Deterrence and Assurance in Maritime Operations

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ABSTRACT

Over recent years the Russian Federation Navy has been pursuing an ambitious fleet modernisation and renewal programme. New maritime platforms and weapon systems are being deployed as part of a programme designed to counter NATO's defensive capabilities. Traditional practices such as long range deployments of submarines designed to attack carrier task groups are being reinvigorated. New missions are being undertaken, such as the establishment of a permanent operating base in Tartus, Syria which, beyond immediate support to Russian forces deployed in that country, enables operations across the Mediterranean.

The need for NATO to react to developments in the maritime domain has been recognised for some time now. NATO's Allied Maritime Command (MARCOM) delivers some of this maritime posture through the Standing Naval Forces, which consists of two Standing NATO Maritime Groups and two Standing NATO Mine Countermeasure Groups. Nations also contribute, with a permanent presence around the whole of NATO Area of Responsibility through both national activity and international actions such as the European Union Operation SOPHIA. MARCOM is charged with the operational level planning, delivery and assessment of the maritime contribution to NATO's Deterrence and Assurance.

This paper provide a review and comparison of both NATO and potential adversary maritime capabilities and activities, reviews the plans and aspirations for the near future, and attempts to identify gaps and challenges that will impact upon the balance required for NATO to achieve a sustainable level of deterrence and assurance.

1.0   INTRODUCTION

The high seas are part of the Global Commons, the domain in which nations and organisations have relative freedom to operate. As a result it allows nations and organisations to conduct military activity, project power and influence, and interact with others on a daily and continuous basis in a way that is not possible in the land or air domains. Beyond these military operations the high seas are of course the essential line of communication in global trade.

NATO's Maritime Command is unique in the NATO Command Structure in that it has forces under operational command continuously, through the four Standing Naval Groups that operate around NATO's Area of Responsibility (AOR). These forces are in addition to those engaged in current operations, such as SEA GUARDIAN, conducting Maritime Security Operations in the Mediterranean, and the Aegean Activity where NATO is contributing to cutting the lines of migration from Turkey to Greece. Beyond these forces under NATO command there is of course a substantial presence of maritime forces from NATO nations that are operating on national business throughout NATO's AOR.

Maritime forces therefore provide a continuous direct and visible contribution to the deterrence and defence posture of the Alliance, but crucially in order to create a deterrent effect in peacetime or in times of tension, and hence prevent the development of or escalation into a crisis, must demonstrate capability and credibility

that outmatches any potential adversary. This capability must extend to potential situations beyond the confines of the maritime domain itself, with the ability to deny an adversary the capability to conduct operations from or via the maritime domain should it be necessary.

Delivering the presence and posture that creates the maritime contribution to deterrence needs to encompass oceans, seas and littorals, on, above and below the surface, in all directions. Achieving this is a continuous requirement balanced across many interdependent actors, resulting in a complex situation with regards to ensuring that all reasonable eventualities are covered.

2.0 NATO POLICY AND PERSPECTIVE

The application of maritime power in NATO is described in the Alliance Maritime Strategy and delivered through the Alliance Maritime Posture.

The Alliance Maritime Strategy defines four maritime roles for the Alliance to contribute to: deterrence and collective defence, crisis management, cooperative security and maritime security. The Alliance is adapting itself through its deterrence and defence posture, and enhancing cooperative security through its contribution to projecting stability, supported by the Alliance Maritime Strategy (NATO, 2018).

The delivery of the maritime contribution is achieved through the Alliance Maritime Posture, which comprises the presence and activities of Alliance naval forces performing three functions:

- Strategic function: the presence of maritime forces creates strategic and deterrent effects, including for assurance and messaging, and demonstrates NATO's intent to operate without constraint. The flexibility of maritime forces provides nearly instant availability of inherently tailorable force packages yielding a range of attractive, measured and viable political and military options.

- Security function: maritime security has become a mainstay of NATO's maritime activities. Allies have developed sophisticated skills, tactics, techniques and procedures associated with maritime security. The maintenance of a safe and secure maritime environment can be undertaken through a range of maritime security activities and operations. Maritime forces can provide a ready and flexible mechanism and significant versatility for a broad range and scale of missions and tasks.

