. That being said, the mission is vital for the security of North America and must be continually nurtured, monitored and resourced. In this regard, the community should consider

- conducting an overarching binational, or bilateral CANUS study on the current state of general maritime domain awareness;
- increasing NORAD presence or formal linkages to specific commands and processes;
- increasing Canadian OGD linkages to NORAD;
- continuing the Canadian maritime liaison position in Washington D.C.; and
- formalizing some of the relationships between NORAD personnel and the maritime community.

This report is divided into seven parts. First, it outlines the origins of NORAD's maritime warning mission. Part 2 outlines some of the difficulties and issues NORAD had implementing this new mission. Part 3 describes, in as much detail as possible, the information/intelligence flows "left of bang" (i.e. before a maritime event or threat is imminent) on the Canadian and then the U.S. side that contribute to NORAD's maritime warning mission. Part 4 outlines NORAD's 'left of bang' – its warning mission. Part 5 provides a brief description of events 'right of bang' (i.e. those agencies charged with responding to an event/threat) in order to contextualize NORAD's maritime warning mission. Part 6 looks at the perceptions that have dominated vis-à-vis NORAD's maritime warning mission and outlines NORAD's value added. Finally, Part 7 outlines some considerations for further study and examination.

## Part 1: The Origins of NORAD's Maritime Warning Mission

In the existing literature, NORAD's assignment of a Maritime Warning (MW) mission for North America is inextricably linked to an initial proposal, immediately following 9/11, to expand NORAD into an integrated, multi-environment North America Defense Command (NORAD). This proposal apparently originated with NORAD upon request from then U.S. Secretary of Defense Donald Rumsfeld to examine options for enhanced Canada-U.S. (CANUS) military cooperation. Rumsfeld subsequently communicated this proposal to his Canadian equivalent, Minister of National Defence Eggleton, who rejected it as premature.<sup>3</sup> Five years later, on the occasion of NORAD's indefinite renewal in 2006, Canada and the United States expanded NORAD's mission suite to include MW only. This historical overview, however, perpetuates some misconceptions regarding the origins of NORAD's maritime warning mission.

The timeline often presented in the literature has generated the implicit image that NORAD's acquisition of MW was largely an 'afterthought' or symbolic, political gesture driven by the need to give NORAD something more in the post-9/11 transformed North American defence and security world. This image, in turn, is reinforced by the central role of NORAD in the process. However, following the stand-up of U.S. Northern Command (USNORTHCOM) in April 2002, senior officials within the Canadian Department of National Defence (DND) initiated a series of high level meetings with their counterparts in the U.S. Department of Defense (DOD), joined by Canadian Foreign Affairs' and American State Department officials to examine possible options for enhanced military cooperation.<sup>4</sup> These meetings led to the creation of first the Binational Planning Cell, subsequently superseded by the Binational Planning Group (BPG) under the Deputy Commander of NORAD (a Canadian), and its tasking from the Canada-United States' Agreement for Enhanced Military Cooperation (December 2002).<sup>5</sup> The BPG, in turn, issued an Interim Report in 2004, followed by its Final Report in 2006.

Both reports examined the full scope of possible, expanded CANUS/North American defence and security cooperation frameworks. Ten recommendations were made by the BPG. It examined a number of national policies (e.g. the U.S. National Security Strategy Report<sup>6</sup> and Canada's Securing and Open Society<sup>7</sup>) that covered the unilateral, national defence of the U.S. and Canada and identified the gaps or "seams" between these policies. The BPG found that, from national perspectives, both Canada and the United States had already articulated the need for enhanced security cooperation in their national strategy documents, as well as in the Security and Prosperity Partnership signed by Canada, the United States and Mexico.<sup>8</sup> NORAD seemed the optimal organization to address the gaps in national policies because it was an extant agreement that didn't require creating yet another new organization or require new funding sources, already had

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<sup>3</sup> Philippe Lagassé, "A Common 'Bilateral' Vision: North American Defence Cooperation, 2001-2012." In Jonathan Paquin and Patrick James, eds. *Game Changer: The Impact of 9/11 on North American Security*. Vancouver, University of British Columbia Press. 2014.

<sup>4</sup> James Fergusson. *Canada and Ballistic Missile Defence 1954-2009: Déjà vu all over again*. Vancouver: University of British Columbia Press. 2010. p.

<sup>5</sup> Binational Planning Group. "Executive Summary". *Interim Report on Canada and the United States (CANUS) Enhanced Military Cooperation*. October 13, 2004. p. 5.

<sup>6</sup> White House, "National Security Strategy Report" (various dates but especially 2002). See <http://nssarchive.us/>

<sup>7</sup> Government of Canada, "Security and Open Society: Canada's National Security Policy (Ottawa, 2004) found at <http://publications.gc.ca/site/eng/259263/publication.html>

<sup>8</sup> The Security and Prosperity Partnership of North America (SPP) was launched by the leaders of Mexico, Canada and the United States in March 2005. It aimed to improve cooperation and information sharing for the purpose of increasing and enhancing security and prosperity in the three states.



the crucial continental mandate and had proven a flexible organization.<sup>9</sup> However, the BPG recognized NORAD was focused only on the aerospace domain. The proposed maritime warning NORAD mission would, in theory, address a gap between aerospace and maritime domains but would leave surveillance and control to national commands. Including land as well as part of NORAD's mission suite was rejected due to political and legal restrictions, cost, and the existence of MOUs permitting the cross-border use of American and Canadian troops to assist in times of need.<sup>10</sup>

Carefully crafted so as to not duplicate national components, and existing bilateral arrangements, NORAD MW symbolically re-affirmed both states' commitments to North American defence cooperation without requiring either to invest (significantly) more resources, and minimized the political and bureaucratic fallout that would have inevitably occurred had both parties agreed to include a maritime control component, or expanded binational cooperation into the land sector.

This basic interpretation of the origins of NMW explains the slow and relatively difficult evolution of the MW mission since its acquisition in 2006. Developed by NORAD, imposed from above and constrained by a non-duplication injunction, NORAD was, and still is, to some degree, perceived as an outsider by existing maritime defence and security actors, with little value-added to maritime defence and security. From the perspective of OGD's, many commented that their concerns had less to do with the existence of the mission and more to do with the lack of consultation with them regarding how NORAD could/would fit in the existing process. This lack of consultation and top down approach explains why these actors perceived (and some still perceive) NORAD's MW as part of a potential, future, bigger agenda to obtain 'end-to-end' control of the entire maritime defence and security process; an agenda that can be interpreted from the process leading to the creation of NORAD in the late 1940s.<sup>11</sup>

This basic interpretation masks, however, the complicated array of functional, bureaucratic and political factors which led to NORAD's MW mission, and reflects the general lack of public, academic, and governmental attention paid to CANUS/North American defence and security relations. It also indicates why any understanding of the origins, evolution and future of NORAD's MW mission is directly linked to the larger issue of expanded binational defence cooperation.

Generally, the origins of NORAD's maritime warning mission can be traced to the fallout of the 9/11 attacks. Prior to then, there was little indication that NORAD would evolve beyond its aerospace mission, notwithstanding its engagement in counter-narcotics' activities following the end of the Cold War. However, internal NORAD concerns about its future had been longstanding

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<sup>9</sup> NORAD did not collapse or cease to exist when the Soviet Union fell and it was used to adapting to new missions. For example, in the late 1980s, NORAD's responsibilities were expanded—first informally, then formally, as per a renewed 1991 NORAD agreement—to include a role in drug interdiction, a functional undertaking often underemphasized. Moreover, the change to focus on the early warning and air defence of threats emanating from the continental interior, rather than a limited focus on external threats after 9/11 was a major change in mission focus. While NORAD's role in drug interdiction has since been placed on the backburner, it demonstrates the adaptability of the organization. See Nicolas Allaire's MA thesis on NORAD and functionalism that will be defended in January 2016.

<sup>10</sup> The Vancouver 2010 Olympics was an excellent example of how NORAD, CJOC, USNORTHCOM and interagency elements worked in concert.

<sup>11</sup> In this interpretation, NORAD was created as the final, logical step from a series of bilateral arrangements that began primarily with air early warning and the building of three radar lines across Canada. For full discussion, see Joseph Jockel. *No Boundaries Upstairs: Canada, the United States and the Origins of North American Air Defence 1945-1958*. Vancouver: University of British Columbia Press. 1987.

following the end of the Cold War, and the disappearance of its functional *raison d'être* – the Soviet long range bomber/cruise missile threat. 9/11 reconfirmed NORAD's important external air defence mandate but also highlighted gaps and weaknesses. NORAD quickly adapted by adding an internal North American air picture to the existing external one by connecting NORAD to the internal air picture from the American Federal Aviation Administration (FAA) and NAVCANADA, and developing agreed protocols for the interception of internal air threats.<sup>12</sup> Even so, concerns about NORAD's future did not disappear. They were most pronounced over the issue of Canadian/NORAD participation in the evolving US ballistic missile defense program. Yet, one can also surmise that these concerns were also present in other areas of the new post-9/11 threat environment as a means to ensure NORAD's future relevance.<sup>13</sup> In this regard, the maritime sector arguably appeared as the most promising of new areas in which to expand not least of all because maritime domain awareness emerged as a primary security concern, and NORAD had considerable (albeit aerospace) warning experience.

As the employment of hijacked aircraft as 'cruise missiles' against civilian targets was unexpected and unforeseen for a variety of reasons, the possibility of a 'novel' attack emerging from the maritime sector moved from the margins to near centre stage. Such an attack might range from the employment of freighter as a bomb platform to be detonated in a North American port, shipped via container inland to a city, or as a launching pad for cruise missiles. In the latter case, the ship-borne threat would quickly transition into an aerospace one, which, of course, brings NORAD's aerospace control mission into operation. This also held for the potential threat of submarine-launched cruise missiles from a state adversary. Given the large number of maritime vessels approaching and subsequently entering into American and Canadian waters, and the transit of many of these and other vessels through one state's maritime zones to another's, and from one state's ports to another's, the functional logic of deeper and broader Canada-U.S. maritime defence and security cooperation was obvious; it was logic similar in nature to aerospace cooperation which had led to the establishment of NORAD in 1957 as a binational command.

Reinforcing this logic was not just the 'novel' nature of the 9/11 attacks, but also the nature of the 9/11 intelligence failure. 'Early warning' intelligence information of the attacks had existed in pieces, but there existed no single overarching agency to put the pieces together. The immediate U.S. response was to merge the various agencies involved into the single, centralized Department of Homeland Security (DHS). Canada acted similarly with the creation of the Department of Public Safety.<sup>14</sup> The maritime sector, however, still replicated the pre-9/11 situation with no single national agency sufficiently positioned to manage and monitor all of the maritime traffic within North America and abroad. While each state could decide to develop a centralized approach or agency to ensure vital pieces of intelligence/information from the wide range of maritime intelligence-gathering actors, military and civilian, were integrated into a single national picture, there remained three inter-related issues: integrating national pictures into a single North American one; assessing this single, North American common operating picture (COP), and responding to identified threats. The only existing, North American agency that had a successful

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<sup>12</sup> While this was readily integrated into NORAD, each nation adopted a different protocol for the interception of hijacked aircraft. In the United States, authority was delegated to the commander of NORTHCOM/NORAD. In Canada, authority was invested with the Prime Minister.

<sup>13</sup> The launch of NORAD Next in 2013, a Permanent Joint Board on Defense (PJBD)-led study of NORAD's future, is evidence of this concern.

<sup>14</sup> This mirrored similar findings about the Japanese attack on Pearl Harbor in 1941, which led to the creation of the Central Intelligence Agency (CIA) in 1947 as part of the re-organization of the US defense structure.

track record in all three areas was NORAD. It thus became the logical choice<sup>15</sup>, especially in a period of constrained resources and because it was now co-located with the newly formed USNORTHCOM. With defense support to civil authorities' (DSCA) missions including to the maritime sector, and with a Commander who was also the Commander of NORAD, USNORTHCOM made the choice to task NORAD with a new maritime warning mission that much clearer. Moreover, this provided Canada with greater access to the wider USNORTHCOM mission suite.

Of course, a nascent, North American maritime defence and security sector existed prior to 9/11 but its structure was bilateral, organizationally 'stove-piped' on functional grounds,<sup>16</sup> and the agencies varied widely in terms of mandates, missions and resources. Arguably, the most bilaterally-integrated was maritime defence cooperation between the Royal Canadian Navy (RCN) and the United States Navy (USN), which dated back to World War II and the Battle of the Atlantic, and continued through the Cold War beneath NATO's Supreme Allied Command Atlantic (SACLANT).<sup>17</sup> Cooperation also existed between the two Coast Guards and Transportation agencies as a function of common waters, fisheries and somewhat similar mandates. Moreover, national police agencies worked together on cross-border drug interdiction, among other maritime enforcement issues. Finally, both nations' customs and immigration agencies faced similar problems in terms of maritime-based illegal smuggling of people and cargo and had a history of working together, especially along the land border. Despite important and significant cooperation, each agency had nationally-focused, institutional mandates and missions; no agency had a *North American* mandate.

Despite these formal and informal bilateral arrangements (navy-to-navy and civilian agency-to-civilian agency), lacking were integrated, inter-departmental national COPs from which to generate an integrated North American COP. Instead, each relevant department/agency at the national level possessed its own COP as defined by its roles, responsibilities, mandates and jurisdictions, which, to some degree, was shared inter-departmentally and across the border on a 'need to know' basis. Moreover, information sharing faced significant legal barriers as a function, for example, of privacy legislation and criminal investigations.<sup>18</sup>

These realities cut two ways. On the one hand, they called for a centralized, North American actor to undertake the maritime warning tasks, and NORAD was the obvious choice; the implicit logic underpinning the BPG's Interim Report on the maritime sector. On the other hand, NORAD,

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<sup>15</sup> In confidential interviews on a different issue in the immediate post-9/11 environment, senior officials raised the question of whether a separate binational organization for maritime and land made any sense. It was decided ultimately that it made little sense to establish a separate, binational North American Maritime Defense Command when NORAD already existed.

<sup>16</sup>For example, MARPAC-3<sup>rd</sup> Fleet-USCG D13 MOUs and the corresponding arrangements on the east coast.

<sup>17</sup> For example, significant intelligence cooperation was evident through the North Atlantic deep-water Sound Surveillance Systems (SOSUS) for tracking the Soviet submarine threat.

<sup>18</sup>This issue was raised by the Canadian Auditor-General in 2004. See Chapter Three. *2004 March Report of the Auditor-General of Canada*.

[http://www.oagbvg.gc.ca/internet/English/parl\\_oag\\_200403\\_e\\_1123.html](http://www.oagbvg.gc.ca/internet/English/parl_oag_200403_e_1123.html) Furthermore, many OGDs were quick to remind the authors that there are legal issues with sharing information between military and civilian agencies especially when sharing internationally (eg. an U.S. military agency sharing with a Canadian civilian agency). There remains persistent and heated disagreements regarding exactly what information may and may not be shared that fall along a permissive to restrictive continuum of information control.

as a supported command, possessed no maritime intelligence<sup>19</sup> gathering resources, and would be dependent upon obtaining intelligence from the existing maritime actors. Even so, this reality reflected NORAD's traditional aerospace integrated tactical warning/attack assessment function (ITW/AA). During the Cold War, NORAD's assessment was the trigger via the US National Command Authority for Strategic Air Command's strategic retaliatory forces. NORAD, as a warning and alert organization without the capability to respond and CJOC/RCN, NAVNORTH, PACOM as the armed responders, thus hearkens back to the earliest days of NORAD when it acted as the trigger, through its attack assessment function, for SAC's retaliatory response. The argument then was that NORAD would not be pressured into kinetic response and so could provide, perhaps, a more sober and objective assessment of the real threat to North America. This same logic was applied to the maritime environment.

Each state initially needed to get its own maritime house in order first before NORAD could even consider how to warn against maritime threats. The existing, and to some degree 'ad hoc' maritime structure (national and bilateral) possessed the intelligence sources and information, as well as the means to respond individually to any of a myriad of maritime threats be they of a defence, constabulary, safety or security nature. Therefore, to enable the formal and continuous binational sharing of information, the initial task required the breaking down of national, institutional barriers to share information and intelligence between domestic organizations. This required direction from above in order to change existing cultures and, in some cases, create new legislation and even new units.

This was especially the case for Canada resulting in the establishment in 2004 of the 'mis-named'<sup>20</sup> Marine Security Operations Centres (MSOC) to promote intelligence/information sharing among the key national maritime actors with a variety of mandates and roles – the RCN, the Canadian Coast Guard (CCG), the Royal Canadian Mounted Police (RCMP), Transport Canada (TC), the Canada Border Services Agency (CBSA) and the conservation/protection arm of Fisheries and Oceans.<sup>21</sup>

The United States situation, however, was somewhat different. One organization, the U.S. Coast Guard (USCGC) has roles, responsibilities, mandates and jurisdictions that cut across the police/regulatory and military divide<sup>22</sup> and could have, in theory, been the central U.S. maritime information centre. Instead, in 2009 the United States established an integrated, national maritime intelligence center, followed by the creation of the National Maritime Intelligence-Integration

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<sup>19</sup> Although NMW didn't come with assets, the use of other organization's assets (air and naval assets) can provide valuable information. For example, the use of Maritime Patrol Aircraft, submarines, surface fleets, and the extant COP are all accessible to permit the accomplishment of NMW mission requirements.

<sup>20</sup> MSOCs are mis-named because they are neither security nor operation centres. They are more rightly named information fusion centres.

<sup>21</sup> As discussed below, the MSOCs are not truly operational centres, but rather intelligence/information sharing centres, even though the policy implies some degree of operational status. "...these Marine Security Operations Centres will have the authority and capacity, through inter-agency staffing, to bring to bear all civilian and military resources necessary to detect, assess, and respond to a marine security threat." Government of Canada. *Securing an Open Society: Canada's National Security Policy*. April, 2004. p. 38-39. <http://publications.gc.ca/collections/Collection/CP22-77-2004E.pdf>

<sup>22</sup> In the United States, the USCG can legally operate as a defence agency under Title 10 (U.S. Code) under the US Department of the Navy, and a civilian agency under Title 14 (U.S. Code) under Homeland Security tasked with a range of police and regulatory missions. The Canadian Coast Guard, in contrast, has no legal defence mission, nor criminal policing function. Its mandate and jurisdiction relate directly to maritime safety issues and some regulatory issues (especially in the Arctic). It is a strictly civilian agency housed under the Department of Fisheries and Oceans.

Organization (NMIO)<sup>23</sup> that “integrate[s] and streamline[s] intelligence support, providing a whole of government solution to maritime information sharing challenges”.<sup>24</sup>

Given all of this background, Canadian Minister of Defence Eggleton’s “premature” no response to Secretary of Defense Rumsfeld in 2001 to expand NORAD into an integrated, multi-environment (land, sea and air) North America Defense Command requires deeper understanding. Of course, absent access to Rumsfeld’s proposal and Eggleton’s response, one doesn’t know if the proposal contained only a single option, or multiple options. Nor can one know if Eggleton’s response was more nuanced perhaps rejecting a multi-dimensional, binational North American command, but keeping the door open for expanded cooperation. Nor is it necessarily the case that the establishment of USNORTHCOM was directly related to the Canadian “no”. Politically-speaking, USNORTHCOM did dramatically change the North American defence environment and it did reawaken perennial Canadian fears that an expanded NORAD could allow the U.S. to act unilaterally and possibly within Canadian maritime zones given the vast and seamless connections of the various oceans, lakes and waterways. Illogically, the same U.S. takeover fear did not directly apply to the land sector even though the U.S. acted unilaterally after 9/11 to transform the border from the ‘longest undefended’ border in the world to a nominally defended border with much stricter/thicker border controls largely because of the erroneous assertions that the 9/11 terrorists had entered the U.S. from Canada.

The years of border agents working in close proximity, the fact that the land border is treated as a “security” rather than defence issue, coupled with Canadian concerns about the economic impact of a slower flow of goods and people across the border focused Canadian attention, as Lagassé points out, to negotiate new arrangements under the concept of a Smart Border.<sup>25</sup> Whether this economic priority on the part of Canada, in turn, left the issue of enhanced defence cooperation in the maritime domain to senior military officials (under the watchful eye of Foreign Affairs) is speculation.<sup>26</sup> Regardless, the criminal/security issues and controls put the land dimension in a different and distinct category from the maritime world. USNORTHCOM’s maritime mission (defence and security), as well as its theater security cooperation function and its DSCA role, provided the opportunity for Canada to engage the U.S. formally in developing a North American approach to Maritime Domain Awareness (MDA); the vital pre-requisite for MW and control. USNORTHCOM, therefore, was a means to ensure Canadian access to U.S. maritime developments (at very high levels), which could have significant implications for Canada. Co-location, interwoven structures and USNORTHCOM’s status as a supporting command to NORAD greatly increased Canadian access to maritime developments. NORAD also became a

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<sup>23</sup> Their origins can be traced back to the 2005 National Plan to Achieve Maritime Domain Awareness, which established a Homeland Security-Defense inter-agency working group for implementation. <http://www.dhs.gov/national-plan-achieve-maritime-domain-awareness>. The Center was established through “Global Maritime and Air Intelligence Integration.” *Intelligence Community Directive Number 902*. 14 January, 2009. [http://www.dni.gov/files/documents/ICD/ICD\\_902.pdf](http://www.dni.gov/files/documents/ICD/ICD_902.pdf) NMIO superceded the National Maritime Intelligence Centre with the classified Presidential Directive-18 on National Maritime Security in 2012, and referenced in the current 2013 *National Maritime Domain Awareness Plan*.

