Naval Association of Canada (NAC) Presentation to the House of Commons National Defence Committee - Tuesday 18 October 2016

Prepared by NAC's Director of Naval Affairs, Daniel Sing

Introduction

The Naval Association of Canada (NAC) appreciates this opportunity to discuss its perspective on the State of the Royal Canadian Navy (RCN). It is understood that this issue is being examined against the backdrop of a larger study of (Canada and) the Defence of North America and the role and readiness of the RCN in this regard. Before continuing, however, and as intimated by Vice-Admiral Robertson, the NAC feels it important to affirm that it is very difficult to examine the State of the RCN solely from the perspective of the Defence of North America, as the RCN has an important and complementary role to play beyond the 12 nautical mile territorial seas which surround North America. The NAC also feels it is important to provide you with a quick perspective on the kind of Navy Canada needs. Like our country and its large ocean estate, the underlying issues are vast. These scene-setting remarks will only skim the surface of many considerations. In the interest of time, I will only read the grey-highlighted portions of the information provided in the paper before you.

Why Canada Needs a Navy

The Naval Association of Canada (NAC) believes:

- The principal purpose of the Canadian Armed Forces (CAF) and Royal Canadian Navy (RCN) is to defend Canada and its people against external military aggression; and
- The ultimate goal of the CAF and the RCN is to ensure Canadians live and prosper at home in peace and security.

To satisfy both the principal purpose and the associated ultimate goal, the NAC believes the CAF and the RCN must be combat-capable. If military forces are adequately combat-capable, they normally have little difficulty

performing less demanding tasks in the realms of defence, security and safety.[1]

The Naval Association of Canada believes Canada needs a combat-capable and effective navy, for the following eleven reasons:

(1) Canada's national interests of peace and security and economic prosperity are intertwined;
(2) Canada possesses a vast, resource-rich ocean estate;
(3) Canada is an increasingly global, sea trading nation;
(4) beyond its sovereign waters, Canada values, and is an ardent advocate of the rule of law at sea and of international peace and security;
(5) there are threats to elements of Canada's national interests;
(6) future threats to our national interests are difficult to predict;
(7) Canada must not rely exclusively on others to protect and further its national interests;
(8) Canada's peace and security contributions to the United Nations, to the North Atlantic Treaty Organization and to other defence and security arrangements, especially those with the United States in the defence of North America[2], must be meaningful;
(9) future Canadian governments will likely one day need to send Canadian naval and maritime air forces into harm's way;
(10) without the establishment and continuous maintenance of ready-to-deploy, ready-to-act, capable and effective Canadian naval and maritime air forces which are purposely designed to operate against current and future threats in Canadian, international and far-away waters, the maritime-related elements of Canada's intertwined national interests of peace and security and economic prosperity will be at risk; and
(11) a capable and effective Navy is ultimately all about avoiding, preventing and deterring costly conflict and war.

[1] Such as sovereignty patrols, support to Other Government Departments, peacekeeping, and humanitarian assistance and disaster relief.
[2] As described at http://www.forces.gc.ca/en/news/article.page?doc=the-canada-u-s-defence-relationship/hob7hd8s (accessed 13 October 2016).

How Big and What Kind of a Navy?

The number of naval platforms and crews (which speaks to quantity) and their characteristics (which speaks to quality) are principally a function of five factors:

(1) the threat or risk to the nation's defence, security, and economic prosperity, as affected by the country' s size, geography, climate, ocean estate, trade dependencies, adversaries and allies;
(2) the maritime defence and security outputs desired by the Government[3]. There are two key elements in this regard:
    (a) the non-routine (or surge) output desired or expected in times of tension, crisis or war[4];
    (b) the routine output desired or expected in times of relative peace[5];
(3) the maintenance requirements of the platforms and their equipment;
(4) the personnel tempo (or *Quality of Life*) considerations of the platforms' crews; and
(5) the financial resources available both for acquisition and through-life operations, training and maintenance of maritime defence capabilities.

Future Threat is Difficult to Predict

A nation's defence policy should be based on a clear assessment of the threat of military aggression, at home and abroad, both present and future. The NAC agrees with the North American threat assessment which was captured in the Committee's September 2016 Report on *NORAD and Aerial Readiness*.