- Warfighting function: during peacetime and in a crisis, maritime forces are primarily deterrent in nature, but they will also contribute to conventional operations, nuclear deterrence and ballistic missile defence, to advance Alliance security interests. Allies' maritime forces provide deterrence and defence in their contiguous seas, extending the defence of their national territory and can project power at distance. Maritime forces can rapidly transition from low-intensity to high-intensity missions and tasks. Surface, sub-surface and above-surface capabilities and forces work together to establish sea denial or control, support reinforcement, protect assets, project power and support joint forces and joint effects.

Whilst these developments have been ongoing for some years, the actual delivery is focused on a number of areas of improvement in response to the perceived threat. They are described in the Brussels Summit Declaration from July 2018:

> *"We are reinforcing our maritime posture and have taken concrete steps to improve our overall maritime situational awareness. […] Through an enhanced exercise programme, we will reinvigorate our collective maritime warfighting skills in key areas, including anti-submarine warfare, amphibious operations, and protection of sea lines of communications. The posture will also ensure support to reinforcement by and from the sea, including the transatlantic dimension with the North Atlantic being a line of communication for strategic reinforcement* (NATO, 2018)

3.0   SO WHAT IS THE THREAT?

The most widely recognised threat to NATO is of course Russia, which has become more assertive since the illegal annexation of Crimea and the destabilisation of eastern Ukraine. Around the periphery of NATO the security situation in the Middle East and Africa has deteriorated, causing loss of life, fuelling large-scale migration flows and inspiring terrorist attacks. Looking further afield NATO is also confronted with the spread of weapons of mass destruction, cyber-attacks and threats to energy supplies as well as environmental challenges with security implications (NATO, 2017). From a global perspective there are also developments such as the increasing size and deployment of the Chinese Navy, which whilst not often in NATO's immediate area of interest could potentially threaten world order and stability.

Russian maritime capability poses a number of direct and significant challenges which NATO needs to demonstrate the capability to handle in order to achieve a deterrent effect.

The Russian Navy submarine fleet is used to signal presence, power and reach in a way that in general is only observable to other militaries, although there have been a number of instances which have received public attention. In November 2014 the Swedish Armed Forces investigated a violation of their territorial waters, based on observations from the public and the interception of an emergency radio call in Russian. They subsequently confirmed that there was with "no doubt" a foreign submarine within Swedish territory but could not confirm the nationality (CNN, 2014).

In November 2015 the Royal Navy and Royal Air Force, supported by maritime patrol aircraft from France and Canada, were reported to be searching for a Russian submarine that had been spotted off the Scottish coast (BBC, 2015). This was the third time in a year that the UK had called on support from allies.

In December 2016 it was reported than an OSCAR II submarine, with the primary mission of countering aircraft carrier battlegroups, was operating in the Mediterranean at the same time as the French aircraft carrier Charles De Gaulle and the US aircraft carrier USS Eisenhower (The Aviationist, 2016).

As part of testing and demonstrating the capabilities of their submarines, the conflict in Syria has provided an opportunity for Russia to use a wide range of systems in combat, including the firing of KALIBR land attack cruise missiles from Kilo class submarines operating in the Eastern Mediterranean on at least nine occasions between December 2015 and February 2018 (Wikipedia, 2018).

The submarine threat extends into unconventional capabilities, with warnings being voiced in December 2017 by the UK Chief of the Defence Staff that the Russian Navy could disrupt deep sea communication cables that which crisscross the oceans, carrying 95% of communications and over $10 trillion in daily financial transactions. It was stated that this posed a "new risk to our way of life" which would "immediately and potentially catastrophically" hit the economy (BBC, 2017).

"In the Russian naval structure, submarines are the crown jewels for naval combat power," according to Magnus Nordenman, director of the Atlantic Council's trans-Atlantic security initiative in Washington. "The U.S. and NATO haven't focused on anti-submarine operations lately, and they've let that skill deteriorate." (New York Times, 2016).

