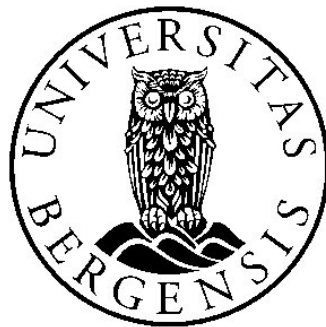


“Strategic Deterrence” in the North

Implications of Russian Maritime Defence Planning and Seapower to Norwegian Maritime Strategy

Ina Holst-Pedersen Kvam



UNIVERSITY OF BERGEN

Faculty of Social Sciences
Department of Comparative Politics

Master Thesis in Comparative Politics

Spring 2018

© Copyright Ina Holst-Pedersen Kvam

The material in this publication is protected by copyright law.

Year: 2018

Title: “Strategic Deterrence” in the North. Implications of Russian Maritime Defence Planning and Seapower to Norwegian Maritime Strategy.

Abstract

Aiming to contribute on research cumulation on Russian military affairs in general and maritime defence planning and seapower in general, the thesis objectives are twofold in exploring Russian maritime defence planning and seapower in the North since 1999 while analysing its strategic and operational implications to Norwegian maritime strategy. The thesis' necessarily interdisciplinary research design thus carries a significant maritime disposition as its analysis is primarily one of maritime thinking and its interfaces with political and military strategy. To that end, the theoretical and analytical framework combines elements of naval theory and Civil-Military Relations (CMR) in order to prescribe proper conceptual tools aiding its study while employing Comparative Historical Analysis (CHA) allowing longitudinal comparison of within-variation and its analytical tool of process-tracing aiding causal inference from probing for continuity and change in Russian maritime defence planning and seapower.

What becomes evident in sum is how the North has figured prominently throughout with an increased prominence prescribed to the Russian Federation Navy (RFN) and maritime strategy in national frameworks. Whereas Russian threat perceptions have fuelled military modernisation and reforms focusing on combat capability, *boesposobnost*, and combat readiness, *boegotovnost*, in line with a shift to Network-Enabled Capability (NEC), strategic thinking and operational art demonstrates significant continuity through the inherently asymmetric, universal and continuous concept of “strategic deterrence”, *strategicheskoe sderzhivanie*, in deterring, containing and coercing in times of peace, crisis and war—to which Norwegian territory lend itself of particular use while exposing Norway and NATO to significant power-wielding in differing ways.

As the principal objective of naval rearmament, what emerges from Russian maritime defence planning and seapower is a naval force whose seapower is restrained to coastal defence and power projection in adjacent seas with an enhanced capacity for sea control and sea denial—the sum of which in the North manifests as an “arc of steel” with significant strategic and operational implications for Norwegian maritime strategy. Critically, Russian defence planner's preoccupation with the strategic deterrence concept and a regime of Anti-Access/Area-Denial (A2/AD) and precision-guided munitions (PGM) to support it has solidified the Royal Norwegian Navy's (RNoN) need for forward-based presence based on an operational approach of area-access employing the fleet's mobility and firepower, while increasing its dependence upon the exploitation of the coastline for survivability and as a force multiplier in order to fulfil the tasks set by the maritime strategy—demanding coastal defence capabilities and sufficient degrees of sea denial and sea control cross-spectrum.

Acknowledgements

In political science, one of the imperative conditions stressed for inferential and analytical validity and reliability—as it is not and never will be a natural science—is the research design’s proper construction and maintenance of an objective distance between the researcher and the research subject. In the following analysis, maintaining such a condition has proven a challenging assignment throughout. Norwegian defence debates of “the Russian challenge”—though neither comprehensive nor overbearing in social and political discourse—are often-times caught between two conflicting poles of alarmism and idealism. Meanwhile more-often-than-not emotionally charged, they are hallmarked in particular by their consistent references to the ultimately human element executing military decisions made at higher, comfortable levels. With history and lessons learned, the collective memories in the Norwegian defence tradition are extensive and pervasive with first and foremost the critical dangers of erroneous defence planning and its ultimate penalties solidified in Norwegian collective memory.

Whereas analyses of military organizations are unavoidably riddled with defence-specific cognitive caveats, the resulting commanding challenge naturally follows of keeping the analysis “on an even keel” throughout as to maintain inferential clout. To that end, I owe endless gratitude to the Royal Norwegian Naval Academy (RNoNA) Staff at the Department of Sea Power and Maritime Operations for granting access to their exhaustive competences, extensive expertise, invaluable insights and the occasional seafaring anecdote. The much-cherished council and advice from Ståle Ulriksen and Commander Tor Ivar Strømmen merit particular recognition for selflessly sharing their time, pervasive knowledge and perspicacity. Finally, allowing specialization in this topic, I am most grateful to the University of Bergen (UiB) in facilitating its analysis.

Though necessarily limited in scope and length, the study herein aims to contribute to research cumulation of maritime defence planning and seapower as per the Russian case while analyzing its implications to Norwegian maritime strategy, approaching its *modus operandi* in the maritime domain as inherently unique and resourceful—demanding in turn both recognition and appropriately prudent counter-measures.

To that effect, the views expressed herein are entirely my own.

Bergen,
May 2018

Table of Contents

Abstract	III
Acknowledgements	IV
Table of Contents	V
Acronyms and Abbreviations	VII
Figures and Tables	XI
<i>1</i>	<i>Introduction</i> 1
1.1	Changing Strategic Dynamics in the North..... 3
1.2	Research Question and Research Design..... 5
<i>2</i>	<i>Theoretical and Analytical Framework</i> 8
2.1	Seapower and Naval Warfare..... 8
2.1.1	Maritime Strategy and the Naval Trinity..... 9
2.1.1.1	Norwegian Maritime Strategy as a Coastal Power..... 12
2.2	Defence Planning Dimensions and Caveats..... 14
2.2.1	The Russian Long-Term Defence Planning Process..... 17
2.2.2	Establishing Agency: The Russian Civil-Military Interface..... 19
2.2.2.1	The Russian Chain of Command..... 22
2.2.2.2	The “Agent-Structure Problem” in Political Analysis..... 25
<i>3</i>	<i>Methodical Framework</i> 28
3.1	Comparative Historical Analysis..... 28
3.1.1	Case Selection and the “Small- <i>N</i> Problematique”..... 30
3.1.2	Process Tracing, Causal Mechanisms and Construct Validity..... 32
3.1.2.1	Operationalisations: Measuring Military Continuity and Change..... 34
3.1.2.2	Reliability and Validity: Data Collection and Triangulation..... 36
<i>4</i>	<i>The Political- and Military-Doctrinal Framework</i> 41
4.1	Threat Perceptions and the North..... 41
4.2	Military Reforms and the RFN..... 43
4.2.1.1	The New Look Reforms..... 45
4.3	Strategic Thinking and Operational Art..... 47
4.3.1	The Nuclear and Non-Nuclear Domain..... 49
4.3.1.1	Relevance of Norwegian Territory in the Nuclear and Non-Nuclear Domain..... 52
4.3.2	The Non-Military Component and the Relevance of the Maritime Domain..... 54
4.4	Significance to Norwegian Maritime Strategy..... 56
4.4.1	Forward Maritime Strategy and the Coast as a Force Multiplier..... 59
4.5	Chapter Summary..... 62
<i>5</i>	<i>Russian Maritime Capabilities in the North</i> 65
5.1	State Armaments Programmes and Defence Spending..... 65
5.1.1	The State Armament Programmes up to 2015 and 2020..... 66
5.1.1.1	The OPK and Shipbuilding Challenges..... 68
5.2	Procurement and Inventory..... 70
5.2.1	Strategic and Tactical Submarines..... 70
5.2.2	Principal Surface and Coastal Combatants..... 74
5.2.3	Coastal Defence, the “Dual Fleet” and Cruise-Missiles as “Game-Changers”..... 77
5.3	Russian Network-Enabled Capability and C ⁴ ISTAR..... 79
5.3.1	“Bubble Trouble” in the North..... 80
5.3.1.1	Electronic Warfare (EW)..... 81
5.3.1.2	Streamlining C ² and Achieving Strategic Mobility..... 82
5.4	Significance to Norwegian Maritime Strategy..... 84
5.4.1	Manoeuvre and Attrition..... 88
5.5	Chapter Summary..... 91

6	<i>Conclusions</i>	94
6.1	Russian Maritime Defence Planning and Seapower.....	94
6.2	Relevance to Norwegian Maritime Strategy.....	96
6.2.1	Implications for Further Research.....	99
Appendix	101	
Bibliography	115	

Acronyms and Abbreviations

A2/AD	Anti-Access/Area-Denial
AAW	Anti-Air Warfare
ACLANT	Allied Command Atlantic (NATO)
AD	Air Defence
ALOC	Air Lines of Communication
AMS	Alliance Maritime Strategy (NATO)
AO	Area of Operations
AShM	Anti-Ship Missile
ASW	Anti-Submarine Warfare
ASuW	Anti-Surface Warfare
AZRF	The Arctic Zone of the Russian Federation
BMD	Ballistic Missile Defense
C ²	Command and Control
C ⁴ ISTAR	Command, Control, Communications, Computers, Intelligence, Surveillance, Target Acquisition and Reconnaissance
CG	Guided-Missile Cruiser
ChGS	Chief of the General Staff (Russia)
ChoD	Chief of Defense (Norway)
CinC	Commander-in-Chief
COIN	Counter-Insurgency
CONMAROPS	Concept of Maritime Operations
CVN	Nuclear-Powered Aircraft Carrier
DDG	Guided-Missile Destroyer
DoD	Department of Defence
EEZ	Exclusive Economic Zone
eFP	Enhanced Forward Presence (NATO)
EW	Electronic Warfare
FOB	Forward Operating Base
FPZ	Fishery Protection Zone (Svalbard)
FSB	Federal Security Service (<i>Federal'naya Sluzhba Bezopasnosti Rossiyskoy Federatsii</i>)
GDP	Gross Domestic Product
GPV	State Programme of Armaments (<i>Gosudarstvennaya Programma razvitiya Vooruzheniy</i>)
HQ	Headquarters
HVT	High-Value Target
HVU	High-Value Unit
ICBM	Inter-Continental Ballistic Missile
IPW	Initial Period of War
JSM	Joint Strike Missile

LACM	Land-Attack Cruise Missile
LLOC	Land Lines of Communications
MoD	Minister of Defense
MPA	Maritime Patrol Aircraft
MTB	Missile Torpedo Boats
MTO	Material-Technical Support (<i>materialno-tekhnicheskogo obespechniia</i>)
MOOTW	Military Operations Other Than War
MSA	Maritime Situational Awareness
NATO	North Atlantic Treaty Organization
NorTG	Norwegian Task Group
NRF	NATO Response Force
NSM	Naval Strike Missile
NSR	Northern Sea Route
NTsUO	National Command and Control Centre for State Defence (<i>Natsional'nyi Tsentri Upravleniya Oboroni</i>)
OPK	Military-Industrial Complex (<i>Ooboronno-Promyshlenii Komplex</i>)
OSK	Joint Strategic Command (<i>Operativno-Strategicheskoye Komandovanie</i>)
RAF	Russian Armed Forces
RFN	Naval Forces (<i>Voyenno-Morskoy Flot</i>)
RNoN	The Royal Norwegian Navy
SAM	Surface-to-Air Missile
SAR	Search and Rescue
SATCOM	Satellite Communications
SLBM	Submarine-Launched Ballistic Missile
SLCM	Sea-Launched Cruise-Missile
SLOC	Sea Lines of Communication
SNAPEX	Snap Exercises
SSBN	Ballistic Nuclear-Powered Submarine
SSGN	Nuclear-Powered Cruise Missile Submarine
SSN	Nuclear-Powered General-Purpose Attack Submarine
SSK	Diesel-Electric General-Purpose Attack Submarine
tFP	Tailored Forward Presence (NATO)
USC	United Shipbuilding Cooperation (<i>Obedinennaya Sudostroitel'naya Korporatsiya</i>)
UUV	Unmanned Underwater Vehicle
VJTF	Very High Readiness Joint Task Force (NATO)

Figures and Tables

FIGURE 1. Northern Waters and Norwegian-Russo Maritime Borders.....	101
FIGURE 2. The Use of the Sea Framework.....	101
FIGURE 3. Military Districts and Operational Strategic Commands (OSKs) as per 1999.....	105
FIGURE 4. Military Districts and Operational Strategic Commands (OSKs) as per 2010.....	105
FIGURE 5. Military Districts and Operational Strategic Commands (OSKs) as per 2015.....	105
FIGURE 6. The Reach of Russia’s Bastion Defence Concept.....	107
FIGURE 7. Critical Undersea Infrastructure in the North Atlantic.....	107
FIGURE 8. Norwegian Critical Undersea Infrastructure.....	108
FIGURE 9. Military Expenditures and Defence Burden as per the GPV-2020, 2018 Rubles.....	108
FIGURE 10. Growth in Russian Military Expenditures and GDP, Percent.....	109
FIGURE 11. Growth in Annual GOZ and Procurement, Percent.....	109
FIGURE 12. Functional Disbursement of Russian Military Expenditures, Million RUB.....	109
FIGURE 13. Russian Military Infrastructure in the North.....	114
FIGURE 14. The Russian A2/AD Environment.....	114
TABLE 1. The Royal Norwegian Navy’s Force Composition, 1990-2018.....	102
TABLE 2. The Political and Military Leadership in Russia.....	104
TABLE 3. Sequences in Russian Maritime Defence Planning, Operationalizations and Dimensions of Military Continuity and Change.....	106
TABLE 4. Modernisation Goals, the State Armaments programme 2011-2020.....	110
TABLE 5. The Northern Fleet’s Force Composition, 1998-2018.....	110
TABLE 6. Submarines in the State Armaments Programme 2007-2015.....	111
TABLE 7. Submarines in the State Armaments Programme 2011-2020.....	111
TABLE 8. Principal Surface and Coastal Combatants in the GPV-2015.....	112
TABLE 9. Principal Surface and Coastal Combatants in the GPV-2020.....	113

1 Introduction

Since ancient times, nations and navies have sought to be powerful at sea and control its communications: Those that achieved so recognized the particular cost-efficiency of *seapower* as “the sea-based capacity to determine events both at sea and on land”, stemming in the main from the sea’s attributes and the nature of the human activities they shape (Till 2013, 25).¹ Historically, those nations able to exploit them have profited hugely compared to those who weren’t, and thus disparities in states’ military power has been and is still particularly marked at sea (Nevers 2015, 597). As such, the foremost analytical objective herein is necessarily organized around a premise of imbalance conforming to the historical axiom that naval warfare almost never occurs between two symmetrical fleets—Rather, it is the degree and nature of the imbalance between them producing the naval operational concepts admirals employ to fully exploit the strategic value of their fleets (Rubel 2010, 38-39). Such an analytical backdrop and fundamental *a priori* assumption constitute the very basis for the thesis’ research design, preoccupied with probing the balance of power in Northern waters between Russia as the “Bear in the East” and Norway as the Lilliputian in the West.²

In the case of Russia, a central historical feature is its aspiration to expand to the sea with its rise to power invariably coinciding with periods of naval might (Chernyavskii 2005, 283). However, constituted a continental state by an unfortunate geography impeding its access to the seas, the Russian approach to maritime strategy and seapower is often perceived as a defective mimicry of Western concepts neither fully understood nor properly implemented (Gritsenko 2013, 433; Till 2016b, 63). Despite proving itself a leading power at sea with longstanding seafaring traditions and innovations in naval technology, contemporary Russian seapower has thus largely been regarded as a *mare incognitum*—lacking extensive study beyond naval circles which often-times assume a rather patronising view of Russian maritime achievements (Gritsenko 2013, 426; Till 2016b, 63).³

Instead, the majority of academic research and discourse has hitherto proven significantly land-focused while often-times engrossed with Russia’s nuclear policies to the extent the imperative role of its dynamic and novel approaches to seapower and its centrality in overall political and military strategy is either fully or partially ignored. Cumulative research on Russia’s seapower is further impeded by the significant lack of objective analysis of Moscow’s interests, motivations, behaviour and specific strategies at sea in general and in Northern waters in specific (Konyshev and Sergunin

¹ Intimately interconnected, such attributes are the sea as a resource and as a medium of transportation, information and dominion (Till 2013, 5-6).

² *Northern waters* here refer to the adjacent seas of the Northern European states, and thus includes the North Atlantic and Arctic Ocean and the Norwegian, Barents, and Kara Seas, cf. Figure 1 in Appendix. Normally such a definition would include the Baltic Sea, however such an inclusion is beyond the thesis scope as that would necessarily include the Baltic Fleet in the analysis.

³ The main Russian periods where its seapower has proven one of particular global significance are during the 18th Century under Peter the Great and at the height of the Cold War’s arms race in the 1970s and 1980s when the influential Admiral Sergei Gorshkov built an impressive Soviet armada and ocean-going fleet to rival American Command of the Sea (Huckabey 2014).

2014, 324; Persson 2016, 2).

By contrast, Norway's seapower—washed by geography with a primarily maritime outlook—has largely been considered one of organic origin as a *coastal state* and maritime nation with the world's second largest coastline and jurisdictional waters seven times its land territory, cf. Figure 1 in Appendix (Børresen and Helseth 2011; Terjesen et al. 2010).⁴ Constituting a key player in maintaining stability in Northern waters, a great mercantile power and a leading nation within seafaring and maritime activities with fisheries, fish farming, the merchant fleet, offshore and shipyard industries as key wealth creation activities, Norwegian security concerns are thus strongly connected to the sea's attributes (Gjelsten 2017, 7; Bjerga and Haaland 2012, 85). Yet, as a *small state* with limited defence resources in the *Realpolitik* sense, Norway has been and still is dependent on relations at sea in general and the actions of others in specific (Børresen and Helseth 2011, 8).⁵

To that end, there is little disagreement in Norwegian defence debates over the inexorable fact that relations with Russia, closely linked by geographic proximity to Norway's all-encompassing security interests and military concerns, is the dominant *dimensioning* influence of the Norwegian defence issue (Åtland 2016, 164).⁶ While the Russian challenge may vary in both form and size over time, destined by historical circumstances to be neighbours with daily interactions, it is essentially a geopolitical constant (Diesen 2018, 6). However, it is herein a foremost *a priori* assumption that Norwegian-Russo relations, by virtue of their maritime geographies sharing a significant maritime border separating their respective oceans, contain by default a significant maritime dimension—the maritime aspect of which in the North is the central analytical objective herein to probe, cf. Figure 1 in Appendix.

Such dynamics and their long-standing systemic effects upon the dynamics in Northern waters are arguably best rationalised by most recent history's demonstrations of their strategic significance and substantial importance and value to greater players. During the Cold War from the 1970s onwards, the USSR accorded significant priority to the North Atlantic and Norwegian vicinities as Russia's largest fleet—the Northern Fleet, *Severnnyy Flot*, based at the Kola Peninsula 200 kilometres from the Norwegian-Russo border—had the Bastion Defence Concept as its main *raison d'être* (Olsen 2017). Protecting the ballistic nuclear missile submarines (SSBNs) as the sea-based leg of

⁴ Employing a narrower definition than 1982 UNCLOS which includes all states with a coastline and adjacent territorial waters, EEZ and continental shelf, a *coastal state* here refers to a “small- or medium-sized state situated by the sea and whose national interest to a considerable extent is connected to the sea” (Børresen 2004, 250).

⁵ Norway is here defined as a small state in the security context as a state that may neither guarantee its own security nor defend itself merely by its own efforts, and further perceives itself within a security political area of interest of another larger state outside the same security community (Kjøberg 2007, 8-9).

⁶ *Dimensioning* refers here to those challenges or main scenarios to which the defence structure is optimised accordingly, and in other words those conditions which are prioritised when differing capabilities and capacities in the structure are combined in such a way providing the highest possible operative abilities (Diesen 2018, 16).

Russia's nuclear triad through defensive perimeters covering the Norwegian and Barents Sea through to the GIUK gap choke points, the concept centred on defending and securing its nuclear abilities in retaliatory strike and thus the SSBNs' freedom of manoeuvre and the SLOCs necessary to protect them (Tamnes 2017).⁷

Simultaneously, the GIUK gap remained essential to the security and prosperity of Europe: As it was vital for the US and NATO to keep the sea lanes of communication (SLOCs) between North America and Europe open for military reinforcing the European continent, Norwegian ocean areas thus became central also in NATO strategy (Olsen 2017, 3). Consequently, the Cold War was one in which the maritime domain took centre-stage as competing maritime strategies in Norway's backyard and at her front porch rivalled for maritime supremacy (ibid). The naval stand-off outside Norwegian fjords and in Northern waters thus typified the nature of the Cold War as a "hot war" in every sense yet barring actual engagement, based first and foremost on the acknowledgment that while the Cold War could not be won at sea it could most certainly be lost there (Willett 2009, 50).

1.1 Changing Strategic Dynamics in the North

However, as the Soviet Union fell in 1991 and the Cold War ended, the underlying dynamics of intra- and interstate activities and dynamics in the North significantly transformed. Whereas the dramatic upheavals in Russia revealed the poor state of its military machine left "demoralized and confused" with pitiable military performance starving for proper funding, the former Soviet Navy became renowned for its inability to put to sea with the fleet rusting in port (Åtland 2007). The North's security environment has since has been characterised as stable, predictable and benign allowing for the lucrative economic opportunities as made possible by the recession of sea ice. Nevertheless, Russia as a major nuclear, military and economic power has remained the dominant actor in the region throughout, and with the ascension of Vladimir Putin to the presidential post in 1999 Russian political and military resurgence again assumed highest priority, accompanying a renewed focus on military modernisation and reform (Willett 2012; Conley et al. 2018; Haas 2011b, 13).

Specifically, since 2008, the Russian Armed Forces (RAF) has been undergoing a visible and active transformation process with significant quantitative and qualitative changes while gradually transforming from a defensive posture towards an offensively-oriented defence structure (Sutyagin 2016). To that end, its dependence upon naval strength and the rise of the Russian Federation Navy, *Voенно-Морскоi Флот* (RFN), has played a central role in Russian rebound strategy and to achieve political- and military-strategic objectives in general and in the North in specific (ibid; Till 2017). Thus since the new millennium, the Navy—recovering fairly well from its post-Cold War malaise—

⁷ The "GIUK gap" refers to the ocean gap between Greenland, Iceland and the United Kingdom.

Introduction

has arisen as the most advanced, competent and well-trained component of the Russian military, offensively oriented for operations in the North Atlantic (Conley et al. 2018, 12; Till 2016a; Nordenman 2017). Consequently, it is ontologically valid to assume *a priori* that Russian military strategy in the North reflects strategic prioritizations and maritime thinking with maritime operations and the use of air and ground forces to support them as the most important (Ulriksen 2015, 2).

Meanwhile, NATO has close to disappeared from the maritime theatre and the North Atlantic allowing its maritime competences to atrophy, yet remains the dovetailing cornerstone of Norwegian security policy balancing Norwegian-Russo relations, characterised still by its inherent asymmetry, in what is referred to in the literature as the infamous *dual balancing act* (Tamnes 2017; Heier and Kjølberg 2015). Thus, whereas the basic priorities of Norwegian security policy have remained unchanged, the perimeters themselves have undergone significant changes—Indeed, after the 2014 annexation of Ukraine, the Norwegian government declared the drastically changed security political situation in Europe as a “new normal”, demanding appropriately prudent policy prescriptions, cf. White Paper no. 36 (2016-2017) (Bjerga and Haaland 2012, 85).⁸ Meanwhile, with the added sense of an emerging Russian threat from war fighting in Donbas and offensive campaigns in Syria, an invigorated research agenda motivated by producing up-to-date assessments of its military capabilities have sought to elucidate the Kremlin’s motives and the means at their disposal (Purcell 2016, 1-2).

Such changing dynamics thus form the central motivation for the thesis’ principal objective from an applied research perspective of analyzing the maritime dimension of Russia’s military development in the North since 1999 and its relevance to Norway in particular. In order to validly approach such a complex phenomenon and interplay, the study’s research design thus unavoidably rest on several *a priori* assumptions in turn necessarily limiting both the scope and foci for analysis and its inferences. First and foremost is the recognition that whereas Norway’s location at the northernmost tip of the European mainland and its robust terrain proving inaccessible for larger military forces leading to a myth of impenetrability as an organic fortification, its inimitable geography simultaneously provides for defensive disadvantages (Pugh 1984). To that end, as it is the coastline and SLOCs connecting Norway more so than the Land Lines of Communications (LLOCs), the coast is therefore not only her strategic boundary but also her strategic *Centre of Gravity (CoG)*: As such, if the central periphery is lost, whoever is in control of Norwegian ocean areas will not only control the Norwegian strategic CoG but also the main means of communication—effectively

⁸ Confer White Paper no. 36 (2016-2017). Setting the Course for Norwegian Foreign and Security Policy [*Stortingsmelding no. 35 (2016-2017). Veivalg i norsk utenriks- og sikkerhetspolitikk*] for further details of the Norwegian government’s foreign and security policy post-Crimea.

isolating large swathes of territory while simultaneously exploiting superior ability for concentration of fighting power (ibid, 99-100; Strømme 2017,18).⁹

Thus, geostrategically, Norwegian territory is on the inside-out with the coastline constituting her *Heartland* more so than the outer perimeter: Consequently, a seapower constitute by default her most dangerous opponent due to the simultaneous consequence and circumstance that it is first and foremost at sea and from the sea Norwegian interests may be placed under military pressure and might (Strømme 2017, 18).¹⁰ Subsequently, the thesis' research design and principal foci originate from the axiomatic fact that, due to Norway's military geography and its persistent characteristics, crisis and war in Norway is fundamentally maritime (ibid; Terjesen et al. 2010, 17). As such, rather than preoccupied with peacetime, humdrum concerns, the analysis becomes primarily preoccupied more with those aspects, dimensions and factors belonging to the maritime-specific conditions of crisis and war—from which the nominal relevance for the Norwegian Armed Forces (NAF) in general and the Royal Norwegian Navy (RNoN) in particular may be deduced.¹¹

1.2 Research Question and Research Design

As such, due in the main from necessarily acknowledging that in Northern waters admirals rather than generals are tasked with achieving political- and military-strategic objectives, the analysis herein is primarily one of maritime thinking and its interfaces with political and military strategy. Allowing states to defend themselves while simultaneously enabling their sponsors to pursue national interests, naval forces' exercise of power “above and below the waves” is therefore the research design's fundamental concern. As seapower's value lay in its permanent characteristics and the specific nature of its contribution to national strategy, navies thus serve the purpose of *maritime strategy* (Till 2013, 62; Hattendorf 2013, 7).¹² To be successful then, the creation of seapower and its exploitation depends on the state's ability to develop and utilize naval forces effectively and efficiently: Combining these tools accordingly to achieve maritime success and attain strategy objectives is a matter of statecraft constantly maintaining and developing them in peacetime—the mechanism through which constitute the *maritime defence planning* process (Krause and Bruns 2016, 3). Defined here in the most abstract by the deduction from its strategic function in connecting maritime means to political ends, it thus

⁹ A Clausewitzian concept, the *Centre of Gravity (CoG)* represents the point at which military forces could be said to converge within an objective, where its weight is balanced in all directions—Thus, if struck there it would lose balance and fall, thus representing the source of the opponent's power and strength (Freedman 2014).