[https://www.whitehouse.gov/sites/default/files/docs/national\\_maritime\\_domain\\_awareness\\_plan.pdf](https://www.whitehouse.gov/sites/default/files/docs/national_maritime_domain_awareness_plan.pdf)

<sup>24</sup> See “What is NMIO?” at <http://nmio.ise.gov/>

<sup>25</sup> The first agreement was signed in December 2001 between Deputy Prime Minister John Manley and the Secretary for Homeland Security, Tom Ridge. *U.S. – Canada Smart Border Declaration*. <http://www.legislationline.org/documents/id/7543>

<sup>26</sup> This reflects the longstanding view that the management of Canada-U.S. defence relations is largely left to the military with little attention paid by Canadian governments, unless there is a major crisis or new development with political implications.

better positioned advocate for information sharing. NORAD renewal in 2006 provided the ends and opportunity to formalize Canadian access to greater U.S. capabilities. The BPG process laid the foundation, and MW was the politically viable means to do so.

## Part 2: Implementing NORAD's Maritime Warning Mission

The implementation of NORAD's MW mission was slow and somewhat difficult for a variety of reasons. First, NORAD was an aerospace organization, dominated by Air Force personnel, with little experience in the maritime sector. Internally, this was mitigated somewhat by NORAD's linkage to USNORTHCOM<sup>27</sup>, and its maritime responsibilities and maritime personnel. In addition, the BPG process had brought maritime personnel and knowledge into NORAD, thereby providing a foundation for implementing the new mission. Nonetheless, standing up the mission took time, especially with the requirement for Canada to post personnel<sup>28</sup> with practical maritime experiences into NORAD and develop mission procedures and protocols. Also, the creation of USNORTHCOM highlighted the tri-command structure<sup>29</sup> which was fraught with political implications in Canada related to erroneous images of NORAD being beneath USNORTHCOM command-wise. NORAD was the binational aerospace component set within a bilateral land and maritime North American defence structure of USNORTHCOM and (first) a new Canada Command, followed by its replacement - the Canadian Joint Operations Command (CJOC). Working out the tri-command structure was a much greater priority, especially at the senior levels, than NORAD's new NMW mission, even though this process included a maritime component.

The February 2007 NORAD Terms Of Reference (TOR) formalized the terms and the Maritime Warning mission and the supporting/supported relationships with Canada Command (now CJOC) and U.S. Combatant Commanders, but it took time for all involved to fully appreciate the terms. The terms were revised and a few, new paragraphs<sup>30</sup> were added in 2011 following a four-year review which helped to propel a new culture of information sharing with the military command centres and NORAD.

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<sup>27</sup>NORAD and USNORTHCOM were not merged with a consolidated command centre until May 8, 2008, the day after NORAD's 50th anniversary celebration. Therefore NORAD's MW mission was further hindered the first 2 years until full consolidation of the command centre was realized.

<sup>28</sup>Given the size of Canada's military the requirement to post additional personnel, especially with specific skill sets, is always a challenge.

<sup>29</sup>See the discussion in our first NORAD report at

[http://umanitoba.ca/centres/cdss/media/0\\_NORAD\\_in\\_Perpetuity\\_final\\_report\\_March\\_2014.pdf](http://umanitoba.ca/centres/cdss/media/0_NORAD_in_Perpetuity_final_report_March_2014.pdf): 26-30.

See also Figure 1 in this report.

<sup>30</sup>Paragraph 12 in the 2011 TOR allows for NORAD to prosecute all unauthorized and unwanted activities approaching or operating within North American Airspace. Paragraph 13 has NORAD participating actively in the overall maritime information sharing network which is more active language than the more passive role outlined in the 2007 TOR. Paragraph 23 was updated to reflect the fact that Cheyenne Mountain was no longer the primary correlation center. Paragraph 31 was added to provide contingency for command in the event of the absence of the Commander NORAD and the Deputy-Commander. The most important paragraph change, however, was to Paragraph 18 which added that "NORAD will document critical information sharing requirements, processes and productions with national military command centres (USNORTHCOM and Canada COM) and with NORAD regions **to enable all centers and regions to build and sustain situational awareness capabilities**. Further information sharing requirements of each center and region, and the methods of sharing operational information will be documented and **shared**" (emphasis added). This was critical to encourage a new culture of sharing information.



Second, NORAD had to adapt quickly from an aerospace-centric, almost exclusively military-only<sup>31</sup> organization to a NORAD that had to make linkages with a very complicated military-civilian maritime sector. This made NORAD an ‘outsider’ relative to existing and evolving national inter-agency and bilateral cooperation within the complicated maritime world. NORAD was not met with open arms *per se* by this sector, but rather with skepticism and suspicion; skepticism as an organization with no maritime experience and thus little, if anything to add, and suspicion that its MW mission was the ‘thin end of the wedge’ toward NORAD acquiring the entire maritime defence and security mission from surveillance to control requiring other agencies to subordinate themselves to the military and likely relinquish some resources to support NORAD.

In addition, for most of the maritime sector, especially the civilian agencies, NORAD was a ‘black hole’ – few agencies had any idea what NORAD really did or did not do. This was compounded by the relative vagueness, and perceived irrelevance of the NORAD MW mission. There appears to have been few concerted attempts by senior officials on either side of the border to communicate, especially to the civilian actors, the nature and importance of NORAD’s role in the beginning. Once agreed to by senior command, NORAD was left to its own devices to communicate to, and in effect, educate maritime actors about the nature and value of its MW mission. Indeed, communication and education became the primary task for the NORAD MW group in the initial years of the mission: one, which remains an important priority.

Vagueness and perceived irrelevance is directly related to the narrow parameters set for the mission, with the sacrosanct condition that NORAD not duplicate existing procedures and arrangements. NORAD, therefore, is perceived to be at the “end” of the intelligence acquisition process. It formally only receives the constructed North American COP after it has been assembled through a national, then bilateral process, with the final COP being transmitted from U.S. Fleet Forces Command/NAVNorth. In effect, NORAD is at the end of the intelligence food chain. It provides neither input *per se* into this process, nor does it have any direct, formal links into the process, or the actors engaged, be they civil or military. At the end of the chain (with a built-in *presumed* time lag)<sup>32</sup>, it sees much of what others have seen and assessed. NORAD thus appears to the existing actors at best as an interloper, and at worst of no value-added to maritime defence and security, but potentially the future ‘top dog’ should it acquire a maritime control mission. These concerns were exacerbated by the lack of consultation with the civilian agencies about NORAD’s definition of maritime warning and role.

These perceptions made NORAD’s engagement in the MW world that much more difficult because of deeper cultural/organizational perceptions stemming from the once, usually exclusive maritime defence versus security environments that were fused after 9/11; no longer are external threats the sole domain of the military and internal threats the sole domain of civilian organizations. The idea of NORAD as an aerospace actor with an air force mentality tracking external (read foreign) threats was suddenly outdated. NORAD now had to deal with a maritime environment dominated by civilian agencies focused on regulatory, security and safety issues

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<sup>31</sup>Meaning that to fulfill NORAD’s aerospace warning and control missions up to 9/11 required mainly the RCAF and USAF to work together. After 9/11, expanded linkages were created with civil air tracking data from Navigation Canada and the US Federal Aviation Administration of external flights to, and internal flights within North America. Moreover, NORAD comprises three subordinate regional commands – Canadian NORAD Region (CANR), Alaskan NORAD Region (ANR), and Continental US NORAD Region (CONR) - which create the conditions for de-centralized control execution. Nonetheless, the belief that NORAD, as a centralized command, was unsuitable for regional maritime realities relative to the factor of time, remained among many of the maritime actors.

<sup>32</sup>In reality, there is no time delay. NORAD staff will see the COP at the same time as an operator in US FleetForces/NAVNORTH.

within state boundaries. What is more, the maritime environment is distinctly different from the aerospace one. Whereas air-breathing threats may materialize quickly, requiring an ability to respond quickly, the number of scenarios to plan for is relative few and decision-making is centralized and Air Force-focused remaining exclusively within military chains of command.<sup>33</sup> Maritime threats (ships and underwater threats) are (generally) much slower moving, which may provide longer lead times before the threat becomes imminent, but are of such varied types that multiple agencies are required depending on the nature of the threat. What is more, if maritime assets are deployed, they too, are slower moving which means the lead time diminishes. This means that decision-making to track, warn and respond to threats happens in a more decentralized fashion often across multiple agencies in the maritime world.

The air threat vector relative to NORAD is also relatively distinct from the maritime's infinite vectors. NORAD's air missions, and thus experiences, were primarily directed on a single vector as a function of the likely north-south flight paths of Soviet bombers and cruise missiles during the Cold War. In contrast, the North American maritime sector, as a function of the transit routes of vessels to North America is more conducive to a regional structure, which in turn, is reflected in the U.S. naval structure of Pacific Command, and Fleet Forces Command (Atlantic) and the Canadian Pacific and Atlantic Regional Joint Task Force structure.<sup>34</sup>

The maritime threat environment is also perceived as much more complicated than the air environment. The maritime environment includes traditional military threats as well as terrorism, criminal activities, immigration issues, and environmental threats to national security. Indeed, the majority of these threats are outside of the traditional military defence sector, and thus outside the mandate and jurisdiction of the military. NORAD had resided in the defence side of the safety-to-security-to-defence threats and response continuum. This, in turn, had two effects relative to implementation and NORAD's "aerospace" image. First, it suggested that naval-to-naval cooperation is insufficient to meet the new security environment, generating suspicions that NORAD MW was the first step to supplanting the navies of their entire North American maritime defence command role, even though this had ostensibly occurred in the U.S. because of USNORTHCOM. Second, NORAD is perceived as being at the end of the line in terms of developing common procedures and understandings for information sharing between military and civil agencies.

Cooperation and information sharing between the military and the civilian agencies was in the early stages at the time NORAD acquired the MW mission; 9/11 was instrumental to compelling governments to approach problems in a "joint" or "whole of government" way. The policy foundation for maritime information and intelligence sharing in both Canada and the United States was established in 2004 and 2005 respectively: with the Canadian MSOCs under the 2004 National Security Policy and the release of the U.S. National Plan to Achieve Maritime Domain Awareness for the National Strategy for Marine Security (October 2005).<sup>35</sup> Overcoming existing issues, related to legal jurisdictions and mandates and their underpinning cultures, was a difficult task. Even today, despite the major steps taken on both sides of the border, and in developing bilateral protocols for the cross-border sharing of information, these barriers to information sharing have not been entirely overcome. NORAD played a significant, implicit role in breaking

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<sup>33</sup>In slang, there is only one belly button to push.

<sup>34</sup>Currently, there is no separate structure for the Arctic Ocean. In Canada, naval responsibility is assigned to Atlantic command. Whereas the US used to separate the Arctic under several commands, it now falls under USNORTHCOM. If predictions of a significant increase in Arctic maritime traffic prove correct, one may expect the development of a separate Arctic structure, especially for Canada given the vast distances.

<sup>35</sup>See <http://www.virginia.edu/colp/pdf/NSMS-National-Plan-to-Achieve-Maritime-Domain-Awareness.pdf>



these barriers to information sharing. Even so, the status of national and bilateral cooperation and its slow evolution acted as frictional force in the process of implementing NORAD's MW mission. As evidence, consider the continued status of Canada's MSOCs as "projects" still.

Finally, change is always a difficult process for organizations, especially when change entails the entrance of an old organization, like NORAD, taking on a new mission area with many more civilian actors. Adaptation to NORAD as a new maritime domain awareness actor, however, has been facilitated by a number of critical, maritime events. The first set included asylum seekers mainly from Sri Lanka in freighters destined for North America in 2009 and 2010 with possible members of an identified terrorist organization, the Tamil Tigers, on board. The second set of critical events occurred more recently with concerns about the spread of Ebola emanating from West Africa in 2015 by individuals on ships destined for North America.

The M/V *Ocean Lady* 2009<sup>36</sup> voyage exposed the lack of intelligence/information<sup>37</sup> sharing among all of the organizations involved (among other issues), creating lessons learned for future, improved cooperation. The 2010 M/V *Sun Sea*<sup>38</sup> voyage demonstrated improved information sharing, such that all the relevant security and defence actors were aware of the threat. Most importantly, NORAD issued its first maritime warning with the *Sun Sea*, but the warning was not sent until the ship was at sea and already a potential threat. Since that incident, NORAD created another form of maritime communication, the NORAD Maritime Advisory message that enables NORAD to advise the two governments and bi-national mission partners with much greater lead time of an emerging, potential threat to allow agencies more time to plan.<sup>39</sup> While it is difficult to judge the extent to which the lessons from the *Ocean Lady* alone led to the success of the warning about the *Sun Sea*, independent of NORAD, its warning, at a minimum, raised the level of exposure and potential relevance of NORAD in the complicated MW process. And the creation of the advisory message was certainly a result of the lessons learned from the *Sun Sea*.

The second set of critical events occurred more recently with concerns about the spread of Ebola emanating from West Africa in 2015 by individuals on ships destined for North America. In these cases, the MDA community reached out more broadly to other actors (including departments of health and the World Health Organization (WHO)) and actively sought input from NORAD. More recently, NORAD's maritime warning mission function was incorporated into Canada's 2015 Nanook exercise.<sup>40</sup>

NORAD's maritime warning mission continues to be a topic of discussion at the Permanent Joint Board on Defence (PJBD), Military Cooperation Committee (MCC), and Tri-Command Staff Talks (CJOC, USNORTHCOM and NORAD). These strategic-level fora continue to be supportive of the continued maturation of NORAD's newest mission. At the tactical level, the CANUS MDA Working Group, the Maritime Stakeholders' Conference/MDA Executive Round Table (MSC/MERT) and the first meeting of the Five Eyes MDA Working Group continue to work to improve MDA awareness across all agencies.

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<sup>36</sup>76 asylum seekers were located off the coast of British Colombia in a derelict freighter that left from Pangkal Pinang, a port city on Indonesia's east coast in June 2009.

<sup>37</sup>Individual agencies and departments were aware of the ship, but they were not able to share the information effectively. Note, all intelligence is information but not all information is intelligence. Intelligence is information that informs (government) policy. See Mark M. Lowenthal, *Intelligence: From Secrets to Policy*. 6th edition. (Washington: CQ Press, 2014): 2.

<sup>38</sup>This time, 492 asylum seekers were escorted into Canada off the coast of British Colombia.

<sup>39</sup>NMIO "Technical Brief" (2 April 2012): 7 found at [http://nmio.ise.gov/docs/NMIO\\_QuarterlyVOL2.pdf](http://nmio.ise.gov/docs/NMIO_QuarterlyVOL2.pdf)

<sup>40</sup>See <http://news.gc.ca/web/article-en.do?nid=979039>

### Part 3: NORAD's Maritime Warning Mission

According to the latest, 2006 version of the NORAD agreement between the U.S. and Canada, the maritime warning (MW) mission

consists of processing, assessing, and disseminating intelligence and information related to the respective maritime areas and internal waterways of, and the maritime approaches to, the United States and Canada, and warning of maritime threats to, or attacks against North America utilizing mutual support arrangements with other commands and agencies, to enable identification, validation, and response by national commands and agencies responsible for maritime defense and security. Through these tasks NORAD shall develop a comprehensive shared understanding of maritime activities to better identify potential maritime threats to North American **security**.<sup>41</sup> Maritime surveillance and control shall continue to be exercised by national commands and, as appropriate, coordinated bilaterally.<sup>42</sup> (emphasis added)

NORAD's MW mission has 3 parts: 1) *Process, assess and disseminate* intelligence and operational information related to the respective maritime areas and approaches to Canada and the U.S; 2) *Develop a comprehensive shared understanding* of maritime activities to better identify potential maritime threats to North American security, and 3) *Warn* of maritime threats to, or attacks against North America.

NORAD's maritime area of operations is global. NORAD's goal is to *facilitate* a response that could be unilateral, bi-lateral or bi-national depending on the threat. NORAD does not have a maritime control mission unless the threat becomes an air-breathing one; if an air breathing threat comes from the maritime domain, NORAD would warn and respond to the air breathing threat but maritime control would remain a national (or two nations cooperating) responsibility. The maritime surveillance mission is also not part of the NORAD maritime mission and continues to be executed by national commands and, as appropriate, coordinated bilaterally between the two countries. As stated in a technical brief produced by the U.S. National Maritime Intelligence-Integration Organization (NMIO):

Potential maritime threats that NORAD may encounter include state and non-state sponsored threats, weapon proliferation, illegal immigration linked to terrorism, threats to the global maritime supply chain, and threats to critical maritime infrastructure. One of

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<sup>41</sup>The term "defense" could have been used but security better reflects the post-9/11 focus on the homeland.

<sup>42</sup>Agreement between the Government of the United States of America and the Government of Canada on the North American Aerospace Defense Command (28 April 2006) (Otherwise referred to as the "2006 NORAD Agreement"): para 2c. See <http://www.state.gov/documents/organization/69727.pdf> In Canada, the change to the original agreement was passed in the House of Commons (257 in favour and 30 opposed) on 3 May 2006. Note, Ernie Regehr writes that the 2006 Agreement replaced the reference to "monitoring" with the phrase, "processing, assessing, and disseminating intelligence" for aerospace and added it for the new maritime warning mission reinforcing the fact that the respective national authorities monitor for threats, not NORAD. NORAD receives intelligence and information, which may or may not result in a warning; control remains firmly within the purview of the respective national governments. See Ernie Regehr at *Project Ploughshares* for his very helpful guide to the implications for Canada concerning the 2006 Agreement soon after its adoption. *The Ploughshares Monitor* Autumn 2006 Volume 27 Issue 3 See [http://ploughshares.ca/pl\\_publications/norad-renewal-further-down-the-slippery-slope/](http://ploughshares.ca/pl_publications/norad-renewal-further-down-the-slippery-slope/)

NORAD's missions is to warn of maritime threats at sea, in port or within internal waterways to meet its essential mission: the timely warning which creates a decision advantage that facilitates threat response by the appropriate departments and agencies of the two countries.<sup>43</sup>

NORAD's warning capability, therefore, is dependent on the information it receives from a myriad of defence and civilian organizations on both sides of the border and from allies around the world charged with maritime domain awareness (MDA). On the U.S. side, MDA is defined as "the effective understanding of anything associated with the global maritime environment that could impact the security, safety, economy, or environment of the United States."<sup>44</sup> The U.S. definition of MDA is also recognized as a component of several interconnected domains, including maritime, land, air, space and cyberspace. The maritime domain (MD) "is all areas and things of, on, under, relating to, adjacent to, or bordering on a sea, ocean or other navigable waterway, including all maritime-related activities, infrastructure, people, cargo, vessels and other conveyances."<sup>45</sup>

Canada's MDA definition is similar but limited to the maritime component. "MDA is the effective understanding of anything in the maritime environment that could adversely affect Canada/U.S. security, safety, economy or environment."<sup>46</sup> Canada also has a much less clear marine security definition outlined by the Treasury Board as "a horizontal initiative aimed at improving the security of Canada's marine domain, including territorial waters and inland waterways, and at Canadian ports".<sup>47</sup> Horizontal is presumed to mean "whole of government" and by marine domain it is assumed, includes, *inter alia*, infrastructure, vessels, people, cargo, and the environment.

Some of the MDA priorities (for both countries although articulated in U.S. documents) include:<sup>48</sup>

- 1) Preventing terrorist attacks and criminal, harmful or hostile acts across the maritime domain by state and non-state actors;
- 2) Protecting population centres and critical infrastructure;
- 3) Minimizing damage to, and expedite recovery of, the maritime transportation system and related infrastructure in the wake of man-made or natural disasters;

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<sup>43</sup>NMIO "Technical Brief" (2 April 2012): 6 found at [http://nmio.ise.gov/docs/NMIO\\_QuarterlyVOL2.pdf](http://nmio.ise.gov/docs/NMIO_QuarterlyVOL2.pdf)

<sup>44</sup>United States. *National Maritime Domain Awareness Plan for the National Strategy for Maritime Security*. December 2013: 2.

<sup>45</sup>*Ibid.*

<sup>46</sup> Binational Planning Group, "Final Report on Canada-United States (CANUS) Enhanced Military Cooperation", (13 March 2006): 36.

<sup>47</sup>Treasury Board of Canada, "Marine Security: 2014 – 2105" found at <https://www.tbs-sct.gc.ca/hidb-bdih/initiative-eng.aspx?Hi=62&YrAn=2014>. Elements of marine security include: increased domain awareness, surveillance and tracking of marine traffic; improved coordination and cooperation on marine security, including the development of Marine Security Operations Centres; security clearance program for marine sector employees; implementing new detection equipment in Canadian ports to monitor containers; Additional resources for emergency and law enforcement response capacity in the marine domain, and international initiatives, which will ensure that Canada will meet current international standards and obligations, including those being developed by the International Maritime Organization. Note, it states \$907,500,000 has been allocated for marine security since 2001.

<sup>48</sup> From *Global Maritime Intelligence Integration Plan* (GMII) (October 2005): 16 and reprinted in United States. *National Maritime Domain Awareness Plan for the National Strategy for Maritime Security*. December 2013: 8.

- 4) Maintaining unimpeded access to global resources and markets; and
- 5) Safeguarding the oceans and their resources.

Curiously, given that it led, in part, to NORAD's maritime warning, human trafficking and smuggling are not listed specifically. Also, the priorities can read like a list of events that could happen if MDA was not achieved rather than a plan of before-event priorities.

MDA core principles<sup>49</sup> include:

- 1) Promoting unity of effort;
- 2) Fostering information sharing and safeguarding;
- 3) Facilitating safe and efficient flow of legitimate commerce.