The most important threat to assess is the future one; unfortunately, it is also the most difficult to predict. An unclear or debatable assessment of

[3] Sometimes referred to as levels of ambition or levels of effort.
[4] How much of an insurance policy is desired?
[5] To conduct Sovereignty Patrols and provide Support to Other Government Departments (such as fishery patrols, drug interdictions, and illegal migrant interceptions).

future threats does not facilitate difficult military capability and equipment choices.[6]

Optimum military forces, which take years and in some instances decades to design and procure, can only be properly identified if the future threat has been correctly predicted.

Evolving Threats

Unfortunately, there appears to be no end to mankind's motivation and ability to discover, develop and/ or deploy new threat weapons and launch platforms.[7] Threat weapons are increasingly faster, stealthier, longer-range and/or more effective.

The proliferation and improvements in submarines, mines, anti-ship torpedoes, anti-ship missiles[8], and cruise and ballistic missiles, in particular, represent increasing potential to do harm, directly or indirectly, to North America. Such evolving threats should not be discounted[9], and preventive and/or protective defence measures need to be considered and implemented. The Naval Association of Canada believes the Royal

[6]The Government will eventually need to espouse, publicly or privately, its own assessment of future threats, and weave the implications into both defence and foreign policy. Several significant and negative security environment changes have occurred since the publication of Canada's last defence policy document, the Canada First Defence Strategy, in 2008. These need to be taken into account. For example, what are the Government's positions on: Russia's recent extra-territorial activities? Russia's future intentions? China's recent activities in the South China Sea? North Korea's long-range missile and nuclear weapons ambitions? Can we exclude the possibility that the Canadian Armed Forces (CAF) and the Royal Canadian Navy (RCN) might one day be directed to respond to any of these, or other, issues?

[7] This is a cat-and-mouse game that has been around since the beginning of time and is unlikely to disappear in the next century.

[8]It was recently reported that on Sunday 9 October 2016, shore-launched anti-ship missiles, possibly Chinese-made C802s, were fired towards United States Navy (USN) ships in international waters off Yemen's west coast; while no ships were hit, the USN apparently deployed countermeasures consisting of Standard Missiles (SM-2) and Evolved Sea Sparrow Missiles (ESSM), and NULKA off-board jammers. The 9 October incident was preceded by a successful 1 October C-802 missile attack against a United Arab Emirate high-speed catamaran which was transiting the Bab Al Mandeb strait.

[9]Because something has yet to happen does not mean it won't. History shows we have great difficulty in correctly predicting what might happen tomorrow. Was the threat of suicide plane attacks on the World Trade Centre considered the greatest threat to the United States in 2001? Was the threat of interference by Russia in Ukraine considered the greatest threat to NATO in 2015?

Canadian Navy, subject to difficult equipment choices, has an important role to play against all of these evolving threats.

Availability of Naval Ships and Submarines

Unfortunately, an individual ship or submarine is not available for use all of the time, owing principally to maintenance, planned or unplanned.[10]

When ships (and submarines) are available, they essentially do one of three activities (in order of importance):

- they conduct operations in support of defence, security and safety objectives[11];
- they conduct individual and collective training, to get ready to conduct operations; or
- they conduct exercises, once trained and not otherwise conducting operations, in order to maintain crew proficiencies.[12]

The need to conduct maintenance, trials, and individual and collective training adds sea-day requirements and non-availability periods to naval platforms. While these activities ensure equipment and personnel readiness for operations, they add to the overall number of platforms required to generate a given set of naval outputs, as determined by the Government.

Building and Maintaining a Navy

Given the difficulty of correctly predicting the future, acquiring and maintaining balanced, multi-purpose, flexible, combat-capable, military capabilities, on land, on and below the seas, and in the air, seems prudent.

[10] Such periods of unavailability also include allowances for post-maintenance set-to-work trials and crew training.
[11] In times of tension, crisis or war, this activity would override the third activity.
[12] In times of peace, this activity dwarfs the first activity.