¹⁰ The *Heartland* denotes a geographical, pivot area with strategic importance, made infamous by Mackinder in 1904 (Gray and Sloan 2013, 18-38).

¹¹ Whereas any maritime nation has a critical interest in the secure use of the seas and the preservation of *Good Order at Sea* as “the security and stability necessitated for the safe exploitation and use of the sea's attributes”, such *soft* and *maritime security* concerns form herein rather the backdrop for understanding the study's primary analytical concern—namely that of the sea's attribute as a medium for dominion, and thus the study of matters, aspects and dynamics relating to *hard security* concerns (Till 2009, 286-287).

¹² *Maritime strategy* may be defined in the most abstract as the direction of a state's military power relating to its interests at sea through the use of armed forces in order to contribute to the broader ends established in military strategy (Till 2013, 62; Hattendorf 2013, 7). Confer *Chapter 2.1.1 Maritime Strategy and Naval Warfare* for a more detailed definition providing analytical tools for its analysis.

Introduction

concerns primarily those matters pertaining to the development of navies—approached herein as the principal fundament of a state’s seapower constituting by default its observable demonstration (ibid).

Thus, through the prism of Russian maritime defence planning, Russian seapower since 1999 and its changes and continuities in the North are allowed particular emphasis and analysis. With the research design’s central *a priori* assumption of Russia constituting still an imperative determinant of Norwegian security policy and dimensioning influence of the Norwegian defence structure, the simultaneous axiom that Russian maritime defence planning and seapower necessarily pose *operational* and *strategic* challenges for Norwegian maritime strategy becomes as such the research design’s principal foundation. Thus, in keeping with the thesis’ maritime disposition, the analytical objective becomes two-fold in aiming to validly and reliably contribute to research cumulation in answering the following research question;

Since 1999, what are the main changes and continuities in Russian maritime defence planning and seapower in the North, and what are their implications to Norwegian maritime strategy?

In approaching such a complex subject matter and interplay, several epistemological, ontological and methodological choices has been made to increase the research design’s robustness, facilitating proper analysis, valid inferences and reliable contributions to research cumulation in the study of Russian military affairs in specific and maritime defence planning and seapower in general. To that end, as validly approaching Russian maritime features requires first and foremost shedding pre-existing and value-laden interpretations of its maritime achievements, the thesis’ exploratory research design is inductively derived from the dependent variable’s empirical multi-dimensional and complex nature allowing its causal mechanisms to vary without predictive assumptions on its character—necessarily demanding an interdisciplinary approach in exploring them. Remaining more engrossed with gaining in-depth knowledge from an applied research perspective considered imperative in the context of Norwegian defence decision-making in which Russia function as a primary determinant, the thesis aims with its primarily temporal research design to demonstrate the value of historical parallels as a useful guiding source for defence planning with the “lessons of history” refuting false analogy, scrutinizing the misuse of the past while functioning as general admonitions of the future—Indeed, “while history never repeats itself, sometimes it rhymes” (Gray 2014, 84).

To that end, *Chapter 2* presents the thesis’ theoretical and analytical framework necessarily bridging naval theory with political science through Civil-Military Relations (CMR) and the defence planning process, establishes an observable nexus between the Russian political and military dimension essential to probe its causal mechanisms and briefly outlines the military- and political-strategic objectives of contemporary Norwegian maritime strategy necessary to infer on

implications to it. Meanwhile, *Chapter 3* addresses the thesis methodical framework resting on the employment of Comparative Historical Analysis (CHA) based on a strategy of process tracing and data triangulation, discusses compromises to the research design's reliability and validity and the concept-measure consistency of the dependent variable's operationalisations simultaneously constituting dimensions in which to study continuity and change.

Chapter 4 then outlines the Russian political- and military-doctrinal framework of Russian maritime defence planning as seapower development's *ex ante* conditions, in the main concerning naval thinking, threat perceptions, military reforms and strategic thinking and operational art with the relevance of the maritime domain and Norwegian territory discussed throughout. Finally, *Chapter 5* presents Russian maritime capabilities in the North as developed through the maritime defence planning process through discussing persisting challenges in its shipbuilding industry, detailing the Navy's procurement and inventory and its Network-Enabled Capability (NEC) and Command, Control, Communications, Computers, Intelligence, Surveillance, Target Acquisition and Reconnaissance (C⁴ISTAR) capabilities in the North. Whereas both latter chapters discuss operational and strategic consequences to Norwegian maritime strategy throughout, *Chapter 6* offers drawn inferences and analytical conclusions in summation with a discussion of implications for further study.

Thus in sum, the research design approaches navies first and foremost as a window into the states they serve and the strategic environment in which they operate, conforming to the idiom that the deepest principles of national security are silent, and that in the maritime domain navies are their principal guardians (Blackham and Prins 2010, 15). To that end, what becomes evident by the analysis of Russian maritime defence planning and seapower is how its main changes and continuities have, rather than justifying the collective surprise in the West of Russian military capability post-Crimea, continuously provided ample evidence of its development. In it, the emergence of an all-encompassing concept, namely "strategic deterrence", *strategischeskoe sderzhivanie*, permeates its approach to the North—the sum of tasks to which the Navy's abilities have been significantly strengthened throughout. Alas, naturally posing considerable strategic and operational challenges for Norwegian maritime strategy—more so than eluded to by the contemporary focus of Norwegian defence debate—the main findings indicate *prima facie* a collective failure by NATO and Norway in prudently preparing for reality rather than conjecture. A strategic lesson from the 20th century is therefore that the strategic significance of Norway and Northern waters has not been reduced, but merely that the strategic situation is another—demanding appropriate counter-measures.

2 Theoretical and Analytical Framework

In aiming to validly contribute to research cumulation, imperative to the thesis' research design is the construction of a theoretical and analytical framework aiding the thesis' maritime disposition and focus in designing the conceptual tools necessary to reliably analysing it. To that end inductively derived from the empirical multi-dimensional and complex nature of the dependent variable rejecting by default a monodisciplinary approach, the framework pertains first and foremost to the axiom that problem-based research all-but respects disciplinary boundaries (Caforio 2007, 2).¹³ In rather attempting to combine elements of naval theory and Civil-Military Relations (CMR) in order to properly approach the interrelationship between the military and political sphere in the venture of developing seapower, an outline of the main conventional wisdoms of seapower theory presents the determinants of maritime success in strategy while providing essential analytical tools aiding its study. Following a description of contemporary Norwegian maritime strategy as a necessary foundation for analysis, the military, naval and political domain is conceptually linked through defining the maritime defence planning process and its dimensions and caveats in developing seapower before outlining the Russian maritime defence planning process while establishing agency to the mechanism under study.

2.1 Seapower and Naval Warfare

Only seapower theory may provide the necessary conceptual tools to understand seapower's totality and its functional application here under study, which in the literature reflects a maritime narrative employing classical naval theory as necessary and sufficient for validly inferring from contemporary practice (Widen 2016; Vego 2016).¹⁴ However, due to the pitfalls deriving from their origin as amalgamations of historical events, the scheme herein acknowledges first and foremost that the scope of classical naval theory's applicability remain scientifically unverified as its theoretical cumulation stems from naval history itself (Kristiansen and Olsen 2007, 35). While indeed some terms are in contemporary seapower theory fairly unchallenged, others are thus subject to different practices with varying understandings of its necessary and sufficient conditions prone to mislead (Stubbs and Truver 2011, 4-6). Reflecting on the problem of definition, Eric Grove posited that,

¹³ While political science contributions may be considered the core of interdisciplinary military studies through its Civil-Military Relations (CMR) foci and indeed constitutes herein the foundation in connecting the political and military sphere through the defence planning process, the discipline alone lacks a coherent foundation allowing for valid explanation of military continuity and change while fails to provide the necessary theoretical, analytical and conceptual tools sufficiently encompassing the research design's inherently maritime disposition.

¹⁴ Grounded in the early 20th century definition of a state's seapower, contemporary seapower theory builds in particular on the seminal logical-deductive and empirical-inductive works of Rear Admiral Alfred Thayer Mahan and Sir Julian Corbett, "using the prism of history in describing the importance of seapower in obtaining global power and sway within the broader context of national policy" (Stavridis 2017a, 75). Such reflections of seapower have further integrated into a contemporary "maritime narrative" justifying and explaining the superior economic and strategic advantage that states, regardless of their size, "messing about in boats" continue to have relative to those that do not (Till 2013, 1).

Sea power [sic] means different things to different people. It can be an almost mystical concept, a magic formula to be muttered in awe struck tones to scare away evil spirits such as defence ministers with non-naval priorities or air force officers with alternate means on offer of providing a state's military power on or across the oceans

(Grove 1990, 3).

To avoid confusion and *conceptual stretching* while conceptually conforming to contemporary academic usage, the term “seapower” previously defined as the “sea-based capacity to determine events at sea and on land” is here employed with a *narrow* definition denoting the specific outputs of fighting ships, and excludes by default the civilian and marine dimension of analysis (Till 2013, 23-25). Consequently, as seapower's observable outcome, the thesis is primarily preoccupied with RFN's development in approaching Russian seapower in terms of its consequences, its outputs and not the inputs as well as the ends rather than the means (ibid, 25).¹⁵ As such, though contingent on the possession of a fleet, seapower does not automatically derive from it as it is “the ability to bring maritime capabilities to bear on the interests and security of another state, thereby altering its behaviour” which defines its successes (Grygiel 2013, 19).

2.1.1 Maritime Strategy and the Naval Trinity

For maritime success then, the attributes and characteristics of the sea must be exploited in an appropriate way—Considering that maritime advantages themselves do not derive from proximity to the sea alone, to use the sea purposefully then implies a maritime strategy specifying how best to use it (Speller 2013, 36). However, a conflict or war cannot be decided by naval action alone—An ideal maritime strategy is thus determined by what part the fleet must play in relation to the action of the other services, and thus normatively must be complementary to national *military strategy* in order to make a strategic difference (Barnett 2007, 32).¹⁶ Thus, by inevitability limiting the scope of foci, the conceptualization employed herein is the most often-cited definition provided by Corbett in 1911, defining maritime strategy as the principles governing a war “in which the sea is a substantial factor” (Corbett in Till 2013, 63).

To that end, references in naval circles to three metaphorical “colours of water” by denoting their proximity to land provide a useful terminology for broadly comparing maritime strategies, seapower and navies in differentiating between them while describing the varying consequences of operating

¹⁵ *Conceptual stretching* is the distortion occurring when concepts are broadened by their application from “travelling” to new cases to the extent they end up “value free” (Sartori 1970, 1034). For matters of clarity therefore, while seapower's observable outcome here denote specifically the RFN—interchangeably referred to as the Navy—and RNoN's fighting ships when discussing implications to Norwegian maritime strategy, thus excluding from analysis matters of the Coast Guard, the term “maritime” denoting military conditions at sea is preferred rather than “naval” in allowing for triangulation with other forces where appropriate and necessary, permitting contextualization while increasing inferential validity.

¹⁶ Whilst strategy in the most abstract is the art of creating power—classically defined by deducing its triadic structure deriving from its strategic function in connecting military means to political ends—military strategy is here defined as “the art and science of using military force to achieve political goals through the use or threat of violence” (Lykke Jr. 1997, 183; Taliaferro 2006).

in differing maritime geographies (Rubel 2010, 44-48).¹⁷ However, in generic terms, maritime strategy is here analysed and categorised through the foci provided by the “Use of the Sea”-framework in enabling reasonable comparisons of within-variation in particular. In it, maritime strategy prescribes a variety of tasks through three characteristic modes of action, defined as *constabulary*, *diplomatic* and *military*—hereafter collectively referred to as *the naval trinity* with the former role of lesser importance herein than the latter two given the focus on those issues relating to crisis and war, necessarily limiting the scope of study (Grove 1990; Booth 1977).¹⁸ Within each general function, navies serve a variety of subordinate tasks, and to carry out these functions naval and defence planners need to make decisions about the nature, size, deployment and employment of maritime forces, cf. Figure 2 in Appendix (Speller 2013, 150).

In *naval diplomacy* as the “management of international relations through the maritime domain”, navies’ diplomatic function involves their use to support national policy beyond territorial and economic boundaries (Mière 2014, 7). Best described as a typology of non-mutually exclusive categories containing a spectrum of activities ranging from the collaborative through persuasion to coercion, navies’ diplomatic tasks are herein focused on *naval presence* in specific (Till 2013, 225).¹⁹ In it, the immediate aim of deploying a logistically self-sustainable vessel “riding fast nearby and handy for whatever may turn up in areas of concern” in general enables *coalition building*, *picture building* and *coercion* (ibid). In the former two categories, differing aims include sending messages, reducing the risk of inadvertent conflict and improving coordination efficiency, ranging across a spectrum of intensity from simple port visits to exercises with varying degrees of operational ambitions (ibid, 244-280).²⁰

Meanwhile, *naval coercion*, often-times referred to as “gunboat diplomacy”, is “the overt use of naval or paramilitary power in kinetic or non-kinetic operations designed to intimidate or coerce an opponent militarily to further a political goal, often unstated”, and it is therefore first and foremost strategic as essentially a “muscular form of negotiation” in peace or crisis with the sole aim of

¹⁷ In *blue waters*, namely the global deep ocean, a blue-water navy is primarily designed for out-of-area operations and possesses global power projection capabilities in operating effectively well beyond the sponsoring nation’s shores for extended periods of time (Åtland 2007, 518). Meanwhile, *green waters* forming the outer edge of the littoral zone to the end of continental shelves negate a different approach in dispersing offensive power into a number of vessels with sufficient stealth and other characteristics capable of operating in such areas (Rubel 2010, 46). Finally, in the littoral and coastal areas referred to as *brown waters*—often-times too shallow, narrow or infested with defensive capabilities to the extent an oceangoing unit cannot operate effectively at all—a brown water navy focuses on defensive operations in the littoral (ibid).

¹⁸ Traditional approaches to the *constabulary function* emphasize the everyday, routine tasks conducted within the mandate provided by national or international law, relating to the low-intensity business of maintaining *Good Order at Sea* and maritime security (Till 1994, 194; Speller 2013, 150). The constabulary application of force thus entails usually minimum levels of force and benign and humanitarian missions as law enforcement, sea patrol, fisheries protection and search and rescue (SAR), especially within coastal states’ maritime domains (ibid, 152; Haines 2016, 145-146).

¹⁹ Other tasks depending on the nature of foreign policy objectives are *expeditionary* and *humanitarian operations* as collaborative in contributing to international stability typically directed against governments or other forces seemingly threatening it, collectively emphasising stability from the sea (Till 2013, 225).

²⁰ Whereas *naval picture building* involves the collection, processing and dissemination of data about the actions and policies of allies and potential adversaries, essential as to anticipate emerging risks and threats, *naval coalition building* specifically aims to obtain foreign policy objectives not by threatening possible adversaries but by affecting the behaviour of allies and potentially friendly on-lookers through incentive and persuasion (Till 2013, 231-242).

influencing the behaviour of others and secure specific advantages as an alternative to war (ibid, 234; Mière 2011, 57; Meyer 2015, 183). Consequently, navies offer a cost-effective and highly symbolic method of delivering diplomatic effect without employing violence: Thus, whereas each instance of maritime diplomacy is unique and difficult to categorize as political aims vary in accordance with context, it remains analytically useful in seeking to interpret the wider indications of its use in revealing tensions, underlining shifts in the international order and balance of power, identifying changing diplomatic strategies and more clearly recognizing alliances and relationships (Mière 2014, 123; Widen 2011).

However, to undertake constabulary and diplomatic roles in peacetime or crisis ultimately depend on the naval forces' demonstrable military capacity as per the *military* or *warfighting* function in the high-intensity and low-frequency spectrum, becoming increasingly important as the level of tensions increase (Hattendorf 2013, 25; Bateman 2016, 264). Involving defence against—primarily military—threats, navies are tasked with military operations, however need not involve actual combat and thus also functions in peacetime (Button et al. 2008, 13). In practice and for analytical convenience, the fundamental focus of the combat element in maritime strategy arbitrarily distinguishes military operations into two *modus operandi* categories of *at sea* and *from the sea*, from which useful generalizations regarding their related activities become manageable component parts (Speller 2013, 95-96).

Within the former, combat operations may be further divided into two categories per their primary objective of, firstly, either *achieving* or *denying control of the sea*, and, secondly, *exploiting control of the sea* (ibid, 95). Thus at the heart of naval warfare, sea control—yielded from the original and absolutist concept of *Command of the Sea*—is a vital precondition for the successful delivery of other seapower missions, and as such remains at the heart of maritime strategy as “the grand enabler that allows the sea to be used for whatever purpose will serve the interests of the power that controls it” (Rubel 2012, 22; Till 2013, 36).²¹ Recognizing that degrees of control will vary in terms of duration, location and extent, *sea control* is here defined in a Corbettian manner in denoting the condition existing when one has the freedom of action to use an Area of Operations (AO) for one's own purpose for a period of time at an acceptable degree of risk, and if required to deny the same use to an adversary in fugitive terms (Rubel 2012, 23; Haines 2016, 247).²²

²¹ “Command of the Sea” refers to a strategic condition in peacetime and “a relative strength relationship between two or more navies in which one enjoyed a significant superiority such that the freedom of action of the others to carry out the basic missions of seapower was constrained and that of the stronger navy enhanced” (Rubel 2012, 22).

²² While sea control operations in their ultimate form are about naval forces clashing with opposing naval forces and, in the joint context will include achieving air superiority in relation to the maritime environment, such operations need not involve combat—The important objective is rather to provide a necessary secure and conducive environment for other activities, and as such applies across the spectrum of conflict where the degree of sea control attained or necessary will vary according to circumstances (Haines 2016, 146; Speller 2013, 96-97).

Moreover, its corollary *sea denial* attempts “to deny to an adversary use of a sea area without necessarily being able to control that area oneself” (Till 2013, 152). While a sea denial strategy may represent the precursor to sea control, it equally may not and thus work in two ways: First, it may be an alternative to sea control as in some circumstances the ability to prevent an adversary from using the sea is all that is required, and second, it may act as a complement to sea control in establishing differing defence zones working in conjunction with each other (ibid). Yet defining sea denial as the obverse of sea control would be an oversimplification as marking essentially “sporadic warfare at sea” from which particularly a weaker navy may successfully obstruct a stronger fleet, striking when and where at its liking to achieve maximum surprise (Vego 2003, 119).

Moreover, just as sea denial is relevant because of the things it prevents, sea control is made relevant by what it enables—Such *exploitation of sea control* may be exploited *at sea* and *from the sea* (Burilkov and Geise 2013, 1038). In the former, operations projecting power at sea are often vital to the successful prosecution of a war or, in situations short of war, as a method to transform strength at sea into an effect on land (Speller 2013, 114). In the latter, *power projection ashore*, hereafter referred to as *power projection*, may be defined as the ability to project power from the sea in order to influence the adversarial behaviour on land and thus the sequence of events (Till 2013, 30). The capacity to conduct combat operations from the sea as such provides navies with a range of options useful in peace, crisis and war by exploiting sea control in order to threaten or project force ashore through three key means of providing air support, naval strikes and amphibious operations (ibid; Speller 2013, 146).²³ As such, the real point of seapower is not so much what happens at sea, but how it influences the outcome of events on land;

Since men live upon the land and not upon the sea, great issues between nations at war have always been decided—except in the rarest cases—either by what your army can do against your enemy’s territory and national life, or else by fear of what the fleet makes it possible for your army to do

(Corbett quoted in Till 2013, 63).

2.1.1.1 Norwegian Maritime Strategy as a Coastal Power

In the case of Norway, seapower theory’s applicability—while generally accepted from a great power perspective—to properly cover the role of her seapower as a coastal state with differing interests to the greater seapower as it cannot achieve victory in war in the strictly military sense requires particular caution as to avoid erroneous inferences from its use (Strømme 2018; Børresen 2004). The distinctiveness of “smaller navies” as opposed to medium or large thus demands recognition before

²³ Frequently associated with the term “littoral operations”, motivations of maritime power projection thus vary according to circumstances, yet broadly one may characterise them as to create either political, economic and military effects (Haines 2016, 246). As such, the dividing line between power projection and naval diplomacy is porous with considerable overlap (Jordan et al. 2016, 205).

proceeding as their particular vulnerabilities, weaknesses and dependencies usually come with a price (Till 2014, 21).²⁴ Importantly, there are significant differences in doctrine, structure and operational patterns between a navy as a military organization primarily designed for either defensive or offensive purposes (Børresen 2004, 253).

To that end, Norway's seapower is rather referred to herein as *coastal power* with its naval forces first and foremost defensively structured around a sea denial and sea control strategy of *coastal defence* as an asymmetric strategy by default and a relatively limited approach to maritime strategy in fearing a more powerful opponent (Speller 2013, 10; Till 2013, 78; Børresen 2004). In specific, the coastal state's approach to seapower will be characterized first and foremost by a tendency to make the most of joint action and coastal typography as its most concrete expression of the comparative advantage of the coastal navy vis-à-vis the blue-water navy (Till 2013, 78). As such, RNoN as a coastal navy aims first and foremost at deterring large-scale naval action through the infliction of punishment and *attrition* rather than crudely attempting to defeat it in defending against and repelling violations of its territorial waters to defend in cooperation with other forces against aggression (ibid; Børresen 2004, 255).²⁵

With the abandonment of the *seaborne invasion defence* concept by the new millennium, RNoN was to develop for flexible maritime warfare in the littorals to meet maritime challenges in peace, crisis and war in both national and international waters (NOU 2007:15, 59).²⁶ Thus, its contemporary ability to exercise coastal power first and foremost directly translated into a requirement for a *balanced navy* (Børresen 2004, 256).²⁷ However, while the new defence concept of expeditionary defence significantly broke with the Cold War defence scheme of mobilisation posed new demands for the NAF, for RNoN—which from contemporary terminology already operated from the criteria of an expeditionary defence made up of standing units—it merely reflected routine *modus operandi* (Holme 2013, 21). The transition to “tangible” departments in the form of units that in short notice were able to deploy nationally or internationally wherever politicians decided as such did not amount to anything new (Haaland 2004, 24).

²⁴ The thesis abandons the term “small navy” as it possesses a negative overtone in implying that its smallness reflects the small state's inability to afford bigger and better to serve national purposes (Till 2014, 21). Thus, the following presentation of a theory of seapower for the coastal state, hereafter referred to as *coastal power*, builds in the main on the prescriptive and normative theory as proposed by retired RNoN Commodore Jacob Børresen (2004), laying out the preconditions for and the limits to the ability of the coastal state to protect and defend itself.

²⁵ *Attrition warfare* denotes a strategy in which the bulk of forces in forward positions attempts to create and hold long, continuous fronts covered by natural obstacles serving to slow and halt the enemy so that he may be destroyed by firepower (Crefeld 2015).

²⁶ During the Cold War, RNoN was structured around the sea denial-oriented seaborne invasion concept as a layered defence concept building on the collaboration between the Navy proper and the Coastal Artillery's combat units with support of fighter bombers with its relevance and importance only increasing parallel with growth in the Northern Fleet's capabilities to protect against seaborne aggression (Gjelsten 2011, 25).

²⁷ A *balanced navy* refers here to a navy in where synergy makes the total capability of the navy greater than the sum of capabilities of its single services or branches (Børresen 2004, 256).

Thus, central still is RNoN's sea denial and sea control ambition of robbing the opponent the ability of using the sea for their own purposes while inflicting on an adversary significant loss in relative terms to the extent Article V is triggered (Terjesen et al. 2010, 384; Grytting 2018, 17). To that effect based on a *maneuver oriented* concept, RNoN is tasked in crisis and war with preventing maritime power projection against Norwegian territory, enable reception and advancement of allied reinforcements while contributing to enable tactical counter-offensives to secure territorial integrity—in sum naturally demanding coastal defence capabilities (Strømmen 2016, 20).²⁸ Consequently, as per the Norwegian joint and maritime doctrines in the post-Cold War era, RNoN's maritime strategy has throughout been based upon its contribution to a necessary degree of sea denial and sea control allowing for force projection—upon which above tasks and missions depend, cf. the 2002 and 2015 Doctrine for Maritime Operations and the 2000, 2007 and 2014 Joint Operational Doctrines.

To that effect, RNoN as a coastal navy has aided its comparative advantage by developing weapon systems and tactics tailor-made to its coastal waters, which have included a mixture of capabilities and capacities within mine warfare and mine countermeasures (MCM), submarines, missile-torpedo boats (MTBs) and other principal surface and coastal combatants supported by land-based aircrafts, missiles and coastal artillery (Børresen 2004). However, with the removal of the invasion defence concept by the new millennium in transforming to a modern, flexible expeditionary defence, the brutal quantitative reduction as a prerequisite for qualitative improvement has resulted in an increasingly slim fleet structure—specifically at the expense of coastal defence competence, cf. Table 1 in Appendix. Thus, whereas RNoN's maritime strategy has enjoyed significant continuity from the Cold War in contributing to a necessary degree of sea control and sea denial in the entire spectrum of conflict, RNoN's abilities to achieve so in general and in the coastal zone in particular has increasingly been diminished (Strømmen 2017). Alas, in correlation with Russian maritime defence planning and seapower in the North, the analysis will first and foremost emphasize the critical implications of such a trend—After all, while mistakes at the tactical and operational level may be corrected promptly, mistakes at the strategic level tend to live forever (Gray and Sloan 2014, 8).

2.2 Defence Planning Dimensions and Caveats

For the uses of the sea as outlined above, navies are considered as inherently flexible, mobile, and scalable—serving to support political ends in ways other means cannot: To that end however, naval forces are costly, resource-intensive organizations demanding professional competence that cannot

²⁸ The idea of *manoeuvre warfare*, dovetailing attrition warfare, is its avoidance of enemy strengths while exploiting and attacking its weaknesses, aiming at breaking the opposition's will by seeking to break up “the various kinds of glue” holding its military organisation together to the point where it will no longer be able to put up a coherent resistance—in sum seeking to avoid the battlefield and bloodshed altogether (Crefeld 2015).

be acquired easily or quickly (Krause and Bruns 2016, 3; Speller 2013, 8). Thus, to achieve political and military objectives, the creation of seapower and its exploitation depends on the state's ability to develop and utilize it effectively and efficiently—Combining these tools accordingly to achieve maritime success and attain strategy objectives as such depend on its constant maintenance and development in peacetime as a matter of statecraft and maritime defence planning (Krause and Bruns 2016, 3; Gray 2014, 42). Conducted in a thoroughly political process at the complex interface where the military and political spheres meet, defence planning is as such a universal and eternal form of public policy, in which governments spend significant resources to provide the public good of *security* (Frühling 2014, 11; Grey 2016, 157).²⁹

Constituting therefore by default a complex interdisciplinary and an inherently political process, the *long-term defence planning* (LTDP) process consequently arrives at political decisions regarding the future development of the structure, organization and capabilities of the armed forces with the overarching ambition of aligning national security interests, political viability, societal desires and military requirements (Håkenstad and Larsen 2012, 9-12). In seeking to improve the armed forces' *effectiveness* and *efficiency* through ensuring that it has the necessary capabilities to fulfil its tasks throughout the full spectrum of its mission, defence planning thus entails careful consideration of future operating environments which through priority-based resource allocations optimizes defence systems, structures and processes (Stojkovic and Dahl 2007, 11).³⁰ Such an inclusive definition is here regarded as an analytically beneficial compromise between the conventional empathies in emphasizing the primary focus on military concerns, how they are used to fulfil political objectives, and thus to fit the primary concern of the threat and use of force.