MDA Challenges<sup>50</sup> include:

- Collection for Non-Emitting and Uncooperative Vessels
- Fusion and Analysis for Non-Emitting and Uncooperative Vessels
- National MDA Enterprise Assessment
- Understanding Maritime Activity
- Determination of Anomalous Behavior
- National MDA Strategy Development
- Maritime Personnel Security Information
- Shared Situational Analysis Capability
- Fusion and Analysis for Cargo Data
- MDA Information Collection Requirements Definition and Planning
- Collection for Cargo Transiting Internationally
- Fusion and Analysis for Maritime Personnel
- Vessel Identification and Tracking
- Domestic Sensor Supply and Deployment Shortfall
- End-to-End Connectivity for the MDA Community
- MDA Collaborative Tools Development
- Enterprise Alignment of the National MDA Effort
- MDA Network Management Services
- MDA Information Assurance and Security Procedures
- Non-Standard Collection on Safety of Life at Sea (SOLAS) Vessels

Overall, Canada and the United States face a number of transnational, complex and lethal threats in the maritime environment. The response to these events frequently crosses the mandates and authorities of multiple federal-level departments/agencies and there is potential for these maritime events to be of national interest to Canada and the U.S. concurrently.<sup>51</sup>

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<sup>49</sup>United States. *National Maritime Domain Awareness Plan for the National Strategy for Maritime Security*. December 2013:10.

<sup>50</sup>United States. *National Maritime Domain Awareness Plan for the National Strategy for Maritime Security*. December 2013:C-1.

<sup>51</sup>NMIO Technical Brief (2 April 2012):6 found at [http://nmio.ise.gov/docs/NMIO\\_QuarterlyVOL2.pdf](http://nmio.ise.gov/docs/NMIO_QuarterlyVOL2.pdf)

When intelligence received by NORAD raises a red flag, NORAD issues an **advisory** to alert national decision-makers, or, in the event of a confirmed threat, a **maritime warning**. This is achieved via a binational mission with a global area of operations and mandate to warn against a full spectrum of maritime threats. This is only possible via trusted partnership between Canada and the U.S..

To achieve its MW mission, NORAD must possess a comprehensive and shared understanding/picture of the maritime environment that is achieved via information/intelligence sharing between Canada and the U.S. in order to generate an effective and timely warning. This common operating picture or COP, in turn, is constructed through complicated inter-active national processes that include a wide range of maritime actors. Understanding these processes, and the roles and responsibilities of the various actors, which ultimately produce the COP provided to NORAD by U.S. Fleet Forces Command/NAVNorth (with a USNORTHCOM area of responsibility focus and a global picture from STRATCOM), is essential to understand NORAD's MW mission. The process is conceptualized as 'left of bang': that part of the maritime defence and security mission suite that identifies a threat and sets in motion a national/bilateral or binational control response – 'right of bang'.

### The Canadian 'Left Side of Bang'

Not surprisingly, the Canadian government has matched many of the U.S. policies to improve, expand and raise the profile of maritime domain awareness via organizational changes which give responsibility for maritime homeland security to a range of departments and organizations including the Privy Council Office (PCO), Public Safety Canada (PSC), Transport Canada, the Canadian Coast Guard (CCG) the Royal Canadian Mounted Police (RCMP), the Department of National Defence (DND), the Royal Canadian Navy (RCN), and the Canadian Border Services Agency (CBSA).

#### Privy Council Office (PCO)

Nominally, the Privy Council Office (PCO), and its Security and Intelligence Secretariat is the policy priority guider to the various maritime organizations since it provides advice and support to the Prime Minister, the National Security Advisor, and Cabinet on major security issues including maritime issues.<sup>52</sup> It serves as liaison to the various maritime-related departments in both communicating government-wide priorities, and ensuring that the activities and actions in the maritime defence and security realm are consistent with these priorities. As noted below, the PCO has a representative on the Interdepartmental Marine Security Working Group (IMSWG) Committee – the main whole-of-government communication coordinator akin to the U.S. National Maritime Intelligence-Integration Office (NMIO) in limited ways.

#### Public Safety Canada (PS)

At the top of the departmental structure resides Public Safety, which manages the Government Operations Centre (GOC), and is also a conduit for provincial inputs. Under the Federal

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<sup>52</sup>Alongside the Security and Intelligence Secretariat, there are two other arms of PCO that may be engaged: International Assessment Staff and Foreign and Defence Policy group. Government of Canada, "Privy Council Secretariats" found at <http://www.pcobcp.gc.ca/index.asp?lang=eng&page=secretariats>

Emergency Response Plan (FERP), PS coordinates emergency public communications activities for the Government of Canada, between federal departments and agencies, and with other partners, including provincial and territorial governments and NGOs.<sup>53</sup> FERP has an Assistant Deputy Minister (ADM)-level maritime security committee, and is linked to the Maritime Events Response Protocol (MERP) structure and process. Importantly, PS is responsible for organizing MERPs when required.

### Interdepartmental Marine Security Working Group (IMSWG)

Beneath the PSC/FERP resides the Interdepartmental Marine Security Working Group (IMSWG), led by Transport Canada (TC) to serve as a forum to enhance Canada's marine security.<sup>54</sup> The IMSWG develops policy recommendations for senior decision-makers and promotes greater communication and cooperation across the federal government. Among its current efforts, IMSWG is examining legal barriers to intelligence/information sharing among the various key maritime actors. The IMSWG meets at the Assistant Deputy-Minister level and is chaired by TC's ADM for Safety and Security. TC's Marine Security Policy branch provides secretariat services to the IMSWG's Chair and its members.

In addition to Transport Canada, the following Canadian departments/agencies regularly send representatives to meetings of the IMSWG:<sup>55</sup>

- Canada Border Services Agency (CBSA)
- Canadian Food Inspection Agency (CFIA)
- Canadian Security Intelligence Service (CSIS)
- Canadian Space Agency (CSA)
- Defence Research and Development Canada (DRDC)
- Department of Fisheries and Oceans / Canadian Coast Guard (DFO/CCG)
- Department of Justice (DOJ)
- Department of National Defence (DND)
- Environment Canada (EC)
- Finance Canada (FIN)
- Department of Foreign Affairs, Trade and Development (DFATD)
- Government Operations Centre (GOC)
- Privy Council Office (PCO)
- Public Safety Canada (PS)
- Royal Canadian Mounted Police (RCMP)
- Treasury Board Secretariat (TBS)

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<sup>53</sup> The Department of Foreign Affairs, Trade and Development (DFATD) is responsible for communicating with foreign states and organizations and is also the lead for public communications on behalf of the Government of Canada with respect to incidents abroad.

<sup>54</sup> See Transport Canada, "Canada Interdepartmental Marine Security Working Group (IMSWG) Committee" found at <https://www.tc.gc.ca/eng/marinesecurity/partnerships-285.htm>. After 9-11, an ad hoc Committee of Ministers on Public Security and Anti-Terrorism (PSAT) was created made up of representatives from the Privy Council Office, DND, the Solicitor General, the Canada Customs and Revenue Agency, Citizenship and Immigration Canada, Transport Canada, Fisheries and Oceans Canada, the Coast Guard and the police. The Minister of Transport Canada was tasked with creating IMSWG in October 2001. PSAT ear-marked \$60 million over 5 years to fund maritime security initiatives including the Automatic (Vessel) Identification System (AIS) – an initiative of the International Maritime Organization.

<sup>55</sup> Other departments can be invited as required, such as Parks Canada or Health Canada.

## Canadian Joint Operations Command (CJOC) and the Regional Joint Commands (RJOCs)

At the centre of the Canadian structure and process, especially in relation to the defence component, resides Canada Joint Operations Command (CJOC). It is responsible for conducting full-spectrum Canadian Armed Forces operations at home, on the continent of North America, and around the world except for those operations conducted solely by Canadian Special Operations Forces Command (CANSOFCOM), or NORAD. CJOC establishes the parameters for the DND's Recognized Maritime Picture (RMP) for Canada. The military RMP is compiled by fusing a variety of sources of information (including weather, tide etc.) and combining it with reports from naval ships and military aircraft in their areas of operations. At the same time, the Department of Fisheries and Oceans and other OGDS share their Recognized Maritime Pictures (RMP), acquired from their civilian aircraft patrols. This near real-time information is fed into the military RMP and shared with all other departments via an unclassified network.<sup>56</sup>

In the case of NORAD operations, Canada NORAD Region (CANR) is co-located in Winnipeg with the 1<sup>st</sup> Canadian Air Division (1 CAD) and its Commander is triple hatted as CANR, 1 CAD, and Canadian Joint Forces Air Component (CJFAC).<sup>57</sup> In these capacities, the Commander is a force generator (1 CAD) and operational command relative to the NORAD aerospace control (air defence mission) and domestic air operations. There is currently no maritime liaison contact at CANR, although the number of Navy personnel posted to 1 CAD has increased modestly over time. CJFAC contributes to the RMP via surveillance it collects from its fixed (Aurora) and rotary wing platforms. Technically, NORAD relative to its MW mission cannot formally task Canadian air assets for surveillance or reconnaissance of a possible vessel of interest, unless intelligence indicates that the vessel may contain an air-breathing threat. Otherwise, such a tasking request would come from NORAD to CJOC (or in the case of the U.S. to one of the supporting Commands (USNORTHCOM, USPACOM and/or USSOUTHCOM).

Beneath CJOC, the maritime approaches to Canada are tasked to two, Regional Joint Operations Centres (RJOC): RJOC Atlantic (A) located at Halifax and RJOC Pacific (P) located at Esquimalt. RJOC(A) and RJOC(P) collaborate to create the common operating picture (COP) from the Recognized Maritime Picture (RMP) set by CJOC as well as from information from other sources (including OGD RMPs). As well, each has direct links to a variety of military and non-military intelligence/information sources. For example, RJOC(A) and (P) have links to their US counterparts, Fleet Forces Command/NAVNORTH and US Pacific Command (USPACOM) respectively, as well as the US Coast Guard (USCG).

RJOC(A) is responsible for synchronizing all of the RMP inputs into both the unclassified (low) and classified (high) side COP. RJOC(A) responsibility is a function of its co-location with TRINITY: originally established as an undersea warfare intelligence centre. TRINITY (RCN Intelligence) combines the COPs from the east and west coast, generated from intelligence and operational information provided by military intelligence, as well as a range of classified and unclassified Canadian, American, Five Eyes and other intelligence sources. The Canadian COP sent to NAVNORTH is then integrated into the eventual NORAD COP.

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<sup>56</sup>For an overview of surveillance initiatives immediately post 9/11, see Peter Avis, "Surveillance and Canadian Maritime Domestic Security", *Canadian Military Journal* (Spring 2003) at <http://www.journal.forces.gc.ca/vo4/no1/policy-police-eng.asp>

<sup>57</sup> The Deputy-Commander of CANR, as per the NORAD Agreement, is an American officer, who also serves as Deputy-Commander of CJFAC).



Besides direct military-based intelligence on national and foreign warships, Canada identifies and tracks vessels transiting to North American ports, or between North American ports, as well as information on their cargoes as provided initially at their port of departure. All vessels over 500 tons, except fishing ships, are required to employ the Automated Identification System (AIS) as well as report to the various vessel reporting systems. (For example, vessels of 300 tons or more as well as any vessels carrying pollutant or dangerous goods in the Arctic approaches to Canada are required to register daily via NORDREG).<sup>58</sup> AIS provides tracking/location, as well as manifest information, and is tasked to the Canadian Coast Guard (CCG), which maintains ground stations along the Canadian coasts. AIS is also supported by spaced-based satellite transponders.<sup>59</sup>

In addition to AIS information, a range of other intelligence/information sources feed into the construction of the COP (e.g. Lloyd's registry and HUMINT). Beyond the military, these are a function of the specific mandates and responsibilities of OGDs in the maritime sector, and these OGDs have their own intelligence/information sharing links and arrangements with their American counterparts.

CANMARNET is a system that was launched by the Department of National Defence (DND) in 1994. The objective was to gather and share maritime information among federal departments. There are many other participating departments and agencies such as DFO, Citizenship and Immigration, RCMP, and Canada Customs and Revenue Agency.

Drawing on information provided by several departments and agencies, CANMARNET provides a computerized picture of where a maritime vessel is located, its name, its destination, its crew list and its blueprints. Positional information on each offshore vessel is transmitted to federal departments and agencies on a daily basis. The system also enables departments to see what normal shipping patterns look like so that they can determine any irregularities. The information is of considerable help to the federal government in security matters, fisheries management, drug control, maritime shipping, and immigration matters, among others. Although all of the funding comes from DND, that department has periodically explored the possibility of shared funding (e.g. user charges) with other departments. Each time, it was found that there was no easy mechanism for sharing costs among departments.<sup>60</sup>

### Canadian Coast Guard (CCG)

The Canadian Coast Guard (CCG) is a civilian special operating agency of the Department of Fisheries and Oceans Canada (DFO). The CCG helps DFO meet its responsibility to ensure safe and accessible waterways for Canadians.<sup>61</sup> The CCG also plays a key role in ensuring the sustainable use and development of Canada's oceans and waterways. CCG is thus primarily a safety organization. That being said, it does have a limited constabulary role in the Arctic to

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<sup>58</sup> Of major security concern, especially in traffic on the coasts, are leisure crafts and fast moving small boats ("go fasts"). The latter are employed in the drug trade, and especially prevalent in the southern approaches to North America and are not required to register with NORDREG because of their size.

<sup>59</sup> In addition to satellite transponders, space-based surveillance capabilities also provide information, depending upon satellite orbits. The future Canadian RADARSAT Constellation wide-area surveillance capability is likely to make a major contribution in this area.

<sup>60</sup> Taken from Treasury Board of Canada, "Canadian Maritime Network", found at <http://www.tbs-sct.gc.ca/fcer-cfre/rfc-cfr/studies-etudes/cmnr-mmc-eng.asp>

<sup>61</sup> Government of Canada, "Canadian Coast Guard: Who We Are", found at [http://www.ccg-gcc.gc.ca/eng/CCG/Who\\_We\\_Are](http://www.ccg-gcc.gc.ca/eng/CCG/Who_We_Are)



enforce the Arctic Waters Pollutions Prevention Act and regulations and for some fisheries enforcement action.

Roughly 90% of Canadian maritime intelligence information comes from the CCG. Vessels have a 96 hour reporting requirement (which is approx. 200 nautical miles from the Canadian coast), although vessels are tracked out to 1000 nm. Under Canada's new Ocean's Act<sup>62</sup>, it now has a formal support role in intelligence collection, and provides direct support to OGDs such as Transport Canada and the RCMP. In contrast to the RCN's 'blue water' focus, the CCG concentrates upon 'green' (coastal waters, ports and harbors) and 'brown' (navigable rivers and estuaries) waters, in part because it lacks 'blue water' capabilities. CCG is also responsible for maritime search and rescue in close cooperation with the respective responsible Canadian Armed Forces commands.<sup>63</sup> CCG and the USCG directly share information as a function of the USCG's Title 14 mission.

### Transport Canada (TC)

Alongside CCG, Transport Canada (TC) is responsible for marine safety and security. The information it collects contributes to the production of the maritime picture, through threat assessments on a variety of areas such as marine facilities and ports, vessels, and shipping entities. It is responsible for the Pre-Arrival Information Report (PAIR) from vessels incoming to Canada. It obtains information related to the Ship Security Alert System, Port State Control, safety and environment protection. Its information is primarily commercial based. The maritime companies are required to provide basic information on vessels and this information is used by the TC Operations Centre to create a domain awareness picture. TC also monitors three vessel traffic systems: ECOREG (east coast), VTS (Pacific Coast) and NORDREG (Arctic).

### Canada Border Services Agency (CBSA)

Located within the Department of Public Safety (DPS), the Canada Border Services Agency's (CBSA) national security responsibility is to manage and control the entrance of Canada to people and goods.<sup>64</sup> Specifically with regard to maritime security, it is the primary producer of the Advanced Container Initiative (ACI), which provides 24 hour notice of cargo/passenger manifests. How much CBSA intelligence information, and the extent to which its ACI database is provided to the larger maritime security intelligence community and the construction of the Canadian COP is difficult to ascertain, especially as a function of privacy issues and restrictions under Section 107 of the Customs Act.<sup>65</sup> In addition, as CBSA 'stands at the border', looking outward is somewhat alien to its culture. As a result, CBSA may be more of a recipient of maritime intelligence information, rather a provider. Nonetheless, one would expect that CBSA would have close links with its American counterparts.

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<sup>62</sup> *Oceans Act* (S.C.1996, c.31): para 41(1) e. See <http://laws-lois.justice.gc.ca/eng/acts/o-2.4/>

<sup>63</sup> CCG is also responsible for maritime search and rescue in close cooperation with the respective responsible Canadian Armed Forces commands - COMMARLANT and COMMARPAC as SAR Region Commanders.

<sup>64</sup> Indeed, in its lexicon, "maritime", "marine" or any reference to these adjectives do not exist. See [http://www.cbsa-asfc.gc.ca/sme-pme/glossary-glossaire-eng.html#id\\_m](http://www.cbsa-asfc.gc.ca/sme-pme/glossary-glossaire-eng.html#id_m)

<sup>65</sup> Despite attempts, the research team was unable to speak directly with a CBSA representative.

### Royal Canadian Mounted Police (RCMP)

Similar in some degree to CBSA, the Royal Canadian Mounted Police (RCMP), the federal law enforcement agency also located under the Department of Public Safety, monitors out to the edge of Canada's territorial waters. The RCMP is focused mainly on small vessels of concern within the territorial waters of Canada. Sharing its intelligence information related to threats to Canada is also affected by privacy issues, as well as law enforcement and investigation requirements. The RCMP does share intelligence and operations information routinely with the U.S. Federal Bureau of Investigation (FBI), the Central Intelligence Agency (CIA) and National Security Agency. The RCMP also shares information with DND and other OGD partners on a 'self-defined' (i.e. for legal or ongoing investigation reasons) need to know basis.

### Maritime Security Operation Centres (MSOC)

In 2004, the government, through its National Security Policy, established three Maritime Security Operation Centres (MSOC); two under the administrative lead of National Defence and co-located respectively on the West Coast with RJOC (P) and on the East Coast with RJOC(A).<sup>66</sup> The third, the Great Lakes and St. Lawrence Seaway MSOC is located on the Great Lakes at Niagara, and is under the administrative lead of the RCMP as a function of its focus on transnational crime in the Great Lakes. Its operational military link is to Joint Task Force Canada (JTFC), and rarely sends its information to CJOC because of the mostly criminal nature of the activities and vessels of interest tracked.

The MSOCs, despite the name, are neither operation centres nor "security" centres. MSOCs today are more rightly called maritime intelligence analytical fusion centres. The impetus for their creation was to facilitate the sharing of intelligence among the six maritime agencies concerned with marine-based threats that could negatively affect safety or security. In addition to the aforementioned five agencies (Canadian Armed Forces, CCG, TC, CBSA, and RCMP), the conservation protection arm of Fisheries and Oceans is also in the coastal MSOCs, but has no formal presence in the Great Lakes' MSOC. MSOC E and MSOC W have footprints on the RJOC(A) and RJOC (P) Watch Floors where there are four desks: one each for CCG, TC, CBSA, and RCMP. The MSOCs generally run on 12-hour shift rotations. In Halifax, DND and CCG are the only agencies within MSOC to have 24/7 watch floor coverage. TC has 16/7 coverage, and the RCMP and CBSA only have a presence on the watch floor when they have ongoing cases requiring the support of the RJOC.

The MSOCs are still an interdepartmental "project", despite being initiated in 2004. Each department is at a different stage of intelligence gathering and interpretation. Intelligence/information sharing among the agencies is based upon an MOU. Currently, there is no formal piece of legislation governing sharing, although steps are underway to legislate intelligence/information sharing in order to overcome existing legal barriers, especially concerning privacy issues. No department owns or directs MSOC activity, however.

MSOCs operate at both unclassified and classified levels. Unclassified intelligence and information is shared on CANMARNET - an information management operation network that can be pushed to the classified Consolidated Secret Network Infrastructure (CSNI) system. CCG

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<sup>66</sup> The three MSOCs were not set up as mirror organizations, reflecting environmental differences, even though their mandates were identical.

and TC (24/7), CBSA (seldom), and the RCMP Departments send representatives to sit in the operations centre of MSOC to receive feeds from their own departments which can be shared between the departments provided Canadian privacy and assistance to law enforcement agency (ALEA) rules are respected. Of note, there is a USCG liaison at the Great Lakes MSOC, but not at either coastal MSOC. There is no CCG liaison with USCG, as a function of the small size of CCG and different mandates. Instead, a RCN Captain posted to Washington acts as the liaison to U.S. organizations for all Canadian maritime agencies. Given the increasing importance/scope of MDA, this means the one individual is stretched, very, very thinly, and it appears that upon the completion of his posting, the current liaison will not be replaced.

All MSOCs contribute to the creation of the Canadian COP. At MSOC E, there is a daily situation update to share intelligence from the various agencies (from weather and ice updates to potential protests etc.). MSOC E was the driving force behind the creation of a weekly Arctic MDA teleconference hosted by DND via MSOC E.

The specific process or information pathways through which these primary maritime security actors transmit intelligence into the CJOC and TRINITY and the construction of Canada's COP appear to vary. It seems that the flow from CCG and TC is through CJOC's Joint Forces Intelligence Centre (JFIC), whereas the RCMP's goes through the MSOCs. Regardless, the MSOCs appear central both in feeding information into the COP with the military feed and are direct recipients of the unclassified 'low' side COP, known as CANMARNET, from the TRINITY process.