The Russia navy remains well short of its Soviet-era numbers, and NATO and US subs are still ahead in terms of sophistication and capability, but Moscow has whittled away at the edge Western navies gained after the Cold War. "Russia has closed that gap and is not as far behind as they used to be," Nordenman said. That advancement has been aided by Western focus elsewhere. "This has not been the priority for NATO member navies, in terms of hunting submarines or the North Atlantic or the Baltic," he added. "Beyond just sort of having a hull or having a submarine, you also need to train and exercise and have command and

control and so on to make a real capability, and that's somewhere where NATO has fallen down over the last decade or so." (Business Insider, 2015).

4.0 INVESTMENT IN THE RUSSIAN SUBMARINE FLEET

Recent estimates of the number of operational submarines in the Russian Northern Fleet suggest a number between 22 and 31, including the special mission and auxiliary submarines used for activities such as cable monitoring mentioned earlier. The Baltic fleet has only 2 diesel-electric Kilo class submarines, likely due to the shallow depths and complex operating environment (Hicks, 2016). The Black Sea fleet has a total of six Kilo class submarines assigned, but two of these are operating from Tartus, Syria as part of the Russian Navy Mediterranean Flotilla and have never yet entered the Black Sea (Majumdar, 2018).

Russia has been pursuing an ambitious modernisation plan for its armed forces since 2011, and with the submarine fleet included in this renaissance this increasingly well-trained and well-equipped fleet will add significantly to the concerns of NATO and partner navies who had largely abandoned antisubmarine warfare as a discipline following the end of the Cold War. This has been achieved through retrofitting a number of the most advanced existing hulls with modern weapon systems such as the KALIBR missile, whilst simultaneously developing new small submarines with air-independent propulsion (Lada-class), new ballistic missile submarines (Borei-class) and new attack submarines (Yasen-class) (Interest, 2018). It is estimated that 4 Borei-class SSBNs have been built with 4 more under construction, whilst 2 Yasen class SSNs have been launched with four under construction (Wikipedia, 2018).

5.0 THE RUSSIAN SURFACE FLEET

It was stated by the UK Defence Secretary that the Royal Navy responded to Russian warships approaching UK waters 33 times in 2017, compared to just once in 2010, and he warned that this "goes to show the increasing aggression, increasing assertiveness of Russia" (Evening Standard, 2018).

The Russian Navy surface fleet is being updated in a similar way to the submarine fleet, with existing vessels being refurbished and fitted with new weapon systems, whilst an array of new vessels are also being built. A difference however is that where the submarine fleet is following a traditional pattern of SSBNs for strategic defence, nuclear powered attack submarines for power projection and SSKs for defence and operations in confined waters, the new vessels that the surface fleet is being equipped with are smaller vessels that in themselves are less capable of travelling long distances, but which are armed with the KALIBR cruise missiles which gives them a heavy punch.

The pace of modernisation of the surface fleet has been hindered by the consequences of the events in Crimea, as Russia relied on Ukraine for the supply of parts, particularly engines, for its naval vessels. The Russian intent for its surface fleet may also be different to that of its submarine fleet. Submarines can be used to project power into the Atlantic or the Pacific in a way that creates uncertainty and drives adversaries into the need to expend significant effort on search operations and protection of their own interests in areas where there may not actually be a threat. The major surface combatants, which are modernised Soviet era vessels, are unlikely be used in the same way in a high threat environment where they could quickly be outmatched. Instead they are likely to be used as a visible presence in lower threat situations, such as the deployment of the Admiral Kuznetsov aircraft carrier to the Eastern Mediterranean in 2016/17. Whilst this deployment made much of the strategic communications opportunities, it offered little additional capability to the Russian forces already operating in and around Syria.

The intent for the smaller naval vessels may be more around protection of coastal areas and in preventing access to Russian territory. The distribution of the Russian fleets means that coastal areas can be protected by vessels operating within range of their home port, negating the need for an extensive blue-water capability.

The armament combination of the KALIBR with its land-attack cruise missile and anti-ship cruise missile variants provides a significant offensive capability.