Maritime defence planning thus refers here to the processes' maritime dimension and those matters concerning the development of the state's naval forces—approached herein as the principal fundament of a state's seapower and its operationalization as seapower's observable demonstration. Constituting as such more a process than a desired end state, central to defence planning then is the main external and universal push factors and drivers as projected by the security environment, threat perceptions and the competitive motivations for transformation, creating new operational challenges and opportunities for armed forces to which the state's internal reaction is mobilizing military resources and innovating militarily (Prezelj et al 2016, 23; Farrell 2008, 780).

²⁹ While the concept of security has been dramatically broadened in recent decades, it is here categorized under the rubric of *state security* and refers to the protection of territorial integrity and sovereignty which may be challenged by political and military pressure and intimidation from state and non-state actors (Tamnes and Offerdal 2015, 7).

³⁰ Whereas *military effectiveness* is the "outcome of the strategic resources provided to the military organization and its ability to transform these resources into effective warfighting capability", *military efficiency* refers to the improved ability of obtaining objectives in a military operation better and faster (Tellis, et al. 2001, 134-135).

Thus, given the long lead times required to develop naval capabilities due to their complex configurations and the long-term planning horizons in forecasting future conditions, the central defining dimension of the LTDP process is its *temporal* aspect and the inherent issues arising from demanding consideration of proximate activities to possible demands a few decades into the future (Filinkov and Dortmans 2014, 76).³¹ Consequently, structural choices and material investments made in the defence planning process have consequences decades ahead: As planning and preparations for the long-term future “are necessarily captive to the adequacy of readiness for immediate trials”, a pitfall intrinsic to defence planning is thus the extended maturation of advanced platforms and systems entailing that the scenario for which they were conceived—and the threat they were intended to counter—may have been “consigned to the chapters of history” by the time they reach operative service (Beadle 2016, 51; Gray 2014, 7).

Thus, as defence planning is tasked with forecasting the future while making investment decisions with impact decades ahead based on limited knowledge about the future, the core issue arising from the temporal dimension becomes the management of *uncertainty* (Fridheim et al. 2015, 127; Stojkovic and Dahl 2007, 7). While the temporal context is necessarily important in defence planning, a state may never know with confidence neither the impact of its behaviour on others nor the merit of its defence planning choices for future conditions—bound to be induced by accident and chance (Gray 2014, 2).³² As such, the core task for rational defence planning is the need to prepare *prudently* for a future about which nothing is known in reliable detail through a process attentive of the possible penalties of choices and actions—Thus, defence planning’s guiding principle become “minimum regrets” with getting the biggest decisions correct enough as the gold standard (C. S. Gray 2010a, 5).³³

Consequently, a central analytical focus becomes herein maritime defence planning’s temporal dimension and its inherent uncertainty, demanding analytically tracing the processes and the consequences of its decisions on the naval forces in parallel with objective study of actual developments as per the logic of prudence—As such, with the analytical benefit of hindsight, the

³¹ Whereas the LTDP process aids the military organization in meeting its future strategic goals, the organization may also possess short-term goals and priorities arising from current and emerging needs: As such, in designing and engineering capabilities for both current and future challenges, there is an inherent tension between the time horizons of *current operational planning*, *medium-term planning* for the foreseeable contingencies in the next few years, and *long-term planning* for longer-term risks and insecurity (Fridheim et al 2015, 127; Spiegeleire 2011, 23). Consequently, there is inherent antagonism between the need for long-term perspective in structural and material choices and the political planning perspectives in which defence planning is inherently part of—Thus, while short-term views often dominate the defence debate, all defence planning must however simultaneously and necessarily assume the long-term view (Beadle 2016, 51; Stojkovic and Dahl 2007, 11).

³² In Rumsfeldian terms, defence planning for peacetime and wartime conditions and everything in between thus faces uncertainty along two dimensions affecting future capability requirements, namely *first order uncertainty* depending on whether one possess knowledge of the future and *second order uncertainty* depending on the knowledge of the uncertainties of the former (Birkemo 2012, 9). Known challenges of the future are the *known knowns*, things one knows that one knows; *unknown knowns*, things one does not know that one knows; *known unknowns*, things one knows that one does not know, and *unknown unknowns* often referred to as “black swans” as rare, unexpected and unpredicted events with possibly extreme impact (ibid).

³³ By defining *prudence* as “the standard requiring the decision-makers to be careful of the consequences of their actions or inaction”, the practical challenge in the defence context becomes understanding the “relative prudential merit in the schemes proposed as opposed to some superior value” (Gray 2014, 191).

relative accuracy of Russian maritime defence planning and its perception of future conditions is thus enabled scrutiny alongside the dovetailing analytical aim of probing its implications to Norwegian maritime strategy.

2.2.1 The Russian Long-Term Defence Planning Process

In Russia, the current LTDP process formed in 1996 is conducted through the State Programme of Armaments, *Gosudarstvennaya Programma razvitiya Vooruzheniy* (GPV), as classified documents covering domestic arms procurement, military-related research and development (R&D), modernisation, renovation and overhauls (MROs) and mid-life upgrades (MLUs) of arms and other military equipment (Oxenstierna and Bergstrand 2011, 47). Covering a ten-year period of which the first five years are in detail, the adopted GPVs are sequentially enacted through annual State Defence Orders, *Gosudarstvennaya Oboronnyi Zakas* (GOZ), included in the Federal Budget under different sub-chapter headings directly funding the programmes (Yazbeck 2010, 19). As such, in the time span here under study as the Russian LTDP process' observable outcomes, such GPVs include the State Armaments Programme up to 2010 (GPV-2010) adopted in 2002, the State Armaments Programme up to 2015 (GPV-2015) adopted in 2006 and the current State Armaments Programme up to 2020 (GPV-2020) adopted in 2010 as the State Armaments Programme up to 2027 (GPV-2027) has been significantly delayed and adopted in early 2018.

Instrumental in implementing the GPVs, the Russian defence industry, *Oboronno-Promyshlenii Complex* (OPK), is regarded as a constituent part of the military organisation of the state with the two-fold aim of both providing the domestic defence and security sector with modern weapons and equipment while simultaneously strengthening Russia's strategic presence in international arms markets with the dual development objective of ensuring its role as an efficient and effective high-tech sector of the Russian economy (Malmlöf and Roffey 2016, 151). In the naval context, the OPK's shipbuilding sector, and since 2007 the United Shipbuilding Cooperation, *Obedinennaiia Sudostroitelnaia Korporatsiia* (USC), with its three regional centres in St. Petersburg, Severodvinsk and Vladivostock constitute the procurement, MRO and R&D base in the maritime domain, tasked with realising the GPV's Federal Target Programmes, *Federalnaia Tselevaia Programma* (FTPs), concerning naval shipbuilding (Sakaguchi 2014, 52).³⁴

However, studying the empirical outcomes of the GPVs in developing military capabilities would only explore part of the phenomenon here under study as Russia's maritime defence planning process and its approach to seapower is intimately connected with *naval thought, threat perceptions* and

³⁴ The 2007 creation of USC as an integrated military-civilian shipbuilding programme enabling RFN's modernisation was central to the overall reform plans as a measure to improve efficiency and specialization, and thus improve productivity while increasing political control (Bosbotinis 2010, 32; Bukkvoll 2013, 4).

military reform. In naval thinking, the intellectual and historical legacies of the Russian debate on naval strategy has traditionally been dominated by two major schools of naval thought promoting different naval configurations, thus characterized first and foremost between the oscillation between the predominance given to blue-water versus brown-water capabilities (Zysk 2013, 113-114).³⁵ Strongly influenced by geography and the geographic desiderata dividing Russian naval strength among five separate maritime theaters, the age-old dilemma of the seapower-landpower debate—as such concerning the appropriate share of the country’s maritime component and its division among the four fleets and one flotilla—reappeared with the collapse of the USSR with Russian naval strength abruptly ending (ibid; Cigar 2009; Vego 2000, 164; Tsypkin 2010, 345).³⁶

To that end demanding its inclusion in the research design in significantly determining maritime defence planning, the process of developing seapower is similarly interconnected with *threat perceptions*, which changed dramatically after the Cold War’s end with the radically transformed international environment, in turn resulting in new tasks for its military organization (Reppert 2003, 3; Pallin 2008, 52).³⁷ As such, the past, current and future behavior of the Russian state in the maritime domain in the North is most likely to be better understood and thus increase inferential validity if these perceptions are examined in more detail in terms of how Kremlin understands them.

Such changes in threat perceptions have in turn provided central incentives for military reform, *voennaia reforma*, which in Russia has figured at the core of its transformation efforts from communism and thus a key aspect of the defence planning process as a process of comprehensive changes designed to adapt the military organization to politics, economy, military technology and society at large (Barany 2007, 177; Brannon 2016, 23; Krupnov 2006, 2). Military reform of the RFN has in turn taken a distinct form due to specific economic and political-military factors, demanding

³⁵ *Naval thinking* is defined as the maritime strategic thought concerned with the “definition of the likely scope or maritime arena for which it must prepare” (Cole 2013). Blue-water proponents more-often-than-not belong to the “old” traditionalist approach of a Mahanian framework advocating a balanced navy as to obtain Command of the Sea, emphasizing the ability of seapower to hold its own against challenges from land and attain and enhance national and global power with the aid of a network of Forward Operating Bases (FOBs) (Flint 2017, 10). Meanwhile, brown-water proponents largely pertain to the “young” modernising school adhering to a Corbettian framework in which land wars are instead decisive, emphasizing the vulnerability of the Russian coastline constraining its naval forces to a defensive role in protecting coastal areas and assisting land forces by retaining a large number of small yet effective units (Grygiel 2013, 20-21; Zysk 2013, 114).

³⁶ To that end, *inter-* and *intra-service competition* as per the inter-military competition between branches of service within a military organization and the intra-service competition within branches of service for roles, missions and resources has naturally characterized Russian maritime defence planning and seapower as the seapower-landpower debate has not and has seldom been on a level playing field with the Navy itself bearing the burden of proof to justify retaining its funding, roles and missions in an intense rivalry characterizing RAF’s difficult adaption to the new security environment after the end of the Cold War (Raska 2016, 3-4; Cigar 2009, 461). Indeed, the Northern Fleet’s fortunes has thus been largely determined by its relation to the dominating schools of naval thinking in general and intra-service rivalry with the Black Sea Fleet in particular, as an increasing Arctic focus and Northern push has accompanied a simultaneous high priority of maintaining an exclusive sphere of influence in the post-Soviet states (Tsypkin 2010, 345). However, such an in-depth analysis of inter- and intra-service rivalry is regrettably excluded due the thesis scope, yet is referred to where appropriate and necessary.

³⁷ *Threat perceptions* is herein defined as “the expectation of harm to assets or values of the nation in the absence of action by the decision-making units” (Maoz 1997, 174). Analysing Russian threat perceptions demands however imperative distinctions on linguistics: In Russian military parlance, a *threat* could spark conflict and is defined as “the realistic possibility of an armed conflict arising”, while a *danger* is a “concern and a situation with the potential under certain circumstances to develop into a threat” (Oliker 2016; Monaghan 2016). The difference in Russian doctrinal lexicon is significant, and the distinction makes an important political statement imperative to account for in any analysis of Russian interests and intentions.

its inclusion in the research design in accounting for the Kremlin's continuous efforts in developing a force structure adapted to the new security environment (Gayday 2011; Krupnov 2006, 1).³⁸

In Russia, defence planning is furthermore naturally closely connected with military thought and science, beginning first and foremost with an assessment of the emerging character of war leading to a projected future environment through employing “foresight”, *predvidenie*, as the process of gaining knowledge of possible changes in military affairs while determining their future development (Bukkvoll 2011, 983; Thomas 2015, 451; Ogarkov 1983, 585).³⁹ As the main responsibility of the General Staff, *General'nyy shtab Voruzhonnykh Sil Rossiyskoy Federatsii* (GS), the GS' duties as such typically involve echelons which in the West is usually conducted at the military-strategic level (Adamsky 2015). In Russian parlance, such responsibilities revolve around *strategic thinking* and *operational art*, denoting the domain of intellectual activity diagnosing “emerging military innovations and transformations in the ways and means of waging warfare” while developing “the most optimal concept of operations, organizations and weaponry” (ibid, 9).⁴⁰

Thus in Russian maritime defence planning, the GPVs are herein considered products of the combination of antecedent perceptions and conditions—herein specifically naval thinking, threat perceptions, reforms and strategic thinking and operational art—in sum fundamentally defining Russia's approach to seapower and the maritime domain in the North, naturally requiring their proper probing as to validly infer from their outcomes. In combination, the adopted conceptualizations of the Russian maritime defence planning process moreover allow analytical recognition of the RFN as a complex social construct, developed in the interfaces between the civil and military dimensions (Gray 2014, 5). To that effect, establishing an observable nexus between the civilian and military dimension in which defence planning is conducted is here considered essential in order to trace the exogenous effects and reach valid inferences from the resulting variation in maritime defence planning and seapower as a whole.

2.2.2 Establishing Agency: The Russian Civil-Military Interface

Understanding how politicians exercise military control and management by identifying the factors and trade-offs inherent in the relationship shaping it on a day-to-day basis thus necessitates

³⁸ In Russia, military reform has historical roots and its own terminology in military dictionaries based on Soviet era Marxist-Leninist ideology with the basic framework for and definition of reform remaining the same today, defining it as a “significant transformation of the military systems of the state undertaken after decision by the highest organs of state power [...] brought about by new political tasks of the state and the emergence of new kinds of arms, economic considerations, or a change in the level of production, the means and methods of warfare” (Pallin 2008, 50).

³⁹ To that end, “forecasting”, *prognozivovanie*, defined as “the scientifically substantiated determination of the prospects of future development of armed forces, military equipment, military art, the probable course and outcome of individual wars” is an essential component of foresight in Russia (Ogarkov 1983, 593).

⁴⁰ *Strategic thinking* here refers to the consistent and coordinated calculations based on perceptions of the strategic environment with sustainable ideas and long-term objectives as per the desired outcome's end-state, whereas *operational art* in Russian military science specifically denotes as the theory and practice of achieving strategic goals through the design, organization and conduct of operations and combat (Rozman et al. 2006, 1-4; Brannon 2016; Adamsky 2015, 9).

clarification of the character of maritime defence planning's decision-making processes (Feaver 2003, 2; Cimbala 2012, 193). As such necessarily acknowledging the Clausewitzian logic of war and conflict as a continuation of politics by other means, the thesis is therefore intimately connected with the theory and practice of civil-military relations (CMR).⁴¹ Yet, despite the importance of policy as the legitimizer, patron and supplier of purpose and direction to the use of force—largely perceived as “the principal institutional component of military and security policy”—the lack of a *prima facie* clarity about both the character of the civilian and military spheres and the nature of their relationship generate conditions of ambiguity in their research (Huntington 1957, 1; Rios-Figueroa 2016, 44).

Thus, CMR theory admit of substantial complexity in lacking both a universally accepted definition on what constitutes it and a generally accepted analytical framework for its analysis (Rios-Figueroa 2016, 44). Moreover, the habitual development and fixation by contemporary CMR studies on normative ideal types centered around the conceptual pivot of the *civil-military problematique* effectively assuming static degrees of independent and politically sterile military spheres of action more often than not prove empirically ill-fitted for several reasons while most importantly effectively ignoring the interactive nature of the decision-making process (Herspring 2013, 1-3).⁴² In Russia, the political leadership often-times interfere in ongoing military operations, and the military institution frequently and publicly voice its resignation against political decisions while simultaneously constituting a central defence decision-making institution affecting the process itself.

Thus, the thesis rather adopts an arguably more useful approach towards understanding Russian CMR by rather focusing on the processes and management, as such circumventing the normative assumptions and ideal types supposing a continuous zero-sum game between two binary and potentially antagonistic entities (Herspring 2016, 32). The political-military dynamic is therefore here rather considered as one of *shared responsibility*, denoting the degree of cooperation between the civil-military leadership in forming national military policy (Bland 1999).⁴³ Creating conditions facilitating an interactive exchange in which neither side wins in the absolute, such a CMR conceptualisation here rather focuses on the process from the opposite point of view—namely that of the military leadership in general and, in the case of this thesis, admirals in particular (Herspring 2016, 33). From the naval perspective then, fostering shared responsibility is the degree to which the

⁴¹ While civil-military relations in the most abstract is concerned with the relationship between civilian authority and the state's armed forces in general, the study is here preoccupied with the sub-category of political-military relations.

⁴² The *civil-military problematique* concerns the ontologically prior and inherent challenge of establishing orderly relations of military attributes proficient in ways of violence while simultaneously requiring their subordination, thus preoccupied with *civilian supremacy* as the sole legitimate source of military power and *military professionalism* as the condition achieved when the military's expertise, responsibility and corporateness are allowed independence in a separate military sphere of action (Bland 1999; Feaver 1996).

⁴³ From a theoretical standpoint, the concept of shared responsibility itself is normative and an ideal type (Herspring 2013). It is however beyond the scope of the thesis to employ it for theory testing purposes, and indeed the simplified, superficial summary provided here would neither reliably nor validly benefit its theoretical-empirical development and accumulation. Nevertheless, the theory is employed as a useful conceptual framework to better understand the dynamics of political-military relations from both sides with a particular weight on the perspectives of those in uniform—considering the thesis' overall seapower foci.

navy-specific military culture and *raison d'être* is respected (ibid, 34). Thus, its definition as one of shared responsibility *a priori* assuming a healthy conflict is theoretically important as though Russian CMR is herein not of primary analytical concern yet will be discussed where appropriate, the thesis' objective of probing the GPVs as the LTDP processes' observable outcomes in developing seapower requires its proper definition as a decisive ontologically prior determinant of the empirical observations here under study.

As such, in establishing an observable nexus between the Russian political and military dimensions in which defence planning is conducted and thus providing agency to the maritime defence planning process, the analysis necessarily becomes engrossed with command and control (C²) of military operations. In generic terms, the chain of command may be divided into four basic operative levels in accordance with modern military theory's levels of war—political-strategic, military-strategic, operational and tactical—through which the political and military leadership develops and maintains armed forces (Andersen and Johansen 2012).⁴⁴ As such preoccupied with studying the interplay within the management apparatus as the most important tool enabling leadership of military forces, such analytical endeavours of Russian defence decision-making processes prove particularly complex given the unclear delineations of the military sphere—deriving in the main from the primary “power structures”, *siloviki struktury*, which also includes paramilitary and security services tasked with *internal security* (Andersen and Johansen 2012, 30; Smith 2010, 29).⁴⁵

Moreover, in Russia, several caveats in approaching military management arise first and foremost due to the internal differences regarding the necessary and sufficient conditions constituting them. Whereas Western thinking determines the level of war by the size of force, in Soviet and Russian military thought it is possible for a small force to have strategically shape and influence the outcome of wars and conflicts (Brannon 2016, 20). Thus, with a fairly nuanced interpretation of the differences between the tactical, operational and strategic levels of military science, in Russia the

⁴⁴ Whereas the *political-strategic level*, political objectives are defined alongside what military means to be applied under different types of operations within certain frames for application, the *military-strategic level* defines military-strategic objectives and is responsible for planning and executing military operations in order to realise the political-strategic objectives (Andersen and Johansen 2012, 30). To that effect, the *operational level* is responsible for planning, leading and executing national and international joint exercises in one or several limited AOs in order to attain the military-strategic objectives, whereas the *tactical level* is responsible for locally redeploying allotted military units and departments while applying these in contributing to attain the objectives determined by the operational level in its entirety, thus forming tactics in setting demands to the particular services (ibid, 31). In Norway, the political-strategic level is represented by the Norwegian Department of Defence in general and the Minister of Defence in particular; the military-strategic level by the Norwegian Chief of Defence (ChoD) and his Defence Staff; the operational level by the Joint Operational Headquarters (JOHQs); and the tactical level by the RNoN and the Commander in Chief (CinC RNoN).

⁴⁵ In Russian jargon, the term *siloviki struktury*, directly translating into “power-wielding” or “force-wielding” structures, refers collectively to the Russian military, law-enforcement and security services (Renz 2006, 903). Dating back to the Soviet era, the Russian military has constituted a dual military organization in which the RAF subordinated to the Russian DoD has traditionally carried out tasks for the objective of *external security* alongside the so-called Other Troops of the “power ministries”, namely the Ministry of Internal Affairs (MVD) and the various KGB successor organizations, and their security forces tasked with *internal security* (Haas 2011a, 8). Whereas the latter's growing presence in Northern waters have increasingly “muddled the water” as to their respective interfaces with the traditional military forces, the focus herein is on the former (ibid).

difference between them is rather based upon the scope of the mission, and is therefore best approached as *dynamic* rather than *static* echelons (Grau and Bartles 2017, 11).

Russian C² furthermore significantly differs from Western practice as the extent to which a single command structure coordinates military and non-military assets through joint political-military commands dates to the days of the tsar, with the primary goal of rather having a single, strong institutional “boss”, *vozhd*, controlling both the range of operations and agencies involved (Galeotti 2016, 293).⁴⁶ To that end, structural changes reflect variations within and the significant increase of the influence of Russian military-strategic thought inside the political system throughout its post-Cold War development, and its role in military preparations for war, shaping economic priorities while providing a strategic framework for critical security and defence calculations in peace, crisis and war (Covington 2016).

Whereas analytically approaching such empirical conditions should in theory be possible through deducing the institutions’ corresponding roles by referencing the legal documents governing their purpose, their tasks have become closely entangled to the extent that it presents a significant challenge for understanding the chain of command (Giles 2012). As such, during and immediately after Soviet times, the relationship between the decision-making bodies were understood better than it is in contemporary Russia (ibid). Thus, rather than approaching Russian C² as fundamentally comparable to Western military management, what follows is rather a description of central defence decision-making organs and significant changes in the balance of power within the peculiar civil-military hierarchical structure governing the Russian military machine.

2.2.2.1 The Russian Chain of Command

First and foremost, executive authority in Russia over the military lies with the office of the president as Supreme Commander in Chief, almost exclusively dominating the formulation of security and defence policy in the post-Cold War era alongside the key policy-formulating state organ since its 1992 creation, namely the Security Council of the Russian Federation, *Sovet bezopasnosti Rossiyskoiy Federatsii* (SCRF), with all the heads of key security organs within it (Smith 2010).⁴⁷ Presidential powers have simultaneously become significantly more prominent after Putin’s first presidential term with “para-institutional” change as a central element establishing a presidential “power-vertical” (ibid).⁴⁸ Russian defence decision-making thus became highly centralized, with the

⁴⁶ Such peculiarities of Russian CMR and C² is further strengthened from its *vertical* dynamics running between the highest and the lowest positions of political authority and military command and *horizontal* mechanisms institutionally concerning policy matters characterised by its significant interpersonal nature (Szászdi 2008, 6-7).

⁴⁷ The SBRF is a consultative body with its recommendations only with legal force when confirmed by presidential decree (Pallin 2011).

⁴⁸ Efforts strengthening presidential powers include most notably the creation of the State Council of the Russian Federation, *Gosudarstvennyy Sovet Rossiyskoiy Federatsii* (SBRF), by presidential decree in 2000 as a deliberative body replacing the upper house of the national parliament increasingly used as an overall institution of security policy (Haas 2011a, 11).

president's constitutional responsibilities including governing foreign policy, heading the SCRF and approving political- and military-strategic and -doctrinal documents (DIA 2017, 23-24).

Nevertheless, contrary to the scenario often-times suggested in which the *siloviki* wielding control over the power ministries do so as a unified bloc, the balance of power between them has shifted and adjusted repeatedly—at times degenerating into open competition and conflict (Smith 2010, 31).⁴⁹ To that end, Russian CMR and C² has been characterised throughout by a significant power struggle between several central security institutions, particularly the GS and the DoD in which the position of the latter has increasingly been strengthened at the expense of the former (Brannon 2016, 121). Most notably, a 2004 reform subordinated the previously independent GS, main commands and HQs to the highest level of the DoD, effectively becoming a significant empire responsible for the administration of armaments and shipbuilding—drafting state programmes within the defence sphere, most importantly the GPVs and GOZ (Bukkvoll 2011).

Commanding the RAF and charged with defending Russia and implementing defence policy in cooperation with the other power ministries, the DoD—placed directly under the president—thus became overall responsible for military planning and development and the employment, training, mobilization and deployment of the armed forces while ensuring combat and mobilization readiness of its units (Carlsson 2012, 20-33).⁵⁰ By the same token, the Minister of Defence (MoD) has since simultaneously served as deputy prime minister while in charge of a new department established to combine the functions of both posts in organizing the activities the OPK to ensure it meets military demands (Smith 2013, 31-36).⁵¹ Also by tradition dating back to the tsars, the MoD—exercising operational authority over the RAF in overseeing and directing GS operations serving as the DoD's executive organ—is normally a uniformed officer, demonstrating that fixed subordination of the military to civilian authority is neither a tradition nor a concern in Russia (Giles 2012).

In 2011, new supervisory arrangements at the highest level for a smoother and more stable transformation process transformed the SCRF from a consultative body to a policy-forming organ, taking larger part in formulating political- and military-doctrinal documents and approving reform plans, previously the prerogative of the GS (*ibid*, 5). However, whereas document *formulation* takes

⁴⁹ In Russia, *siloviki* specifically denotes politically or economically active personnel with a background from the power ministries and security services—which under Putin saw a major increase in their size and influence (Renz 2006, 903; Åtland 2011, 555). In order to prevent unilateral actions among the security organs, consistent and strict supervision has increasingly been implemented by planting *siloviki* in the management of security organs and other vital institutions wherein their “military-style traditions” aid an authoritarian policy direction, significantly limiting the organs’ “freedom of movement” (Kryshtanovskaya and White 2003; Reddaway 2018). Thus, when Putin moved sideways to a strengthened prime ministerial position with a particular responsibility for security affairs as Medvedev became president in 2008, security policy in Russia seemingly did not dramatically change—more or less reducing Medvedev’s presidency to “Putinism with a human face” (Galeotti 2013, 2)

⁵⁰ Whereas the DoD is subject to constant reorganization and personnel reshuffles, it reports to the president on issues regarding defence and security policies while making propositions to the government regarding the defence budget (Carlsson 2012, 15). In 2012, the creation of the Directorate for Analysis of the State Armament Programme and the Annual State Defence Order, tasked with monitoring the implementation of the GPVs and GOZ, further strengthened the DoD’s position vis-à-vis the federal agencies and defence industry (*ibid*, 16).