### **The United States' 'Left Side of Bang'**

The U.S., in many respects, is the key actor supporting the NORAD MW mission, primarily because the North American MDA COP is fed into NORAD formally via USNORTHCOM from U.S. Fleet Forces, the Navy component of USNORTHCOM). In addition, the U.S. has a truly global intelligence reach, with resources that dwarf Canadian resources. At the same time, however, the complexity of the American intelligence community and actors contributing to the MDA/COP process, in addition to its highly classified nature, makes it difficult to map the process with any specificity. Moreover, the Canadian structure and process is distinctly different from the American one, in part because of differences in the mandates and responsibilities of functionally similar organizations. As such, this discussion of the U.S. side of the equation is limited to the key actors, recognizing that there are many U.S. actors, such as the FBI and the CIA, that contribute to the MDA/COP as well.

In the wake of 9/11, Washington established new agencies and re-organized its existing maritime security organization across government in accordance with the 2005 *National Strategy for Maritime Security* (NSMS). Emphasis was placed on Maritime Domain Awareness (MDA), although in a global context. While USNORTHCOM's Area of Operations (AOR) included the ocean approaches to the continental U.S., there was no push to make it the overarching organization for American maritime homeland security efforts.

In subsequent years, the U.S. government continued to adjust and enhance its posture for global MDA and homeland maritime security through the creation of an Executive Agency for MDA within the office of the Secretary of the Navy, which has since moved under the Office of Naval Intelligence (ONI), and the establishment of a National Maritime Intelligence-Integration Office (NMIO) which reports to the Director of National Intelligence (DNI). Recent efforts have been guided by Presidential Decision Directive 18: *Maritime Security* (PDD-18) issued in August 2012, which outlined the responsibilities of numerous government departments and agencies vis-à-vis

maritime security and established eight sub-plans<sup>67</sup> of which the *National Plan to Achieve Maritime Domain Awareness* and *Global Maritime Intelligence Integration Plan* have now been integrated into a single, active *National Maritime Domain Awareness Plan*, released in December, 2013.

Moreover, the NSMS was reaffirmed by PPD-18.<sup>68</sup> This presidential policy directive established the United States' government policy on maritime security and provided for the development of scalable, flexible frameworks on specific maritime issues to guide and clarify roles and responsibilities for strategic goals of the United States. The new, national MDA Architecture Plan (NMDAP) has also just been released, which describes a process for sharing maritime information with U.S. maritime agencies.<sup>69</sup> Directed by the National Concept of Operations for Maritime Domain Awareness (MDA CONOPS), the Department of Defense/Department of the Navy (DoD/DoN) led the effort to describe "a MDA architecture founded upon net-centric principles to provide a secure, collaborative, information-sharing environment."<sup>70</sup>

The focus for MDA within the U.S. government appears in the National Security Staff (NSS)/Maritime Security Interagency Policy Committee (MSIPC), which acts "as the primary forum for interagency coordination and implementation of maritime security policies, strategies, and initiatives."<sup>71</sup> The MSIPC's membership consists of flag officers and senior executives, and with the assistance of interagency working groups, "reviews maritime policy and provides guidance for strategic maritime issues."<sup>72</sup> Subordinate to the MSIPC is the Maritime Domain Awareness Executive Steering Committee (MDA ESC), "comprised of senior executive-level principals designated by their respective departmental EA for MDA" from the Department of Defense, Department of Transportation, the Department of Homeland Security, and NMIO. This committee is tasked with overseeing and coordinating:

...interagency collaboration on MDA policy and activities to promote maritime domain information sharing, prioritize MDA efforts, develop MDA work plans, and close or mitigate recognized national-level MDA challenges.<sup>73</sup>

The *National Maritime Domain Awareness Plan* sheds some light on the authority and command structure of MDA in the United States, as well as the interagency cooperation that is essential to its execution. Integrated maritime intelligence, facilitated by a coordinated intelligence enterprise, underpins effective MDA and maritime security.<sup>74</sup> In the U.S. government, this responsibility is coordinated and facilitated by the National Maritime Intelligence-Integration Office (NMIO), designated, overseen and strategically directed by the Office of the Director of National

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<sup>67</sup>National Plan to Achieve Domain Awareness; Global Maritime Intelligence Integration Plan; Interim Maritime Operational Threat Response Plan; International Outreach and Coordination Strategy; Maritime Infrastructure Recovery Plan; Maritime Transportation System Security Plan; Maritime Commerce Security Plan; Domestic Outreach Plan

<sup>68</sup>PPD-18 Maritime Security (August 14, 2012) reaffirms the 2005 National Strategy on Maritime Security and establishes issue-related Maritime Frameworks.

<sup>69</sup>*National Maritime Domain Awareness Architecture Plan: A National Maritime Information Sharing Environment (MISE) implemented through Common Data Standards and Architectural Understanding* (2013). [https://mise.mda.gov/drupal/sites/default/files/MDA\\_Arch\\_Plan\\_V\\_2.0\\_Release2\\_Full\\_1.pdf](https://mise.mda.gov/drupal/sites/default/files/MDA_Arch_Plan_V_2.0_Release2_Full_1.pdf)

<sup>70</sup>*National Concept of Operations for Maritime Domain Awareness*, December 2007, Executive Summary.

<sup>71</sup>*Ibid.*, 14.

<sup>72</sup>*Ibid.*, B-2.

<sup>73</sup> *Ibid.*

<sup>74</sup>United States, "National Maritime Domain Awareness Plan for the National Strategy for Maritime Security," *The White House* December 2013, 11-12.

Intelligence (ODNI), with the assistance and collaboration of the Intelligence Community (IC).<sup>75</sup> The intelligence community, as defined by this Plan, “is a coalition of 17 agencies and organizations within the executive branch,” the names of which are not explicitly stated.<sup>76</sup>

### National Maritime Intelligence-Integration Office (NMIO)

NMIO has assumed the chairmanship of the national MDA Executive Steering Committee (MDA ESC), which coordinates and promotes federal interagency MDA efforts. NMIO has worked to streamline MDA mission sets by combining the National Maritime Domain Awareness Coordination Office (NMCO) with NMIO. Until 2012, each office had a different focus: NMCO was maritime domain awareness, and NMIO was maritime intelligence integration. Now, NMIO, with these two mission sets and the MDA ESC chairmanship, aims to produce comprehensive, all-encompassing MDA approach to improve situational awareness and national maritime security.<sup>77</sup>

NMIO is developing suspicious activity reporting awareness training for other key non-law enforcement constituencies, or “hometown security partners,” that are important to the suspicious activity reporting effort, including fire and emergency medical service personnel, call takers (e.g., 9-1-1 operators), emergency managers, corrections and probation and parole officers, and other related occupations, such as those charged with protecting the nation’s critical infrastructure.<sup>78</sup>

NMIO’s guidance has reinforced the importance of maritime information and intelligence integration and information-sharing across the Global Maritime Community of Interest (GMCOI) which is comprised of the intelligence community; interagency; federal, state, local, tribal and territorial governments; foreign partners; maritime industry, and academia. NMIO has had four priorities of focus:

- 1) GMCOI Development: “Expand on existing partnerships to incorporate non-intelligence community maritime partners and organizations.”
- 2) Improve Information/Intelligence Sharing: “Identify and resolve issues inhibiting information sharing through interagency and international collaboration and special programs.”
- 3) Advocate GMCOI Collection and Analytic Priorities: “Serve as the Intelligence Community’s primary representative on the national stage for maritime issues related to intelligence integration, information sharing, and Domain Awareness.”
- 4) Science and Technology: “Engage academia, think tanks, the private sector and foreign governments to understand the implications of emerging technologies...”<sup>79</sup>

NMIO’s ongoing efforts to improve CANUS connectivity to exchange information on VOIs through the SILO (Single Integrated Lookout List) have been particularly helpful for Canada.

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<sup>75</sup>Ibid., 11-12 and B-3.

<sup>76</sup>Ibid., 17.

<sup>77</sup>NMIO Technical Bulletin (2 April 2012): 2 see [http://nmio.ise.gov/docs/NMIO\\_QuarterlyVOL2.pdf](http://nmio.ise.gov/docs/NMIO_QuarterlyVOL2.pdf)

<sup>78</sup>NMIO, “Technical Bulletin” (2 April 2012): 12 found at [http://nmio.ise.gov/docs/NMIO\\_QuarterlyVOL2.pdf](http://nmio.ise.gov/docs/NMIO_QuarterlyVOL2.pdf)

<sup>79</sup>NMIO Technical Bulletin (2 April 2012) see [http://nmio.ise.gov/docs/NMIO\\_QuarterlyVOL2.pdf](http://nmio.ise.gov/docs/NMIO_QuarterlyVOL2.pdf)

## U.S. Department of Defense (DoD) and its commands

Central to the U.S. structure and process ‘left of bang’ is the U.S. Department of Defense (DoD), which oversees the military/defense side of the equation as the executive department of the U.S. federal government tasked with organizing and coordinating the efforts of a number of agencies and departments that contribute to defense and national security efforts, including, but by no means limited to, the Office of the Secretary of Defense, the Department of the Army, the Department of the Navy, the Department of the Air Force, and the Joint Chiefs of Staff.<sup>80</sup> As one component of DoD’s strategy of all-domain awareness, MDA within the DoD is directed towards building upon “interagency efforts to strengthen and enhance the maritime information sharing environment and to maximize intelligence integration.”<sup>81</sup> Under the DoD, the Secretary of the Navy is the Executive Agent for MDA.<sup>82</sup> As such, the United States Navy (USN) and its components are central actors in the MDA and COP process.<sup>83</sup> The USN contributes to the MDA through information and intelligence gathered by: its forward-deployed naval forces; its analytic capability provided by the Office of Naval Intelligence (ONI) as the principal resident within the National Maritime Intelligence Center (NMIC) at Suitland, Maryland; its global command, control and communication network that links tactical units and operational headquarters with U.S. strategic and interagency maritime stakeholders; invaluable information-sharing relationships with many international and commercial maritime partners; the presence of its Naval Criminal Investigative Service (NCIS) in many overseas ports; its Theater Security Cooperation (TSC) initiatives, including military personnel exchange and training programs, and extensive combined exercise programs focused on maritime security.<sup>84</sup>

All of the U.S. Navy HQs are connected and contribute to, and share their respective MDA/COPs that are generated from command centers. Of particular importance are three U.S. commands with direct links to their roughly Canadian equivalents: USPACOM akin to RJOC P, U.S. Fleet Forces (USFF) Command (formerly U.S. Atlantic Fleet) akin to RJOC A,<sup>85</sup> and STRATCOM which provides the global common operating picture. Of these, USFF is tasked with creating the single consolidated North American COP central to NORAD’s MW mission and passing along ‘filtered’ Global Picture provided by STRATCOM relative to USNORTHCOM’s AOR. Overall, USFF, through its NAVNorth component provides “maritime forces prepared to conduct homeland defense, civil support operations and theater security cooperation activities when directed by USNORTHCOM.”<sup>86</sup> As outlined in Figure 3 below, USFF/NAVNorth shares information relating to maritime security and domain awareness directly with USNORTHCOM, who then sends it to NORAD. Canada’s COP, including ‘blue forces’ tracks as well as some

<sup>80</sup> [http://odam.defense.gov/Portals/43/Documents/Functions/Organizational%20Portfolios/Organizations%20and%20Functions%20Guidebook/DoD\\_Organization\\_March\\_2012.pdf](http://odam.defense.gov/Portals/43/Documents/Functions/Organizational%20Portfolios/Organizations%20and%20Functions%20Guidebook/DoD_Organization_March_2012.pdf)

<sup>81</sup> <http://www.dtic.mil/whs/directives/corres/pdf/200502p.pdf>

<sup>82</sup> <http://www.dtic.mil/whs/directives/corres/pdf/200502p.pdf>

<sup>83</sup> Roughly, the US MDA picture is equivalent to the Canadian Recognized Maritime Picture (RMP).

<sup>84</sup> [http://www.navy.mil/navydata/cno/Navy\\_Maritime\\_Domain\\_Awareness\\_Concept\\_FINAL\\_2007.pdf](http://www.navy.mil/navydata/cno/Navy_Maritime_Domain_Awareness_Concept_FINAL_2007.pdf)

<sup>85</sup> USPACOM is one of the operational US regional commands within the US Unified Command Plan (UCP), and is thus equivalent in stature to USNORTHCOM and the other regional commands. It is not formerly a USN command, whereas USFF is formerly USN. However, it is dominated by the USN as a function of its area of responsibility. NORAD, in terms of its MW mission according to its terms of reference, can directly access USPACOM. It does not have such direct access to US European Command (USEUCOM), for example.

<sup>86</sup> Andrew Feickert, “The Unified Command Plan and Combatant Commands: Background and Issues for Congress,” *Congressional Research Service*, 3 January 2013, 45.



OGD information (permitted by law) is sent to USSF/NAVNorth and integrated into the single consolidated North American COP. While there is a Canadian liaison officer at USSF/NAVNorth, they do not have a role in the creation of the consolidated COP.

Established in 2002 with an area of responsibility encompassing land, air, and sea for North America, including Mexico, the Gulf of Mexico, the Bahamas, Puerto Rico and the U.S. Virgin Islands, and the maritime approaches to 500 nautical miles<sup>87</sup>, USNORTHCOM is tasked with “homeland defense, civil support and security cooperation to defend and secure the United States and its interests.”<sup>88</sup> As a result, USNORTHCOM has a central role in information collection and dissemination, responding to an actual maritime threat, and interagency coordination.

### The Department of Homeland Security (DHS)

The Department of Homeland Security (DHS) is the U.S. federal government department tasked with five missions directed at ensuring a safe and secure U.S. homeland. These missions are: preventing terrorism and enhancing security; securing and managing national borders; enforcing and administering immigration laws; safeguarding and securing cyberspace, and finally, ensuring resilience to disasters.<sup>89</sup> The DHS brings together at least 22 federal agencies<sup>90</sup> in the effort to secure the U.S. homeland, including the USCG, U.S. Customs and Border Protection, U.S. Citizenship and Immigration Services, and the Federal Emergency Management Agency (FEMA).<sup>91</sup> Each of these, of course, possess intelligence assets, which are fed in some manner into the U.S. and thus North American COP, although it is important to recognize that the classified U.S. COP is not necessarily identical to the North American one as a function of multiple agency, departmental and national filters (nor is the Canadian one necessarily identical either).

### U.S. Coast Guard (USCG)

The key actor with regard to MDA/COP within DHS is the U.S. Coast Guard (USCG). The USCG exists as a military organization under Title 10 of the U.S. legal code, in which it operates under DoD, and a multi-dimensional security organization, with constabulary authority under Title 14 within the Department of Homeland Security. The USCG is divided into an Atlantic and Pacific AOR, with eleven security related missions: ports, waterways, and coastal security; drug interdiction; aids to navigation; search and rescue; living marine resources; marine safety defense readiness; migrant interdiction; marine environmental protection; ice operations; and other law enforcement, such as preventing illegal fishing vessels from encroaching in the Economic Exclusive Zone (EEZ).

The USCG is the agency responsible for MDA related to homeland defense and security. According to its Deputy Commandant for Operations, Vice Admiral Peter Neffenger, it is the lead Federal agency for maritime homeland security.”<sup>92</sup>*The U.S. Coast Guard Western Hemisphere*

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<sup>87</sup> NORAD’s area of responsibility does not extend south of the US border with Mexico, although Canada cooperates with the US in a variety of security missions, especially drug interdiction, in the Caribbean and south Pacific.

<sup>88</sup> <http://www.northcom.mil/AboutUSNORTHCOM.aspx>

<sup>89</sup> <http://www.dhs.gov/our-mission>

<sup>90</sup> <http://www.dhs.gov/strengthen-security-enterprise>

<sup>91</sup> <http://www.dhs.gov/xlibrary/assets/dhs-orgchart.pdf>

<sup>92</sup> United States, “Written testimony of U.S. Coast Guard Deputy Commandant for Operations Vice Admiral Peter Neffenger for a House Committee on Transportation and Infrastructure, Subcommittee on Coast Guard and Maritime Transportation hearing titled “A Review of Federal Maritime Domain

*Strategy*, released in September 2014, is built upon the three priorities of combating networks, securing borders, and safe-guarding commerce. In respect to the priority of securing borders the strategy states that the “Coast Guard will lead our national effort in securing maritime borders” of which maritime domain awareness is a large component.<sup>93</sup> The Strategy also describes the USCG’s relationship to USNORTHCOM as a collaborative effort “to increase awareness of threats, build competencies of partner nations by maintaining and expanding international training and exercise programs, and synergize strategies and operations for identifying and interdicting threats through established task forces.”<sup>94</sup> There is a formal USCG presence at USNORTHCOM Headquarters, including in J-2 intelligence.

The USCG directly contributes to MDA by way of its many mandated missions.

Attaining and sustaining an effective understanding and awareness of the maritime domain requires the collection, fusion, analysis, and dissemination of prioritized categories of data, information, and intelligence. These are collected during the conduct of all Coast Guard missions. Awareness inputs come from Field Intelligence Support Teams, Maritime Intelligence Fusion Centers, Nationwide Automatic Identification System and other vessel tracking systems, and public reporting of suspicious incidents through America’s Waterway Watch.<sup>95</sup>

In particular, efforts in ports, waterways, and coastal security (PWCS) involve activities that are directed towards MDA.<sup>96</sup> The USCG also uses Unmanned Aircraft Systems (UAS) to “contribute to MDA by providing persistent, wide area surveillance, detection, classification, and identification functions.”<sup>97</sup> Moreover, the USCG asserts that its activities in safety, rather than security, can contribute to MDA in meaningful ways. According to USCG, “Coast Guard vessel traffic services not only reduce the risk of vessel collisions, but also provide maritime domain awareness.”<sup>98</sup> In the Arctic, the USCG plays a similar role as the CCG to ensure access to Arctic waterways, and its role in this regard represents another significant intelligence resource.

The USCG has a liaison officer at USNORTHCOM and at the combined NORAD-USNORTHCOM Headquarters, which includes USCG personnel in N-NCJ2.

### **The United States Department of Transportation (USDOT)**

The United States Department of Transportation (USDOT) is a federal department tasked with providing the U.S. with an efficient, safe, and accessible transportation system.<sup>99</sup> Established in 1966, the USDOT consists of 13 agencies, including the Federal Aviation Administration (FAA), the Federal Highway Administration (FHA), and the Maritime Administration (MARAD) and its Office of Security:

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Awareness Programs,” *US Department of Homeland Security*, 3 July 2012, <http://www.dhs.gov/news/2012/07/03/written-testimony-us-coast-guard-house-transportation-and-infrastructure>.

<sup>93</sup> United States, “Western Hemisphere Strategy,” *US Coast Guard*, September 2014, 37-38.

<sup>94</sup> *Ibid.*, 49.

<sup>95</sup> <http://www.uscg.mil/hq/cg5/cg532/pwcs.asp>

<sup>96</sup> <http://www.uscg.mil/hq/cg5/cg532/pwcs.asp>

<sup>97</sup> <http://www.uscg.mil/hq/cg7/cg711/uas.asp>

<sup>98</sup> <http://www.uscg.mil/top/missions/MaritimeSafety.asp>

<sup>99</sup> <http://www.dot.gov/mission/about-us>



...serves as the Department of Transportation's Maritime Domain Awareness (MDA) Executive Agent (EA) within the federal interagency. As DOT's MDA EA, we participate in the identification and pursuit of efforts to provide transparency within the marine transportation system, to include vessels, cargoes, infrastructure, and people that facilitate the safe and security flow of commerce.

...Office of Security MDA coordination activities include participation in the National Maritime Intelligence Integration Office (NMIO) Interagency Advisory Group (NIAG), the CANUS (Canada-US) MDA Roundtable, and several other interagency and international MDA bodies involved in enhancing understanding and cooperation on MDA issues.<sup>100</sup>

The Office of Security coordination activities include participation in the National Space Policy (PPD-4) MDA Work Group, the National Maritime Intelligence Center (NMIC), Interagency Advisory Group (NIAG) and the CANUS (Canada-U.S.) MDA Roundtable to enhance understanding and cooperation on MDA issues common to both countries.

### **The United States Department of State (DoS)**

The United States Department of State (DoS) is an executive department of the federal government of the United States responsible for the nation's foreign affairs and policy. The DoS manages the international relations of the United States, engages in diplomacy, and is tasked with fostering strong, lasting partnerships in a variety of issue-areas. With regard to MDA, the DoS is central to establishing and securing the partnerships with states worldwide that are central to an effective MDA. As reaffirmed by Rear Admiral Sam Perez, Deputy Assistant Secretary, speaking on behalf of the DoS: "Maritime Domain Awareness is important. We build it through partnerships."<sup>101</sup>

## **Part 4: NORAD's 'Left of Bang'**

In order to understand NORAD's MW mission and its location within the Canada-U.S. process, it is useful first to outline NORAD's place within the Canada-U.S./North American defence structure. NORAD is unique within this structure as the only binational entity within a relationship dominated by a multitude of bilateral arrangements and memoranda of understanding (MOU). While its area of responsibility is global, largely as a function of its original aerospace warning and control missions, its domain is North American, and in the case of its MW mission, it is charged with ensuring a NORTH AMERICAN maritime understanding of possible threats. It is part of a Canada-U.S. tri-command structure that also includes Canada Joint Operations Command (CJOC) and USNORTHCOM, the latter physically collocated with NORAD ((Figure 1). NORAD is thus an independent command within this structure relative to its three agreed missions – aerospace warning, aerospace (air) control, and maritime warning.