Whilst the Russian New State Armament Programme 2020, which has been running since 2011, gave a significant proportion of resources to naval modernisation. However the lack of access to manufacturers as a consequence of events in Crimea meant that the aims in terms of number of new naval platforms was not achieved. As Russia transitions to the armament programme for 2027 it appears that the proportion of resources allocated to naval systems has reduced. The Admiral Kuznetsov aircraft carrier will have undergone a quick-fix round of modernisation, renovation and overhaul and should be back into active service in 2021. By 2027 the service-life extension of the two Kirov-class battle cruisers and Sovremennyi-class destroyers will have taken place, but it is unlikely that Sovremennyi- and Udaloy-class destroyers will have been replaced with a comparable vessel (Boulègue, 2018).

For smaller surface vessels, the fleet will comprise a mix of modernized legacy ships (such as Krivak-class frigates) and new ships equipped with modern weapons systems. These will include Steregushchiy-class corvettes and developments thereof, whilst six Admiral Grigorovich-class frigates are likely to have entered active service by the early 2020s, and six multi-purpose Admiral Gorshkov-class frigates should also be deployed by 2027 (Boulègue, 2018).

6.0   THE KALIBR MISSILE SYSTEM

On October 7 2015, the Russian Gepard-class frigate Dagestan and three small Buyan-class corvettes sailing in the Caspian Sea unleashed a volley of twenty-six KALIBR cruise missiles from their Vertical Launch Systems. The nine-meter long missiles soared nine hundred miles over Iranian and Iraqi territory before slamming into eleven targets in Syria, hitting a mix of ISIS fighters and Free Syrian Army rebels. Although Pentagon sources allege that four of the missiles fell off course and crashed in Iran it was still a demonstration of a long-range strike capability that few countries have used in action. On December 9, 2015 the improved Kilo-class diesel submarine Rostov-na-Donu launched its own salvo of KALIBR missiles at targets in Syria, marking the combat debut of the modern Russian submarine force. Russian attack planes were already operating over Syria at the time of the first strike in 2015, and could easily have launched air attacks against those targets at much lower cost (Roblin, 2017). These demonstrations of long-range naval strike capabilities allowed Moscow to advertise its technological prowess.

Whilst there are over a dozen variants in the KALIBR missile family, there are two key variants of interest in the maritime domain. These are the anti-ship version, designated the SS-N-27 Sizzler by NATO, with a range estimated between 270 and 410 miles, and designed to skim low over the sea to avoid detection, and the land attack variant with a range of between 1,000 and 1,500 miles. Both types can carry either a 990-pound warhead or a nuclear payload (Roblin, 2017).

The importance of the deployment of this missile system across Russian naval vessels is in the strike capability it provides. The key elements that this missile system provides Russian forces with are the range, with the potential to target locations such as Paris or Brussels with a missile fired from the Black Sea, the proliferation across a wide range of platforms, including submarines, giving a distributed force structure with firepower spread across multiple smaller and potentially expendable platforms, and the provision of a strike capability which is not countered by NATO's Ballistic Missile Defence system. This has the potential to create a complex threat for NATO to counter operating across a huge in the event of conflict.

7.0   THE DEVELOPMENT OF THE CHINESE NAVY

The Chinese People's Liberation Army Navy (PLA(N)) includes three regional fleets, one each for the northern, eastern and southern coasts. In 2018 each fleet possessed between 20 and 30 major surface

warships, at least a dozen submarines, and a handful of amphibious vessels. The northern fleet is also responsible for China's only operational aircraft carrier, the Liaoning, whilst a second carrier, the Shandong, began sea trials in 2018. China's third carrier, currently under construction, will reportedly be significantly larger and nuclear powered. Three Type 075 class amphibious helicopter dock ships, another type of aviation capable vessel, may also be complete by 2025.

In conjunction with the carriers, China launched two Type 055 cruisers in July 2018 with a further six under construction. These cruisers appear to be multipurpose ships with an emphasis on protecting the carrier force from aerial attack.

Older Chinese frigates and corvettes are being replaced with the Type 056 corvette, a sleek, modern multipurpose warship, and whilst construction of this class began in 2012, the fiftieth vessel was launched in 2018, indicating the construction rate that China can achieve (Mizokami, 2018).

In addition to these new build vessels, it is reported that China has approximately 19 nuclear and 58 conventional submarines, and potentially as many as 42 amphibious ships, 34 destroyers, and 50 frigates in active service (Wikipedia, List of active People's Liberation Army Navy ships, 2018).