⁵¹ Whereas the English application of the term “complex” refers to a “collusion between the military organization of a country and that country’s military industry”, in Russia it denotes the “sum of arms producing enterprises in the country” (Bukkvoll 2013, 7).

place mainly within the SCRF apparatus, its *development* takes place in conjunction with the DoD, the Department of Interior (MVD), FSB and the GS alongside other institutions playing a certain role (Smith 2013). To that end, the ChGS's presence on the Council effectively bridges operational art and national strategy—making it the logical and effective place for doctrine and capability development for the entire DoD (Grau and Bartles 2017, 11).

Thus, the Prussian-style GS system still enjoys significant authority, far more than any Western equivalent: With its primary mission of ensuring the military security of Russia, the GS is as such responsible for monitoring the threat environment and developing strategic and operational plans to equip, mobilize, employ, command and control the armed forces (ibid, 10; DIA 2017, 243). To that end, the MoD depend still on the cooperation of the GS' three vital directorates, namely the Main Directorate for Operations, the Main Organizational-Mobilisation Directorate and the GRU, the former of which is often-times referred to as “the brain of the armed forces” (Carlsson 2012, 32).⁵² Thus overall responsible for operational-strategic level planning, the GS' duties remain the sphere of military affairs typically bridging the strategic and tactical levels of military planning (Brannon 2016; Adamsky 2015).⁵³

Meanwhile, the Military Districts, *Teatr Voyennykh Deystviy* (TVDs), their corresponding command levels and HQs are subjected to the GS and operationalises political and strategic objectives to feasible plans and operations—constituting alongside the Main Operations Directorate as such the nexus between the military-strategic objectives and the application of military forces (DIA 2017, 27). Whereas the number of TVDs in 1999 were reduced from eight to six, radical reforms in 2010 of higher C² in the RAF further amalgamated six TVDs into four, each with a newly established Operational Strategic Command, *Obedinonnoe strategicheskoe komandovanie* (OSK), cf. Figure 3 and 4 in Appendix. An important aspect of the OSKs is the ability to form and command combined battle groups of units both from different branches of service and from other ministries, thus shifting authority from Moscow while absorbing responsibilities at the expense of the service-wise commands (Giles 2012, 2). While theoretically under the ultimate control of the president whose permission is required for deployment, it has been suggested that the powers of OSK commanders are to include authority for independent action “under certain circumstances” (ibid).

Thus, the whereas the service-wise commands, herein particularly concerned with that of the Commander in Chief of the RFN (CinC RFN), are responsible for military planning and for

⁵² The Main Directorate still possess operational control of the armed forces, organizes strategic and operational force planning, executes military exercises and operational training and engages with multilateral military-security organizations—as such shaping the Defence Plan of Russia and identifies sources of threats for strategic planning while working with the GS' Military-Scientific Committee (VNC) to draft the GPVs (DIA 2017).

⁵³ As the theoretical development in which studies changes and continuities in the character of warfare while emphasizing the most ideal operational concepts, organizational configurations and weapon-systems, Russian operational art is as such “the sphere of intellectual activity diagnosing emerging military innovations and transformations in the ways and means of waging warfare” (Adamsky 2015, 9).

developing units under their command, giving directions concerning combat training and ensuring the units' constant combat and mobilization readiness, the OSKs as joint force commands possess ultimate control in peace and war over all general-purpose forces stationed in or deployed within their respective TVD (Carlsson 2012, 33; DIA 2017, 27). In 2014, additional organizational changes aiming at improving Russian capability to project military power into the Northern region established such a unified C² structure for the North—Based around the Northern Fleet as the main striking force, OSK “Sever” has however has yet to officially become Russia’s fifth such body, despite its *de facto* status as an OSK in all but name, cf. Figure 5 in Appendix (IISS 2017, 189).

Thus in the Russian defence planning process in simplified terms, *the political- and military-strategic level*—referring here collectively to the president, the SCRF, the DoD and the GS in particular—constitute the top level forming the state’s defence concept alongside a framework for military expenditures and its distribution between the different services. The *political and military leadership* thus refers here collectively to executive political leadership and military top-brass in general, and the shared responsibility between the president, the MoD and the Chief of the General Staff (ChGS) and their relations with the *operational and tactical leadership*—deduced in the most abstract and for analytical purposes to incorporate in the main the GS’ Main Operations Directorate and the OSK Commanders alongside the service-wise CinCs, respectively, cf. Table 2 in Appendix.

2.2.2.2 The “Agent-Structure Problem” in Political Analysis

In establishing agency in such a way at group-level, the thesis touches upon the inherent agent-structure problem in political analysis as “[a]ll collectivities are ultimately reducible to individuals”—As such, certain ontological and epistemological considerations is warranted before proceeding (Ferguson and Koslowski 2000, 150).⁵⁴ First and foremost, traditional studies of leaders are inevitably *ex post* examinations in which the role of the leader is usually assumed to be a decisive factor: While contemporary leadership studies have developed methods of studying leadership as a restricted, adaptive, negotiated and dispersed social process, the leader is necessarily a factor whose influence in the dynamic situation characterising defence planning is variable and needs to be established and identified rather than assumed (Harding 2015, 120).

Considering further how navies as the main units here under study are made up of the people who serve them, namely the officers, seamen and administrators—the key function of the former in

⁵⁴ While the selection of analytical level constitutes ostensibly a mere matter of methodical or conceptual convenience, the choice between either agents or structures as ontologically prior has been a constant and factious characteristic of modern political science history alongside their consequential epistemological interpretation (Carlsnaes 1992). While a complete level-of-analysis framework is defined in terms of the individual level, the state level and the international level of explanation in its simplest form, the framework here does not itself include *explanations* at the individual level. Merely, it assumes that in order for systemic level explanations to become empirically observable, they must first be *perceived* by the military and political leadership before they manifest as results of the defence planning process.

which is to lead—the individual level becomes all the more important for reaching valid and reliable inferences (ibid). To that end, the individual level requires a systematic behavioural analysis in establishing the individual cognitive constraints on the rationality of the individuals within both the military organisation and the decision-making processes (Jackson and Sørensen 2007, 234-235).⁵⁵ Indeed for defence planners, *defence-specific cognitive pitfalls* pose as specific caveats in planning for a future in which one knows nothing about for certain, resulting in irrational thinking with the potential of negatively affecting the foundation of decisions (Beadle 2016, 49).⁵⁶

Nevertheless, a coherent and thorough three-level analytical framework in this context with a systematic behavioural analysis of the individuals central within the decision-making processes studied herein is abandoned due to the study's otherwise significant longitudinal scope, thus analytically ignoring by default the presence of cognitive caveats. Moreover, appealing to the issue of structure and agency as a first and foremost “problem” with a potential “solution” is essentially to propose that the issue is an empirical one that may be efficiently resolved, arguably amalgamating the empirical and the ontological (Hay 2011, 467-478). While empirical observations of the individual level may be accounted for, the data themselves are not ontologically discriminating—though it is often presented as such (ibid).

Rather, it is acknowledged herein as per the *strategic-relational approach* that that both actors and structures are always present in and crucial to defence planning, as its complex decision-making processes occur “between many [interacting] actors, differentially embedded in a wide range of different structures. Their interaction is a dynamic process, leading to the constant evolution of both actors and structures” (ibid, 114; Hill 2016, 49). The thesis therefore conforms to the cognitive school in assuming that the political and military leadership operates in an environment of *bounded rationality* in limiting individual rationality to the information they possess, their cognitive limitations and the limited amount of time at their disposal to reach a rational decision (Hayakawa 2000). Thus, in assuming that the agents lack the ability and properties to arrive at the “optimal and ideal solution”, they apply their rationality only after having simplified the choices available, thus selecting satisfactory rather than optimal alternatives (Mintz and DeRouen Jr. 2010, 68).

⁵⁵ At the individual level, the cognitive constraints on the rationality of human agency include “limits on the individuals’ capacity to receive, process and assimilate information about the situation; an inability to identify the entire set of policy alternatives; fragmentary knowledge about consequences of each option; and an inability to order preferences on a single utility scale” (Holsti 2006, 332).

⁵⁶ Whereas *short-sightedness* stems from the political and human tendency to focus on current events may cause overreactions when defence planning requires long-planning for the future, *premature cognitive closing during threat assessments* happens when new and surprising information does not lead to proportional changes in the defence planning scenarios (Beadle 2016, 49). Furthermore, *feelings* favouring certain services or branches may lead to misjudgements in calculating the benefits and risks of new technology or methods, and *abuse of historical analogies* with simplistic parallels between past and current events serves to weaken critical thinking and judgements of probability—as well as dictating the implications (ibid). Finally, *hedgehog ideas of future warfare* concern the development of simple, coherent and final answers to what future wars will be about and how they will be fought, and *stubbornness in times of war* is when the same mechanisms undermining peacetime thinking and planning may lead to catastrophes in war (ibid).

Theoretical and Analytical Framework

As such, the employed agency perspective enables the thesis' primary focus on the *output* of the dynamics and shared responsibilities of the Russian political and military leadership in the maritime defence planning process of developing seapower without arguably critically neglecting inferential validity or reliability from the lacking in-depth focus on the *individual inputs* within it. Moreover, the employed definitions allow for analytical detection of *ex post* irrationality and rationality without erroneously inferring from it as per the presence of instrumental variables not included in the analysis. As such—while the political and military leadership and its dimensions here under study are by necessity interrelated and therefore not exogenous in “the logical-positivistic sense”, the prescribed agency serves in this study rather as a *mechanism* for the phenomena under study, “aiming to bring forth the bigger picture from the tyranny of details” (Saxi 2014, 10).

3 Methodical Framework

In validly and reliably analyzing maritime defence planning in the specific setting of Russia while probing its significance to Norwegian maritime strategy, essential is equipping the research design with the correct and appropriate methodical tools. As an inherently temporal research design, the methodical framework is based Comparative Historical Analysis (CHA) to a single-case study and employing its analytical tools of process-tracing in probing Russian maritime defence planning and seapower to causally infer from its development. To that end, the dependent variable is sequentially operationalized by aggregation from which the inductively derived dimensions allow longitudinal comparison of its within-variation revealing continuity and change, imperative to answer the two-fold research question. However, as social and political science never have been and never will be natural sciences, the trade-offs posited by the chosen methods and thus the *validity* and *reliability* assuring the quality of the research design's approach towards its construction of empirical reality will be discussed in the following sections throughout.⁵⁷

3.1 Comparative Historical Analysis

In providing a foundation for "making statements about empirical regularities and for evaluating and interpreting cases", the comparative method's value in investigating phenomena as wholes enables the identification of similarities and differences vital to understanding, explaining and interpreting historical outcomes and their significance (Ragin 1987, 1-16). In empirically-grounded deep case-based research, CHA's definition as neither tied to nor unified by one particular methodical approach rather derive from its necessary and sufficient elements differentiating it from other methods, prescribing it with an unmatched comparative advantage—the sum of which makes it a particularly adaptive method to the thesis aims and most appropriately applied to reach valid and reliable inferences (Thelen and Mahoney 2015, 3).

First and foremost its primary focus on identifying causal structures and schemes to establish *causal inference* by probing specific social and political outcomes and their *causal mechanisms* rather than introducing them as subsidiary components of an overall narrative is herein considered particularly valuable (Mahoney and Rueschemeyer 2009, 10-11).⁵⁸ In offering causal insight into particular phenomena while capable of analyzing and explaining its complex processes, CHA's causal analysis and inference serves thus to probe the causal mechanisms of Russian maritime defence

⁵⁷ As a dichotomy of overarching criteria for accurate finding, *validity* refers to "measuring what we think we are measuring", whereas *reliability* refers to its precision in that "applying the same procedure in the same way will always produce the same measure" (King et al. 1994, 25).

⁵⁸ *Causal mechanisms* are herein understood as "the agency or means by which an effect is produced or a purpose is accomplished", and thus refers to a causal pathway and process by which a causal factor of interest affects an outcome (Gerring 2012, 215).

planning and seapower, deriving from its empirical nature as an inherently temporal process with a distinct *causal chain* (Lange 2013, 117).⁵⁹ As such, within the given temporal scope limited to the study *ex post* 1999—marking a critical juncture by Putin’s first presidential term—the study becomes by default preoccupied with several temporal sequences and thus multiple causal chains over time given the sequential nature of the dependent variable and the longitudinal nature of the GPVs.⁶⁰ To that end, CHA’s preoccupation with and the particular recognition of the importance of temporal processes and their processual unfolding over time is herein regarded particularly beneficial in probing for change and continuity, allowing a holistic approach to correlation, causation and its in-depth assessment (Thelen and Mahoney 2015, 4-12; Pierson 2004, 172).

Consequently, CHA’s acknowledgement that the comparative method need not necessarily involve clearly defined and delineated comparisons of between- or within-case variation is here deemed particularly fruitful in acknowledging the difficulty in comparatively constructing and analytically approaching an empirical reality which does not reflect the analytical need for distinctly comparable margins (Thelen and Mahoney 2015, 8-9). Rather, the methodical framework adheres to the claim that many qualitative studies on the contrary make valid causal inferences by focusing attention centrally on processes and decisions within cases, not as a means of underappreciating parsimony but rather to account for the axiom in studying complex social and political phenomena that there is “no alternative to analyzing the effects of causes in light of the context in which they occur” (ibid, 8; Munck 2004, 114).⁶¹ Thus, central to the thesis’ research design is the notion of *implicit* and *longitudinal comparison* of the dependent variable’s *within-variation* due to the dependent variable’s temporal aspect (Collier and Mahoney 1996, 75-80).⁶² To that end, Ljiphart’s (1971, 689) infamous assertion that “the same country is not really the same at different times” is particularly plausible as an alternative way of maximising comparability through analysing the longitudinal dimension of a single case (Landman 2004, 34).

Another appealing feature and particular adaptability for the thesis aims providing it with a major advantage includes CHA’s position between and combination of quantitative and qualitative methodologies and approaches in employing an *inductive-deductive* logic of complex reasoning as a

⁵⁹ A *causal chain* describes “a situation in which many intermediate causes lie between a cause and an outcome (Gerring 2012, 225). Thus, the thesis aims not to primarily analyze the external determinants of Russian maritime defence planning and seapower in the North, requiring a *covariate research design* with clearly delineated orthogonal and exogenous variables where causal assessments rest primarily on the covariation between *X* and *Y* across a sample of observations, but rather to trace the causal mechanism inherent in maritime defence planning’s endeavor of developing seapower and its longitudinal variation (ibid, 418).

⁶⁰ The limitation of the temporal scope to that post-1999 is furthermore methodically supported by the combination of exogenous, systemic and endogenous, domestic-political conditions in combination contributing to a threshold effect allowing for renewed focus on military modernisation and reform, specifically external shocks as per the Iraq war strongly influencing threat perceptions.

⁶¹ As such, it promulgates that one cannot understand the interests and actions of key actors without appreciating the macrostructural environment in which they are situated as systemic characteristics play a crucial causal role by shaping individual agents (Thelen and Mahoney 2015, 8).

⁶² While a single-country study may further be considered comparative in employing concepts applicable to other countries enabling comparisons cross-case, seeking to make larger inferences enabling comparisons cross-case is not a primary methodical aim (Landman 2004, 34)

valuable component, allowing new information in light of detailed case evidence to restructure and refine the assumptions and directions of the study throughout the research process (Ragin 1987; Mahoney and Rueschemeyer 2009, 13).⁶³ Thus strengthening the thesis' validity and reliability, such an inductive-deductive mode of research has been applied throughout in facilitating in-depth inferences on Russian maritime defence planning and seapower by excluding from the study explored factors deemed invaluable or otherwise irrelevant so as to focus herein on the main changes and continuities of particular interest. Similarly, the inductive-deductive process has simultaneously provided a valid and reliable framework for its analysis inductively derived from the dependent variable's longitudinal and multidimensional nature uncovered throughout the research process.⁶⁴

3.1.1 Case Selection and the "Small-*N* Problematique"

As a case-oriented strategy of comparative research with a focus on temporal variation which includes particular focus on causality, CHA is as such the favoured research strategy for political and social scientists when studying a small number of cases or other macro-political phenomena (George and Bennett 2004, 23; Gerring 2012, 414). To that end, *case selection* remains an important element of comparative-historical research designs given its potential to introduce bias into the analysis in differing ways, demanding consideration of its bearings on the analysis' ultimate findings (Lange 2013, 169). As the study of Russian maritime defence planning and seapower is selected on the basis of a motivation from an applied research perspective given the dimensioning influence of Russia in Norwegian defence planning, *theory testing* is neither an analytical nor methodical primary aim.⁶⁵ Whereas Russia in the naval context as per the humdrum academic practice of analyzing its approach to the maritime domain as a defective mimicry of Western concepts may indeed be considered a *deviant* and *critical case*, case selection remain herein independent of the classical comparative method's aim of establishing general empirical relationships by unabashedly selecting cases on the dependent variable's variation (Till 2016b, 63; Lijphart 1975, 164).⁶⁶

To that end, while a motivation throughout has been the avoidance of negatively value-laden academic practices undermining Russian maritime defence planning and seapower allowing its objective analysis, the main motivation is gaining in-depth knowledge of its causal processes and its development in the context of Norwegian decision-making. To that end, the thesis methodical aim is

⁶³ In following the *inductive* logic of inquiry the thesis drives propositions and formulates sequences from empirical observations, herein considered essential to comprise the core sequences and processes at the center of Russian maritime defence planning and seapower (Hall 2013, 27). In comparison, the *deductive* mode of process tracing deduces propositions from more basic premises and carry out implicitly or explicitly process tracing tests to test specific causal claims initially formulated from inductive process tracing or otherwise derived theoretically (Thelen and Mahoney 2015, 229).

⁶⁴ Confer *Chapter 3.1.2 Process-Tracing, Causal Mechanisms and Construct Validity* for inductively derived operationalizations of the dependent variable simultaneously functioning as dimensions in which to measuring military change and continuity, and a discussion of its validity and reliability.

⁶⁵ In theory testing research, the aim is theory verification starting with the selection of theory from which to deduce hypotheses and design a study for which to test them (Punch 2014, 21)

⁶⁶ A *critical* or *crucial case* assumes a least-likely or most-likely set-up as a method offering particularly convincing verifications for or against a proposition (Gerring 2012, 418).

rather *exploratory* preoccupied with *theory generation* as per the primary aim of investigating the main changes and continuities of Russian maritime defence planning since 1999 rather than specifying *how much* specific instrumental variables have contributed and mattered to its development given the dual-nature of the research question in probing for its implications to Norwegian maritime strategy—consequently neither aiming to probe nor explain the causal relationship between them which would require a covariate research design of X and Y establishing Russia instead as an exogenous, orthogonal independent variable.⁶⁷

Rather, the exploratory research design and methodical tactics aiding causal inference from probing the dependent variable's temporal nature is based on the axiom that only by perceiving the combination of Russian strategic prerequisites and objectives in the North as well as the operational and strategic realities deriving from them may one conclude with a reasonable degree of accuracy what kind of military threat Norwegian maritime strategy may face in the region and how RNoN may still achieve its main tasks facing them (Strømmen 2017, 25). Nevertheless, the methodical approach naturally requires particular mention of certain caveats before proceeding, first and foremost deriving from the well-known and long-standing dispute within the political and social research *milieu* of whether or not the goal of research should be to maximise the number of observations to increase *external validity* in facilitating generalisation (King, Keohane and Verba 1994, 213).⁶⁸

To that effect, CHA's humdrum critique derives from what here is considered its principal asset, namely its case-oriented research strategy weighing within-case rather than cross-case variation aiming to improve generalization of causal inference (Collier et al. 2010a, 10). By default introducing the "*small-N problem*" pioneered by Lijphart in social and political scientific research—to some degree exacerbated by CHA's temporal preoccupation not only studying correlation but also the sequence of change over time—external validity constitute the research design's greatest limitation given the focus on particular causal processes and the "difficulty in providing nomothetic insight on its own" (Pierson 2004, 173; Lange 2013, 118-119).⁶⁹ However, as "an intensive study of a single unit", certain inferential generalisations for similar strata may still be made as a large- N cross-case analysis is not always necessary to achieve a maximisation of observations: Indeed, central to the thesis' research design focus on within-variation is its natural introduction of variance on the

⁶⁷ In theory generation research, the aim is to develop a theory systematically from the data collected (Punch 2014, 21). Consequently, it is as such not methodical aim of probing a causal relationship between Russia and Norway by simultaneously assessing *how* Norwegian defence decision-making has accustomed its naval forces to face its Russian neighbour in the North—in effect requiring a research design in which Norwegian maritime defence planning and seapower figures as the dependent variable with the dimensioning factor of Russia as an external, orthogonal determinant rather than having solely established its dimensioning influence as an *a priori* assumption as established in *Chapter 1 Introduction* from which the strategic and operational consequences for Norwegian maritime strategy naturally follow.

⁶⁸ *External validity* refers to the ability to generalize the study's findings to a broader population of cases in explaining macro-political phenomena or make general causal claims (Gerring 2012, 84).

⁶⁹ The "small- N problem" maintains that its main objective is theory generation rather than theory testing as the validity of theoretical propositions requires testing in large- N cross-case quantitative analysis, as such giving rise to the lack of external validity (Gerring 2012).

dependent variable by default increasing the number of observations (Collier and Mahoney 1996, 75-80). After all, within-case comparisons are critical to the viability of small-*N* analysis, strengthening causal analysis and inference through their internal comparisons in sum increasing the *N* of relevant phenomena (Collier 1993, 112).

Nonetheless, due to case-study methodologies' interplay between theory and empirical evidence and their insufficiency of determining degrees of causality, the thesis' single-case research design's particular emphasis on detailed explanatory potency has by default exchanged external validity for *internal validity* (George and Bennett 2004, 25).⁷⁰ Remaining much more apt in identifying conditions of theoretical applicability and assessing conditions of necessity or sufficiency than estimating generalised causality, the thesis' research design remain constructed around its primary exploratory aim.⁷¹ Thus, the thesis avoids generalising findings of Russian maritime defence planning and seapower and what they represent for other similar cases, but rather focus on the causal mechanisms of its within-variation from its in-depth study. To that end, the thesis' internal validity is strengthened by CHA's causal analysis in its ability to consider the causal impact of multiple factors, to analyze complex processes and to employ a holistic approach (Lange 2013, 118).

3.1.2 Process Tracing, Causal Mechanisms and Construct Validity

At the heart of small-*N* qualitative research, the employment of *process tracing* in examining Causal-Process Observations (CPOs) as “diagnostic pieces of evidence, commonly evaluated in specific temporal sequence” within a spatially bounded occurrence of a phenomenon aiming to probe and infer on causal mechanisms and processes represents the foundational and empirical core of CHA's within-case analysis (Bennett 2010, 208; Mahoney and Thelen 2015, 229).⁷² Thus offering insight into causal mechanisms of particular phenomena involving a central concern with sequences and mechanisms in the temporal unfolding of causal processes, process tracing is herein employed as a procedure to identify specific CPOs and evaluate their contribution to the causal mechanisms of Russian maritime defence planning and seapower, seeking as such to trace the causal sequences producing the results here under study (Collier et al. 2010b, 201-202; Mahoney and Rueschmeyer 2003, 51).

⁷⁰ *Internal validity* refers to whether a “a finding is true for the chosen sample” (Gerring 2012, 84).

⁷¹ To that end, the case study herein may aid in particular the exploration of necessary and sufficient conditions for a certain outcome, thus serving the heuristic purpose of identifying potential causal paths and determinants from which resulting inferences may be tested in a cross-case variation design (George and Bennett 2004, 25).

⁷² Causal Process Observations (CPOs) are herein defined as “an insight or piece of data that provides information about context or mechanism and contributes a different kind of leverage in causal inference”, and their strengths as “diagnostic nuggets of data”—contrasting Data Set Observations (DSOs) as the “grist for statistical modeling”—derive from their detailed comprehension collected from multiple primary and secondary sources in probing and tracing causal processes (Freedman 2010, 221). Consequently, as the thesis' analytical aim is to probe the development of Russian maritime defence planning and seapower through the dimensions outlined above necessarily causally linked in a causal chain, employing process-tracing to identify CPOs constitute a particularly attractive analytical tool (Vennesson 2008, 233)

To that effect, the thesis' methodical focus on the temporal aspects of change and continuity in the dependent variable's within-variation requires explanatory tools for probing the development of Russian maritime defence planning and seapower since 1999, namely the *sequencing* approach of *path dependence* and *critical junctures* probing for *threshold effects* in the causal chain—here considered particularly useful in identifying and explaining change and continuity from probing causal mechanisms and distinguishing them from correlation in their variation in the dependent variable.⁷³ As such, the thesis' methodical framework follows the *inductive* mode of process tracing in sequentially operationalizing Russian maritime defence planning and seapower by aggregation based on its multidimensional and longitudinal nature from which the inductively derived dimensions function as CPOs simultaneously allowing temporal comparison of its within-variation revealing continuity and change—imperative to answer the two-fold research question through a *deductive* mode of inquiry probing the resulting causal chain and its empirically observable outcomes.

After all, in short tantamount to a sustained process, military change and transformation is the product of a series of choices made over time and at different levels within a military organization, herein studied through the foci of the Russian maritime defence planning process developing seapower—to which the Navy is approached as its observable demonstration (Stulberg and Salomone 2007, 16). To that end, the methodological framework's *construct validity* allowing for the proper probing of Russian maritime defence planning and seapower in the North is paramount for inferential validity—key to which is first and foremost *concept validity* and *concept-measure consistency* (Yin 2009, 45).⁷⁴ However, academic research on military change and continuity—habitually portraying and interchangeably applying the term within the context of related concepts and in-vogue terms—lacks a universally accepted definition on what constitutes it while failing to provide a generally accepted framework of operationalizations allowing its cumulative study.⁷⁵

Thus, the idiomatic practice of conceptual stretching demands a calibration of the conceptions and operationalizations employed herein alongside the necessary and sufficient conditions constituting it in order to increase reliability and inferential validity. First and foremost

⁷³ *Path dependence* emphasize the dynamic processes of positive feedback or self-reinforcement wherein the costs of reversal are high, thus denoting a causal relationship in which a contingent moment maintains a trajectory and perhaps reinforces it (Pierson 2004, 20). To that end, *critical junctures* place arrangements on specific paths or trajectories difficult to alter and *threshold effects* as radical change occurring when a critical threshold is crossed are essential factors understanding continuity and change in Russian maritime defence planning and seapower (ibid, 135; Lange 2013, 85).

⁷⁴ *Construct validity* refers to the research design's faithfulness to the theory and phenomena under investigation, and concerns whether the research design indeed captures and sufficiently measures the phenomenon under study (Yin 2009, 45). To that end, *concept validity* refers to "the operationalisation of a key concept with a set of indicators", and includes basic assumptions or interpretations, while *concept-measure consistency* refers to the consistency between the conceptualisations and the degree to which their operationalisation and observations reflect the phenomenon intended to measure (Gerring 2012, 95-96; Yin 2009, 45).