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<sup>100</sup> MARAD, Office of Security "MDA" found at <http://www.marad.dot.gov/environment-and-safety/office-of-security/>

<sup>101</sup> Speaking at the Jakarta International Defense Dialogue in Indonesia on 19 March 2014: <http://www.state.gov/t/pm/rls/rm/2014/223920.htm>

Figure 1 – Tricommand Structure



## NORAD in a nutshell

Binational Agreement - Tricommand Structure

NORAD's goal is all domain maritime awareness for North America - no assets to command

CJOC and 1 CAD (for air assets)

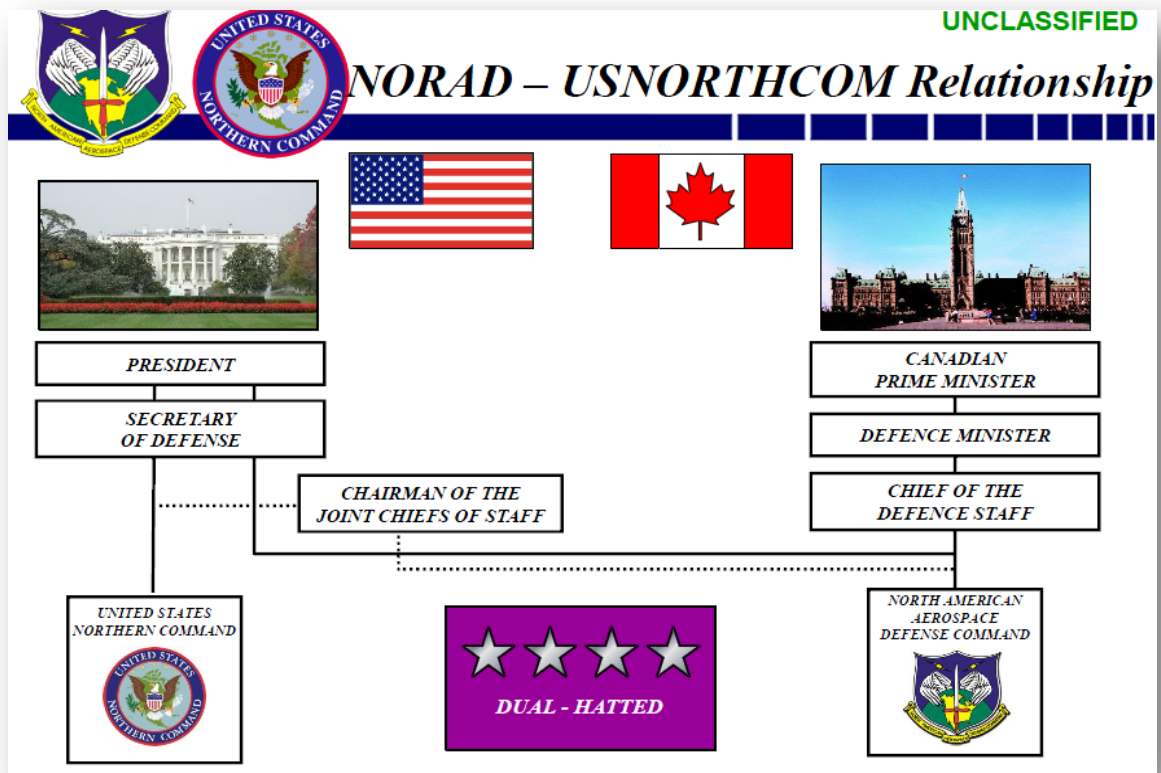
Command and control of Canadian defence assets in Canadian territory (e.g. frigate)

USNORTHCOM

Command and control of U.S. defense assets in U.S. territory (e.g. destroyer)

Importantly, the Commander of NORAD, who is also the commander of USNORTHCOM, has direct access to each nation's National Command Authority (NCA), the Prime Minister, the President, their respective national security teams, and the Canadian Chief of the Defence Staff (CDS) and American Chairman of the Joint Chiefs of Staff (CJCS) (Figure 2). As such, the Commander of NORAD possesses the ability to not only elevate a threat/warning quickly and directly to the NCA, facilitating a rapid response, but also examine problems that emerge within the MDA/MW process. This, in turn, is reinforced by the authority assigned to USNORTHCOM's commander with regard to Homeland Defense and the command's key DSCA mission. This command structure also means that the Commander of NORAD is the only person who is tasked to consider threats to *North America* via the tri-command link and the threats can be of a defence or security nature. What is more, NORAD's area of responsibility reaches far beyond North America, which is especially important for Canada with more limited resources.

Figure 2 – NORAD-USNORTHCOM Relationship



NORAD's focus provides an extra set of eyes and ears on the geographical seam that delineates the areas of responsibility between Canada and the U.S. which is only possible because NORAD is a trusted "brand" and has had 58 years of experience on the aerospace side. This North American focus also means it can champion joint exercises and a binational maritime lexicon. However, because it does not have a control function on the maritime side, it cannot react to its own advisories by deploying assets – this remains within national commands.

CJOC and USNORTHCOM have overall operational command of all Canadian/U.S. air, land, and maritime assets within the context of North America, except for specific air assets committed to the NORAD aerospace missions (Figure 1). These assets in the case of Canada fall to the commander of 1 Canadian Air Division/CANR in Winnipeg, and in the case of the U.S. to the commander of Alaska Region (ANR) and Continental Region (CONR).<sup>102</sup> Besides these assets, NORAD is supported by CJOC and USNORTHCOM, among other commands.<sup>103</sup> This support, in the Canadian case, is facilitated by the triple-hatted CANR Commander as also the Commander of 1CAD and CJFAC. USNORTHCOM, on the other hand, can command air, land or sea assets. In the U.S. case of note, NORAD and USNORTHCOM are further linked through a combined structure as a function of co-location and co-command – the USNORTHCOM-

<sup>102</sup> CONR command is sub-divided into an Eastern and Western commands. As per the NORAD Agreement, the American Regions' Deputy Commander is a Canadian, and the CANR Deputy Commander is a Canadian. This command division does not apply to the two US sub-regional commands.

<sup>103</sup> For example, the space component of the NORAD aerospace warning mission is supported by US Strategic Command assets.

NORAD Joint Command Center (N2C2).<sup>104</sup> Moreover, as a function of the USNORTHCOM mission suite, especially its DSCA, there are over sixty OGDs represented in USNORTHCOM, which gives NORAD the ability to reach out to them, especially relative to the maritime mission. There are no Canadian OGDs in NORAD,<sup>105</sup> nor does NORAD have a formal presence in the CJOC. There is a USNORTHCOM liaison officer assigned to the CJOC, however.

Turning to NORAD's MW mission, the J-32 Division in NORAD (joint maritime warning division) employs a six-step operational process to transition from a possible event to possible advisory or warning:

- 1) Identify the object of interest;
- 2) Designate the threat by categorizing the object/build a case file;
- 3) Assess for completeness, accuracy and relevancy;
- 4) Fuse information/intelligence to determine if there are related vulnerabilities/concerns;
- 5) Analyse the impact of the maritime incident,
- 6) Decide if a warning is warranted.<sup>106</sup>

In undertaking this process, NORAD J-32 stands at the “end” of the North American MDA/RMP/COP ‘food chain’. However, there is no significant time differential being a COP user at MARLANT or at NORAD. NORAD J-32 formally receives the North American Maritime COP from USNORTHCOM *per se*, which in turn receives it from USFFC/NAVNorth, which has combined the U.S. COP and the Canadian COP (after applying filters) into a single North American one. MARLANT and USFF do regular tracking exercises to ensure that their pictures are in sync. NORAD does not formally provide any direct inputs into this COP, as it does not formally possess any relevant intelligence assets, and its terms of reference prohibits any duplication of existing national assets. At the end of ‘food chain’, NORAD J-32 is also not formally an intelligence fusion centre. It is an analytical one. The NORAD-NORTHCOM J22 (cyber and intelligence division) contributes vital information as well. NORAD reviews this maritime intelligence and operational information provided by other organizations as well as the North American COP.

There are many sources of intelligence and information that are eventually combined into the North American COP as illustrated in Figure 3. A myriad of other government departments share information and intelligence, which is facilitated by NMIO on the U.S. side, and the MSOCs on the Canadian side. Importantly, the MSOCs are not Canada's NMIO equivalent. There is no single office or agency in Canada formally tasked with facilitating intelligence/information sharing. Instead, as discussed below, the Canadian process related to sharing is undertaken by the inter-departmental maritime security community. Regardless, a variety of other government agencies and departments (including from five-eyes partners) provide input that can make its way to NORAD via USNORTHCOM. Within this flow, there are also the thousands of informal

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<sup>104</sup> The N2C2 is not fully integrated, such that Canadian NORAD personnel have either a presence in, or full access to the entire USNORTHCOM command. For example, the N2C2J-3 Operations post excludes USNORTHCOM's Ballistic Missile Defence mission.

<sup>105</sup> There is a Canadian Canadian political advisor to the Commander NORAD/USNORTHCOM serving both commands and not just NORAD as well as a CJOC liaison officer.

<sup>106</sup> Captain(N), RCN Quinn, (NORAD Maritime Liaison Officer/NORAD-USNORTHCOM Washington Office) “North American Aerospace Defense Command and US Northern Command: A Maritime Perspective”, powerpoint presentation: slide 40 found at [http://www.maritimearcticsecurity.ca/c/document\\_library/get\\_file?uuid=e3ac7e94-1688-4285-9833-c89efc7f17fe&groupId=10136](http://www.maritimearcticsecurity.ca/c/document_library/get_file?uuid=e3ac7e94-1688-4285-9833-c89efc7f17fe&groupId=10136)

connections, many based upon personal links, which feed valuable analytical information into the final COP.

**Figure 3 – Information Flows**

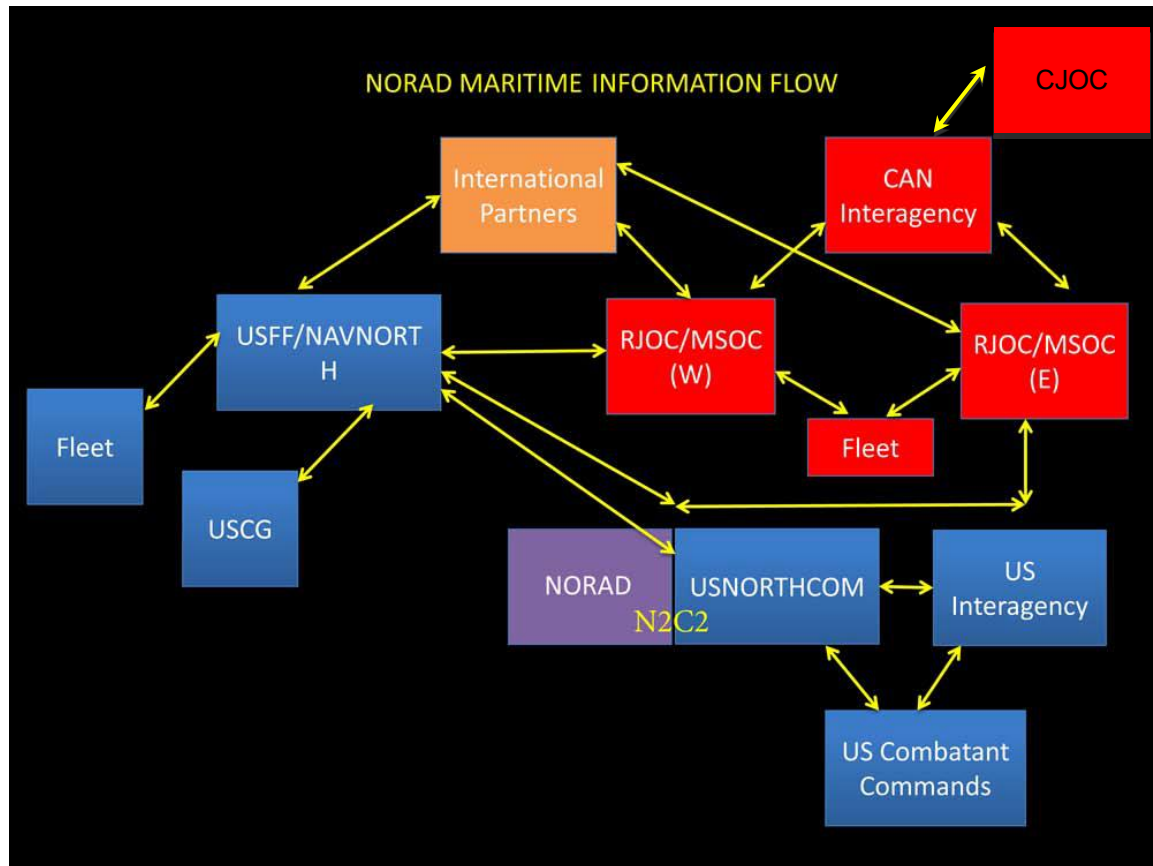


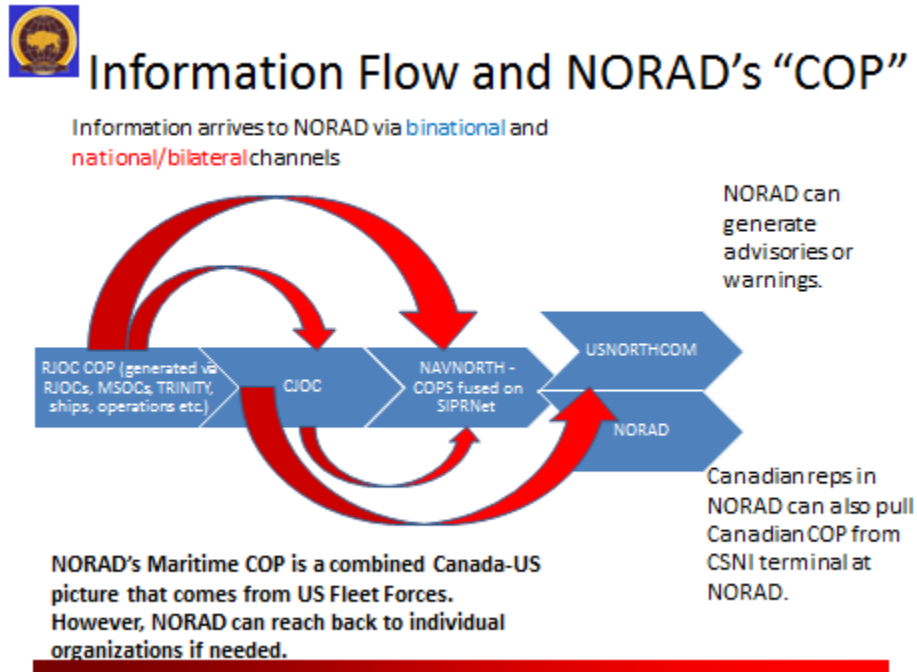
Figure 3 shows a simplified model of the formal links that allow intelligence and information to be gathered to create the binational North American COP that is assembled at USFFC/NAVNorth and fed into USNORTHCOM to NORAD via N2C2. Each arrow seen in Figure 3 has its own filter, that will add/delete information and the arrows can go in both directions. These filters are a function of numerous factors, which relate to organizational interests, mandates, jurisdictions and responsibilities and broader national interests. Even on the defence-side of the equation, NORAD's picture is a filtered one, especially relative to U.S. strategic interests and requirements, which differ significantly from Canada, and may be outside the purview of USNORTHCOM as well.<sup>107</sup>

NORAD J-32, however, does possess the ability to access directly the classified Canadian COP generated through the Canadian process via the CSNI network to the CJOC. In addition, NORAD J-32, as a function of its relationship with USNORTHCOM, as well as evolving *ad hoc* relationships with the other actors involved in the process, does possess the ability to obtain additional intelligence information, which facilitates its MW mission. In other words, the formal

<sup>107</sup> These are extremely difficult to identify as a function of their highly classified nature. One area of such filters is intelligence on strategic ballistic missile submarines, which are close-held within the USN.

structure (Figure 4) indicates that the COP is a one way push to NORAD. Informally, NORAD J-32 also possesses the ability to pull additional information to support its mission. In this sense, NORAD has an element of an intelligence fusion centre. Regardless, NORAD does not formally add/change/alter the picture it receives, but its informal connections facilitates its ability to validate information from the COP. NORAD MW mission runs in parallel with, and in support and backup to national pictures.

**Figure 4 – NORAD’s COP**

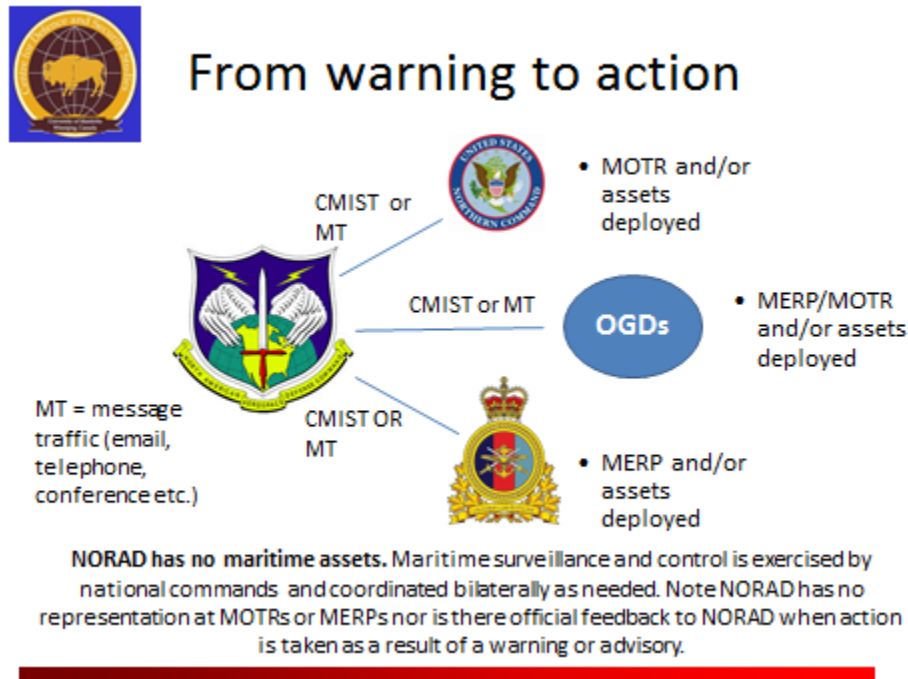


It is on the above basis that NORAD may issue a warning or an advisory of a maritime threat to the maritime response actors – the ‘right of bang’. When such an advisory or warning is issued, and to date there have been few of each, NORAD has several means available. If a range of departments need to be warned, NORAD initiates a CANUS Maritime Information Sharing Teleconference (CMIST): a telephone notification system that allows NORAD to contact relevant agencies on both sides of the border, which can vary depending upon the threat scenario. (Figure 5). The C-MIST can be used, as well, before a maritime determination to gather information. NORAD can also use message traffic - direct calls between command centers, national leadership conferences and email distribution lists. Once the warning is issued, NORAD has no official feedback regarding action taken, although information can be sought from CJOC or USNORTHCOM or other agencies if required. Moreover, the CMIST process is not directly linked into the two national response structures: the Canadian Maritime Emergency Response Protocol (MERP), and the U.S. Maritime Operational Threat Response (MOTR).

As noted, NORAD has no response functions when it comes to maritime threat response. While a NORAD warning or advisory may trigger a response – ‘the right side of bang’ – NORAD cannot

initiate the response process. This can only be done by the other primary national actors. Formally, this is where and when the NORAD mission ends.

**Figure 5 - From Warning to Action**



## Part 5: The ‘Right Side of Bang’

Although NORAD’s role in maritime defence and security ends with the issuance of a warnings/ advisories, it is useful to examine briefly the current primary inter-departmental national/bilateral response structures in order to acquire a full picture of the North American maritime defence and security domain. Two similar structures exist – the Canadian MERP and the U.S. MOTR.

### Canadian Maritime Events Response Protocol (MERP)

The MERP was developed and adopted in 2009 as an Annex to the Federal Emergency Response Plan. The MERP is an independent whole-of-government mechanism intended to ensure collective and coordinated efforts across civil and military agencies. Fundamentally, a MERP is a means of coordinating a set of government responses and importantly, the coordination of communication of a significant maritime event of national interest that could have an impact on the security, social, political or economic stability of Canada. PSC, via the Government Operations Centre is responsible for calling a MERP, which is usually a telephone/video conference or face-to-face meeting if time permits. These, in turn, can be initiated by any other the Canadian maritime actors, but not NORAD.



The creation of the MERP is generally traced back to the *Farley Mowat* incident in 2008.<sup>108</sup> The primary functional logic underlying the MERP, similar to the logic underlying the creation of the MSOCs, is twofold. First, a maritime threat can be multi-faceted in nature as a function of the vessel, its cargo, and the people on board. Thus, for example, the case of the *M/V Sun Sea* entailed human trafficking, and potential terrorists on board, as well as a potential safety and environmental threat due to the decrepit nature of the vessel. In other words, a maritime threat can quickly cut across the specific mandates and jurisdictions of relevant government departments. Second, the capabilities relative to mandates and jurisdictions vary widely among the various departments and agencies. For example, only DND/RCN possesses the capability to intercept vessels at a distance from Canadian shores, and contain significant self-defence capabilities, but does not possess the legal, constabulary<sup>109</sup> authority to detain or board ships.

While a MERP entails a coordinating function, actual response cooperation and coordination resides with the respective departmental actors within regional operational structures. As such, MERPs are more about synchronizing communication to the media and public than they are about coordinating operations. MERPs can also be called preemptively, for example, if a protest group looks set to demonstrate in the Arctic so as to warn relevant agencies and plan for “what-if” scenarios.