Combat-capable naval ships and submarines and maritime aircraft and their sophisticated sensors, weapons and communications equipment are not inexpensive.

The costly nature of fully-integrated, combat capable platforms is a function of several factors, the most significant of which is the platform's desired degree of survivability. Survivability speaks to the military concept of being able to go into or near harm's way and retaining a reasonable chance of operational success and survival; this is all about ensuring young Canadian sailors and aircrew come back from their missions safe and sound.

In the Canadian experience:

- it takes a very long time before a modern, combat-capable and effective ship, submarine or aircraft can be delivered to the CAF;
- naval platforms and equipment:
    - must take into account a varied and challenging operating and threat environment;
    - are produced in small numbers (which do not benefit from economies of scale); and
    - are often required to perform long after their best-before date expires.

A navy cannot in a high threat environment if it is comprised of less capable ships. High-end warfare skill-sets take years to develop and sustain.

A capable Navy cannot be stood up quickly when a need arises. For it to be of use when needed, it must exist before a difficult-to-predict threat (or crisis) manifests itself.

At What Cost?

How much should a country spend on its defence? How much is enough? The only sure way to determine whether or not enough is being spent on defence is when the country's defence is actually put to the test. Spending on defence (and the RCN) is like buying insurance: (1) you have to pay for it

upfront; (2) you don't know when you will ever need to use its full capacity; and (3) you can't readily acquire some or more when a crisis suddenly emerges.

Whole-of-Government Security in the Maritime Domain

Post 9/11, the 2004 National Security Policy directed responsible departments and agencies to improve the way in which national maritime security is coordinated and delivered.

"Transport Canada (TC) was designated as the lead for coordinating marine security policy in Canada, working in collaboration with other federal government departments and agencies with marine security responsibilities."

"[The] Department of National Defence (DND) (particularly the [N]avy) [was recognized as] the lead department for overall coordination of on-water response to a threat or crisis in Canada's Exclusive Economic Zone and along our coast; [and routinely] monitors and controls military activities within Canada's territory, airspace and marine areas."

"Within weeks of 11 September 2001, the Interdepartmental Marine Security Working Group (IMSWG) was established under the leadership of Transport Canada. The working group was created to coordinate federal marine security efforts by identifying requirements and coordinating initiatives across the federal government."

"The International Maritime Organization (IMO), an agency of the United Nations that sets global safety and security standards for the maritime sector, developed the International Ship and Port Facility Security (ISPS) Code in 2002."

"The IMSWG … developed the fundamental concepts under which Canada's marine security framework has developed."

"With these concepts in place, and with the Marine Transportation Security Act as legal authority, Canada … respond[ed] to the ISPS Code requirements. The Marine Transportation Security Regulations (MTSR)

proclaimed under the MTSA came into force 1 July 2004 to meet Canada's international commitment."

"[ISPS Code] Marine security threat Levels One, Two and Three and associated responses are standard across the globe."

Other post-9/11 IMSWG-coordinated, whole-of-government initiatives include the implementation of "Marine Security Operations Centres, National Port Enforcement Teams, Marine Security Enforcement Teams, Marine Security Emergency Response Teams, and the "Shiprider" Project."

With significant input fm the RCN and other concerned departments and agencies, the IMSWG also produced two reference documents, namely *Canada's Maritime Security Strategic Framework* and *Canada's Maritime Domain Awareness Strategy*.

Role of the RCN

The RCN is principally responsible for:

- monitoring Canada's ocean estate and approaches;
- when necessary, asserting and defending Canada's maritime sovereignty; and
- as directed by the Government, contributing to international peace and security.

In a whole-of-government fashion, the RCN, as part of the CAF, collaborates with and provides support to Other Government Departments and Agencies in achieving separate but interconnected mandates and objectives.

While it provides assistance at times in the following areas, the RCN is not responsible for:

- law and regulation enforcement;
- safety of navigation at sea, vessel traffic management, ice breaking and marine Search and Rescue;
- marine transportation safety;
- pollution monitoring and control;

- border monitoring and control; and
- migrant monitoring and control.

These responsibilities belong to Other Government Departments and Agencies.