⁷⁵ The term military change and continuity is largely portrayed in the context of the debate surrounding four related concepts, namely military modernisation, military and defence reform as part of Security Sector Reform (SSR) and Revolutions in Military Affairs (RMA), employed interchangeably with "transformation" and "innovation"—often-times loosely defined and more often-than-not studying differing aspects of the same phenomena (Norheim-Marthinsen 2016; Bekkevold et al. 2015; Cohen 2004, 295; Stulberg and Salomone 2007, 2).

conceptualizing *military continuity* as a dynamic yet gradual process of policy change, defined as “the ongoing process of adapting, changing and improving military capabilities to handle and manage threats and risks”, the definition acknowledges particularly how its patterns of micro and incremental changes tends to persist over time.⁷⁶ Consequently, *major military change* occurs when these new military means and methods have “transformed into new organizational goals, strategies and structures” (Farrell and Terriff 2010, 5-6). To that end, *transformation* refers herein to the innovational change of Network-Enabled Capabilities (NEC) and the organizational change from a from mobilization to expeditionary defence structure in specific (Stulberg and Salomone 2007, 2; Farrell and Terriff 2010, 5).

3.1.2.1 Operationalisations: Measuring Military Continuity and Change

With the above definitions in mind, the inductively derived operationalizations and dimensions—naturally both qualitative and quantitative—are first and foremost arranged in a sequential or processual manner along a temporal axis as to properly probe the dependent variable’s temporal nature while crucially acknowledging that sequence matters. Moreover, due to their inductive nature, they arguably increase validity while mitigating the dual academic practice of referring to the Russian “mystique” and “distinctness” while simultaneously approaching it as fundamentally comparable to the West—particularly illustrative of methodical foci undermining inferential validity from the start (Till 2016b, 63; Fuller 1992, xix).

Thus, in the first sequence of Russian maritime defence planning and seapower, *threat perceptions, military reform and strategic thinking and operational art* as defined in Chapter 2.2.1 aggregates the LTDP process’ and the political and military leadership’s guiding and antecedent perceptions fundamentally determining Russian maritime defence planning and seapower, cf. Table 3 in Appendix. Collectively referred to herein as *the political- and military-doctrinal framework*, the sequence is approached in combination as central motivational factors in the maritime defence planning process at the political- and military-strategic level as *ex ante* conditions of its development of seapower as its observable outcomes, from which analysis of their respective within-variations provide essential in-depth insight of Russia’s approach to seapower, the maritime domain and the North.⁷⁷

⁷⁶ In the literature providing the definition of “military continuity” it is termed as “military change” despite its continuous character. Thus for the purposes of conforming to the concepts of continuity and change it is here referred to as “continuity” without changing its definition as it nonetheless describes its condition.

⁷⁷ In such a context, “doctrine” refers not only to the “institutionalized beliefs about what works in war and military operations” strongly relating to strategy and tactics, but also denotes high-level doctrine at the political-strategic level reflecting key strategic choices political sponsors have made regarding threats and prospects (Høiback 2013, 1; Posen 2016, 159). Whereas threat perceptions and military reform constitute imperative dimensions accounting for continuity and change in Russian maritime defence planning and seapower necessary to properly understand its causal chain, reflections on their specific implications to Norwegian maritime strategy is of lesser importance herein given their inherently political nature and the thesis’ focus on the military domain, operational and strategic implications for RNoN and those aspects pertaining to crisis and war. Thus in the following chapter,

In such a logical framework, the GPVs are thus approached as the outcomes of the preceding sequence, enabling study of the empirical and observable outcomes of the maritime defence planning process in developing seapower. However, a sufficient operationalisation facilitating proper probing of continuity and change demands circumvention of the central caveat posited by their nature as classified programmes, which herein is achieved by focusing on the quantitative *input measures* as identified by the literature and extant research necessary to generate effective military capabilities provided the RFN and their quantitative and qualitative outputs—in combination holistically operationalizing and aggregating *Russian maritime capabilities in the North* (Biddle 1988; Nye 2011, 54). Such input measurements include first and foremost *strategic resources* provided to the RFN as operationalized through *military expenditures* as per the size of defence budgets as macro-indices as percentage of GPD, GPV and GOZ and in absolute terms in Rubles and its *naval share* as distributed to the RFN alongside *military inventory* and *procurement* as military holdings of tangible components empirically observable and countable, which includes weapon-systems and C⁴ISTAR as critical categories of equipment triangulated with *infrastructure*, cf. Table 3 in Appendix (Tellis et al. 2001; Till 2013).⁷⁸

Whereas military expenditures aggregated in a time-series and their naval share provide a preliminary view the relative power of various military bureaucracy in sum revealing the relative priority given to seapower and naval development while identifying herein important trends and changes at critical junctures, their results through collecting detailed information of the military inventory, procurement and infrastructure as the usable “front-end” dimensions of military force in the Northern Fleet in specific and the RFN in general as such provides critical information of Russian maritime defence planning as the empirically observable outcome in developing seapower.

While the availability of strategic resources is a critical ingredient of military capability, it is but part of the story as seapower ultimately depends on the ability to convert them into a modern force capable of conducting operations, and is as such a critical process determining whether the strategic resources will produce effective military capabilities (Tellis et al. 2001, 143). Such measurements and dimensions here include first and foremost the nature of *maritime strategy* in coping with external threats and the *training* and *operational practice* as per exercises, deployments and sailing patterns functioning as the glue allowing military resources to bind themselves into operationally effective social forms and combat practices (ibid, 143-144).⁷⁹

threat perceptions and military reform as per the political- and military-doctrinal framework function as imperative antecedent conditions significantly influencing the dependent variable—thus important to understand in order to account for within-variation and answer the research question.

⁷⁸ Military holdings are referred to throughout as per their NATO reporting name with their designations as per the Main Missile and Artillery Directorate of the Ministry of Defence of the Russian Federation (GRAU) listed in footnotes.

⁷⁹ *Conversion abilities* refers here to the military organisation’s ability to convert available strategic resources into effective military capabilities capable of conducting operations, and includes *maritime strategy*—which naturally cannot be counted yet is observable as per the Use of the Sea-framework—and *training and operational practice* as per military exercises, sailing patterns and deployments Tellis et al. 2001, 143-150).

In sum then, Russian maritime defence planning and seapower is here studied in the interrelated dimensions affecting naval forces facilitating in combination a valid analysis of its changes and continuities by process-tracing its causal chain, namely the central tenets and within-variation of the *ex ante* sequence as per the political- and military-doctrinal framework and the subsequent strategic resources provided the RFN as per the GPVs triangulated with the Navy's conversion abilities. The thesis structure as such follows their *level of abstraction*, corresponding to the sequences of Russian maritime defence planning in developing seapower in which the dimensions in which to study military and change along the temporal dimension also function as aggregations herein holistically operationalising and measuring Russian maritime defence planning and seapower as the dependent variable as a whole.⁸⁰

Such an aggregation arguably increases internal validity, reliability and replicability as they are clear, explicit and replicable as to reconstructing the concepts allowing for sensitivity tests and disaggregation while limiting the scope of unsystematic measuring errors increasing inferential validity through maintaining a “chain of evidence” (Yin 2009, 122). In conferring to the overarching thesis aim of validly approaching Russian maritime defence planning and seapower in the North by aiding research cumulation in objectively analyzing its innovative and distinct approach to the maritime domain, the dimensions and operationalizations are neutrally applied without predictive assumptions of the causal mechanism under study—Thus attempting to avoid the pitfall of failing to appreciate the individual Russian approach to the study and practice of conflict and the maritime domain as perhaps not unique but significantly different from Western methods, inviting serious analytical and inferential errors in any study of its contemporary employment (Persson 2017, 2).

3.1.2.2 Reliability and Validity: Data Collection and Triangulation

In gathering and analyzing data in ways offering insight into the phenomenon here under study, the thesis employs a *purposeful sampling strategy* to data collection where data is collected on the basis of the above operationalizations and dimensions functioning as CPOs, and their deriving ability to illuminate the within-variations of Russian maritime defence planning and seapower.⁸¹ To that end aiding causal inference, there are nevertheless obvious methodical challenges associated with the thesis data collection, deriving first and foremost from the issues of studying military organizations. Whereas what *prima facie* separates the study of defence planning in developing military capabilities

⁸⁰ In the sequence concerning maritime capabilities as per the GPVs developing them, the dimensions of strategic resources and conversion abilities in which to study military continuity and change do not follow a systematic presentation as the research design's attempt of replicating reality necessarily must account for the axiom that they occur and exist, while interdependently, in parallel with changes and continuities occurring at different junctures within the sequence. As such, they are rather applied, discussed and analyzed where relevant with a strict focus on their changes and continuities in order to increase inferential validity and contextual comparison as the thesis' necessarily must be limited in scope.

⁸¹ *Purposeful sampling strategy* refers here to selection of data on the basis of their ability to “purposefully inform an understanding of the research problem and the central phenomenon” under study (Creswell and Poth 2013, 158).

from other fields of policy analysis is how critical components allowing inferential insights for various reasons are partly or fully closed to observers given their confidential nature, in Russia this is particularly true as its increasingly secretive, opaque and informal decision-making process serves to confuse its analysts (Tsypkin 2010, 333). In particular during the last decade there has been an increasing tendency to increase the secrecy surrounding the NAF, the GPVs, the defence budget and the defence industry, accelerating after the annexation of Crimea in 2014 (Persson 2016, 20).

As such necessarily based on open sources, several choices beyond simply increasing the data collection's transparency to increase reliability have been made in the data collection process to increase *external* and *internal reliability* in turn increasing internal and inferential validity.⁸² To that end, *source* and *data triangulation* is here considered particularly appropriate as quantitative data is partial and qualitative investigation is fractional or otherwise obstructed due to secretive Russian practices, and thus strengthens internal and inferential validity (Tarrow 2004, 178).⁸³ Moreover, given the operationalizations' longitudinal nature, the data collection also relies on *temporal triangulation*, aiding determination whether similar outcomes may occur at differing temporary intervals (Thurmond 2001, 253-254).⁸⁴ Indeed, one of the major strengths of case studies are the their possibility of using multiple sources of evidence through *maximum variation sampling* to provide in-depth data collection describing multiple perspectives about the phenomenon under study, adding to inferential validity and reliability in developing "converging lines of inquiry" where several sources of evidence pointing in the same direction calibrates within-variation (Creswell and Poth 2013, 97-157; Yin 2009, 114-120). By thus employing multiple sources and differing data, the potential issues of construct validity may moreover be addressed as the multiple sources of evidence "essentially provide multiple measures of the same phenomenon" (Yin 2003, 99).

Issues nevertheless arising first and foremost relates to the possibility of basing inferences on untrustworthy or otherwise implausible or unreliable sources and for sampling errors producing a skewed sample from selecting data on the basis of its concurrence with the thesis perspectives—mitigating measures to which, all based on triangulation, are discussed in the following throughout (Grønmo 2008, 192). To that end, data collection consists herein of primary sources triangulated with secondary literature of peer-reviewed research—the latter making up the foundation of data collected, cf. Table 3 in Appendix.⁸⁵ In the former, primary sources of qualitative data include official

⁸² Whereas *external reliability* refers to the validity of generalised inferences and thus inferential quality of the study's measurements, *internal reliability* refers to the accurate collection and recording of information (Brink 1993, 35).

⁸³ Whereas *source triangulation* refers to a research procedure employing several sources of data, *data triangulation* refers here to the strategy of employing empirical evidence derived from more than one type of data in combining quantitative and qualitative data (Bennett 2010, 310).

⁸⁴ *Temporal triangulation* refers here to the collection of data from different periods of time (Thurmond 2001, 253-254).

⁸⁵ *Qualitative data* are thus in sum collected from a multitude of qualitative as to operationalize the dependent variable's qualitative dimensions in which to study change and continuity, namely the political- and military-doctrinal framework—hereunder threat perceptions, naval thinking, military reform,

translations of strategic and doctrinal documents at the political- and military-strategic level, hereunder national security strategies, region-specific strategy documents alongside military and maritime doctrines.⁸⁶

However, serving herein to primarily operationalise threat perceptions in the North and strategic thinking and operational art while increasing inferential validity of other dimensions non-systematically applied—in the main maritime strategy and naval thinking—the documents' ambiguous language with often-times contradicting statements complicates their analysis and concurrent inferences (Sakaguchi 2014, 52). Moreover, given the axiomatic practice of their employment to achieve domestic-political objectives, published official information is particularly treated with caution—Consequently, while primary sources do enlighten the political and military leadership's thinking, they cannot function as blueprints (Persson 2016, 20; Bukkvoll et al. 2017, 17-18).⁸⁷ As such, the primary sources and the inferences deriving from them demands triangulation with the commanding findings of extant research—in sum increasing reliability while simultaneously increasing internal validity from a necessarily holistic approach (Bukkvoll et al. 2017, 17-18).

Thus, quantitative and qualitative data is triangulated and collected from multiple secondary sources from extant research, of which the most commanding are first and foremost reports from the Norwegian Defence Research Establishment (FFI) and the Swedish Defence Research Agency (FOI) as research increasing reliability and validity from their commanding competence of objectively analyzing Russian defence planning. Both based on Russian primary sources such as official government documents, military-theoretical readings of the domestic defence debate and interviews with Russian scholars and institutions, their long-standing experience researching Russian military affairs aids moreover the study of continuity and change—providing in sum a solid basis of analysis when overall unpredictability dominates its study. Whereas their concurrent reports and their quantitative and qualitative data are used throughout the thesis to illuminate most aspects of Russian

strategic thinking and operational art—and maritime strategy and training and operational practice as part of the measurements of maritime capabilities. Meanwhile, *quantitative data* as per the dependent variable's quantitative dimensions in which to study change and continuity—hereunder military expenditures and their naval share as well as military inventory, procurement and infrastructure—are similarly collected from and triangulated with a multitude of sources from extant research, cf. Table 3 in Appendix.

⁸⁶ Describing the organisational and political framework within which Russia works to strengthen its national, economic and societal security, Russian national security strategies have been published and revised four times in total, and include the 1997 and 2000 National Security Concepts and the 2008 and 2015 National Security Strategies. Region-specific strategy documents laying out national strategy and interests in the Northern region include the 2001, 2008 and 2013 Arctic Strategy. Meanwhile, military doctrines have been published and revised a total of five times—in 1993, 2000, 2010, 2014 and 2015, whereas maritime doctrines have been adopted and revised four times in total—in 1997, 2001, 2015 and 2017. In providing guidelines on how maritime affairs should be treated at the highest level, Russian maritime doctrines serve as a foundation for public policy development in the entire marine domain, concentrating on the fundamental principles and aims to be pursued across military and civilian policy sectors (Gritsenko 2013, 437). However, in focusing on their relevance in terms of naval policy, their broad outlines of Russian national interests in the maritime domain beneficially serves to place changes and continuities in not only the importance of the sea, but also the importance of the Arctic and the intended military roles in pursuing national interests—naturally extending into the civilian marine domain.

⁸⁷ Whereas numbers in particular were under MoD Serdyukov used to illuminate problems in need of solutions and thus justifying the need for change, under Shoigu there has been a clear tendency to employ statistics to demonstrate progress and overall achievements (Persson 2016, 20). Meanwhile, official government documents have under Putin been increasingly used to aid domestic-political conditions and his "social contract" with the population in fuelling nationalist perceptions in a bid for political popularity (Pezard et al. 2017, 52).

maritime defence planning and seapower as per the adopted operationalizations and dimensions above, they provide in the main critical and reliable information on the GPVs in specific as per their procurement, expenditures and their naval share.⁸⁸

Similarly increasing the study's reliability from their unbiased analysis of military developments and weapon-systems, the International Institute for Strategic Studies' (IISS) annual assessments of nations' military capabilities as per the "Military Balance" provides reliable and replicable military data on the Northern Fleet's inventory while Jane's Navy International as a world-leading source of maritime intelligence supplements with the Office of Naval Intelligence qualitative information of weapon-systems while providing reliable and valid information regarding the RFN's conversion abilities as per maritime strategy, training and operational practice. When supplemented and triangulated with peer-reviewed in-depth studies of extant research, the resulting qualitative and quantitative data material as such illuminates most aspects of Russian maritime defence planning and seapower. Such peer-reviewed research includes that from periodicals and journals all considered highly reliable sources of information on Russian military affairs, such as *The Journal of Slavic Military Studies*, *Survival*, *The RUSI Journal* and *Defense & Security Analysis*, and internationally commanding defence research institutions, such as *Carnegie Endowment for International Peace*, *RAND Corporation*, *The Jamestown Foundation*, *US Army War College*, *US Naval Institute* and *NATO Defence College*.⁸⁹

Meanwhile, in the lack of a significant unclassified discourse and literature on its implications to Norwegian maritime strategy, central open sources are limited peer-reviewed publications such as *Necesse*, *Norsk Militært Tidsskrift* and *Norsk Tidsskrift for Sjøvesen*, the latter produced by *Sjømilitære Samfund* as a professional-military organization concerned with maintaining a credible naval force necessitating evaluation of the possibility of bias, and the significant amount of peer-reviewed research produced on the similar experiences of the Baltic Sea with its inferences of Russian maritime developments considered applicable to conditions pertaining to Northern waters, such as Frühling and Lasconjarias (2016), Pothier (2017) and Callaway (2014) to name a few. While triangulated with master theses from the Norwegian Defence University College on similar subject matters and statements of RNoN officers and leading national experts on maritime and Russian affairs

⁸⁸ Regarding military expenditures, the configuration of the Russian defence budget is not easily fathomed as its distribution only becomes identifiable when the budget is submitted to the Duma with most of its items and posts classified (Oxenstierna and Bergstrand 2011, 46). Another source of data is thus Russia's reporting to the United Nations (UN), yet its reporting is partial and does not provide a sufficient foundation for comparison (ibid). Thus, the thesis is forced to operationalize naval expenditures from the relative estimations as per extant research in combination with employing the former solely as a demonstration of the relative importance of the Navy vis-à-vis the other services.

⁸⁹ Moreover, the thesis employs articles from defence blogs and newspapers when information is otherwise deficient in the former. While nevertheless triangulated with other sources, a *modus operandi* of international experts on Russian military affairs, considered by the defence scholarly circle as commanding on everything maritime and Russian, produce independent research via independent competence hubs, such as *The National Interest*, *War on the Rocks* and *Defense One*, as well as news outlets such as *The Diplomat*—herein considered reliable and valid sources of information on the basis of the authors' credible backgrounds.

in newspapers such as *The Independent Barents Observer*, *Forsvarets Forum* and *AldriMer.no*, some reflections on the implications to Norwegian maritime strategy are the thesis author's own based on the theoretical and analytical framework given the lack of available unclassified information in the Norwegian context.

Thus in sum, peer-reviewed research provides the basis for inferential weight in aiding the validity and reliability of the research design's foundation. Given then the weight of secondary literature, a central deriving ambition throughout has thus been to keep the data collection process unaffected by value-laden research as a significant part of the literature is either too alarmist or openly pro-Russian, more often than not resulting in invalid and unreliable inferences from empirical facts and observations (Konyshev and Sergunin 2014, 324; Persson 2016, 2; Nilssen 2015). As such, the degree to which the literature and data aid the overriding ambition of validly approaching Russian maritime defence planning and seapower in the North by objectively analyzing its innovative and distinct approach to the maritime domain has depended on their thorough cross-examination, considered essential given the increased difficulties of assessing the dependent variable on the basis of open sources. Mitigating measures thus include the employment of multiple sources and evaluating them in relation to each other and extant knowledge with a focus on neutrality as to avoid a skewed selection (Grønmo 2008, 192).

Thus in combination, the triangulating measures increase inferential and internal validity and enhance the understanding of the guiding principles of Russian maritime defence planning and seapower in the North. To that end, whereas the demands of high reliability and replicability may in this case as in-depth study of a dynamic phenomenon be somewhat relaxed as the phenomenon under study changes over time, its empirical foundation is still arguably reliable and replicable as the data collection process is made purposefully transparent and replicable (Repstad 2007, 135). To that end, while the overall research design rests on the employment of CHA as the main method, equally imperative to the study's validity and reliability is the triangulating measures within it in juxtaposing and combining qualitative and quantitative data from a combination of primary and secondary sources and their temporal variation based on inductively derived operationalizations of the dependent variable—in sum increasing inferential clout while allowing for empirical observations of the within-variation of Russian maritime defence planning and seapower without predictive assumptions on neither its character and causal mechanisms.

4 The Political- and Military-Doctrinal Framework

In Russian maritime defence planning and seapower, its political- and military-doctrinal framework is impossible to understand if analyzed in seclusion from its historical context or subjected to Western bias—Rather, imperative to achieve inferential validity is to understand the Russian perspective from within (Aldis and McDermott 2003). In the antecedent perceptions and conditions affecting Russian maritime defence planning and seapower, what becomes evident *prima facie* is how the North has figured prominently throughout as Russian threat perceptions primarily concerned with NATO’s eastward expansion has fueled the need for modernisation and military reform focusing on improving combat capability, *boesposobnost*, and combat readiness, *boegotovnost*, in line with NEC (Thornton and Karagiannis 2016; McDermott 2013, 34).

Meanwhile, Russian strategic thinking and operational art has demonstrated significant continuity revolved around the inherently asymmetric, universal and continuous concept of “strategic deterrence”, *strategicheskoe sderzhivanie*, in deterring, containing and coercing in times of peace, crisis and war (Thornton and Karagiannis 2016, 337; Bruusgaard 2016; Adamsky 2015). In sum intimately connected with and holistically developed around the need for maintaining a buffer zone towards the West, the increasing prominence prescribed to seapower and maritime strategy in national frameworks demonstrates yet again a land power hungry for the sea (Fedyszyn 2017). To that end, the political- and military-doctrinal framework posits that Norway and NATO may in the North be exposed to significant Russian power-wielding in differing variants—first and foremost independent of the state of bilateral Russo-Norwegian relations (Diesen 2018).

4.1 Threat Perceptions and the North

Closely associated with the Russian Heartland and abilities for nuclear retaliatory strike as its strategic CoG, threat perceptions in the North has throughout the time span here under study remained strongly affected by geography—revolving around Russia’s main geographic problem of the need to maintain the *Great Limitrof*, namely a buffer zone in its periphery separating Russia from Europe while neutralizing potential threats (Åtland 2007; Tsygankov 2012).⁹⁰ Anchored in a historic sensitivity for encirclement and supported by historic lessons from surviving invasions by operational depth providing the RAF with room to retreat and exhaust the enemy well beyond the bounds of its strategic CoG, its importance has thus increased in parallel with NATO’s eastward expansion—shifting the Alliance’s border closer to the Russian heartland while increasing its weapon-ranges over Russian territory (Friedman 2017).

⁹⁰ Though Russia has increasingly considered a wide spectrum of potential challenges and threats to its security in AZRF as soft security objectives has accompanied traditional hard security interests and trepidations, the central focus herein is that on the latter in general and NATO in particular.

As such fueling the anti-Western forces in Russia while bringing a sense of urgency to the plans of conventional and nuclear modernisation of which the naval component in the North constitute a significant part, NATO's enlargement is perceived as an effort by the West, *Zapad*, to make geopolitical gains in Central Europe as the former Soviet sphere of influence, thus tipping the global geostrategic balance in Russia's disfavor at the expense of its power, influence and international status in establishing a unipolar world in which the Alliance acts as an instrument of American hegemony (Åtland 2007, 504; Ponsard 2007).⁹¹ As such, Moscow is of the view that Russia's borders as determined by the USSR's collapse are unnatural in the sense that they do not guarantee a reasonable level of national security (Dibb 2014, 5; Sokolsky 2017, 1). Solidified by NATO's out-of-area campaign in the Balkans in the 1990s, the US-led invasion of Iraq in 2003 and NATO's military intervention in Libya in 2011 demonstrating the Alliance's move from a defensive organization to one launching offensive operations in non-member states without Article V, as per the Russian view NATO's out-of-area role has undermined international law and order in its periphery with the central fear that systemic pressures and the chaotic conditions such interventions create will ignite dormant internal unrest and challenge the Kremlin (Reppert 2003, 10; Zdeněk 2015, 127).⁹²

Meanwhile, the increase in naval activities and combat capabilities of "the leading foreign states" constitute the principal military threat emanating from the maritime domain—Thus in Northern waters surrounded by NATO nations, Russian authorities believing there is a residual NATO or US military threat to the AZRF have been forthright in challenging NATO's right to maneuver in the region (Staub 2015, 14).⁹³ Specifically, Moscow has demonstrated increasing worry of US military strategies in the Arctic envisaging an increase in operations to ensure access to the global commons and to expand its power projection capabilities in general and the deployment of sea-based BMD systems and Aegis interceptors capable of intercepting Russian missiles from the Arctic Ocean in specific, thus capable of disrupting Russian abilities in preventative strikes (ibid).

Thus, Moscow's maritime assertions have been increasingly focused on excluding foreign naval deployments in its Arctic sector, perceiving NATO exercises in the North, the Arctic littorals' modernisation programmes and increasing defence cooperation—as well as the Norwegian Svalbard Policy—in an alarmist way as maneuvers provocatively aimed at Russia (Pezard, et al. 2017, 53).⁹⁴

⁹¹ Whereas an argument may be made that the threat to Russia has evaporated given the peaceful situation in Europe, yet nothing in Russia's history permits such complacency as Russia first and foremost understands the speed with which European and American intentions and capabilities may change (Friedman 2017).

⁹² This includes the brief exception of the "honeymoon phase" during Putin's first term which after the fall of temperature between Russia and the West in 1999 was marked by an unexpected reorientation of foreign policy towards cooperation and integration with the West, solidified in particular by Putin's demonstrative solidarity with the US after September 11 2001—implemented against strong resistance from influential figures in the Russian political elite (Conrad 2011, 44-50). At the time, Putin had re-established and encouraged cooperation in several areas, including BMD, military exercises, the exchange of intelligence information, and the fight against international terrorism (Zdeněk 2015, 127).

⁹³ Confer the 2001 Maritime Doctrine "Atlantic Regional Direction" and the 2015 Maritime Doctrine § 52.

⁹⁴ The Kremlin perceives Norwegian Svalbard policy to obstruct Russian mining operations as part of a wider effort to force Russia to abandon the

Thus, despite generally cooperative NATO-Russia relations until the 2014 Ukraine crisis after which were replaced by confrontation, the Alliance has nevertheless proven the central external determinant of Russian security and defence policy, varying between its “risk” and “danger” denomination in political-strategic and military-political documents particularly intensified after Putin took office.⁹⁵

Moreover, with increasing economic interests in the AZRF declaring in 2008 the region as its “strategic resource base”, Russian perceptions of the Arctic are to a larger extent still based on hard security considerations as the recession of sea ice in its Northern vicinities opening up international waters for navigation expose Russia to intrusions from the North via its vulnerable Arctic coastline (Sergunin and Konyshov 2016, 144). As such, serious discord remain regarding the freedom of navigation versus the Russian need to assert its sovereignty and control over its EEZ and continental shelf to which the armed forces is considered a key element to maintaining regional status quo with Russia in a central position (Sutyagin and Bronk 2017, 22; Zysk 2016a, 155-156).⁹⁶ Thus in sum, in the Russian tradition, development of the North goes hand in hand with its militarization, to which Russia’s conventional military weakness, NATO’s conventional military superiority and its eastward expansion coupled with fears of the Alliance’s intentions have continuously constituted a central component part of Russian maritime defence planning and seapower with the North figuring prominently in Moscow’s political- and military-strategic objectives throughout.