Of relevance to NATO alongside the size of the Chinese fleet is the expansion of operations far from the Chinese mainland, including in the Mediterranean, likely linked to China's Belt and Road Initiative. In recent years the PLA(N) has increased focus on developing "far seas" naval capabilities. Over the long term, Beijing aspires to be able to sustain some naval missions far from China's shores. China has already conducted initial far seas missions, which have included intelligence collection, humanitarian assistance and disaster relief, non-combatant evacuation operations, and protection of Sea Lines of Communication (SLOC) in the form of counterpiracy escort missions in the Gulf of Aden (ONI, 2015).

As a sign of China's ambition, on 1 August 2017 the PLA(N)'s first overseas military base was opened in Djibouti. Whilst China maintains that the base is for non-military activities, analysis has cast doubt on this claim by showing that the base has become heavily fortified with an underground space of 23,000 square metres (Headley, 2018).

China has also been using the presence of its naval task group in the Gulf of Aden to push a global presence, with the units proceeding to other parts of the world once their counter-piracy mission is complete, before returning to China. These follow-on deployments often begin with transits through the Suez Canal and into the Mediterranean, and have included visits to the Baltic Sea to conduct exercises with the Russian Navy, circumnavigations of Africa, and Atlantic transits to pass through the Panama Canal.

8.0   THE STATUS OF NATO'S MARITIME CAPABILITY

NATO is of course dependent on its member nations for maritime forces, with nations contributing capabilities to operations and missions as and when required and able. However, there has been an era of broadly declining maritime investment across the Alliance, and in line with the general trend of defence budget cuts, the Alliance's principal naval powers have not been spared. The reality is Alliance naval fleets have been shrinking (Moon, 2016).

Whilst individual ships may have been increasing in capability, however capable that ship may be it can only be in one place at one time. Further, a rise in costs and complexity encourages capability gaps. Very few countries, other than the United States, maintain full spectrum capable navies in sufficient numbers to project power in multiple theatres of operation, while others have developed high level capabilities in specific areas (Moon, 2016).

NATO has, however, had the ambition to reverse this decline since the 2014 Wales summit, where it was stated that:

> *"We will also ensure that our Allied forces maintain the adequate readiness and coherence needed to conduct NATO's full range of missions, including deterring aggression against NATO Allies and demonstrating preparedness to defend NATO territory. We will enhance our Standing Naval Forces to support maritime situational awareness and to conduct the full spectrum of conventional maritime operations."* (NATO, 2014)

As a political-military alliance imbued with the combined national power of 29 member states, NATO's naval power serves as an essential enabler of deterrence posture, political will and determination, economic prosperity, and global diplomacy (Moon, 2016).

- **Deterrence** - As NATO seeks to adapt and reaffirm its deterrence posture in the 21st century against an array of security challenges emanating from state and non-state actors, the ability to manoeuvre freely on the high seas and in potentially contested water spaces is fundamental. A strong and present naval force can signal Alliance credibility and strength of purpose in the North Atlantic, Baltic, Black, and Mediterranean Seas without the danger of accidentally crossing the more closely patrolled land and air frontiers of the eastern Allies.

- **Political** – A strong navy signals political credibility and commitment. The ability to send strong naval fleets into the seas around the Alliance for exercises, presence, and manoeuvres demonstrates clearly to competitors the Alliance will not be cowed by new demonstrations of power or attempts to discourage access and that the Allies will defend Alliance territory under the Article 5 commitment.

- **Economic** – As noted above, the benefits of maintaining free passage on the world's seas and through geographic choke points is vital.

- **Diplomatic** – Navies have long been diplomatic ambassadors through port calls to both Allied, partner, and non-partner nations. Perhaps more importantly, however, strong naval capabilities and presence globally are essential to upholding the global norms of behaviour to which the Alliance strongly adheres. This is essential in an era where external powers, such as Russia, seek to upend global security norms through actions such as the annexation of territory belonging to another sovereign state.

NATO is adapting its command structure, with an enhancement to Allied Maritime Command in Northwood, UK, so that it will become the Theatre Maritime Component Commander, capable of commanding Standing and Allocated forces whilst creating and sharing Maritime Situation Awareness across the whole of NATO's Area of Interest. Simultaneously a new Joint Force Command has been created in Norfolk, Virginia, USA, dedicated to ensuring alliance maritime security in the Atlantic, essential for ensuring that Alliance reinforcements can move across the Atlantic.