The CAF and the RCN constitute Canada's force-of-last-resort at sea.

Maritime Domain Awareness

In order to exercise sovereignty, a nation must:

- first, know what is going on in, near and, at times, far away from its sovereign territory, be it on land, on and below the seas, and in the air; this is normally achieved through surveillance; and then
- be able to respond, normally with mobile assets, to safety, security and defence incidents or challenges, potential or actual, in a timely fashion.

Surveillance leads to awareness, which leads to effective whole-of-government decision-making.

In Canada and the United States, there are many departments, agencies and institutions that are involved in providing various aspects of safety, security and defence in the maritime domain.

Surveillance responsibilities and contributions differ in each country, depending on the issue.

In Canada, several departments and agencies are interested in different aspects of maritime surveillance. The nature and degree of surveillance required and generated by each of Canada's federal departments and agencies varies. While Department of National Defence is interested in all elements of Maritime Domain Awareness, it focusses a significant amount of effort and resources into those which support the defence and security of Canada and North America.

Defence-oriented surveillance concepts, methods and technologies can be grouped into three types or categories:

- Strategic-level or large-area surveillance

- Operational-level or medium-area surveillance
- Tactical-level or small-area surveillance

The purpose, nature (including size and mobility), cost and effectiveness of the surveillance technologies vary widely. It is not easy to optimize a single solution for multiple purposes.

At sea, above water surveillance technologies are mostly electro-magnetic in nature whereas below water surveillance technologies are mostly acoustic in nature.

A comprehensive surveillance strategy is a function of several factors, including but not limited to:

- The extent and nature of the territory (land, sea (on and below the surface), air and space) to be covered;
- The meteorological conditions under which surveillance is to be carried out;
- The refresh rate of detections and subsequent tracking; and
- the degree to which a detection is positively identified

Often, multiple types of surveillance methods and technologies are required to generate an actionable surveillance picture.

Beyond the increasing potential threat posed by missiles, amongst other weapons, which can be launched from submerged submarines, the need to conduct undersea surveillance must not be overlooked.

While the RCN is very much interested in strategic and operational level surveillance, on, above and below the oceans, it has focussed most of its efforts and limited resources on developing and maintaining mobile response assets, which are equipped for conducting tactical-level surveillance but are able to draw from and contribute to the surveillance picture generated by operational and strategic level systems.

Maritime Response

Once an actionable surveillance picture has been generated, a mobile response asset or assets can be deployed, if not already deployed, to

further refine the picture and/ or to take whatever action might be warranted.

Response assets for the maritime domain come in many types. Some are military and some are non-military.

Most of the more capable response assets are mobile, some more so than others.

Some such as military fighter and maritime patrol aircraft can travel significant distances rather quickly, but cannot remain on site for a long period of time.

Some such as ships (be they military or non-military) and submarines, while traveling less quickly, can deploy with no or little support to far-away places and remain on site for significant periods of time.

In the case of mobile naval assets, response can take one of two forms. Either the assets are called into action from their home base, as in the case of the RCN's Ready Duty Ship, or they are already at sea, conducting sovereignty patrols, or conducting training or exercises, and are therefore able to respond more quickly.

Sea Control

The CAF and the RCN need to be able to exercise a reasonable degree of sea control on, above and below the ocean surface, wherever they are tasked to operate, be it in the open ocean (i.e. far from land) or in the littorals (i.e. near land), and be it near or far away from Canadian territory.

Because of the costs involved, the CAF and the RCN cannot possess all elements of modern sea power.

Ideally, the CAF and the RCN should be able to exercise sea control without the assistance of allies when operating in Canadian waters.

Pragmatically, the CAF and the RCN draw upon the assistance of allies, as the situation dictates, especially when operating in far-away waters.

Because it is difficult to predict future threats and situations, care must be

taken to acquire and maintain the right number, mix and quality of sea-going platforms and supporting services so as to preserve the ability to ensure adequate sea control.