4.2 Military Reforms and the RFN

In Russia, efforts in redesigning the political- and military-doctrinal framework to reflect the new security environment have included central plans of military reform in transforming the Soviet-style war machine comprised of a conscript-based mass *armiya* to a professional expeditionary force with fewer and more capable units made up of *kontraktniki* as professional service personnel (Hedenskog et al. 2008, 27).⁹⁷ However, Russian military ambitions have contended with significant fluctuations in state power amidst significant economic and political transformation—In particular in the 1990s, political will of implementing military reform was practically non-existent as political, military and industrial interests were fractionalized and difficult to unite (Barany 2007, 177; Åtland 2007, 501).⁹⁸

archipelago, to violate the Freedom of the Seas by taking enforcement measures against Russian fishing vessels in the Svalbard FPZ, and that Norway violates the demilitarization clause of the Svalbard Treaty by allowing the construction and operation of radars and satellite stations that could potentially be used in a US missile defence scheme (Åtland and Pedersen 2008, 229).

⁹⁵ Confer the 2000 Military Doctrine § 5, the 2010 Military Doctrine § 8, the 2014 Military Doctrine § 12, the 2015 National Security Strategy § 15.

⁹⁶ Competing claims have two essential elements in which Russia has *de facto* placed the navigation of foreign vessels under its control—a restrictive straits regime for passage through its Arctic archipelagos and special maritime jurisdictional scheme for its Arctic EEZ, in sum asserting control over waters typically considered as “high seas” where freedom of navigation is assured by UNCLOS (Scassola 2013).

⁹⁷ In the literature—as a point of detail—mistranslations of the Russian word *armiya* often-times cause confusion in analyses of the Russian military as it is in Russian parlance employed to denote the entire Armed Forces rather than the Army.

⁹⁸ Yeltsin in particular had little interest in military reform or the armed forces themselves beyond whether they would support him in a series of internal power struggles (Åtland 2007, 501; Mathers 2002, 161). Not so much motivated by developing a more efficient military rather than cost-saving aspirations, Yeltsin’s reforms sought in particular to replace conscription and the associated mobilization system draining the economy, yet was thwarted by conservative generals, merely reducing troops numbers than anything else: Whereas the military that Russia inherited from the USSR numbered 2,7

Thus, despite expanding threat perceptions fueling the need for military modernisation with military defeats in Iraq by proxy and Chechnya by own forces underlining the severe need for reform, Russia found itself in an increasingly vulnerable situation as underfunded reforms merely left Russia with a smaller version of a top-heavy mass-mobilization military rather than a new force structured to meet the challenges of the new security environment (Mathers 2002).⁹⁹

Thus, due to the severe lack of funds, from 1992 until 2000 the RAF did not have any combat training, producing a significant amount of personnel with little or no “hands on” training except for those with experience from Chechnya (Herspring 2005, 139). The Navy was going through particularly challenging times as chronic underfunding left the fleet unable to pay for services formerly provided by the state—leading to an inability to fulfil the fleet’s tasks as assigned by the military and maritime doctrines and with frequent accidents both in port and at sea (Åtland 2007, 500). Though with fewer vessels to maintain, the RFN was barely able to pay for fuel, electricity and maintenance to maintain a seaworthy fleet (IISS 2000, 1). Consequently, the Navy—despite regular outbursts of soaring rhetoric—was allowed to stagnate and deteriorate, and by the end of the decade, culminating in the *Kursk* tragedy in 2000, the political and military leadership was under growing pressure to reverse the decline of the RFN as “the only” service capable of repelling Western aggression from the sea (Tsytkin 2003, 169; Tsytkin 2010, 332).¹⁰⁰

The arrival of Putin to presidential power in 1999 thus marked a significant change in continuity as modernisation of the RAF became a priority for the first time since USSR’s collapse, marking a critical juncture for a major grand strategic shift after which Russian strategy became simultaneously offensive and defensive in seeking to challenge the liberal order and expand its territory alongside attempting to ring-fence spheres of Russian influence, most notably former USSR territories and its “Near Abroad” (Suzzex 2017). Consistent with Putin’s focus on *derzhavnost*—thinking and acting like a great power—Putin, devoting considerable attention to courting the military vote, as such supported RFN’s purposive campaigns at the top level in strengthening its position vis-à-vis the other services, seeming first and foremost to respect the naval *raison d’être* (Grätz 2014, 4; Haas 2011a, 12).¹⁰¹

million, by 2001 this figure had been reduced to 1,365,000 (Herspring 2005, 151).

⁹⁹ RAF’s performance in Chechnya demonstrated the necessity of reform and challenges of the inherited top-heavy old Soviet military structure in general and C² in particular inhibiting efficient and autonomous decision-making (Brannon 2016, 103).

¹⁰⁰ In the context of a comprehensive and fully integrated exercise at sea, the Northern Fleet’s Project 949A Antey *Oscar II Class* nuclear-powered cruise-missile submarine (SSGN) *Kursk* (K-141) suffered a catastrophic explosion and sank in the Barents Sea on 12 August 2000 only six years after its commission, throwing into serious doubt of Russian efforts to project a more confident naval posture (Herspring 2016, 137).

¹⁰¹ Whereas Putin was concerned about finding ways to fill Russia’s treasury by using its natural resources, then-CinC RFN Kuroedov (2007-2005) appealed to Putin’s obvious interest in the economic dimension of Russia’s maritime policies, in particular the exploration and extraction of Russia’s natural resources from the seabed—as reflected in the 2000 Foundations of Naval Policy and the 2001 Maritime Doctrine placing emphasis on the defence of Russian sovereignty over mineral and biological resources of the ocean (Tsytkin 2010, 335). Moreover, the RFN has represented a particularly tempting subject for PR games as “big ships look even more impressive than marching infantrymen and rolling tanks” to which construction of capital ships may be rightfully presented as a national achievement—Described by Putin as “a symbol of the power and greatness” of Russia, the

As the need of defending Russian interests at sea and from the sea derived first and foremost from the West's naval activity and capability, the identification of the US and NATO as the principal threat has since proven a considerable contributory factor to the increasing strategic importance the Kremlin has attached to its naval forces—singled out for special treatment by the Kremlin in its political and military resurgence (Sussex 2017; Till 2016a).¹⁰² To that end, whereas Russia's posture from then on started to shift from an essentially defensive preoccupation to a globally active, outward-looking “great power” orientation with the will to shape the international system, the essential role of seapower and maritime strategy in achieving political- and military-strategic objectives have since been central in national frameworks (Haas 2011b, 12; Bosbotinis 2010, 3). Maritime strategy's increasing prominence in Russian grand and military strategy started first and foremost with the flood of new editions of Russia's major security documents during Putin's first term in office, emphasizing the RFN's strategic role and the goal of reviving and restoring its ocean-going capability in order to promote Russia's interests and prestige on the high seas, thus prescribing an accelerated build-up of every component of the naval capabilities (Haas 2011b; Zysk 2013).

Most importantly perhaps was the major element of change in strategy as postulated by the 2003 Defence White Paper with the shift in priority from ground warfare to air and naval operations with power projection and long-range “fire for effect” as key goals. Deriving from the acknowledgement that “the course and outcome of armed struggle” would be determined mainly by confrontation at sea alongside air and outer-space, the increasing prominence of the Navy has thus accompanied the foremost priority of Russia's military modernisation in upgrading the services with PGMs in particular.¹⁰³ Though Putin's initial reforms seeking first and foremost to abandon the escapism of the preceding decade followed a similar erratic course, the military was nevertheless successfully pushed further toward reform than had been the case during the 1990s—hard-pressed to change by external events juxtaposed the recognition of its modern combat inferiority (Herspring 2005, 152).¹⁰⁴

4.2.1.1 The New Look Reforms

It was nevertheless not until the 2008 Georgian War highlighting the undeniable inadequacies of the top-heavy Soviet-era military structure in the conduct of modern, information-intense operations in general and deficiencies in equipment, organization and technical capability in specific that the

Navy could as such provide visible proof of Russia's resurgence (ibid, 333-334).

¹⁰² Fearful of the increasing disparity in seapower opposite an increase in leading naval powers' activities and the increasing discrepancy in the quality of Russian naval weapons compared to foreign states, as per the 2001 Maritime Doctrine the primary dangers involved territorial claims on maritime and coastal zones, efforts to limit Russian access to maritime resources and attempts to weaken Russian control over the NSR (HSS 2001, 2).

¹⁰³ In such a scenario, the “ground forces will only consolidate the military success achieved and directly ensure the attainment of political goals”, confer the 2003 Defence White Paper, p. 51.

¹⁰⁴ Putin's initial reform plans of 2003 dealt with the development of the RAF until 2010—Rather than reflecting a master plan, they included a broad range of issues which needed to be fixed, namely improving management, increasing combat readiness, restructuring the OPK, upgrading servicemen's status, increasing financial assistance and improving command and control (Herspring 2005, 141). In the naval context, specific changes concerned merely re-establishing order and responsibility of the naval command (Renz 2010, 58; Herspring 2016, 12; Tsytkin 2005).

waning and legacy-oriented RAF began to undergo serious major reform as MoD Serdyukov (2008-2012) and ChGS Makarov (2009-2012) set out to significantly alter the defence structure (Thornton and Karagiannis 2016, 337; Cohen and Hamilton 2011; Asmus 2010). Setting off a push for transformation under the banner of “New Look”, *Novyi Oblik*, the consequential string of reforms driven by the adoption of capabilities for network-centric warfare, *setetsentricheskaiia voina*, aimed at improving combat capability, *boesposobnost*, and combat readiness, *boegotovnost*, while enhancing strategic and operational mobility (McDermott 2013, 34).¹⁰⁵ In sum transforming the Soviet-era military machine to a credible smaller, agile and modernised standing conventional force of potent units for the information age, the reforms significantly reduced the RAF’s numerical strength while increasing its dependence on modern arms and equipment in a “less is more” approach (Facon and Legrand 2017, 10).

Thus in the main, the New Look reforms sought to redistribute the armed strength to reflect the expanding threat perceptions and bring its armed forces to permanent readiness status: To that end, the general dissatisfaction with the post-Cold War settlement is reflected in the New Look reforms and the concurrent modernisation programmes, designed to first and foremost respond to the threat posed by the US and NATO (Boltenkov 2011, 83; Baluyevsky 2007). Whereas the real priorities for the RFN thus should be viewed in their light as all the previous military reforms undertaken since the Soviet collapse changed virtually nothing, it is imperative to note that the Navy and the Strategic Nuclear Forces (SNF) were two elements of the military machine that initially were only moderately affected by the reforms with relatively little impact on their “New Look” (Tsyarkin 2010, 341; Baev 2012, 10; Boltenkov 2011, 83).¹⁰⁶

Nevertheless, whereas the Northern Fleet more or less had disappeared from the Arctic naval theatre in the 1990s and operationally restricted to the Barents Sea, reducing competence within both the harsh conditions of the Atlantic and expeditionary operations, by 2008 reports suggest that Russia had resumed permanent patrols of the Arctic Ocean with increased naval presence at sea (Boltenkov 2013; McDermott 2004; Willett 2009, 52). Moreover, whereas “fighting the away game” has never been RFN’s strong suit, the Navy has since—in line with the PR games of *derzhavnost*—increasingly been called upon to “show the flag” and participate in international operations (Baev 2009, 24).

¹⁰⁵ Despite its absence in the declaratory reform agenda, official statements in 2009-2010 indicated that the term NEC had certainly become a part of the reform lexicon, featuring in Russian military publications, within the mass media and increasingly in statements by the top brass (Kipp 2016). Moreover, since its active adoption, its organic link to the New Look reforms was most evident perhaps not in what the reformers or senior defence personnel proclaimed, but in the conduct of operational-strategic exercises field-testing the transition (*ibid*).

¹⁰⁶ In the first stage of New Look reforms from 2009 to 2011, RFN’s transformation began in earnest later than serious change in other arms of service as what change did take place affected not warships but other combat arms and support services (Giles 2015, 203). Meanwhile, the second stage of reform from 2011 onwards sought to optimize RFN’s unit structure in targeting fleet divisions, bloated command structures and HQs which had remained unchanged since the Cold War (*ibid*; Boltenkov 2013).

Greater activity by major surface fleets and their international deployments from Northern waters through the North Atlantic from then on demonstrated—despite the rescue tugs accompanying them—the renewed ability to assemble and deploy large task groups at distance (Daly 2008).¹⁰⁷

Meanwhile in the North, Russia has repeatedly demonstrated its military capabilities through large-scale exercises, dramatically increasing RFN's operative levels particularly after the 2014 Crimean annexation with a significant discrepancy between the size of NATO and Russian military exercises with the latter generally ten times larger (Bukkvoll et al. 2017, 8; Konyshev et al. 2017). Culminating in Zapad 2017 as the largest exercise and force concentration of Russian forces in Norwegian vicinities since the Cold War, increased exercises in the region both in terms of size and number is as such commonly interpreted as Moscow politically signaling a significant will to protect Russian interests in the North in general and the Northern Fleet's freedom of maneuver in particular (NIS 2018).

4.3 Strategic Thinking and Operational Art

Meanwhile, overall responsible for strategic thinking and operational art, the complexity of fundamental changes in contemporary conflict has not been lost on the GS, whose reflections reveal a much richer military-theoretical debate than often recognized in extant research (Persson 2017, 2).¹⁰⁸ There is moreover a widespread tendency to exaggerate its new aspects, more-often-than-not habitually analysed under the customary “hybrid rubric” as a holistic conceptualisation and operationalisation of evolving Russian military thought (Seely 2017, 50; Charap 2015, 51).¹⁰⁹ Thus in part the accepted buzzword in the cognitive landscape as a catch-all euphemism of Russian strategic thinking and operational art, Russian military officers however refute the concept—Dismissing it as a Western construct, Russian analysts rather use native terminology to describe the observed transformation of warfare in the 21st century which are associated with decades-old thinking demonstrating a significant continuity of thought (Thomas 2016, 555; Thornton and Karagiannis 2016, 337).¹¹⁰

While indeed focused primarily on the US as the probable opponent as the leading military

¹⁰⁷ Confer Chapter 5.2.3 *Coastal Defence, the “Dual Fleet” and Cruise-Missiles as “Game-Changers”* and Chapter 5.3 *Russian Network-Enabled Capability and C²ISTAR* for further information of the characteristics of the Navy's expeditionary deployments.

¹⁰⁸ With innovative thinking of new ways of conducting warfare dating back to the 1930s, Russian military thinking came to be carried on into the 1970s with Soviet analysts developing the concept of the “revolution in military affairs”, *revolutsiya v voyennom dele*—The idea of the RMA and indeed the phrase itself is thus actually Russian in origin (Kipp 2000).

¹⁰⁹ In Russian military writings, the term for “hybrid warfare”, *gibridnaya voina*, is singlehandedly used to describe adversarial activities, namely that of the US and NATO against Russia (Charap 2015, 51).

¹¹⁰ In an inevitable balancing backlash to its conceptual hegemony, Russian strategic thinking and operational art's “hybrid” aspects have increasingly been described with several overlapping terminologies in academic circles. With less intellectual baggage associated with them, other Western terminological constructs employed in the vast literature of its use in Crimea in particular include “full-spectrum warfare”, “asymmetrical”, “non-linear” and “cross-domain coercion” (Jonsson and Seely 2015; Thornton 2017; Pomerantsev 2014; Adamsky 2015). Moreover, recent in-vogue terms receiving much attention in the West include New-Generation Warfare, *voina novogo pokoleniya*, (NGW) and New-Type Warfare, *voina novogo tipa*, (NTW) (Galeotti 2016, 20). The terms, however—frequently referred to as the Gerasimov Doctrine—have since their first appearance in 2008 materialised in the Russian military-theoretical debate on a very limited basis, and is employed more as descriptions of Russian perceptions of adversarial conduct rather than stating Russian intentions (Thomas 2015, 6; Giles 2016, 10).

power, for all the mythology of the mighty Russian war machine, it has often been overstretched, overcommitted and outmatched: In those circumstances, a willingness to adopt innovative force multipliers became a necessity—"dropping the sword and picking up the club", in Tolstoy's appropriate metaphor (Kipp 2016, 89; Galeotti 2016). Thus, seeking to obviate the strengths of superior rivals, the Russian response to perceived inferiority is first and foremost inherently *asymmetric* as the most effective means to be used by a weaker opponent against a stronger adversary (Thornton 2016, 54). However, the idea of asymmetry has much deeper, idiosyncratic roots in the Russian military tradition than it does in Western military thinking—Expressed in Russian terminology as a "military stratagem", *voennaia khitrost*, it is *the* central component when faced with an opponent who could deploy force more efficiently, aiming at exploiting its weaknesses at unforeseen times and locations (Adamsky 2015, 25; Zapfe 2017, 150).

Thus in contemporary strategic thinking and operational art, the GS has continued to consistently demonstrate a high level of interest in using force multipliers and asymmetric responses in attempting to level the playing field (McDermott 2017; Thornton 2016). To that end, continuously developed in the temporal scope here under study, Russia's acknowledgement of overall inferiority rather manifests in a much broader concept, namely that of "strategic deterrence", *strategicheskoe sderzhivanie* (Bruusgaard 2016, 7).¹¹¹ Based on the need to compensate for conventional inferiority by making use of superior strengths and force multipliers in the most efficient way possible against a superior adversary, its component parts have been continuously expanded alongside political-doctrinal declarations gradually reducing the nuclear threshold (ibid; Adamsky 2015). Its very aim is to keep conflict below the radar of traditional collective defense, and thus below the threshold of a military reaction from conventionally superior NATO and US through triggering Article V—in sum primarily intended at rendering NATO irrelevant and calling the bluff of Alliance solidarity (Jacobs and Lasconjarias 2016; Zapfe 2017).

To that end conceptually different and conceived more broadly than its Western namesake as a relatively inert and status quo oriented form of coercion in threatening "fire and fury", the strategic deterrence concept is both *universal* in aiming to deter all threats through employing all available means in coherent efforts toward the same political and military objective, and *continuous* in deterring, containing and coercing the opponent in times of peace, crisis and war (Bruusgaard 2016;

¹¹¹ As a doctrinal approach built on a demonstrated spectrum of capabilities denoting the coordinated use of all state tools available to Russia, strategic deterrence thus proves an indigenous concept encompassing the "hybrid" aspects referred to in Western circles (Bruusgaard 2016, 7). In lacking an official definition beyond that provided by the military-encyclopaedic dictionary of the Russian DoD, its component parts presented in official Russian official documentation and by different military theorists constitute therefore a patchwork of ideas and recommendations, yet its definitional employment in Russian literature and official doctrine documents comes across as more or less unified (ibid).

Adamsky 2015; Strømme 2017).¹¹² Thus, in contrast to the Western binary and legalistic understanding of “peace as the absence of war”, it is rather in the grey areas between them that political and military objectives are achieved most effectively on terms favorable to Russia in a “fundamental clash of wills” (Johnson and Seely 2015, 2-6). As such, contemporary Russian strategy and operational art do not revolve around warfare in the violent blast and destruction sense of the word, tending instead to employ the term “struggle”, *borba*, rather than “war”, *voina*, to distinguish between non-violent and violent conflicts—to which the maritime domain proves central in both (ibid; Seely 2017, 73; Tsyganov 2012; Zapfe 2017, 149).

To that effect, the Russian strategic deterrence concept contains offensive and defensive, nuclear, non-nuclear and non-military tools to be used in all domains in times of peace, crisis and war, thus equalling a holistic strategy of containment and coercion using all means available to deter and control conflict (Cimbala 2001, 11; Bruusgaard 2016, 7). Operating on the global and inter-regional level, Russian strategic deterrence through military means as such rests on strategic nuclear capability, capability for stand-off warfare and joint inter-service combat operations (JISCOs) (Westerlund and Norberg 2016, 68). In it, the Navy occupy an important role in enforcing the concept’s component parts through its ability to deliver conventional and nuclear concentrated strikes—a mission which, as per former CinC RFN Vysotsky (2006-2007), has remained paramount and unchanged throughout Russian reform efforts (Schneider 2018). Strategically and operationally preoccupied to a significant degree with the Great Limitrof and maintaining a buffer zone in its periphery, the concept as such naturally poses significant strategic and operational consequences for Norwegian maritime strategy (Tsyganov 2012).

4.3.1 The Nuclear and Non-Nuclear Domain

In the nuclear domain, conventional wisdom has in the main identified two complementing nuclear strategies of *global nuclear deterrence* as largely a prolongation of familiar Soviet practices based on the threat of retaliatory strike by a strategic nuclear arsenal and *regional conventional deterrence* implicitly based on a threat to strike with an arsenal of non-strategic nuclear weapons, *takticheskoye yadernoye oruzhiye* (NSNWs), aiming to deter large-scale conventional war (Adamsky 2015, 13).¹¹³

¹¹² There are two forms of “deterrence” in Russian linguistics often-times used interchangeably in denoting “coercion” depending on context, namely *sderzhivanie* denoting “restraining”, “keeping out” or “holding back” in referring to strategic efforts aimed at preserving the status quo and implies a more reactive *modus operandi*, and *ustrashenie* more narrowly linked to nuclear weapons containing certain negative connotations of nuclear brinkmanship, implying a more proactive *modus operandi* with offensive implications (Bruusgaard 2016, 8; Adamsky 2015, 10).

¹¹³ When discussing the Russian strategic forces, it is important to note the differences between military and legal definitions (Majumdar 2018). In military terms, long-range assets are often regarded as strategic due to their mission while short-range intermediate-range may be lumped together with tactical for warfighting and battlefield purposes (ibid). While the latter is therefore also referred to as “tactical nuclear weapons” in the literature, the term “non-strategic” is here preferred as to conform with the Russian perception that NSNWs are those nuclear weapons not covered by neither the New Strategic Arms Reduction Treaty (New START) nor the Intermediate-Range Nuclear Forces (INF) Treaty, rather than implicating their range and effects—considering in particular that all nuclear weapons are strategic regardless of range in the sense that they will wreak destruction and radiation damage on a wide scale just as a nuclear weapon with longer ranges would (Hudson 2012).

To enforce the former, the BULAVA sea-launched intercontinental ballistic missile (SLBM) has been developed since 1997 to ensure continuity and robustness of Russia's nuclear deterrent to replace the third-generation SINEVA SLBMs, became operational in 2013 and are after 2020-2025 to be the only SLBM in use with the RFN (Laurelle 2015, 122;).¹¹⁴

Meanwhile, anchored in political-doctrinal documents since the 2000 Military Doctrine, the latter regional mission is largely regarded as provoked by expanding threat perceptions and thus based on the perception of a large-scale NATO attack as a real danger—prescribing as such the employment of NSNWs within a TVD to demonstrate resolve in an “avalanche-like escalation” until the ultimate “exchange of massive nuclear strikes with strategic nuclear systems” (Adamsky 2015; Bruusgaard 2016, 9).¹¹⁵ Referred to as the *escalate-to-deescalate doctrine* developed in the 1990s, it thus instructs de-escalation or termination of war or aggression on terms favourable to Russia in both local or regional conflict and those circumstances where Russian conventional forces are perceived inadequate through first and foremost inflicting *calibrated* or *tailored damage* and thus end any destructive attack on Russia (Woolf 2017, 22).¹¹⁶

However, while the NSNWs' importance to Moscow has increased in parallel with decreasing conventional strength—perceived as the fallback option if Russia one day faces defeat in a conventional local or regional conflict in its periphery—restricted to escalation control as per their signalling effects, NSNWs relatively limited utility in war has reinforced the GS' perception of the need for alternatives cross-spectrum (Renz and Thornton 2012, 45; Hudson 2012, 113). Thus, constantly evolving Russian strategic thinking of developing the concept has supplemented the regional mission with additional variations on the same leitmotif through non-nuclear deterrence, *neiadernoe sderzhivanie* (Adamsky 2015; McDermott and Bukkvoll 2017, 27).¹¹⁷ In it, offensive and defensive conventional capabilities and asymmetric options are all pertinent capabilities with the ability to inflict unacceptable damage to an adversary and to fight *stand-off warfare*, either violently or non-contact (Bruusgaard 2016, 13).¹¹⁸ To that end involving a prelude to nuclear use, it improves

¹¹⁴ RSM-56 BULAVA SS-NX-30 and R-29RMU/R-29RGU/RSM-24 SHTIL/LAINER/SINEVA SS-N-23 *Skiff*. Highly maneuverable, the new ballistic missiles carrying up to ten nuclear warheads ranging 10,000 kilometers, are capable of launch from surfaced and submerged SSBNs, and from a variety of launch locations—including while moored and below ice cover thus providing safe refuge until launch, as such aiding Russia's abilities in first- and retaliatory strike (ONI 2015).

¹¹⁵ While the possibility that Russian NSNWs would be used in a conventional conflict for the purpose of de-escalation first appeared in the 2000 Military Doctrine and were implicitly acknowledged as a possibility in the 2010 edition, neither the 2014 Military Doctrine nor the updated 2015 National Security Strategy repudiated such ambitions (Cimbala and McDermott 2016, 542). Nevertheless, it has since it was first practiced during the 1999 Zapad exercise simulating European regional war been routinely demonstrated and remained a central feature of Russian strategic military exercises (Payne and Schlesinger 2016, 38).

¹¹⁶ *Calibrated* or *tailored damage* refers here to the “proportional amount of damage that is subjectively unacceptable to the enemy, and exceeds the benefits the aggressor expects to gain from the use of force” (Cimbala and McDermott 2016, 542).

¹¹⁷ Whereas the 2010 Military Doctrine first introduced the notion of non-nuclear deterrence, *neiadernoe sderzhivanie*, defining it as “a complex of foreign policy, military and military-technical measures, aimed at the prevention of non-nuclear aggression against the Russian Federation”, it was further codified in the 2014 Military Doctrine with the main purpose of non-nuclear forces to be deterrence of conventional, small-scale and political threats (Bruusgaard 2016, 12-13; McDermott and Bukkvoll 2017, 27).

¹¹⁸ *Stand-off warfare* refers here to the capability to engage enemy targets at distances beyond 300 kilometres (Norberg and Westerlund 2016, 23).

deterrence credibility through the conventional threat of launching long-range precision-guided munitions (PGMs) against targets inside and outside the TVD, selectively damaging military and civilian infrastructure to signal last warning (Adamsky 2015, 31).