NATO also announced a new readiness initiative, the four 30s, in which 30 battalions, 30 squadrons and 30 ships will be ready for deployment in 30 days. This is not about generating new forces, but increasing the readiness of existing forces. In response to the requirement for improved burden sharing, NATO is reporting that "All allies are increasing their defence spending".

Whilst the command arrangements and force readiness can be adjusted quite quickly, NATO is still reliant on the nations to provide the forces, and the acquisition of new ships, submarines and other maritime capabilities coming into service is, unsurprisingly, a process which takes time to adapt and adjust to changing requirements. NATO shares its capability requirements with nations through the NATO Defence Planning Process, a framework within which national and Alliance defence planning activities can be harmonised to enable Allies to provide the required forces and capabilities in the most effective way.

Whilst some of the outcomes that maritime forces are expected to create, such as presence, situational awareness and diplomatic engagement can be delivered by the majority of naval platforms, deterrence requires the demonstration of the ability counter the specific capabilities that an adversary can bring to bear. As a consequence, when potential adversaries are fielding capabilities such as enhanced submarines, long range precision strike, and global reach, NATO must be able to visibly demonstrate the ability to counter those challenges. This is where NATO may be facing a capability gap, based on a long term lack of investment which is now running into a capability development and deployment process with timescales measured in years.

9.0   CONCLUSIONS

It is generally acknowledged that the global security landscape is the most complex that it has been for some time, with a principal trigger being events in Crimea in 2014. However the challenges that NATO faces today have been somewhat enhanced by Western Nations taking advantage of the peace dividend of the end of the cold war over two decades ago, whilst potentially adversaries have been using the same period to adapt and enhance their military capabilities, especially in ways that may allow them to exploit perceived gaps or weaknesses in NATO capability. NATO, therefore, has some catching up to do.

The main Russian event of 2018 was President Vladimir Putin's re-election for another six-year term. In view of the nature of the Putin regime, the re-election itself came as no surprise. But it has also demonstrated that there is still no alternative to Putin as the Russian national leader — the president continues to enjoy broad grassroot support and has the unanimous backing of the Russian elites. As a result, Russia's domestic and foreign policy course is set to remain unchanged for many years to come; no one is in any doubt that one way or another, Putin will remain in charge even after his current presidential term runs out in 2024 (Pukhov, 2018).

The Soviet Navy recognised NATO's sea control strategy and surface fleet superiority. It chose to respond not through direct competition but rather through a strategy of sea denial. This strategy has often been embraced by continental, land-centric powers facing maritime powers. At its core, it aims to prevent an adversary from using the sea to its advantage. For the Soviet Union, this meant preventing the United States and NATO from conducting sea-based strikes on Soviet territory. This would be achieved by "killing the archer", or destroying US or NATO vessels before they could carry out their missions. The sea denial goals of the Russian Navy are the same as their Soviet predecessors and include protection of vital military installations and assets (Hicks, 2016).

There is a danger that NATO's potential adversaries have or will soon acquire an advantage in the maritime domain by fielding upgraded and new capabilities in quantities which means that NATO will only be able to achieve an overwhelming advantage that is limited in time and space. With adversary capabilities enhanced by long range strike, and the maritime domain also providing the potential for asymmetric attacks such as the interception or denial of communications by undersea cables, the scale and scope of challenges has expanded since the end of the cold war.

A true deterrent capability would require an advantage that is continuous and pervasive, not only across the NATO area of interest, but potentially across the globe when considering the dependence of not just NATO nations, but the global economy, on sea lines of communication. The direct, military, maritime threat to NATO is apparent.

The challenge has been recognised politically through the Alliance Maritime Strategy and the Alliance Maritime Posture, and adaptations and adjustments are being made. However it appears that there will be a period of catch-up required in the fielding of military capabilities before NATO can reach a state in which member nations can be comfortably assured that the alliance is capable of delivering on its core tasks of

cooperative security as everyday business, and crisis management and collective defence should it be asked to do so.

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