An Example of the RCN at Work

The submarine threat is particularly challenging.[13] Submarines are stealthy and lethal. It is very challenging and costly to detect and track a submerged submarine. Authorities become anxious when a foreign submarine strays from its home waters and/ or cannot be accounted. When it comes to submarines, intelligence gathering and surveillance starts long before a potential incursion into sovereign waters. Allies collaborate and cooperate in developing and maintaining the best possible undersea surveillance picture. Information is shared between allies, especially between those nations which operate submarines. As the situation dictates, allies, including Canada, deploy mobile surveillance and/ or response assets to assist in developing, refining and maintaining the picture, and if necessary, stand ready to contain the situation. In the case of Canada, this may involve deploying one or more maritime patrol aircraft thousand of miles away from Canada. Subsequently, an appropriately-configured naval task group, of one or more ships and/ or submarines, may be dispatched well before the foreign submarine approaches North American waters.

Greater than the Sum of its Parts

A naval task group "is a group of naval and air units optimally suited to the full range of expected tasks associated with their mission. It is capable of self-sustained operations for a fixed period of time in any accessible maritime region of the world. The number and type of units attached to a deployed Task Group would depend upon the particular mission…"

In a task group, "various ships, submarines and aircraft with unique capabilities act in combination, depending upon the mission, to create a synergistic effect multiplying their individual effectiveness."

[13] Submarines can carry anti-ship torpedoes, mines, anti-ship missiles, cruise and ballistic missiles. While nuclear-tipped ballistic missile submarines saw their zenith during the Cold War, they still exist.

A naval task group is self-sufficient, modular, adaptable and capable of easily integrating with other national or international forces that are likely to be involved in a joint and/ or combined operation.

The naval task group concept works well for Canada in providing adequate sea control both at home and abroad.

Looking forward, a Canadian naval task group should consist of up to five combatants (surface and sub-surface) and one combat support ship, and appropriate maritime aircraft.

Maritime Force Structure

So that future Governments will continue to be able to make the meaningful contributions expected of Canada in times of tension, crisis or war, the Naval Association of Canada believes it is in the national interest to acquire and maintain a modern, balanced, multi-purpose, flexible, combat-capable, maritime fleet consisting of, as a minimum:

- 16 surface combatants;
- 4 sub-surface combatants (i.e. submarines);
- 4 combat support ships (i.e. underway replenishment ships);
- 28 maritime helicopters;
- 16 maritime patrol aircraft;
- 12 coastal patrol ships, with mine countermeasure capabilities; and
- 6 Arctic and offshore patrol ships.

Such a force structure is predicated on numerous factors, including, but not limited to, the nature of the future security environment, which remains difficult to predict.

Operating at Home versus Operating Abroad

Previous Canadian defence policies have generally espoused three recurring objectives: (1) Defend Canada; (2) Defend North America; and (3)

Contribute to international peace and security.

For decades, pundits and observers have debated the degree to which the Canadian Armed Forces should focus it efforts and resources on staying at home in the defence of Canada or going abroad to contribute to international peace and security.

Most previous policies have generally avoided the temptation to weight or prioritize these objectives. This is wise in the NAC's opinion. Not weighting or prioritizing these objectives, which flows from the fact that it is extremely difficult to predict the future, allows for policy flexibility.

In the case of operations in the maritime domain:

- there will be times when surveillance and response to potential threats to sovereignty will need to take place beyond Canadian waters;
- there are few differences in naval doctrine, support, platforms and equipment between operating in Canadian waters and operating abroad; and
- the only differences concern the degree of support to be provided to operations ashore when called upon to operate in the littorals of foreign lands.

Unless a nation is engaged in an existential conflict, its military forces can and should be used in pursuit of peace and security and prosperity interests away from national territory. In the case of the Royal Canadian Navy, these away-from-home interests begin in international waters, just beyond Canada's 12 nautical mile territorial sea.

Conclusion

Oceans and navies have played key roles in the prosperity, security and defence of most, if not all, states, especially coastal ones. Looking forward, the oceans will likely continue to play an important role in Canada's prosperity, security and defence. Canada will continue to need a balanced, multi-purpose, flexible, combat-capable navy. A capable and effective navy

cannot be easily and quickly created when a need arises. For it to be of use when needed, it must exist before difficult situations manifest themselves.