In Russian military parlance, the term for PGMs, High-Precision Weapons, *vysokotochnoye oruzhiye*, refers to systems capable of precision strikes at distance through land-attack cruise missiles (LACMs), anti-ship cruise missiles (AShMs), short-range missiles as well as air defence (AD) and artillery systems alongside anti-submarine warfare (ASW) complexes—to name a few (McDermott and Bukvoll 2017, 8).¹¹⁹ Aimed at deterring the US and NATO from employing its conventional superiority, the increasingly gained momentum in PGMs and R&D of hypersonic missiles have as per current ChGS Gerasimov allowed the non-nuclear domain to absorb the main tasks of the strategic deterrence concept—As such, Kremlin’s reliance on NSNWs has thus decreased in parallel as its long-range conventional strike capabilities have improved (Mujamdar 2017).¹²⁰ Notable innovations to the non-nuclear component include the KALIBR and ONYX AShMs and LACMs alongside ISKANDR LACMs and S-400 TRIUMF surface-to-air (SAM) systems providing significant stand-off capability and flexible deterrent options decreasing warning times in crises and war difficult to intercept, featuring as dual-capable systems of nuclear and conventional weapons with their difference only in payload and range—in sum constituting the world’s most lethal precision-guided regime capable of wreaking enormous damage (Mujamdar 2018; McDermott and Bukvoll 2017, 14).¹²¹

To that end, non-nuclear deterrence in the maritime doctrines prescribe conventional long-range PGMs the role of kinetic-strategic containment, and are as such the main element of the strategy’s non-nuclear deterrence component capable of simultaneously delivering NSNWs (Golts 2017b). Using its recently developed LACMs and AShMs, the doctrines states that the Navy may threaten

¹¹⁹ In Russian military parlance, key advancements of and concepts relating to PGMs have revolved around reconnaissance-strike complex, *razvedyvatel’no-udarnyy kompleks*, and reconnaissance-fire complex, *razvedyvatel’no-ogneyoy kompleks* (McDermott and Bukvoll 2017, 8). While the Missile and Artillery Troops, *Raketnyye Voyska i Artilleriya*, act as their primary means in joint operations, the official DoD definition approaches PGMs collectively as rather a multifaceted combat support system which includes intelligence, communication systems and control hubs as well as means of distribution and guided munitions solving tactical, operational and strategic objectives depending on the arrangement of management and weapon type (ibid, 8-15).

¹²⁰ The move away from NSNWs towards conventional PGMs is supported by exercise activity as early as 2013, as the Zapad exercise did not feature them—hinting towards Moscow’s gained confidence in its conventional capabilities (Majumdar 2018).

¹²¹ In the KALIBR family of sea-launched missiles, the short-range AShM variants—*SS-N-27 Sizzler*—offer ranges between 20 km and 300 km while featuring a single conventional warhead, whereas the long-range LACM variant—*SS-N-30*—has an estimated range between 300 and 2,500 km. Finally, the ship- and submarine-launched SAM variants—*91R*—have longer ranges and quicker delivery time than conventional torpedoes in ranging between 40 km and 50 km (ONI 2015, 36). With a *Circular Error Probable (CEP)*—the numerical indicator for likely area of impact—between 0,4 and 0,6 meters, the KALIBR SLCMs in service since 2007 represents marked progress in the Russian development and procurement of modern PGMs (McDermott and Bukvoll 2017, 14). Meanwhile, P-800 ONYX *SS-N-26 Strobile* developed since the early 2000s with a CEP of 1,5 meters may be ground-launched using stationary and mobile Transporter Erector Launcher (TELs) variants of the BASTION launch system to control territorial waters and straits while protecting naval bases and coastlines (Staalesen 2016). Whereas one battery features up to eight ONYX AShMs, it complements the smaller and subsonic BAL missile system with shorter range capable of carrying up to 32 missiles (Malmlöy and Roffey 2016, 169). Meanwhile, 9K730 ISKANDR *SS-26 Stone* with a CEP of 30 meters in service with the RAF since 2007, also mounted on TELs carrying two missiles each capable of firing two minutes apart, may be used with cruise missiles reportedly extending its range from 500 km up to 2,600 km or use alternative warheads including cluster munitions (McDermott and Bukvoll 2017, 11-12). Finally, the modernised S-300—considered among the world’s most potent SAM systems capable of hitting targets ranging up to 400 kilometres—is gradually replaced by the new generation S-400 TRIUMPH *SA-21 Growler* as Russia’s most advanced deployed AD system, significantly improving Russia’s PGM capabilities (ibid, 14; McDermott 2005a).

high-value military and dual-use targets from the sea, facilitating deterrence of global strike or other conventional attacks (Gorenburg 2017). Such is supported by an increasingly assertive naval diplomacy in sitting submarines close off Western ports and researching the water space close to NATO territory, designed to demonstrate a credible military threat—a strategy which, often-times combined with rhetorical sabre rattling and seemingly irrational behavior, combines both capability and perceived intent (Larrinaga 2016; Zysk 2016b; Tverbakk 2016, 33).¹²² Thus in sum, in Russian strategic thinking and operational art, the nuclear and non-nuclear domain as not mutually exclusive but complimentary pursuits employ the traditional spheres of military operations as merely lines of communication in order to achieve victory in war, secured by massive precision bombing of high-value targets (HVTs)—as such pivoting victory rather on the destruction of adversarial military and economic infrastructure (Mujamdar 2018; McDermott 2011, 240).

4.3.1.1 Relevance of Norwegian Territory in the Nuclear and Non-Nuclear Domain

However, the prerequisite for such an approach requires first and foremost the protection of its strategic CoG, namely the capacity for retaliatory nuclear strike performed by the SSBNs as the sea-based leg of the nuclear triad (Strømmen 2017, 22). To that effect, the Russian establishment of Bastion Defence concept seeking to protect its the SSBNs and the Northern Fleet's freedom of manoeuvre by preventing the US and NATO to employ their superior forces against them has largely been interpreted as axiomatic in the event of severe hostility and aggression between Russia and the West—its importance increasing in parallel with the level of animosity and aggression (ibid; Ulriksen 2017; Olsen 2017; Diesen 2018). Based on an A2/AD operational approach, the objective is to prevent a superior adversary from entering an AO or to prevent the attacker from freely operating within the region and maximising its combat power (Tangredi 2013, 2).¹²³ To that end, A2/AD utilizes geographical advantages and presents a layered, multi-domain, integrated system-of-systems approach providing a new dimension of strategic and operational depth which, if successful, keeps a superior force from reaching its main objective—namely an adversary's strategic or operational CoGs—and thus also to win (Callaway 2014; Strømmen 2016, 55).

¹²² In a significant shift from previous practices, the conscious disclosure of their location as to demonstrate increased abilities in operational control extending to the issue of using nuclear weapons, may as such intimidate rivals to Russia's benefit in achieving diverse military and political aims. Russia has also used the maritime domain to test NATO's preparedness and display provocative behaviour through dangerously close passes with fighter aircraft near warships of NATO navies in the Baltic and Black Seas while interfering with legitimate maritime activities (Horrell, Nordenman and Slocombe 2016, 1).

¹²³ Russian A2/AD is often-times referred to as strategy despite solely constituting operational approaches (Renz and Smith 2016, 14). To avoid confusion, then, the Bastion Defence is referred herein as a strategy in which become fathomable through A2/AD as its operational foundation, referred to herein throughout rather as an operational approach defined as "the broad actions the force must take to achieve the desired military end state" (Callaway 2014). Moreover, as a Western-coined theoretical concept, Russian terminology does not frequently employ the "A2/AD" term or its translation into Russian, *ogranichenije i vospreshenije dostupa i manevra*, as such leading to confusion—Consequently, to mitigate the possibility of reaching invalid inferences, its analysis herein has necessarily focused on the practical steps taken by Russia falling within the logic of establishment of A2/AD zones, cf. *Chapter 5.3 Russian Network-Enabled Capability and C⁴ISTAR* (S. Sutyagin 2018, 17-18).

Consequently, a central aspect of Russian strategic thinking and operational art in the North is its ambition of sea control in large swaths of the Norwegian Sea, covering Northern Norway down to between Central Norway and eastern Greenland from which to deny use of the sea in the GIUK gap, cf. Figure 6 in Appendix. Achieved by establishing forward-based nodes in key areas in Norway and its Arctic islands while employing naval vessels capable of controlling and denying use of the sea in the high seas, Norway thus falls behind enemy lines to a considerable extent (Strømmen 2017, 27). Defensively oriented resulting from *horizontal* and *vertical* escalation, the central ambition of achieving *fait accompli* by seizing and controlling certain parts of Norwegian territory through a *coup de main* may to that effect be implemented with or without a land component on mainland territory (Diesen 2018, 7).¹²⁴ Either way, the approach would most likely involve military exclusion zones around Svalbard, Jan Mayen and parts of Northern Norway while denying in totality the use of the coastline and larger ocean areas in order to halt any attempt to move Norwegian or allied forces into the AO (ibid, 8; Grytting 2018, 17).

However, the Bastion Defence concept in the event of horizontal escalation is not the only way Norwegian territory becomes relevant in Russian strategic thinking and operational art—Another principal possibility is rather a strategic offensive in expanding ongoing conflict with NATO to another area in order to face NATO with priority and capacity problems (Diesen 2018, 7). Moreover, given the entrenched Russian perception of conventional inferiority, yet another is the possibility of using Norwegian territory in first-strike (Ulriksen 2015, 2). Indeed, as per the recommendation of a growing number of Russian military theorists seemingly in unison on the value of PGMs in future war, “long-range high-precision weapon systems of several types may strike the enemy at their peacetime stations”, thus obtaining key objectives by attacking from sanctuaries relatively shielded from counteroffensives (Gorbunov and Bogdanov 2009, 26).

Through its natural cover from target acquisition systems allowing for their efficient use, the Norwegian coastline provides such an operational safe-haven: From the Norwegian Sea or Lofoten, Russian weapon systems may as such reach most naval and air bases in all of Northern Europe, lacking sufficient AD systems, and thus possibly eliminate the majority of opposition in an Initial Period of War (IPW) (Ulriksen 2015, 2). Indeed, Russian interest in the Norwegian littoral is long-standing: Whereas Russian submarines in the Norwegian fjords violating territorial waters was a well-known practice during the Cold War, a most recent example includes the possible identification of a

¹²⁴ *Horizontal escalation* in the North on the part of Russia entails a geographical extension of a conflict or AO where territory is the attack’s main purpose, whereas *vertical escalation* refers to the increase in a conflict’s violence and intensity (Bukkvoll et al. 2017, 31). Whereas a land component would entail moving Russian weapon systems and the forces necessary to protect them into Norwegian territory, an intermediate solution without a land component on Norwegian territory would still be that Russia declares certain areas, either in Finnmark, Northern Troms or Svalbard, as a military exclusion zone—reserving the right to halt any attempt to move Norwegian or allied forces into the AO (Diesen 2018, 8).

possible submarine snorkelling in Dalsfjord in 2016 (Terjesen et al. 2010, 412; Persen and Østby 2016). Another signifying indicator of Russian interest in the Norwegian coastline is Russian authorities' encouragement of civilian sailors cumulating knowledge of the littorals and qualifying for Norwegian Pilotage Exemption Certificates (PECs), increasing Russian proficiency in operating in the complex Norwegian coastal zone which would enable them to function as piloting crafts in conflict or war (Ulriksen 2017, 43).

In sum then, the main difference between the Cold War and contemporary conditions is perhaps first and foremost that while the awareness of the possibilities that long-range next-generation PGMs provide a conventionally inferior Russia have been long-standing, their availability to Russia has not (McDermott and Bukkvoll 2017, 31). As such, whereas the Bastion Defence has proven a long-standing priority in Russian strategic thought and operational art throughout, "Bastion Offense" is perhaps a new approach in direct outgrowth of the perception of the value of long-range PGMs, the increased weight given non-nuclear deterrence and the increasingly available means to enforce it. Their combined result is *de facto* coverage of significant swathes of NATO and Norwegian territory in a quantitative and qualitative shift opening new options for Moscow's military and strategic reach.

4.3.2 The Non-Military Component and the Relevance of the Maritime Domain

Meanwhile, the strategic deterrence concept attributes a special role to targeting the adversary's non-military assets and to activating non-military influence through in particular threats of financial and economic disruptions activated in conjunction with the military component of coercion and containment in order to create an environment conducive to Russia (Adamsky 2015, 33). To that end, threatening non-military assets with massive strikes of advanced nuclear PGMs coupled with host of activities by sabotage-reconnaissance groups signals resolve and capability while communicating the degree of unacceptable political, economic, social and technological damage that will be inflicted on the adversary unless it concedes to Russian terms (Giles 2015, 43-44). In such a bilateral Norwegian-Russo scenario, territory rather serves as an arena for the use of force or with unconventional means aimed towards non-military components to instead influence political behavior and destabilize NATO without necessarily triggering Article V (Diesen 2018, 8).

Whereas the study of such grey-zone tactics has in the main hitherto been focused on land-based operations, their emergence in the maritime sphere is particularly notable (Roy 2017).¹²⁵ To that effect, the North Atlantic is a target-rich environment with its crowded shipping routes and multiple harbors, oil rigs, underwater telecommunications cables and a host of vital infrastructure critical for

¹²⁵ Whereas the literature commonly employs *maritime hybrid warfare* as the official terminology describing its operations, characteristics and objectives, the thesis—avoiding ambiguity as to what it infers—rather employs "grey-zone tactics" when referring to them. Indeed, a key change in the 2017 Maritime Doctrine is its strengthening of FSB in naval activities, possibly a veiled reference to expanding the grey-zone tactics so successfully employed in Ukraine to the naval battlefield (Roy 2017).

the economies of Europe, cf. Figure 7 in Appendix (Stavridis 2017b). Differing significantly from high-intensity blue-water operations, such coastal offensives may rather coerce and paralyze through targeting HVTs at and under the sea with efforts likely characterized by employing the full range of military and non-military capabilities while appearing sufficiently ambiguous to outside observers as to avoid triggering Article V (ibid). In the maritime domain in general and relevant in Norwegian context in particular, vulnerabilities at sea to such maritime grey-zone tactics involve in the main port and supply chains and critical sea infrastructure (Schaub Jr. and Hoffman 2017, 36-37).

Whereas ports and supply chains may be subject to sabotage and strikes by “little blue sailors” or irregular forces in order to disrupt both military operations and trade, blunt cyber instruments could disrupt ports selectively, resulting either way in immense losses in economic activity paralyzing societal activities (ibid, 37).¹²⁶ Meanwhile, in targeting critical sea infrastructure, underwater cables and nodes—constituting prime targets in lacking basic defences—Kremlin could gain the power to critically impede critical data exchange and communication critical for business, defence and intelligence by cutting them or obtain significant informational access from tapping them (ibid, 36; Stavridis 2016). To that end, Norwegian underwater cables are particularly easy to localise given the detailed nature of openly available map databases providing anyone who pleases with GPS coordinates for critical communication and electricity cables as well as oil and gas supply lines, increasing Norwegian vulnerability and danger to sabotage, cf. Figure 8 in Appendix (Olsen 2018). Indeed confirming Russian interest in NATO’s undersea infrastructure, Russian submarines have dramatically stepped up aggressive operations around undersea data cables in the North Atlantic to unprecedented levels (Birnbaum 2017).

Yet, there is only within one non-military area in which Russia has significant power as opposed to the West, and that is energy supply providing Russia as a dominant energy supplier the possibility of wielding an implicit “energy weapon” by manipulating energy dependence to extract political concessions (Seely 2017, 54; Bugajski 2010, 17). However, though the largest supplier of natural gas in the European theatre, the extent to which withholding gas supply may constitute a significant strategic coercive tool in obtaining political concessions is to a large extent dependent on simultaneously coercively or violently withholding Norwegian supply as the second largest supplier as the total loss thus in sum would be of such a magnitude relatively impossible to replace in the shorter or longer term (Strømmen 2017, 32).

To this effect, an infamous example of an increasingly assertive naval diplomacy at the lower-

¹²⁶ “Little blue sailors” refers here—similarly to the references of Putin’s “little green men”—to individuals not categorized as uniformed personnel who instead of using force directly from identifiable “grey hulls” employ a mixture of smaller vessels, often-times commanded by states’ respective “white hulls” (Stavridis 2016).

end of the kinetic spectrum underlining the importance of the non-military domain to the Kremlin is the deployment of a Northern Fleet carrier task force in 2007 through the North Sea, in which exercises amidst Norwegian oil and gas platforms affected production and shut down helicopter traffic (Pedersen 2016). Later explaining how the Navy exercise its fleet in “areas of tactical interest to Russia”, the behavior falls in the same category of violations of territorial waters and airspace and saber-rattling troop movements on borders juxtaposed persistent Russian hacking efforts against European energy and telecommunication networks as force multipliers targeting an opponent’s moral (Thornton and Karagiannis 2016, 339; Woody 2017).

In sum then, Russian strategic deterrence and its reflections in the maritime domain constitutes therefore an imperative part of a full spectrum of classifiable tools which Kremlin may employ in the pursuit of political and military aims—whether overt or covert, applied directly or indirectly requiring a level of shrewdness in not triggering Article V (Seely 2017, 52; Adamsky 2015, 39). To that end, Norwegian territory and ocean areas constitute by default strategically and operationally vital areas for both NATO and the US through several scenarios deriving from their common characteristic of weakening the transatlantic link, thus necessarily forcing NATO to relearn defence reinforcement plans to counter the all-encompassing nuclear, non-nuclear and non-military components of Russian strategic thinking and operational art in the North (Hamre and Conley 2016, 44; Strømmen 2017, 22).

4.4 Significance to Norwegian Maritime Strategy

In terms of the strategic deterrence concept’s strategic and operational significance to Norwegian maritime strategy, what first and foremost becomes evident *prima facie* is its parallel interfaces with varying implications to RNoN’s structure and maritime strategy as a small navy. Whereas a bilateral Norwegian-Russo conflict and the non-military domain constitute the strategically most demanding as Norway in a conflict “too small for NATO, but too large for Norway” alone must create the conditions triggering Article V, the nuclear and non-nuclear domain’s Bastion Defence and Bastion Offence scenarios remain the tactically most demanding due to the likely significant Russian force concentrations they entail (Diesen 2018, 8).

In the former, RNoN may face a variety of threats as the RFN may militarily or unconventionally target Norwegian economic HVTs in the maritime domain, either kinetically or non-kinetically, as such demanding efficient crisis management and to that effect a holistic approach involving Civil-Military Cooperation (CIMIC) based on a combination of kinetic and non-kinetic measures capable of rapid deployment and containment (Rinelli and Duyvesteyn 2018). Whereas a maritime CIMIC component—geared towards gaining an understanding of the civilian-maritime domain in military operations—fully utilizing the comprehensive and world-leading Norwegian competence and

capabilities in the civilian-maritime sector would add significant practical values by the availability of appropriate sensors while acting as a force multiplier, such a framework within Norwegian maritime strategy is currently lacking—creating as such an imbalance in appropriate counter-measures to incursions in the non-military domain.

Thus, relevant military components consists in the main of the Naval Home Guard—specialized for surveillance and control of the Norwegian elongated coastline possessing critical local competence and several fast crafts at their disposal—and *Skjold Class* corvettes—possessing significant reaction abilities making them particularly suited for episode- and crisis management in the vast ocean areas (Moen 2017).¹²⁷ In sum capable of rapid and flexible responses to and defeating or otherwise containing asymmetric threats, the Naval Home Guard and the coastal corvettes as such significantly aid Norwegian maritime strategy in enabling tactical counter-offensives to secure territorial integrity a bilateral Norwegian-Russo crisis or other offensives in the non-military domain.

Whereas NATO in Warsaw decided that Russian grey-zone tactics must be taken seriously and that all member states must plan and comply to contain such a threat, the Norwegian military and political leadership's decision in the current Long-Term Defence Plan (LTP) to remove them directly oppose such a direction despite their increased relevance.¹²⁸ As such, facing the potentially critical consequences of the strategic deterrence concept's asymmetry in targeting HVTs in the maritime domain—which in Norwegian ocean areas are plentiful—their removal decreases RNoN's ability to defend critical infrastructure, left undefended when it should on the contrary be strengthened.

Moreover, given the simultaneous need in a bilateral scenario to trigger Article V, it is however arguably reasonable to question whether NATO solidarity will prove as uncompromising if the bilateral conflict itself does not affect member states' own national interests (Diesen 2018, 9). As detection of a grey-zone tactical approach in the non-military in its earlier stages might prove problematic, it may rather generate a prolonged deliberation within the Alliance rather than a critical and proximate reaction (Lanoszka and Hunzeker 2016, 15). Possessing furthermore differing views of Moscow's intentions, ranging between “revanchist” convictions and rather skeptical views of Moscow presenting as an immediate threat, the general disagreement may exacerbate the potential for escalation through an incorrect threat assessment welcoming Moscow to purposefully escalate general tensions and test the Alliance's resolve (Kühn 2018, 24-25).

Similarly, parallel conflicts or regional fronts arguably force NATO nations to prioritize their contributions towards crisis or conflict—In such a case, states may choose to contribute where it best serves them, from which Norway might end up with a lower support in the North than assumed

¹²⁷ Confer *Chapter 5.4.1 Maneuver and Attrition* for further discussion of the removal of the *Skjold Class* corvettes.

¹²⁸ Whereas the *Skjold Class* corvettes are decided removed from RNoN's structure from 2025 onwards, the Naval Home Guard was liquidated in 2017.

(Keyser-Amundsen 2015, 18). Thus, given Russia's certain ingenuity in effectively manufacturing a room of maneuver for using force without a unified Western bloc immediately involved—the successes of which was demonstrated in Ukraine from correctly perceiving the temperature and temperament of the Euro-Atlantic community and thus achieving a favorable balance between covert actions in the military and non-military domain—dismissing the likelihood of a bilateral Norwegian-Russo scenario is therefore probably too optimistic (Cimbala 2017; Diesen 2018, 9).

Meanwhile, in the former scenario of an Article V situation, the most critical operational significance derives from the Bastion Defence concept as the foundation upon which the concept in its entirety is based, with the central challenge stemming from the likelihood of Norwegian territory in its entirety becoming trapped behind a maritime bastion stretched towards the GIUK gap (Diesen 2018, 8). Thus, first and foremost, RNoN must in the event of a Russian establishment of its Bastion Defence survive and operate within Russian denial and control zones—handling the conditions imposed by the bastions first nationally and later internationally through a NATO framework (Ulriksen 2015, 4; Strømmen 2016, 19). Within such zones, RNoN must as such be able to deny the use of the sea to prevent Russian force projection—which in the high seas is only possible through covert combat means such as submarines and mines and in the coastal zone through exploiting the littoral's force multiplying effects for units particularly immune against typical A2/AD capabilities as an operational base for tactical offensives into the open seas (Strømmen 2015, 56).

Whereas submarines constitute effective sea denial capabilities over time and are instrumental in preventing *fait accompli* by virtue of their ability to operate effectively also in areas where the opponent possess air supremacy, in most operations they remain effective only if at the right place at the right time given their low tactical mobility (Strømmen 2017, 27). As per then-CinC RNoN Saunes and then-CinC Navy proper Marthinsen, the lower ambition of four submarines based on the German 212A design is thus unwise and on a lower scale than tactically desirable given the necessary prioritisation of continuous presence—posing the risk of “just providing a submarine when one is available and not when you really need them” (Willett 2017).

Thus, despite their superior sonars and quietening technology providing RNoN with an advantage over Russian submarines, four submarines may nether prove sufficient in deterring an attack nor prove a sufficient number to deny Russia the use of the open sea—not least given the lacking sea denial capabilities of RNoN's decreasing mine warfare structure after the remaining mines and mine layers were removed by 2010 (Oder 2017; Eide et al. 2017).¹²⁹ Meanwhile, the resulting lack of control in the coastal zone posited by the *Skjold Class* removal—representing a potent denial

¹²⁹ Mines—cost-efficient and difficult to detect—constitute an effective sea denial capability if spread out in high numbers, and may have devastating effects on warships (Oder 2018).

capability as per their niche of exploiting the Norwegian topography to their advantage in using the archipelago as a force multiplier and a camouflage for executing coordinated defensive attacks against a superior force—may as such enable an opponent to paralyze societal activity and neutralize important naval and air bases as RNoN’s ability to defend them from the cover of the archipelago become significantly diminished (Nordanger 2006, 42; Moen 2017, 13).

In parallel, the reception and projection of allied reinforcement of a significant size and clout must come by sea, demanding sea control limited in time and space allowing reinforcements to enter and carry forward (Strømmen 2016, 56). However, as a result of the Russian denial and control zones as posited by the A2/AD operational approach, allied reinforcements necessary to re-establish the status quo and sea control in the North Atlantic and the Norwegian Sea—to which only NATO’s naval might led by the US Navy is capable of—may be critically delayed (Diesen 2018, 8-10).¹³⁰ Thus, strategically, the strategic deterrence concept highlights the fact that maritime powers are more dependent on sea control than a continental adversary would be as an A2/AD system mitigates an adversary force’s superiority by keeping them beyond effective operating range from their main objective (Frühling and Laconjarias 2016, 99).

Indeed, NATO has historically recognized the value of proactively utilizing seapower against the more land-oriented Moscow, particularly in Northern waters: During the Cold War, a central theme of both the US Maritime Strategy and NATO’s dovetailing Concept of Maritime Operations (CONMAROPS) was the forward use of naval forces in and around the Norwegian Sea, designed to maintain SLOCs, prevent Soviet breakout through the GIUK gap, secure the Northern flank, force a dispersion of Russian forces and target the USSR’s strategic assets (Tamnes 2017; Olsen 2017).¹³¹ With Russia’s strategic deterrence concept and its component parts again threatening NATO’s SLOCs and thus the Alliance’s critical transatlantic link, the adoption of a new forward maritime strategy in the Northern region is arguably crucial in facilitating offensive liberation campaigns *ex post*—perhaps even more so than during the Cold War as the Alliance’s forces have been vastly scaled down since then.

4.4.1 Forward Maritime Strategy and the Coast as a Force Multiplier

As such, RNoN is necessarily forced to operate in such exclusion zones in a national framework until allied reinforcements arrive, entailing first and foremost an increased need for safeguard measures and survivability due to the significant strategic and operational challenge of the Russian reliance on PGMs and A2/AD capabilities (Strømmen 2017, 25-29). To that end, naturally-given advantages first

¹³⁰ Confer *Chapter 5.4 Significance to Norwegian Strategy* for an in-depth discussion of the implications of Russia’s A2/AD operational approach.

¹³¹ In it, the Royal Navy played a vital role where the UK-led Anti-Submarine Striking Force (ASWSTRIKFOR) centred around at least one aircraft carrier would in crisis or war secure “the GIUK “line” and provide the ASW element of NATO’s US-led Carrier Striking Force (CARSTRIKFOR) as it entered the Norwegian Sea (Terjesen et al. 2010).

and foremost include the elongated coastline: In exploiting the Norwegian littoral, RNoN may operate with a sufficient degree of maneuver given the natural cover it provides, thus coercing an opponent to employ his forces in a demanding and less cost-efficient way, forced to fight on RNoN terms in order to eliminate the fleet (ibid). As such, RNoN's forward presence through a *fleet-in-being* strategy based on maneuver and attrition employing the fleet's mobility while exploiting the protection of the archipelago as a force multiplier to harass the opponent through offensive operations may sufficiently deprive him of the chance to obtain his objectives until allied reinforcements arrive (Tjøstheim 1998, 34).