### U.S. Maritime Operational Threat Response (MOTR)

The MOTR is the U.S. process to achieve a coordinated national-level response to threats against the U.S. and its interests in the maritime domain.<sup>110</sup> A maritime threat, in this context, is defined as “actionable knowledge of, or acts of terrorism piracy and other criminal, unlawful or hostile acts committed by foreign States and non-state actors, such as international terrorist groups.”<sup>111</sup> Unlike in Canada, where Public Safety must call a MERP, any agency can call a MOTR.<sup>112</sup> The Global MOTR Coordination Centre is a DHS office that helps facilitate interagency coordination. DoD, DHS, Department of Justice and the U.S. Department of State are regular members of MOTRs. MOTRs happen daily and fisheries/criminal activity issues tend to dominate. More than just communication messaging is coordinated by MOTRs. Both the MOTR and the MERP are for internal government interagency coordination only.

Alongside the MERP and MOTR processes, the maritime threat environment also led to the development of more formal relations between Canada and the U.S. ‘right of bang’. In 2009, the Marine Security Program contributed to the development of a Maritime Annex to the Joint Framework for the Movement of People and Goods During and Following Emergencies, which was signed by the United States and Canada and outlined communication and coordination

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<sup>108</sup> *Farley Mowat* is a long-range, ice class ship that was purchased by the Sea Shepherd Conservation Society to monitor high seas for fishing violations. It was seized by the CCG in 2008 after it collided with the Coast Guard vessel, which was between the *Farley Mowat* and a fishing vessel.

<sup>109</sup> Except in circumstances with officer powers for fisheries’ violations, for example. The RCN engages in scheduled fishery patrols (FISH PATs) and stops fishing vessels for inspection on a regular basis.

<sup>110</sup> Government of Canada and Government of the United States, Maritime Event Response Protocol/ Maritime Operational Threat Response Strategic Protocol (June 2012): 2 – 3.

<sup>111</sup> Ibid: p.4.

<sup>112</sup> Even US Combatant commands and USNORTHCOM can participate in a MOTR but cannot call a MOTR – neither can NORAD for that matter.



procedures, during situations that affect shared waterways.<sup>113</sup> In addition, the two governments also signed a Framework Agreement on Maritime Cross-Border Law Enforcement.<sup>114</sup>

In 2014, a Canada-U.S. MDA Partnership Charter was signed, which outlines the vision, objective and structure of MDA cooperation. The main objective is to build and reinforce “whole-of-government” collaboration to improve CANUS maritime information, intelligence, and law enforcement information sharing. Members of Canada’s Interdepartmental Marine Security Working Group (IMSWG), the United States’ Maritime Domain Awareness Executive Steering Committee (MDA ESC) and NORAD are all part of this partnership. As well, the remaining five eyes countries, Australia, New Zealand and the United Kingdom, may be invited by the Partnership Sponsors (Transport Canada representing IMSWG and NMIO representing MDA ESC and NORAD) to participate in, or observe partnership activities.

Central to cooperation is the MERP-MOTR Strategic Integrated Protocol, which facilitates, via Public Safety and the Global MOTR Coordination Center (GMCC), parallel planning, coordination, communication, and alignment between Canadian and U.S. agencies about maritime *security* incidents when required. The intent is to complement rather than supplant existing national-level mechanisms, command authorities or responsibilities.<sup>115</sup> Nothing in the protocol compels information sharing, but it does not “impede regional, tactical, and operational communications and coordination between federal, state, tribal, aboriginal, provincial, territorial, municipal, private sector and non-governmental organizations”.<sup>116</sup> Information exchange may occur in person, via e-mail, telephone or video teleconference. The protocol also contains no obligation or commitment of funds on the part of either party. It has been used twice (in 2013 and in 2014).

## Part 6: Perceptions and Value Added of NORAD’s Maritime Warning Mission

It is often suggested that NORAD makes, at best, marginal contribution to national and bilateral Maritime Domain Awareness (MDA) and Maritime Warning (MW) for various reasons related to access to information/intelligence and to culture. The most common information/intelligence reason for the belief of a marginal contribution is related to the origins of the COP and NORAD’s position along the information chain. The most common culture-related reason is a direct function of NORAD’s traditional aerospace warning and control mandate.

First, the primary MDA intelligence assets are owned by other agencies, notwithstanding NORAD’s internal access to USNORTHCOM intelligence assets. It receives a North American MDA COP that is constructed from national processes, and is filtered, to a greater or lesser degree, by these processes. Second, being at the ‘end’ of the COP chain, NORAD is perceived to

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<sup>113</sup>Transport Canada, “Marine Transportation: Security” <https://www.tc.gc.ca/eng/policy/anre-menu-3019.htm>.

<sup>114</sup>*The Framework Agreement on Integrated Cross-Border Maritime Enforcement Operations Between the Government of Canada and the Government of the United States of America.*  
<http://www.publicsafety.gc.ca/cnt/rsrscs/pblctns/frmrwk-grmnt-ntgrtd-crss-brdr/frmrwk-grmnt-ntgrtd-crss-brdr-eng.pdf>

<sup>115</sup>See Maritime Event Response Protocol/Maritime Operational Threat Response Strategic Protocol (June 2012):2.

<sup>116</sup>*Ibid*: 4.

be the last actor to assess the COP, and thus one would expect that its advisories or warnings are somewhat redundant. One, if not more, of the 'on-the-ground' actors are likely to have already identified a potential threat and put in motion either a national or bilateral response process if necessary. Third, given the constraints dictated in its Terms of Reference, especially not to duplicate existing maritime MDA and MW processes, NORAD has no direct presence within the various national/bilateral structures and processes, and there is no official feedback loop to NORAD after it issues an advisory or warning. NORAD, for these three presumed reasons, seems to be an 'orphan' in the MDA landscape.

Furthermore, NORAD's MW mission is sometimes perceived as marginal because of the culture and storied history of NORAD as an Air Force-centric environment and because USNORTHCOM, co-located with NORAD, has many more maritime assets in terms of personnel, resources and a control function, notwithstanding the presence of naval personnel in NORAD's Maritime J-32 division. There are also some who are concerned that NORAD's MW mission is only the beginning of an unspoken larger agenda to acquire the entire maritime defence and security mission from surveillance to control for NORAD, and thus supplant the roles and responsibilities of the 'real' maritime actors.

These assumptions have meant that NORAD's MW mission value added has been called into question. Beneath the surface, however, NORAD's value-added contribution to the national and bilateral MW processes is significant.

First, related to the information/intelligence assumptions, it is a misnomer that NORAD's Maritime J-32 division is constrained by a filtered MDA COP provided through the formal process and received from U.S. Fleet Forces Command/NAVNORTH. The division has the capacity to reach back through the Canadian CSNI network to obtain the Canadian national MDA COP. And NJ32 also reviews information from USPACOM and USSOUTHCOM through the Secret Internet Protocol Router network (SIPR). By virtue of its position within the N2 structure, the division also has direct links to the N2 J-2 intelligence division for additional information to support its assessment process. In so doing, NORAD MW is able to access USNORTHCOM intelligence assets in place, and these assets include non-defence security actors. It can also reach back to any and all of the maritime MDA/MW actors for additional information and clarification relative to its MW mission. In this sense, it is uniquely placed partially because it is 'outside' the formal processes.

Its primary contribution, however, stems from its place and authority within the national command structures. The Commander of NORAD has direct access to each nation's National Command Authority (NCA), the Prime Minister, the President, their respective national security teams, and the Canadian Chief of the Defence Staff (CDS) and American Chairman of the Joint Chiefs of Staff (CJCS). As such, the Commander of NORAD possesses the ability to not only elevate a threat/warning quickly and directly to the NCA, facilitating a rapid response, but also examine problems that emerge within the MDA/MW process. This, in turn, is reinforced by the authority assigned to USNORTHCOM's commander, dual-hatted as NORAD Commander, with regard to Homeland Defense and the command's key DSCA mission.

The existing national/bilateral processes are embedded within relatively complicated, inter-departmental bureaucratic structures. In the case of Canada, for example, the identification of a threat triggers the inter-agency MERP process that mostly focuses on communication strategies and coordination and is at least one or two steps below the national command authorities. To date, no NORAD warning/advisory event has required the NORAD Commander to bypass the inter-departmental process. This suggests that the maritime domain awareness community is

responding to threats early. Nonetheless, NORAD's direct ability to access NCAs places it in a unique and valuable position to deal with future, uncertain circumstances that could arise.

NORAD also provides a unique North American perspective on MDA and MW. The other maritime MDA/MW actors reside within departmental/agency structures, which are informed by their specific mandates, jurisdictions, responsibilities, and cultures. These, in turn, limit their perspectives to events or vessels of interest (VOI) relevant to their mandates, jurisdictions and responsibilities. As one moves up the process, whether in terms of the construction of the MDA COP, or its assessment, the perspective becomes a national one. There is no formal bilateral structure in place to provide a North American one. This gap *per se* is filled by NORAD, and, in turn, reflects the concern regarding national seams raised initially by the BPG in its interim report. NORAD sees and thinks "North America", and is evolving into more than just a defence organization, with just a defence perspective.

This expanded perspective means that a NORAD assessment of a pre-existing MDA COP is not simply redundant in a negative sense. Certainly, given its place in the process, the likelihood is low that a NORAD advisory or warning would occur independent of the existing national processes. Nonetheless, NORAD's position and perspective provides a measure of assurance that a potential threat is not missed due to bureaucratic and/or national perspectives. In this regard, redundancy has a positive function in having different eyes examine the same picture from different perspectives. The probability, that a threat could be missed as a function of gaps, and seams (be they geographical or mandate-driven) is reduced. In addition, NORAD, as a function of its unique position and perspective, serves as a valuable validating function relative to the other actors. This value is in part related to NORAD's legacy as a 'trusted' brand as a function of its longstanding aerospace defence missions. Finally, NORAD, as a binational, North American entity, fills the gap exposed by 9/11 and reduces intelligence failures because of narrow fields of view. This is of vital importance to all of the maritime defence and security actors. All things being said, the effectiveness of NORAD's warning function is a function of the information inputted to the global and consolidated North American COP. If information is missing (especially vessels of interest in the domain of OGDs), then NORAD's advisory and warning capability may be compromised.

NORAD's value is also evident in an education function relative to the primary maritime security actors. This function, in part, has been driven by the basic need as an 'outsider' to communicate its MW role to the primary actors who initially had little, if any knowledge of NORAD in general, and its MW mission in particular, due to the lack of an integrated, senior level communication strategy following the establishment of the mission in 2006. In so doing, NORAD initiated formal maritime exercises into the process, which have served to breakdown cultural information sharing barriers among the actors as a function of their mandates, jurisdictions and responsibilities. NORAD also played a major role in the creation of a Canadian/U.S. Maritime Stakeholder's conference, which meets annually and includes Canadian and U.S. officials from most of the maritime security actors. In addition, NORAD has played a significant, valuable role, in the process towards establishing a binational, inter-departmental MDA lexicon. NORAD has significantly contributed to breaking down barriers to information sharing that have been plagued by significant terminology differences and the lack of a common threshold for evaluation and decisions, which has depended on the type of event relative to agency mandates.

As a function of these initiatives, NORAD has served as an important catalyst in deepening inter-departmental and bilateral maritime cooperation among the multi-faceted primary agencies. In this sense, it is important to recall that national inter-departmental maritime security cooperation was at a relatively immature state in the immediate years following 9/11. Indeed, the MSOC

structure and process was created in 2004 and NMIO was only created in 2009. Overcoming cultural barriers to inter-departmental cooperation and information sharing, especially bilaterally between different organizations has not been easy. In this sense, and alongside NORAD's education initiatives, which have served to promote greater cooperation and information sharing, the simple creation of NORAD's mission has had a paradoxical catalytic influence; suspicion of NORAD's bigger agenda to take over the entire spectrum of the maritime security mission may have helped drive the primary actors to cooperate and increase the amount and type of information they share. NORAD, since 9/11, loomed in the background as an alternative to the existing processes, such that had the actors failed to improve cooperation and information sharing, senior decision-makers may have opted to give NORAD more than just the maritime warning mission. This option has not disappeared, and remains a valuable but politically sensitive option that has helped improve maritime warning on both sides of the border more generally.

However, the assumptions that lead some to continue to question NORAD's value added are not without some merit and suggest areas for NORAD to continue to monitor and improve. If NORAD is seen as continually being just the last set of eyes on maritime events or as too Air-centric to be of help in the maritime domain, then calls for NORAD to abandon the maritime warning mission may grow louder and Canada and the U.S. might go back to the status quo with no organization tasked with a North American perspective on maritime defence and security.

## **Part 7: Considerations for the Future**

NORAD's MW mission has evolved significantly since 2006. From an 'outsider' to the maritime community, NORAD has now become part of it, notwithstanding the ongoing need for NORAD to continue to communicate its value-added contribution to North American maritime defence and security agencies and continue to consult with maritime partners. NORAD's MW mission is neither going to 'go away', nor is it likely to expand into either the surveillance or control sides of the maritime equation under current circumstances. NORAD provides the only truly North American assessment of the maritime domain, with its direct links to the national command authorities. It is also an integral part of the CANUS defence and security community, such that any decision to eliminate NORAD's MW mission would leave a security gap for both states and would become a symbol of the re-nationalization of continental defence which is not in the interest of Canada or of the United States.

As for expanding NORAD's mission beyond warning, an 'end-to-end' NORAD maritime mission suite, replicating the air side of its longstanding aerospace missions, is neither politically or organizationally feasible, nor strategically necessary under current fiscal, political and strategic circumstances. Politically, neither state has the appetite to expand binational cooperation, with its inevitable domestic, political debates about sovereignty (albeit moreso on the Canadian side).

Organizationally, it would require:

- 1) a major over haul of the current maritime organizational structures and mandates;
- 2) increased bilateral harmonization of procedures that would still not have a North American focus of attention and concern;
- 3) significant investment of resources at a time of constrained budgets.

Strategically, the deepening and broadening of maritime defence and security cooperation nationally, bilaterally and via NORAD this past decade suggests that both states are reasonably satisfied that they can address potential maritime threats, whatever their nature.

However, this does not mean necessarily that the current status quo is entirely sufficient. As suggested in the body of this report, there are numerous areas for consideration and evaluation to strengthen North American maritime domain awareness/warning, and thereby enhance the defence and security of both states. Importantly, such considerations and evaluations must be both politically and organizationally realistic, and above all else, resource conscious. To that end, the following observations should not be understood as formal recommendations per se, but rather as areas for consideration and evaluation by all the actors within the maritime domain awareness community, who naturally have greater knowledge about the day-to-day workings of this issue area, and the likely benefits and costs attached to proposals for change. In this sense, the following proposals should be seen as issues for discussion within the community rather than options for immediate implementation from the outside.

The first proposal for consideration is whether the time has come for a new overarching binational, or bilateral CANUS study on the current state of general maritime domain awareness. NORAD's MW mission has matured significantly over the last ten years, and intelligence/information sharing among the multiple national maritime actors nationally and bilaterally has improved. The North American maritime domain awareness situation has changed significantly since 9/11. Yet, there has not been a re-examination of potential gaps and seams in terms of North American maritime domain awareness coverage since the BPG reports, which are a decade old. Moreover, this study should also examine the underwater domain, including the protection and monitoring of underwater cables and infrastructure, which appears to have been marginalized.

Certainly, the individual actors have continued to evaluate the warning mission according to their mandates, the status of their respective domains, and have undertaken (either formally or informally) lessons learned. NMIO and the IMSWG have helped to improve these evaluation processes tremendously. However, these evaluations and lessons learned are usually communicated in ad hoc terms through the various national and bilateral fora that have emerged over the past decade. Not only might a North American study of maritime domain awareness disclose coverage problems, but it would ensure that the actors formally communicate the scope and nature of their coverage, their perspectives on potential seams and gaps, and provide assurances that each actor does not assume that an existing gap or seam has been filled by another actor, relative to mandates and jurisdictions.

Furthermore, the BPG reports occurred at a time when focus was largely directed towards the Pacific and Atlantic approaches to North America. Today, with ongoing developments in the Arctic, and expectations of increased maritime traffic (for example the 2017 planned yacht race through the NWP<sup>117</sup> and an increased number of cruises), a specific study on the Arctic approaches would seem warranted and also corresponds with the US Chairmanship of the Arctic Council and entry into force of the new mandatory International Polar Code.

Whether an overarching North American study on coverage gaps and seams, or a focused Arctic study, the question that follows is to whom should the study be tasked. NORAD would appear the

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<sup>117</sup> <http://northwestpassage2015.blogspot.ca/2015/02/sailing-arctic-race-star-in-2017-new.html>; <http://cornellsailing.com/sail-the-odyssey/blue-planet-odyssey/> and <http://www.crystalcruises.com/OfferDetail.aspx?OG=220>

logical choice as the only maritime domain/awareness actor with a truly North American mandate and lens. However, we recognize the strain large reviews put on the organization. NORAD Next, for example, was an overload on personnel already stretched. There are, of course, alternatives to a NORAD-centric study. Among the alternatives would be to locate the study beneath the CANUS MDA Partnership Charter, which includes representatives from Canada's IMSWG, the US MDAESC and NMIO and NORAD, or engage think tanks and academics (Center for Naval Analysis, Centre for Strategic Studies, Canadian Defence Associations Institute, Defence Advisory Board and the numerous Centres of Defence and Security Studies across Canada and the US.)

Somewhat less demanding in terms of resources, yet equally important, would be a cost/benefit examination of current national and bilateral structures and processes, relative to NORAD's mission to "develop a comprehensive shared understanding of maritime activities to better identify potential maritime threats to North American security."<sup>118</sup> This is not to suggest that a major overhaul of these structure and processes are required. Rather, in an environment of constrained resources on both sides of the border, such an analysis (which could, of course, be part of the gaps and seams exercise with the caveat that it might fall victim to the same forces that affected the NORAD Next exercise) may prove useful in identifying cost-effective efficiency measures at the bilateral level that can enhance the development of "shared understandings".

Closely related, there is also the question of the various 'support' initiatives that have appeared over the last decade or so as maritime domain awareness/warning deepened and broadened. It is clear that the NORAD initiated annual CANUS Maritime Stakeholder Conferences, as well as other education/joint exercise efforts, have significantly raised NORAD's profile within the maritime defence and security community, and facilitated information sharing. An evaluation of their continued utility, and relevance may prove a useful exercise.

Turning directly to NORAD's place in the community, we have been struck by issues related to the lines of communication between NORAD and the various maritime stakeholders and fora. As noted in the report, alongside NORAD's formal place within the maritime domain awareness/warning process, its mission is greatly facilitated by a range of informal, ad hoc, linkages with the stakeholders. These, in turn, appear a function of the relative small community of personnel engaged at the national and bilateral levels. As several individuals pointed out repeatedly, 'everyone knows everyone' as a function of the same individuals being engaged in the various national and bilateral levels.

While one should not under-estimate the value and importance of this informal network, especially in supporting NORAD's mission, such a network is vulnerable to personalities, and personnel changeover. In addition, such a network potentially creates the situation whereby NORAD maritime warning officials have to 're-educate' new members of the community of its presence and role in maritime warning. This, in turn, is also of function of the restricted access or formal absence of NORAD at key nodes within the maritime domain awareness/warning structures. This informal network structure also appears to create an information flow that is largely one way; from NORAD via an advisory or warning push to the various stakeholders, but little in the formal way of a stakeholder pull from NORAD or the provision of feedback to NORAD relative to actions taken or not, which can serve to enhance and refine NORAD's internal assessment. Finally, the current structure, formal and informal, and NORAD's place

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<sup>118</sup> Agreement between the Government of the United States of America and the Government of Canada on the North American Aerospace Defense Command (28 April 2006) (Otherwise referred to as the "2006 NORAD Agreement"): para 2c. See <http://www.state.gov/documents/organization/69727.pdf>

within the maritime community potentially has a restrictive impact on meeting its vital 'North American' function relative to the maritime domain awareness/warning system, and reinforces misperceptions of NORAD's value added mission and as an 'outsider', notwithstanding the significant changes which have occurred.

To this end, consideration should be given to the following either in terms of a NORAD physical or virtual (teleconference) presence:

- 1) NORAD representation at the USCG, USN, RCN tri-party annual meeting;
- 2) NORAD representation at the MERPS/MOTRS;
- 3) NORAD representation on the IMSWG and in NMIO;
- 4) NORAD representation on the Maritime Security Interagency Policy Committee;
- 5) NORAD representation at the CJOC.

Next, NORAD's role as strictly a defence organization is changing by virtue of its connection to USNORTHCOM and the maritime warning function which may be only an academic consideration now but could point to new liaisons needed at NORAD. This is particularly important for Canada. Whereas USNORTHCOM by virtue of its DSCA mission has direct links to over 60 US national agencies, including the presence of the USCG, Canada has no formal liaison presence from OGDs involved in the maritime domain awareness/warning process, except for a periodic presence of an RCMP liaison officer, who is posted to the Washington Embassy. To this end, Canadian authorities should give consideration to the potential value of assigning liaison officers from the relevant maritime OGDs to NORAD. Whether such an assignment would entail a permanent or periodic presence should be part of the evaluation of the potential utility of OGD liaisons, especially in building more substantive links with NORAD, USNORTHCOM and US OGDs.

In addition for Canada, the Canadian NORAD/Coast Guard/RCN naval liaison in NORAD/USNORTHCOM office in Washington D.C. apparently will come to an end. This is a key position for information exchange relative to the complicated US maritime world, and enhances CANUS maritime defence and security cooperation. This decision should be re-visited.

In conclusion, the deepening and broadening of national and bilateral maritime defence and security cooperation, and NORAD's valuable place within it over the past decade or so should not be taken as a reason for the structure and processes of maritime domain awareness/warning to stand pat. While the considerations outlined above do not represent a call for a fundamental structural overall, they do represent options that could deepen and broaden cooperation in a variety of areas. There are still a range of bureaucratic, national, and bilateral barriers that need to be overcome to facilitate the creation of a defence and security culture that thinks North American. NORAD's role in this area is vital. In this regard, it is important to remember that the repeated successes of the past decade will all come to naught on the occasion of a single failure, and the consequences will be potentially grave for both Canada and the United States, and the future of North American defence and security cooperation writ large.



## Annex 1: NORAD Maritime Warning Mission—Annotated Bibliographies

- 1) United States. Senate Armed Services Committee. *Statement of Admiral William E. Gortney United States Navy Commander United States Northern Command and North American Aerospace Defense Command Before the Senate Armed Services Committee*. 12 March 2015.

This document is the statement of Admiral William E. Gortney, United States Navy Commander United States Northern Command (USNORTHCOM) and North American Aerospace Defense Command (NORAD), made 12 March 2015, before the Senate Armed Services Committee.

Facing the possibility that sequestration will hurt USNORTHCOM and NORAD, Admiral Gortney presents a statement to the Senate Armed Services Committee that focuses upon the broad objectives and operations of USNORTHCOM and NORAD, their recent achievements, and their future challenges. This discussion conducted long five general lines: *Defense of our Homelands, Homeland Partnerships, Regional Partnerships, Defense Support of Civil Authorities, and the Arctic*.

In a broad sense, this document is applicable to the research as it summarizes the operations of USNORTHCOM and NORAD, and their relationship together and with other agencies and nations, all from the perspective of a senior official within those organizations. In and of itself this is valuable to fostering a better understanding of the mechanisms that contributed to NORAD's maritime warning mission. Specifically, however, this document briefly discusses how NORAD's maritime warning mission contributes to "the integrated efforts of the Global Maritime Community of Interests," and the fact that 15 maritime warning advisories were issued "over the past year."

- 2) United States. Senate Armed Services Committee. *Statement of Admiral Jonathan Greenert U.S. Chief of Naval Operations Before the Senate Armed Services Committee*. 28 January 2015.

This document is the statement of Admiral Jonathan Greenert, U.S. Chief of Naval Operations, made 28 January 2015, before the Senate Armed Services Committee.

In his statement before the Senate Armed Services Committee, Admiral Greenert discusses the effects that sequestration has had on the U.S. Navy, and the impact on readiness and modernization should sequestration continue in the 2016 Fiscal Year.

While this document makes no direct reference to NORAD, its maritime warning mission, or maritime domain awareness in general, it remains relevant to the research. The Navy is a central organization involved in maritime domain awareness and NORAD's maritime warning mission. This document provides insight into the recent and potential future problems the Navy has been experiencing in regards to operational readiness, maintenance, and modernization. All of these budgetary difficulties faced by the U.S. Navy impacts the ability of the U.S. and Canada to respond to a maritime threat as alerted by NORAD.

- 3) United States. The White House. *Presidential Policy Directive/PPD-18: Maritime Security*. [Washington]. 14 August 2012.

Presidential Policy Directive/PPD-18 replaces National Security Presidential Directive NSPD-41

and Homeland Security Presidential Directive HSPD-13 on Maritime Security Policy signed 21 December 2004, which called for policy implementation in the form of a National Strategy for Maritime Security.

PPD-18 reaffirms the 2005 *National Strategy for Maritime Security (NSMS)*; calls for the Maritime Security Interagency Policy Committee (MSIPC) to periodically update the NSMS's eight supporting documents; defines the maritime domain, its value, and security vulnerabilities; asserts the roles and responsibilities of the National Maritime Intelligence-Integration Office (NMIO) and the Global MOTR Coordination Center (GMCC); and issues frameworks to deal with the Caribbean Region maritime migration response and piracy off the Horn of Africa.

PPD-18 relates to the research on NORAD and its maritime warning mission as it defines the United States' current conception of the maritime domain and its strategic goals in this security area. Moreover, it emphasizes the United States' desire to utilize international cooperation and information sharing to prevent attacks on the maritime domain, and to protect population centers and critical infrastructure.

- 4) United States . The White House. National Strategy for Maritime Security (NSMS). [Washington] September 2005.

The National Strategy for Maritime Security (NSMS) is supported by 7 implementation plans.

- i) The National Maritime Domain Awareness Plan (NMDAP) – promotes integration and sharing of information, including intelligence
- ii) The Maritime Operational Threat Response Plan – facilities coordination
- iii) The International Outreach and Coordination Strategy – coordinates with foreign governments and international organizations
- iv) The Maritime Infrastructure Recovery Plan – recommends standardized procedures for restoring maritime transportation systems following an incident of national significance
- v) The Maritime Transportation System Security Plan – provides recommendations to improve Maritime Transportation System security
- vi) The Maritime Commerce Security Plan - plan to secure the maritime supply chain
- vii) The Domestic Outreach Plan – seeks non-Federal input to assist with developing and implementing maritime security policies.

- 5) United States. The White House. *National Security Presidential Directive NSPD-41 / Homeland Security Presidential Directive HSPD-13: Maritime Security Policy*. [Washington]. 21 December 2004.

Issued on 21 December 2004, *National Security Presidential Directive NSPD-41 / Homeland Security Presidential Directive HSPD-13* establishes U.S. policy, guidelines, and actions to improve security in the maritime domain.

NSPD-41/HSPD-13 defines the maritime domain and establishes U.S. policy “to enhance the security of and protect U.S. interests in the Maritime Domain.” It establishes the Maritime Security Policy Coordinating Committee (MSPCC) to coordinate the interagency implementation of NSPD-41/HSPD-13, implements the National Strategy for Maritime Security, and establishes the following policy actions: Maritime Domain Awareness (MDA), Global Maritime Intelligence Integration, Domestic Outreach, Coordination of International Efforts and International Outreach,

Maritime Threat Response, Maritime Infrastructure Recovery, Maritime Transportation System Security, and Maritime Commerce Security.

This document is strongly applicable to the research at hand, as it defines U.S. conception of and interests in the maritime domain, its policy in this domain, and its strategy and policy actions to achieve maritime security. All of these aspects have a direct bearing on NORAD, its maritime warning mission, and Canada-U.S. cooperation on this warning function and any response effort to a real maritime threat.

- 6) Canada & the United States. Bi-National Planning Group. *Interim Report on Canada and the United States (CANU.S.) Enhanced Military Cooperation*. 13 October 2004.

Jointly created between Canada and the U.S., the Bi-National Planning Group (BPG) released its *Interim Report on Canada and the United States (CANU.S.) Enhanced Military Cooperation* on 13 October 2004, which explores the “changes in concepts, policies, authorities, organization or technology needed to facilitate improved military cooperation between Canada and the United States (CANU.S.).”

This interim BPG report consists of six chapters, which are centered upon improving CANUS military cooperation. In particular, this document reviews all CANUS plans in defence and security, defines Maritime Domain Awareness (MDA) and Global Domain Awareness (GDA), discusses CANUS cooperation in maritime surveillance, “addresses exercises, training and validation of plans within the context of Canadian Joint Task List and the U.S. Universal Joint Task List,” and finally looks towards the future of CANUS military cooperation.

This BPG report is central to the present research on NORAD and its maritime warning mission as it is viewed as the “smoking gun” leading to NORAD being assigned the maritime warning mission. This is due to its recognition of the gaps and deficiencies in maritime surveillance in both Canada and the United States, the need for a bi-national agency in this department, and the BPG’s explicit recommendation that NORAD be given the task of MDA and GDA as mission areas to account for these gaps.

- 7) Canada. Department of National Defence, Canada. *Defence in the 70s: White Paper on Defence*. [Ottawa].1971.

Released during the tenure of Prime Minister Trudeau, this White Paper sets forth the policy orientation of Canadian government towards defence throughout the 1970s.

This White Paper addresses several key topics in Canadian defence policy. It begins by addressing the basis of Canadian defence policy as a reflection of broad national aims, and emphasizes the goal towards peace and security, and sovereignty and independence. Within that framework it asserts Canadian defence policy in air, maritime, and land surveillance and control in the protection of Canada, continental defence, the North Atlantic Treaty Organization (NATO), international peacekeeping, and the organization and management of the Defence Department and Armed Forces.

This document is germane to the research at hand as it contains one of the earliest official Canadian government positions on maritime warning and defence in constructing a more effective defence of the North American continent. Following a discussion of Canada’s contribution to continental defence vis-à-vis NORAD, this document discusses the predominant maritime threats Canada would be facing into the 1970s, the current material capabilities of the

Canadian military to warn and defend against any maritime threat, and the intent to reorient Canada's maritime forces "with the long term objective of providing a more versatile general purpose capability".

**8) Canada. *MERP: Maritime Event Response Protocol*. [Ottawa].April 2012.**

*MERP: Maritime Event Response Protocol* is a document that provides "strategic guidance for the planning and execution of an integrated and coordinated Government of Canada response" to a maritime event or threat.

In recognition of the array of events or threats that could occur in the maritime domain and jeopardize the security of Canada, this document sets forth a coordinated and integrated, multilevel response structure to respond to such threats in the form of the MERP. This document asserts the prerequisite triggers for engaging the MERP, sets forth the collaborative planning process, and discusses components such as situational awareness, information sharing, option and plan development, response, after action review, and planning initiation/communication.

This document is applicable to the research in that it outlines the collaborative response process that would occur in response to a maritime event or threat at the federal, provincial, and local governmental levels in Canada. NORAD's binational maritime warning function has a direct impact on the Core Group Partners (CGP) that is central to the MERP, and the MERP itself.

**9) *Maritime Event Response Protocol / Maritime Operational Threat Response: Strategic Protocol*. [Ottawa].2012.**

The *Maritime Event Response Protocol (MERP) / Maritime Operational Threat Response (MOTR): Strategic Protocol* outlines the information sharing process between Canada and the United States, effectively coordinating the MERP and MOTR between the nations.

In an effort to strengthen their maritime security responses by improving situational awareness and response decisions, Canada and the United States developed this strategic protocol linking the MERP and MOTR by way of a process of information exchange.

This document is applicable to the research in that it outlines the collaborative response process that would occur in response to a maritime event or threat at the federal, provincial, and local governmental levels in Canada. NORAD's binational maritime warning function has a direct impact on the Core Group Partners (CGP) that is central to the MERP, and the MERP itself.

**10) United States. Department of Defense. *Strategy for Homeland Defense and Defense Support of Civil Authorities*. February 2013.**

The United States Department of Defense (DoD) released the *Strategy for Homeland Defense and Defense Support of Civil Authorities* in February of 2013, which establishes the general policy position and direction of the DoD in regards to homeland defense and defense support of civil authorities from 2012 to 2020.

This Strategy asserts that the first mission of the DoD in regards to homeland defense is defending U.S. territory from direct attack from state and non-state actors, which requires it to counter air and maritime threats at a safe distance and to prevent terrorist attacks on the homeland through support to law enforcement. The second mission is to provide defense support to civil authorities (DSCA) by maintaining defense preparedness for domestic Chemical, Biological,

Radiological, and Nuclear incidents, and developing plans and procedures to ensure DSCA in complex catastrophes. After discussing these missions and objectives, and the core capabilities required to successfully meet these objectives, the *Strategy* summarizes the strategic approaches of the DoD, which are: assuring the DoD has the ability to conduct critical missions; promoting federal-state unity of effort; conducting integrated planning with federal and state authorities; and expanding North American cooperation to strengthen civil support.

This document is applicable to the research in two respects. First it emphasizes the current maritime threats facing the U.S. and North America, and the various capabilities required to successfully deter and defend against any such attack. Second, is the document highlights NORAD and its maritime warning missions as key aspects of the DoD's strategic approach towards homeland defense and DSCA. The document highlights the past, current, and future importance of the Canada-U.S. defense relationship as embodied by NORAD and its aerospace defense and maritime warning functions, as well as the centrality of the Canada-United States (CANUS) Combined Defense Plan and the CANUS Civil Assistance Plan.

**11) United States. United States Coast Guard. *United States Coast Guard Western Hemisphere Strategy*. [Washington, D.C.]. September 2014.**

In September 2014, the United States Coast Guard (USCG) released the document *United States Coast Guard Western Hemisphere Strategy*, outlining the strategy and policy of the USCG in the Western Hemisphere, defined as the geographic region stretching from the International Date Line to the Prime Meridian, and excluding the Polar Regions.

USCG Western Hemisphere strategy sets forth three key strategic priorities in an effort “to ensure the safety, security, and stewardship of the Nation’s waters” by way of prevention and response. These three key strategic priorities are combatting networks, securing borders, and safeguarding commerce.

NORAD and its maritime warning mission are not directly referenced. However, in a discussion of what is required to ensure the long-term success of the USCG in the Western hemisphere, the strategy emphasizes the importance of collecting maritime intelligence, disseminating intelligence within the U.S. and with foreign partners, and using that intelligence to create a shared situational awareness picture and to respond either unilaterally and cooperatively to potential or actual maritime threats. Each of these aspects are closely related to and potentially tightly integrated with NORAD and its maritime warning function.

**12) United States. *United States Counter Piracy and Maritime Security Action Plan*. June 2014.**

Released in June 2014, the *United States Counter Piracy and Maritime Security Action Plan* implements the 2005 *National Strategy on Maritime Security* and the 2007 *Policy for the Repression of Piracy and Other Criminal Acts of Violence at Sea* in an effort to ensure a safe environment for maritime commerce and to protect against maritime crime.

This document presents the policy priorities of the U.S. in its independent and collaborative efforts to prevent maritime crime and to create a safe environment for maritime commerce. Moreover it directs the Maritime Security Interagency Policy Committee to develop and implement maritime frameworks to prevent and to response to maritime crime and threats to maritime commerce, to review, and to review U.S. laws related to these issue areas, and build

international cooperation in these issue areas. Two annexes are affixed to this plan, “Annex A: Framework for Combating Piracy and Enhancing Maritime Security off the Horn of Africa,” and “Annex B: Framework for Combating Piracy and Enhancing Maritime Security in the Gulf of Guinea.”

NORAD and its maritime warning mission are not referred to in this plan. However, in the effort to combat maritime crime and to protect maritime commerce, this plan emphasizes the necessity of interagency and international partnerships, and the importance of intelligence and timely response to the ability of the United States to successfully address these issue-areas.

**13) United States.** *The National Plan to Achieve Maritime Domain Awareness*. October 2005.

Released in October 2005, the *National Plan to Achieve Maritime Domain Awareness* is one of the then 8 supporting documents of the *National Strategy for Maritime Security*, created in accordance with NSPD-41/HSPD-13.

*The National Plan to Achieve Maritime Domain Awareness* establishes the foundation of MDA in the United States, explores the current strategic environment and key organizations involved in MDA, advances the priorities and standards in terms of information collection and sharing, priorities in technology, and how MDA is to be implemented.

Released before NORAD’s 2006 renewal that entrusted it with the maritime warning mission, NORAD and its maritime warning mission are not referred to in this plan. However, this document provides insight into how the U.S. viewed MDA, its policies in regards to MDA, and its approach towards maritime information collection and sharing in shortly before NORAD was given the maritime warning function and for several years after the fact.

**14) United States.** *National Maritime Domain Awareness Plan for the National Strategy for Maritime Security*. December 2013.

Released in December 2013, the *National Maritime Domain Awareness Plan* is a supporting document of the *National Strategy for Maritime Security* and merges the previous *National Plan to Achieve Maritime Domain Awareness* and *Global Maritime Intelligence Integration Plan*, reducing the number of supporting documents from 8 to 7.

*The National Plan for Maritime Domain Awareness* establishes the strategic approach of the United States to understanding the maritime domain and sharing maritime information and intelligence with the Global Maritime Community of Interest (GMCI). In order to do so, this document sets forth the context MDA is subject to and the principles, goals and objectives of MDA. Furthermore, it advances the MDA implementation plan or framework of the U.S., which is organized around organizing stakeholders through governance, mitigating MDA challenges, improving MDA through enterprise-level access to data, and enhancing collaboration through outreach.

NORAD and its maritime warning mission are not referred to in this plan. However, this document is essential to understanding the strategic direction and the actions the U.S. is taking in regards to MDA and in establishing interagency, regional, and international partnerships to construct a clearer and more holistic MDA picture.

**15) House of Commons Standing Committee on National Defence** “Defence of North America” 41st Parliament, 2<sup>nd</sup> Session (28 October 2014). Found at

<http://www.parl.gc.ca/HousePublications/Publication.aspx?DocId=6744516&Language=E&Mode=1>

*Government representatives and academics were asked a series of questions about the defence of North America including the role of NORAD.*

- 16) Andrea Charron and Jim Fergusson, “NORAD in Perpetuity” (March 2014) found at [http://umanitoba.ca/centres/cdss/media/0\\_NORAD\\_in\\_Perpetuity\\_final\\_report\\_March\\_2014.pdf](http://umanitoba.ca/centres/cdss/media/0_NORAD_in_Perpetuity_final_report_March_2014.pdf).

*Provides a “report card” on the status of NORAD since 2006.*

- 17) Joseph T. Jockel and Joel J. Sokolsky, “Renewing NORAD — Now If Not Forever,” *Policy Options*, July-August 2006, pp. 53-58.

In 2006 the new limited role in maritime warning has been added to NORAD – the only real enhancement that there is to NORAD. The limited role is clearly stated in the text of the 2006 renewal, where NORAD has not been given any responsibility for “maritime surveillance and control,” which remain fully outside NORAD and in national hands. The new maritime mission is to gather existing information from intelligence and naval establishments in both countries and then process it. It could well enhance bilateral maritime homeland security efforts by adding an additional degree of analysis, synthesis, and information – sharing. The modest role of the new maritime mission is not surprising, however. The initial goal behind the mission that the U.S. had in mind was a series of regional maritime security arrangements with overseas U.S. allies in order to provide comprehensive Maritime Domain Awareness as well as warning and interception capabilities against a variety of threats ranging from terrorism and piracy to environmental dangers. Therefore the bilateral Canada-U.S. maritime cooperation would just be one component and not even the most important element.

*This article emphasizes the limited role of the NORAD maritime mission.*

- 18) Lieutenant-General Tom Lawson with Captain Michael Sawler, “NORAD in 2012 – Ever Evolving, Forever Relevant,” *Canadian Military Journal*, Vol. 12, No. 3, Summer 2012, pp. 5-17.

Due to the high reliance of Canada and the U.S. on sea lanes of communication for trade and commerce maritime security is critical to both countries. This challenge is a difficult one, considering the vastness of North American maritime areas (222000 kilometres of coastline) and the amount of overlapping government departments and agencies with jurisdictional interests at stake. In 2004, in Canada the Marine Security Operations Centres on each coast were created in order to facilitate cross-departmental efforts in developing Maritime Domain Awareness (MDA). The function of the MSOCs is to enable collaboration between various departments and agencies to collect and process information so that a solid awareness in the maritime area be developed. In 2006 the Maritime Warning Mission was added to NORAD which was to become a sole bi-nationally-mandated organization with responsibility to warn the governments of Canada and the United States in the event of a maritime threat to North America. The main idea behind NORAD’s Maritime Mission is to build a consolidated Common Operational Picture with the use of the already established MDA efforts in both nations.



NORAD could play a very valuable element in the maritime sphere. NORAD with its much earlier developed global perspective could become a strong binational advocate for MDA. “NORADS’s efforts in this arena have been the following: advocating for MDA, and drawing together the products of dozens of MDA intelligence sources into a single COP; developing processes to assess that information and effectively identify threats; and identifying the organizations to be warned in order to affect a response.”<sup>119</sup> The maritime warning mission is information-based only, where the responsibility to defend against maritime threats stays within the national maritime security and defence plans of each nation.

NORAD’s maritime mission provides both warning of potential maritime threat as well as emerging potential threat through the NORAD Maritime Advisory message. With the long existing threats, such as migrant smuggling, and more recently emerged ones, such as rogue-state sponsored vessels with the ability of launching ballistic or cruise missiles and the proliferation of such missiles, the importance of an effective MDA strategy cannot be overstated.

*Here, the authors focus on the functionality and mechanisms of the new NORAD warning maritime mission and highlight the importance and utility of the new mission.*

- 19) Eric Lerhe, “Will We See a Maritime NORAD?” *Journal of Military and Strategic Studies*, Summer 206, Vol. 8, Issue 4, URL: <http://www.jmss.org/jmss/index.php/jmss/article/view/203> (last accessed Jan. 19<sup>th</sup>, 2015).

Even though the 2006 NORAD renewal could call for improving the Canada – U.S. maritime security cooperation, it doesn’t go into detail on how that will be achieved. Moreover, this cooperation may be hampered by the differing visions that Canada and U.S. have on what maritime NORAD is. Canada sees “Maritime NORAD” as a rule-based system where both Canada and the U.S. have equality in access and decision-making, whereas U.S. “interpretation focuses on adapting NORAD air defence tactics to maritime tasks to allow U.S. agencies to detect, track, identify, and, when necessary, interdict shipping well before that shipping arrives in their ports. The approach to achieving this is usually unilateral, and direct Canadian participation is never mentioned.”<sup>120</sup>

There was never a strong enough necessity during the Cold War and especially after the Collapse of the Soviet Union to high bilateral cooperation on the matter. Nevertheless, after 9/11 the situation has changed and mainly for the U.S. U.S. decided to create a stronger maritime defence system which would repeat the existing NORAD flight plan, but at sea. Canadian involvement in the system would benefit the U.S. greatly due to the fact that most European and Asian shipping to the U.S. transits through Canada, as well as sea borne cargo. Nevertheless, Canada was sceptic about the cooperation due to considerations of the sovereignty implications of cooperative maritime surveillance. This skepticism resulted in the long delay of Canada’s response, while in the meantime, U.S. has been developing an “ever-expanding web of detailed relationships that link NOTHCOM, DHS, the U.S. Navy, the U.S. Coastguard and at least eleven other American federal departments and agencies that have maritime responsibility.”<sup>121</sup> Therefore Canada is left

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<sup>119</sup> Tom Lawson, Michael Sawler, “NORAD in 2012 – Ever Evolving, Forever Relevant,” *Canadian Military Journal*, Vol. 12, No. 3, Summer 2012.

<sup>120</sup> Eric Lerhe, “Will We See a Maritime NORAD?” *Journal of Military and Strategic Studies*, Summer 206, Vol. 8, Issue 4, p.1.

<sup>121</sup> Eric Lerhe, “Will We See a Maritime NORAD?” *Journal of Military and Strategic Studies*, Summer 206, Vol. 8, Issue 4, p. 8.

to adapt to the American unilateral plan, which is difficult in terms of both achieving agreement on both national and international levels as well as in terms of technicalities, such as assisting Canada's entrance in the process of "brokering agreement on maritime domain awareness between NORTHCOM, Pacific Command, Joint Forces Command, Southern Command, the U.S. Coast guard and a host of other agencies, which has been ongoing for over three years."<sup>122</sup> The author states that the challenges to overcome will be the bureaucracy of the unprepared Canadian side as well as the problem of U.S. being over prepared with their already updated maritime strategy in place that will now need an overhaul. Another challenge that will be common for both sides will be agreeing on shared rules and shared data exchange system.

*Overall this article makes a point of outlining the different views that Canada and U.S. had when the NORAD maritime mission was introduced in 2006 and the challenges that would arise as a result of these different views.*

**20)** Brian Nicholson, "Mending Fences: Assessing the Canadian Decision to Expand NORAD," *Canadian Naval Review*, Volume 2, Number 4, Winter 2007, pp. 9 – 13,  
URL:<http://www.navalreview.ca/wp-content/uploads/public/vol2num4/vol2num4art3.pdf>

Brian Nicholson poses the question of the actual intent behind the NORAD expansion into the maritime domain. He asks "should this be seen as merely a fence-mending gesture or the result of a sober appraisal of Canada's security interests?"<sup>123</sup> To answer this Brian Nicholson examines 2 criteria: 1) "the utility derived from NORAD expansion; 2) the risk NORAD expansion poses to Canadian sovereignty."<sup>124</sup> Arguing the utility of NORAD expansion this article points out that a "NORAD-like integrated command structure was already attained though the Bi-National Planning Group (BPG) established in December 2002."<sup>125</sup> A high degree of naval communication and cooperation already existed between both Canada and U.S., even prior to 9/11. Also, the "two recently established Marine Security Operations Centers on each coast" provided for an "even closer contact with its American counterparts south of the border."<sup>126</sup> With the BPG facilitated "development of a combined Canada-U.S. maritime awareness product, which provides each nation with a picture of maritime activity around North America,"<sup>127</sup> the concept of maritime NORAD seems to just serve as an extra layer of defense integration, which is not necessarily required.

Even though critics of maritime NORAD argue that with the operational control of Canadian forces given to an American commander Canada's sovereignty is endangered, practice showed the opposite. In both Operation Friction and Operation Apollo the Canadian Navy proved "that it could operate in such a framework without endangering Canadian sovereignty."<sup>128</sup> Nevertheless, to some extent Canada's autonomy becomes questionable. Bilateral cooperation in all domains is traditionally justified by the influence Canadian officials are to have on American defense policy. In reality, "there have been much more instances during NORAD experience in which Canada has been influenced, rather than shaped policy in Washington."<sup>129</sup> Moreover, there are concerns

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<sup>122</sup> Eric Lerhe, "Will We See a Maritime NORAD?" *Journal of Military and Strategic Studies*, Summer 2006, Vol. 8, Issue 4, p.13.

<sup>123</sup> Brian Nicholson, "Mending Fences: Assessing the Canadian Decision to Expand NORAD," *Canadian Naval Review*, Volume 2, Number 4, Winter 2007, p. 9

<sup>124</sup> *Ibid.*

<sup>125</sup> *Ibid.*

<sup>126</sup> *Ibid.*, p.10.

<sup>127</sup> *Ibid.*, p.11.

<sup>128</sup> *Ibid.*, p.12.

<sup>129</sup> *Ibid.*

that Canada's participation in maritime NORAD will lead to its revision of naval policy and force structure and therefore Change Canada's long-term international commitments.

The author concludes that "Canadian defense policy once again does not match Canadian defense interests."<sup>130</sup> Canada's ratification of maritime NORAD is seen by Brian Nicholas as having little to do with the expansion of real Canadian defense interests and more with reassuring U.S. in Canada's commitment to North American defense and the well-being of long-term bilateral defense relationship.

**21)** James Jay Carafano, Ph.D., Jena Baker McNeill, Ray Walser, Ph.D., and Richard Weitz, Ph.D., "Expand NORAD to Improve Security in North America," *Backgrounders*, July 27, 2010, No. 2443.

With the shift of Canada-U.S. defense and security cooperation towards addressing an increased amount of asymmetric threats, there is still room for improving NORAD's fulfillment of its mission. It is suggested to invite Mexico to join NORAD, which is ought to enhance both NORAD's aerial and maritime surveillance capabilities in North America. "U.S. and Canadian security interests do not end at the U.S. – Mexican border."<sup>131</sup> Drug cartels in Mexico pose a great threat to North American security as well as concerns over U.S.-Mexico porous borders rise after 9/11. Canada – U.S. – Mexican cooperation could address these problems. Since the cooperation needs to be highly effective but also must respect the countries' sovereignty, NORAD expansion in both aerial and maritime domains seems to be a suitable solution.

Even though potentially transforming NORAD into a trilateral body could undermine the close U.S. relationship with Canada, the advantages of such cooperation for North American security are said to outweigh the detriments.

*This article does not specifically address maritime NORAD, however it gives a general outlook on the possible further development of NORAD, including the expansion of its maritime mission.*

**20)** Joseph Inge, Erica Findley, "North American Defense and Security after 9/11," *JFQ Forum*, Issue 40, 1<sup>st</sup> Quarter, 2006, pp. 23-28.

This Article shows the great impact 9/11 had on the shift of U.S. and Canada's security and defense policies as well as how this event contributed to seeking greater cooperation in North American maritime surveillance and maritime defense. With the newly emerged threats, such as transnational terrorism and non-state actors, having the capacity that once belonged only to nation-states, Canadian and U.S. leaders determined that it was critical to study North American security and defense in other domains as well. In order to provide for this the Bi-National Planning Group was created, which initiated analysis on enhanced military cooperation. One of the conclusions of this analysis was the need to "enhance awareness of emerging situations

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<sup>130</sup> Ibid., p.9.

<sup>131</sup> James Jay Carafano, Ph.D., Jena Baker McNeill, Ray Walser, Ph.D., and Richard Weitz, Ph.D., "Expand NORAD to Improve Security in North America," *Backgrounders*, July 27, 2010, No. 2443, p. 1

through maritime surveillance, include assessment of maritime threats, incidents and emergencies to advise and/ or warn both governments.”<sup>132</sup>

As a result, Maritime Domain Awareness group was created to tackle many maritime issues. Maritime Domain Awareness sought to act as an enabler to all maritime missions and to be a fully integrated effort for local, state, provincial, and federal governments as well as the private sector. MDA is also a subset of the Global Domain Awareness, which is defined as “the knowledge in all environments of anything that could adversely affect Canadian-U.S. security, safety, economy, or environment.”<sup>133</sup>

*This article highlights the cause of the shift in the U.S. – Canada defense and security policy towards closer and more active cooperation as well as describes the preceding actions taken that contributed to the addition of a maritime mission to NORAD. The mechanisms elaborated by the By-National Planning Group are later to become the basis of the NORAD maritime mission.*

**21)** Adam Lajeunesse, “The Northwest Passage in Canadian Policy,” *International Journal* , Autumn 2008, p. 1037.

The Arctic question has become within the last decade quite a major one. For Canada the dominant concern has been the one of the Northway Passage. It’s revival in Canadian politics poses many questions and arises certain issues. One of such issues is related to the American navy operating submarines in the Arctic. The U.S. navy will most likely continue its operations, if not increase them, and due to several reasons Canada’s position cannot be confrontational. On the contrary, Canada must seek cooperation in this domain.

This article sees such cooperation possible provided that Canada’s sovereignty is not threatened and U.S. navy’s movement in the Arctic is not limited. Adam Lajeunesse proposes extending maritime NORAD to cover Arctic waters to meet these requirements and therefore make the above mentioned cooperation possible. “Operational control of any American nuclear submarines in the region would rest with the U.S. navy, but the details of their missions would be available to NORAD as part of its mandate of monitoring and defending the Arctic waters.”<sup>134</sup> Arctic NORAD would kill two birds with one stone: Ottawa would have access to submarine activity in the Northway Passage without the expense of setting up a sound-surveillance array, and U.S. would have a legal basis for its submarine transits as well as any surface activity that it might need to conduct.

The difficulty in this approach is that the maritime clause of the NORAD agreement specifies that it will be responsible for the surveillance of “maritime areas and inland waterways.” Thus, Canada could continue to interpret the Northwest Passage as inland water while the U.S. could maintain its position to the contrary without difficulty.<sup>135</sup>

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<sup>132</sup> Joseph Inge, Erica Findley, “North American Defense and Security after 9/11,” JFQ Forum, Issue 40, 1st Quarter, 2006, p. 25

<sup>133</sup> Ibid., p. 27

<sup>134</sup> Adam Lajeunesse, “The Northwest Passage in Canadian Policy,” *International Journal*, Autumn 2008, p. 1048

<sup>135</sup> Ibid. p. 1049

*This article is another example of expanding the already existing maritime NORAD in geographical terms. An interesting remark here is that maritime NORAD can be used not only for its primary goal of improving maritime defense and security of North America, but also for decreasing the political tensions within North America itself.*

**22)** “Defence of North America: A Canadian Responsibility,” *Report of the Standing Senate Committee on National Security and Defence*, September 2002, p. 103.

This document is a report of the Standing Senate Committee on National Security and Defence of September 2002. Its aim was to stress the severe underfunding of Canada’s Armed forces leading to a lack of military preparedness.<sup>136</sup> It focused on two main issues: 1) the need for the Government of Canada to act quickly to improve the tracking of ships approaching Canadian territorial waters and moving within those waters; 2) the need for the Government of Canada to act quickly to better prepare Canadian soldiers to act collectively with U.S. or NATO troops in the defence of North America.<sup>137</sup>

Considering the need to improve Canada’s military preparedness and to enhance its defense, the committee concluded that there was a need for satisfactory joint mechanisms between Canada and the U.S.A. in areas of maritime and land defense. This should benefit both Canada’s and North American defense. These two are interdependent and therefore Canada’s defense should be viewed through the lens of cooperation with its strongest ally (economically, politically and in military terms) U.S.A. More cooperation was called for to take place on the planning and coordination front, as well as on the operational front.

The committee also addressed the concern regarding Canada’s sovereignty. The report states that NORAD’s success is an example that Canada’s sovereignty needs not to be compromised within the context of continental cooperation. Moreover, Canada’s passivity in North American defense could lead to Canada being treated by terrorists as a ‘soft underbelly’ of North America, as well as U.S.A. moving unilaterally to defend its security perimeter, which it defines as North America.<sup>138</sup>

The applicability of this document to the research is that it shows the need for an enhanced bilateral cooperation within the maritime domain, identified by government officials. It also advises that the Standing Senate Committee on National Security and Defense is aware of the need to be cautious when balancing between enhanced cooperation and Canada’s sovereignty by being savvy enough to use America without being submerged by America.<sup>139</sup>

**23)** Jockel Joseph T, Sokolsky Joel J, “NORAD Does Not Need Saving,” *International Journal*, 2015, pp. 1-8.

This article addresses the misconception that NORAD needs saving and sates that such claims draw attention away from the real need of Canada to decide whether it needs to be protected by a missile defense system and what Ottawa needs to do about its own air defences that fall under

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<sup>136</sup>“Defence of North America: A Canadian Responsibility,” *Report of the Standing Senate Committee on National Security and Defence*, September 2002, p.7

<sup>137</sup> Ibid.

<sup>138</sup> Ibid., p.24

<sup>139</sup> Ibid., p.26

NORAD.<sup>140</sup> Jockel and Sokolsky show that NORAD has proven to be a remarkably resilient institution and that the future of NORAD as both a strategically valuable and enduring icon of U.S.–Canadian defence relations appears to be more assured than at any time since 9/11.<sup>141</sup>

The article barely touches upon the NORAD maritime mission. It does mention that since NORAD was charged with new responsibility for ‘maritime domain awareness’ after its 2006 renewal, the command has been a passive recipient of maritime information unable to task other military and civilian organizations responsible for maritime homeland defense and security. NORAD officials are considering various ways of addressing this challenge. If overcome, NORAD’s role in maritime domain will strengthen. However, even if NORAD’s new maritime role does not expand, bilateral maritime homeland security relations between the U.S. and Canada will continue through already existing linkages, and NORAD’s continuation will not be affected.

*The applicability of this article is that it stresses the importance of focusing on primary security and defense needs for Canada which should determine the further development of NORAD, be it in aerospace, land or maritime domains. Expanding NORAD’s responsibilities should not be the question of saving NORAD (which it does not need), rather it should be the question of necessity in terms of meeting Canada’s security and defense needs.*

**24)** Lieutenant-General (ret’d) George Macdonald, “Canada –U.S. Defence Cooperation: Where to from Here?” *Canadian Military Journal*, Summer 2015, pp. 5-11. LGen Macdonald was a previous DComd NORAD.

This article discusses the possibilities of further NORAD development, its renewal as well as why and how this should be done. It addresses such issues as the different approaches that Canada has vs. U.S. in terms of defence based on the countries’ perceptions of primary threats. It is written by a military - Lieutenant-General George Macdonald and therefore offers an interesting perspective of the issue.

Macdonald sees NORAD as an extremely successful military alliance, always adjusting to the world situation and generally taken for granted by both Canadian and U.S. citizens.<sup>142</sup> Even though over many years 70-80% polled Canadians responded in support of NORAD, the amorphousness of the ballistic missile defence debate in Canada is the product of the widespread misunderstanding of the real issues. Canada has become a ‘free rider’ in BMD by purportedly giving up its sovereign responsibility to defend itself against ballistic missiles, as well as becoming dependent upon the U.S. to provide that defense on its discretion and terms.<sup>143</sup> Macdonald explains such low interest in BMD by the fact that Canadians views differ significantly from U.S. ones, when it comes to what is perceived as primary threats. While Americans see terrorism as their primary threat, it is only third on the list for Canadians with potential epidemics such as AIDS and EBOLA in first place and global warming in second. The BMD issue has created considerable uncertainty surrounding the NORAD renewal, which can be alleviated by Canada’s positive action.

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<sup>140</sup> Jockel Joseph T, Sokolsky Joel J, “NORAD Does Not Need Saving,” *International Journal*, 2015, p. 1

<sup>141</sup> *Ibid.*, p. 4

<sup>142</sup> Lieutenant-General (ret’d) George Macdonald, “Canada –US Defence Cooperation: Where to from Here?” *Canadian Military Journal*, Summer 2015, p. 5

<sup>143</sup> *Ibid.*, p.6

Further development of NORAD should not simply be the extension of current NORAD agreement. Macdonald explains that this would mean that the changes that have occurred since 9/11 would simply be not acknowledged. This could lead to serious problems for Canada, because the 9/11 case has shown that Canada will suffer much more than the U.S. if anything like that were to happen again. “Increased defence and security cooperation should address these issues.”<sup>144</sup> One way of achieving this could be the introduction of new domains for bilateral cooperation, such as maritime, land force and cyberspace domains. Another option could be using a wider outlook by considering cooperation not only within NORAD, but in other ways, such as direct cooperation with Northern Command.

*The applicability of this article to the research is that it discusses the need for further cooperation between Canada and the U.S. in the maritime domain. It discusses the maritime version of the air control conducted within NORAD as one of the options, but also draws attention to the fact that the concept of maritime NORAD could be unnecessarily restrictive and in order to avoid this “broader partnership should be incorporated into our thinking.”<sup>145</sup>*

**25)** Jonathan Paquin and Patrick James, eds. *Game Changer: The Impact of 9/11 on North American Security*. Vancouver, University of British Columbia Press. 2014.

This book is divided into 2 parts. Part 1 explores the theoretical explanations of post-9/11 Canada/U.S. security relations including a review of the state of continental security and an “autopsy” of the trilateral Canada/U.S./Mexico Security and Prosperity Partnership. Part 2 investigates significant developments in North American security and defence with many chapters dedicated to Mexico’s role.

*Philippe Lagassé’s chapter, “A Common “Bilateral” Vision: North American Defence Cooperation, 2001-12” deserves particular mention because of its focus on NORAD and the origins of the new maritime warning mission.*

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<sup>144</sup> Ibid., p.8

<sup>145</sup> Ibid., p.10



## Annex 2: Acronyms for the U.S. and Canada

### Acronyms for the U.S.

BMP - Best Management Practices  
CIKR - Critical Infrastructure and Key Resources  
CAMTI - computer automated maritime transport information.  
CMIST - CANUS Maritime Information Sharing Teleconference  
CVISR- Consolidated Vessel Information and Security Report.  
COP – Common Operating Picture  
DHS - Department of Homeland Security  
DOC - Department of Commerce  
DOD - Department of Defense  
DOJ - Department of Justice  
DOS - Department of State  
DOT - Department of Transportation  
DNI - Director of National Intelligence  
EA - Executive Agent  
ESC - Executive Steering Committee  
GEOINT - Geospatial Intelligence  
GMCC - Global MOTR Coordination Center  
GMCOI - Global Maritime Community of Interest  
GMII - Global Maritime Intelligence Integration (Plan)  
GVS GEOINT Visualization Services  
IC - U.S. Intelligence Community  
IRTPA - Intelligence Reform and Terrorism Prevention Act  
LRIT - Long Range Identification and Tracking  
MARAD - Maritime Administration  
MDA - Maritime Domain Awareness  
MSSIS - Maritime Safety and Security Information System  
MOTR - Maritime Operational Threat Response (Plan)  
MSIPC - Maritime Security Interagency Policy Committee  
MSWG - Maritime Security Working Group  
NAIS - Nationwide Automatic Identification System  
NAVNORTH - Navy service element to USNORTHCOM.  
NIEM - National Information Exchange Model  
NIPP - National Infrastructure Protection Plan  
NMDAP - National Maritime Domain Awareness Plan  
NMIO - National Maritime Intelligence-Integration Office  
NOAA - National Oceanic and Atmospheric Administration  
NORAD – North American Aerospace Defense Command  
NPAMDA - National Plan to Achieve Maritime Domain Awareness  
NSGSCS - National Strategy for Global Supply Chain Security  
NSISS - National Strategy for Information Sharing and Safeguarding  
NSMS - National Strategy for Maritime Security  
NSS - National Security Staff or National Security Strategy  
ODNI - Office of the Director of National Intelligence

PM-ISE Program Manager-Information Sharing Environment  
PPD Presidential Policy Directive  
PPI Personally Identifiable Information  
SAR Suspicious Activity Reporting  
SILO Single Integrated Lookout list  
SIPRNet Secret Internet Protocol Router Network. Classified U.S. government network.  
The Unclassified version is called the Non-Classified Internet Protocol Router Network (NIPRNet))  
SOLAS Safety of Life at Sea  
S/L/T/T State, Local, Tribal, and Territorial (governments and agencies)  
USCG –U.S. Coast Guard  
USNORTHCOM – US Northern Command  
USPACOM – US Pacific Command  
USSTRATCOM – US Strategic Command

### Acronyms for Canada

CAF - Canadian Armed Forces  
CBSA - Canada Border Services Agency  
CFIA - Canadian Food Inspection Agency  
CJOC – Canadian Joint Operations Command  
CMIST - CANUS Maritime Information Sharing Teleconference  
CSIS - Canadian Security Intelligence Service  
CSA -Canadian Space Agency  
CANMARNET – Canadian Maritime Network  
COP – Common Operating Picture  
CSNI - Consolidated Secret Network Infrastructure  
DFATD - Department of Foreign Affairs, Trade and Development  
DFO/CCG - Department of Fisheries and Oceans / Canadian Coast Guard  
DOJ - Department of Justice  
DND - Department of National Defence  
DRDC - Defence Research and Development Canada  
EC - Environment Canada  
FIN - Finance Canada  
GOC - Government Operations Centre (Public Safety Canada)  
IMWSG - Interdepartmental Marine Security Working Group  
MDA – Maritime Domain Awareness  
MERP - Maritime Event Response Protocol  
MSOC - Marine Security Operations Centre  
NORAD – North American Aerospace Defense Command  
PCO - Privy Council Office (PCO)  
PS -Public Safety Canada (PS)  
RCMP - Royal Canadian Mounted Police (RCMP)  
RJOC - Regional Joint Operations Centre (Canadian – DND)  
TC - Transport Canada (TC)  
TBS - Treasury Board Secretariat (TBS)  
HNCS TRINITY – tasked with maintaining MARLANT communications with vessels and other Canadian Forces and allied units, as well as developing strategic and tactical operational intelligence for unit commanders.