To that end, the maritime strategy's reliance on forward-presence is crucial to mitigate the consequences of the strategic deterrence concept with the minimal warning time that may be expected in any Russian offensive (Grytting 2018, 18). Presence and mobility as such become force multipliers as RNoN and NATO's mobility in effectively and swiftly deploying to or within an AO is necessarily decisive to establish an effective threshold (Keyser-Amundsen 2015, 68). To that end, active and forward-presence presence remains paramount to appear as a credible force through demonstrating a clear will to use it while demonstrating competence and ability to creating conditions of surprise and unpredictability (ibid). Advantages from positioning forces in forward-based positions close to Northern Norway thus include first and foremost putting pressure on Russia to maintain a defensive posture around its Northern waters by restricting Russian forces close to their bases and complicate initial establishment of Russian exclusion zones while bringing Russian targets—including the military vital bases on the Kola Peninsula—within the range of friendly stand-off weapon-systems. Thus in sum forcing Moscow's defensive assets from other TVDs in compelling it to fight a conflict on two fronts, the credible threat in peacetime of NATO spreading an European conflict beyond the immediate land-locked regions to threaten wider Russian security would also act as a significant deterrent to Moscow commencing any hostile action in the first place.

To that end, to address growing Russian activity and increasing complexity of naval warfare, RNoN's close links and interoperability with the Royal Navy, the US Navy and the navies of the "usual suspects" of cooperation, namely Belgium, Denmark, Netherlands, France and Germany, needs to be further strengthened through conducting high-end warfare training and exercises (Willett 2017). As such, NATO's recently renewed focus on exercises and their increased number and expanding aims both as a training measure and as means of expressing intent remain essential for rehearsing operational plans in Northern waters while demonstrating solidarity of NATO forces in the North Atlantic and along the Norwegian coast (ibid). Consequently, the high-visibility exercise Trident Juncture in 2018 with Norway as host-nation is a welcome opportunity to get all allied militaries to look North (Strømme 2017, 14).

Whereas NATO's political intent and maritime intentions in the North Atlantic was clearly spelled out in the 2016 Warsaw Communiqué, NATO remain nevertheless unprepared to cope with such challenges and translate such intentions into tangible actions (Craanen 2017).¹³² As the Alliance since the 2000s has dealt almost exclusively with out-of-area operations on land and in the air, the North Atlantic has not been a major strategic concern: As a result, NATO's maritime capabilities have atrophied and the Allied Command Atlantic (ACLANT) has been disbanded while the 2011 Alliance Maritime Strategy (AMS) concerning in the main lower-end operations remains arguably inadequate to counter the full spectrum of maritime challenges the concept of strategic deterrence creates, requiring as such a fundamental shift in strategic thinking in order to construct an effective North Atlantic maritime strategy (Rizzo 2017).¹³³

However, this is not to say that NATO is not preparing for potential military challenges at sea in the North Atlantic as much is already under way in terms of strengthening NATO's deterrence and defence posture: Indeed, NATO has introduced reforms to its C² structure in order to bring back a number of maritime functions reduced or eliminated altogether after the Cold War, which includes advance planning, logistics and situational awareness with reform plans involving the establishment of a new Atlantic Command tasked with surveying ocean areas and securing SLOCs for US reinforcements of Europe (Tigner 2018; Emmott 2017). Yet for the Alliance, the bulk of the effort of revamping NATO for regional deterrence post-Crimea has taken place in respect to NATO's force structure, in particular NATO's Response Force (NRF) as the Alliance's rapid-reaction forces aiming to secure *escalation dominance*, being spearheaded with Very High Readiness Joint Task Force (VJTF) as a "mobile tripwire" (Craanen 2017; Ringsmose og Rynning 2017, 131).¹³⁴

Allowing for essential forward presence, an updated AMS should thus similarly emphasize fully resourcing maritime groups by member states while increasing flexibility through a focus on the ability to aggregate and disaggregate forces (Horrell et al. 2016, 5). Moreover, given the A2/AD operational approach in the North serving as the strategic deterrence concept's foundation, the Alliance needs to develop an area-access strategy geared towards preserving access to the region based on forward presence as a preventative measure and technically adapt through layered offensive

¹³² The communiqué postulates that the Alliance in the North Atlantic "will be ready to deter and defend against any potential threats, including against sea lines of communication and maritime approaches of NATO territory. We will further strengthen our maritime posture and comprehensive situational awareness" (NATO 2016).

¹³³ Although some maritime activities pertaining to upholding Good Order at Sea, such as counter-piracy in Aden and migration assistance in the Mediterranean Sea, fall under NATO's purview, such missions pale in comparison with NATO's other operations in the post-Cold War era.

¹³⁴ *Escalation dominance* refers here to a state's ability to deploy dominating capabilities and capacities successfully in the escalation ladder up until nuclear use (Strømmen 2017, 24). Other significant changes within NATO's force structure include the enhanced forward presence (eFPs) and enhanced tailored presence (eTPs) of four multinational battalion task forces as tripwires in Baltic and Black Sea flanks, adopted at the Warsaw Summit in 2016 (Ringsmose and Rynning 2017, 131). Cooperation under the NATO-Russia Council established in 2002 was also suspended, whereas imposition of sanctions regime continued outside the NATO framework (ibid, 132). Separately, the US has deployed additional forces and military equipment under a national program known as the European Deterrence Initiative (EDI) while simultaneously strengthened the Marine Corps Prepositioning Program-Norway (MCPN) at Værnes, Trondheim, providing mission-tailored, pre-positioned support to US expeditionary operations in Northern Europe (Kühn 2018, 26).

capabilities capable of operating in an A2/AD environment, which is currently lacking (Pothier 2017). To that end, while declaratory policy is indeed important, the presence of NATO military forces in the North is arguably more important as NATO's deterrence of nuclear and conventional attacks on member states' navies mainly rest upon a US threat to respond with escalation (Schneider 2018).

However, the great imponderable of a NATO and Norwegian contingency based on forward presence is the nuclear question and escalate to de-escalate doctrine, and whether defensive conventional attacks from NATO and RNoN might trigger a nuclear response from the Kremlin. As such, nuclear and non-nuclear deterrence also applies to the "main battle-space of the mind" through the combination of implicitly threatening nuclear first-use and their forward deployments in positions rendering it unwise for Norway and NATO to exclude them from a flaring conventional war (Cimbala 2017). To that end, the increased Russian reliance on dual-capable missile systems meant to force a choice as Henry Kissinger put it during the Cold War "between suicide and surrender" and thus securing escalation dominance further creates a mismatch in escalatory options and a critical military imbalance (Scaparotti 2017). The US—lacking commensurate NSNWs—is thus forced to either retaliate with ballistic missiles or strategic bombers and thus risk a full-scale nuclear exchange causing extensive collateral damage—the West's aversion to which is well-known—or thus to back down, effectively shedding the credibility of NATO's mandate (ibid; Kroenig 2018). Thus arguably, as the Russian strategic deterrence concept is based on the notion that Russia may both deter and control the risk of escalation through NSNWs and PGMs, an in-kind deterrent capability upon which to base Norwegian maritime strategy through a NATO framework of forward presence is arguably critical (Schneider 2018).

4.5 Chapter Summary

From analysing the political- and military-doctrinal framework of Russian maritime defence planning and seapower from a neutral understanding of the Russian perspective, what becomes evident is a holistic antecedent framework demonstrating significant continuity developed around a longstanding tradition of asymmetry, preoccupied in the main with maintaining strategic and operational depth through the Great Limitrof. Bringing a sense of urgency to plans of strategic and conventional modernisation of which the naval component in the North constitute a significant part, evolving and expanding threat perceptions in the North remain strongly affected by geographical conditions and the need to maintain a buffer zone in its periphery which, particularly sensitive to encirclement, has been consistently fueled by NATO's eastward enlargement (Sokolsky 2017). To that end, Russia's conventional military weakness and NATO's military superiority combined with Russian fears of the Alliance's intentions have thus figured prominently in the Russian political- and military-doctrinal

framework throughout, continuously and significantly affecting Russian maritime defence planning and seapower (Åtland 2007, 504).

As the need of defending Russian interests at sea and from the sea has derived first and foremost from the West's naval activity and capability, the identification of the US and NATO as the principal threat to Russia has since proven a considerable contributory factor to the increasing importance the Kremlin has attached to its naval forces. To that end, the arrival of Putin to the political throne in 1999 has demonstrated an evolving trajectory with an increased role and importance of seapower in the political- and military-doctrinal framework, representing a significant change in continuity as military modernisation and naval resurgence became a priority for the first time since USSR's collapse (Bosbotinis 2010, 3; Grätz 2014, 4). Marking a significant threshold effect for a major grand strategic shift, Putin—devoting considerable attention to courting the military vote—gave as such his backing to RFN's purposive campaigns at the top level to strengthen its position vis-à-vis the other services, seeming first and foremost to respect the naval *raison d'être* (Haas 2011, 12).

Consistent with Putin's focus on *derzhavnost*, the essential role of seapower and the importance of the maritime domain in achieving political- and military-strategic objectives have since been central in national frameworks (Haas 2011, 12; Bosbotinis 2010, 3). With maritime strategy's increasing prominence in Russian grand and military strategy, the Navy has come to play a central part in how Russia is positioning itself in grand strategic terms as its Navy is steadily developed to support the twins aims of enforcing national security close to home and further afield, hugely popular with the Russian people and pursued with a level of success of increasing concern (Fedyszyn 2017; Till 2016a). Meanwhile, driven by the adoption of NEC and the need for combat capability and readiness—designed to first and foremost respond to the US and NATO threat—the New Look reforms have since 2008 aimed at redistributing armed strength to reflect the new security environment, thus replacing the Soviet-era mass-mobilization system with more potent and agile units (Boltenkov 2011; Baluyevsky 2007).

In parallel, Russian strategic thinking and operational art as per the strategic deterrence concept—continuously developed throughout—remains revolved around the maintenance of the Great Limitrof, is inherently asymmetric, universal and continuous in deterring, containing and coercing an opponent in times of peace, crisis and war and skillfully integrating the nuclear, non-nuclear and non-military domain in a holistic campaign, designed first and foremost to keep conflict below the radar of traditional collective defense and without triggering Article V (Tsygankov 2012; Bruusgaard 2016; Adamsky 2015). In it, the Navy occupy an important role in meeting the challenges of the concept's component through its ability to deliver conventional and nuclear concentrated strikes, and its task of enforcing the concept has remained unchanged throughout the political and

military leadership's reform efforts (Schneider 2018).

To that end, the encompassing strategic deterrence concept posits that Norway and NATO may be exposed to significant Russian power-wielding in differing variants also before traditional acts of war—first and foremost independent of the state of bilateral Russo-Norwegian relations (Diesen 2018). As such, whereas a bilateral Norwegian-Russo conflict and the strategic deterrence concept's focus on asymmetric means in the non-military domain demands units capable of efficient crisis management and a holistic approach based on a combination of kinetic and non-kinetic measures capable of rapid and flexible response in order to aid Norwegian maritime strategy of securing territorial integrity, Norwegian territory lend itself of particular use to Russian strategy and operational approaches through the Bastion Offence and Bastion Defence with its elongated coastline—the exploitation of which is a central Russian interest due in the main from the Russian reliance on NSNWs and PGMs (Moen 2017, 16).

As such, in scenarios triggering Article V, the most critical strategic and operational significance originate from the central challenge deriving from the Russian A2/AD operational approach, trapping large swathes of Norwegian territory behind a maritime bastion stretched towards the GIUK gap in securing the Russian strategic CoG (Diesen 2018, 8). Consequently, RNoN must be able to handle the imposed conditions first nationally and later internationally through a NATO framework, and within such zones succeed in fulfilling the tasks of maritime strategy of preventing maritime power projection and enable reception and advancement of allied reinforcements while contributing to tactical counter-offensives securing territorial integrity be able to achieve sufficient degrees of sea denial and sea control (Strømmen 2015, 56). However, given Bastion Defence concept's exclusion zones, allied reinforcements, necessarily entered and carried forward by sea, NATO's naval might—paradoxically the only force capable of re-establishing the status quo in such zones—may be critically delayed (Diesen 2018, 8-10).

As such critically threatening the Alliance's transatlantic link, RNoN's forward presence based on a fleet-in-being strategy through employing the fleet's mobility while exploiting the force-multiplying effects of the elongated coastline to afflict sufficient damage on the opponent depriving him of reaching his main objectives until allied reinforcements arrive must arguably dovetail a new forward AMS in the Northern region—crucial in restricting RFN close to its home ports and complicate initial establishment of exclusion zones while bringing Russian targets and the Kola Peninsula within the range of NATO's weapon systems. To that end, necessarily based on an area-access geared towards preserving regional access, the presence of NATO forces in the North as such rest upon a credible unison threat to respond with escalation.

5 Russian Maritime Capabilities in the North

Evidenced in particular by the substantial surprise of Russian military ability as demonstrated by the campaigns in Ukraine and Syria, there is a tendency in extant research to undermine Russian military capabilities (Persson 2017, 2). While by no means overfunded, the RFN has in line with the prescriptions of political- and military-doctrinal framework continued its steady New Look transition to a more capable and modern fleet (Gvosdev 2017; Nordenman 2017). To that end, the GPVs' principal objectives have dovetailed with the New Look aims of improving combat capability and readiness with strategic deterrence as the foremost priority for naval rearmament in strengthening the nuclear deterrent while recapitalising its conventional forces through procurement of next-generation platforms while modernising ageing Soviet-era vessels (Zysk 2013; Malmlöf and Roffey 2016).

In a shift towards high-intensity warfighting, Russian maritime defence planning has simultaneously improved the Navy's NEC and C⁴ISTAR while focusing on enhancing the fleet's striking power, operational flexibility and strategic mobility (Bosbotinis 2010; Bukkvoll et al. 2017; McDermott 2017). What thus emerges from Russia's naval modernisation is a navy whose seapower is restrained to coastal defence and power projection in adjacent seas in a classic, Corbettian posture embracing *Jeune École* with an enhanced capacity for sea control and sea denial—the sum of which in the North manifests as an “arc of steel” with obvious strategic and operational implications for Norwegian maritime strategy, in the main originating from the A2/AD and precision-strike regime and the conditions they impose (Gvosdev 2017; Tsypkin 2010, 342).¹³⁵

5.1 State Armaments Programmes and Defence Spending

By the turn of the new millennium, the Navy's perilous state from the preceding decade's fleet neglect by the Yeltsin administration was allowed to fester: Ill-equipped to meet the ambitions of doctrine and strategy, the Northern Fleet as such risked losing the capability to defend its coastal waters, not to mention performing blue-water missions (Krupnov 2006, 5).¹³⁶ By the 21st century, the Navy had lost over half their size in manning levels and much of its weaponry had become obsolete as the number of arms and equipment becoming outdated matured faster than the number of arms and equipment that was meant to replace them (Haas 2011b, 12).¹³⁷ Thus, notwithstanding the political-

¹³⁵ *Jeune École* describes a sophisticated coastal defence where torpedo boats and gunboats operate from bases and operational safe-havens in a coordinated war effort of force concentration and dispersion intended to defend territory while bringing conflict to the opponent by conducting offensive operations, it is in the offensive use of naval forces it differs from other “strategies of the weak” with their main objective of deterring or eventually challenging a superior opposing naval force (Røksund 2007, 226-227).

¹³⁶ In the 1990s, conditions in the RAF was poor, especially at the outset and during the early stages of transition when the economy suffered and resource allocation was unclear—Consequently, the GPV-2005 was never fulfilled (Moran 2002, 2; Brannon 2016, 8; Haas 2011b, 13). The RFN was going through particularly difficult times—Between 1993 and 1998, the Navy's total share of the Russian defence expenditures fell from 23 percent to only 9,2 percent (Åtland 2007, 504; Tsypkin 2003, 169).

¹³⁷ From 1990 to 2000, the Navy's personnel strength was reduced from 410,000 in 1990 to 171,500, and OPK deliveries were limited to remainders of procurement orders placed during the Cold War.

and military-doctrinal framework demonstrating an increasing role of the Navy and maritime strategy in adapting to high-tech warfare, budget realities remained far from their vision and remained at historically low levels for the majority of the decade despite rapid economic growth (Willett 2009, 51; Connelly 2017, 2). As such, despite NATO's eastward enlargement fueling Russian threat perception while bringing a sense of urgency to conventional and strategic modernisation plans, the GPV-2010 were recognized as a failure by 2005—Marking instead major discrepancy between ambition and reality as the gradual increase in defence spending was in no way near sufficient to finance the enormous defence structure inherited from the USSR (Åtland 2007, 504).

As such, Putin refrained in his first two presidential terms from radically transforming the Navy towards a fleet capable of addressing the challenges of modern warfare and contemporary threats as the ambitions of the political- and military-doctrinal framework did not reflect in the strategic resources provided the RFN (Bukkvoll et al. 2017, 7-9). Thus, due to the combination of lacking funding producing meagre results and the GPVs' realistic emphasis on extensive R&D as to allow investment in procurement at a later stage, the analysis will focus on the empirical and observable outcomes the GPV-2015 and GPV-2020 as to probe the GPVs in-depth and study their correlation with the political- and military-doctrinal framework while comparing their successes and failures as funds shifted to procurement from 2008 onwards with full-scale procurement resuming from 2010 (Haas 2011b, 13; Oxenstierna and Bergstrand 2011, 47).¹³⁸ To that end, GPV-2020 in particular represents as such a critical juncture for a threshold effect seemingly ending an ostensibly entrenched path dependence of maritime defence planning and seapower's inability to develop effective maritime capabilities.

5.1.1 The State Armament Programmes up to 2015 and 2020

With funding to RAF's modernisation amounting to RUB 4 trillion after protracted inter-agency disputes, the GPV-2015 adopted in 2006—better financed than preceding GPVs—focused on completing the development of new systems for the first armament period leading up to 2011, facilitating instead large-scale arms production thereafter (Cooper 2016, 150; Yazbeck 2010, 19). Indicative of the strategic deterrence concept and importance of maritime strategy manifesting in the LTDP process, in the GPV the RFN's importance equalled that of the Strategic Nuclear Forces (SNF) in, as per then-MoD Ivanov (2002-2007), assigning 25 percent of the GOZ to naval construction and arming the Navy with PGMs—accounting together with the SNF for in excess of 40 percent of the defence budget (Bosbotinis 2010, 9).¹³⁹ Consequently, the priority given to defence as expressed by

¹³⁸ In the 2000s, OPK deliveries were in the main limited to that of export, which in the naval context includes the production and sale of Project 636M *Improved Kilo Class* to China.

¹³⁹ The GPV posited that the RAF would be fully equipped with modern weapon systems by 2025, demanding 5.5 percent replacement per annum between 2015 and 2025 (Haas 2011b, 13-14).

the share of GDP grew on average between 2003 and 2011 by about 25 percent at approximately 15 percent above inflation—which, despite growing at around the same pace as GDP, is an unusually rapid and substantial increase in international terms (Oxenstierna and Bergstrand 2011).

However, between 2007 and 2010, the share of procurement had only increased by roughly 20 percent—Thus, deliveries equaled only RUB 1.6 trillion of the total RUB 4 trillion allocated for RAF’s modernisation, cf. Figure 9 in Appendix (Oxenstierna 2016, 143; Westerlund 2011, 78).¹⁴⁰ Meanwhile, as the Navy received in practice only 12 to 14 percent of overall expenditures, the “hidebound resistance” in failing to recognize the RFN’s independence “in any sphere of its current existence” continued to plague the naval forces (Tsytkin 2010, 337-343). In 2010, the share of modern equipment was reportedly only 10 percent, and successes in OPK deliveries—surviving in the main on export to other nations—largely pertained to the other services rather than the Navy (Bukkvoll et al. 2017, 9; Haas 2011b, 14). As such, after it became apparent that only 70 percent of arms orders would actually be produced in the envisioned procurement period, the GPV was similarly to the preceding programmes scrapped and replaced (Connolly and Sendstad 2015, 2).¹⁴¹

Consequently, the GPV-2020 approved in 2010 was meant to be the post-Soviet LTDP transforming the RAF into a modern force capable of enforcing the political- and military-doctrinal framework (Oxenstierna 2016, 140). Thus receiving unprecedented funding amounting to RUB 20.7 trillion—despite worsening economic conditions demonstrating the top priority of military reform—the programme proved heavily biased towards procurement as opposed to R&D in order to obtain the goal of raising the share of modern weapons in the Russian military from an estimated 10 percent to 30 percent by 2015 and 70-80 percent by 2020, cf. Table 4 in Appendix (ibid; Zysk 2015, 166; Oxenstierna and Berglund 2011, 48).¹⁴² As such, the massive introduction of new arms already planned for under the previous GPV was continued in the GPV-2020 with the overall purpose of creating a rapid reaction capability with fully manned units in a state of high readiness, where common to much of the material procured was the focus on high mobility and precision (Connolly and Sendstad 2016, 2; Bukkvoll et al. 2017, 12).

Such ambitions reflected in military expenditures, as the defence burden against the backdrop of the ambitious modernising plans grew faster than all other areas of federal government spending with

¹⁴⁰ In 2006, total GOZ amounted to RUB 235.8 billion whereas total state orders equalled RUB 483.5 billion in 2010 (Oxenstierna 2016, 143).

¹⁴¹ In 2010, the share of modern equipment was reportedly only 10 percent—Thus, whereas actual pace of rearmament turned out to be only two percent a year, successes in deliveries and modernizations largely pertained to the other services, and the OPK survived in the main on export to other nations (Bukkvoll et al. 2017, 9; Haas 2011b, 14; Westerlund 2011, 78)

¹⁴² Here, the operationalization of military modernisation in Russia adopts those posited by Russian specialists on defence economics, namely defining *new* armaments as “arms with less than ten years of service” while *modernised* arms should be understood as upgraded arms rather than simply repaired, i.e. “old models with new components and functions” (Oxenstierna and Berglund 2011, 48). However, ambiguity over the denominator in the principal measure of military modernization in Russia serves to impede its objective evaluation as to whether or not the share of modern weapon systems and other equipment in RAF’s inventory refers to the total stock of equipment, including stored equipment, or only to equipment used in active service units (Connolly and Sendstad 2016, 3).

the share of military expenditure of GDP rising from 2,51 percent in 2011 to 3,82 percent in 2015, cf. Figure 10 in Appendix. Whereas the defence burden was relatively constant up until 2011, from then onwards, growing at an average rate of 19,8 percent annually in nominal terms, the growth of military expenditures has been higher than overall economic growth—indicative of a threshold effect suggesting that it is the priority the leadership gives to defence which determines the limit for defence spending rather than economic growth facilitating it, cf. Figure 11 in Appendix (Bukkvoll et al. 2017, 10; Oxenstierna 2016). The GPV's ambitions within procurement is therefore the main factor behind the defence spending increase since 2011 as annual GOZ spending has accounted for a steadily increasing share of total spending—nearly doubling from 34 percent in 2006 to approximately 60 percent in 2015, cf. Figure 9 in Appendix.¹⁴³

To that end, almost one quarter of the total budget with an allocation of RUB 4.7 trillion—approximately the entire budget of the previous programme and a three-fold increase—would go towards modernizing the Navy in procuring approximately 200 new naval vessels, of which a large part was planned for the Northern Fleet, in raising the share of modern equipment to 71 percent, cf. Table 4 in Appendix (Åtland 2011, 267). By the end of 2016, Russian officials noted that considerable progress had been made in meeting modernisation objectives as 49 percent of all armaments were classified as modern while 58,2 percent for the Navy (Bukkvoll et al. 2017, 13; Golts 2017a). As such, the North reflected in the GPV in line with the political- and military-doctrinal framework as an increasingly important part of Russian military-strategic calculations to which seapower's importance to the Kremlin vis-à-vis the other services manifests particularly from then onwards, at times only superseded by the SNF, cf. Figure 12 in Appendix (Hamre and Conley 2016).

5.1.1.1 The OPK and Shipbuilding Challenges

Ambitions of Russian maritime defence planning and seapower development has however throughout been undermined by internal domestic conditions with the state of the Russian defence industry and its inability to deliver the quality and quantity demanded by the RAF as the root problem, proving a serious aspect consistently hampering the modernization processes (Bukkvoll 2013; Roffey 2013). Whereas the RAF in general has in the post-Cold War era undergone critical reform, the same is not the case with the Russian defence industry (Bukkvoll 2013, 4; Westerlund 2011, 71).¹⁴⁴ Meanwhile, Russia's shipbuilding industry and its design capabilities have remained largely unchanged since the

¹⁴³ However, it should be noted that spending was from the outset intended to be back-loaded so that around one third of the total spending would take place in the first armament period between 2011 and 2015 with the remaining two-thirds spent thereafter (Connolly and Sendstad 2016, 2).

¹⁴⁴ Reforms of the OPK since 1991 have in the main revolved around the two main themes of privatisation and conversion (Yazbeck 2012, 3). Whereas the 1990s instituted a partial privatisation and a determination to convert the OPK to produce civilian high-technology goods, the resurgence of the state in the OPK was a central goal of Putin's reforms through a renationalisation drive producing major consolidations throughout the OPK in creating vertical and horizontal integrated holding companies (ibid, 3-4). However, the reforms, lacking radical advancements, have not fundamentally improved industrial performance, suffering still from lack of innovation, low productivity, antiquated production equipment, corruption and an ageing workforce (Bukkvoll 2013).

early 1980s, resulting in a severe lag in naval R&D producing “irrecoverable technology gaps” (Gorenburg 2015, 3; Yazbeck 2012, 3-4). Thus by 2010, the RFN “was in the worst condition of all the services” as the shipbuilding industry proved unable to maintain the highly ambitious procurement plans, inept of constructing warships in the quantity and at the level of quality that their political sponsors required (Goure 2011, 227).

Due in the main from the struggle in reactivating yard infrastructure which had slowly eroded in its attempt to survive according to the principles of the free market, improving the shipyard industry as such became policy priority (Kipp 2009a; Bukkvoll 2013; Roffey 2013; Parson 2016).¹⁴⁵ Aiming to improve the defence industry, targeted programs launched in 2012 include specifically the Development of the Russian OPK to the Year 2020 and the Development of the Shipbuilding Industry until 2030 (Bukkvoll 2013, 39). To that end, the Russian government and USC have prioritised several shipyard complexes to support naval construction by first and foremost mitigating their dependence upon foreign sub-contractors, particularly in constructing ocean-going vessels given that Russia no longer possess neither the facilities nor the competence to construct them as their yard infrastructure is located in former USSR territory (Parson 2016; Thornton 2017).¹⁴⁶ As such, under the GPV-2020 and budget plans for its realisation intended both to modernise the RFN and revitalise the OPK, the Russian shipbuilding industry appeared to be revived from 2011 onwards as naval procurement and MROs gained traction (Sakaguchi 2014, 55).

Although OPK performance indeed improved, shipbuilding remains nevertheless one of the poorly performing sectors of the OPK with USC often-times referred to in the literature as the least effective of all state corporations in the Russian defence sector (Gorenburg 2015, 5). Shipbuilding has been further negatively affected by the imposed sanctions following the 2014 annexation of Crimea—To that end, specific issues hampering naval modernisation processes includes the lack of Ukrainian gas turbines for which there were no adequate Russian equivalents until the 2017 creation of a naval ship engine production in Rybinsk (Bukkvoll et al. 2017, 13; Golts 2017a). Alongside the inability of the OPK and Almaz-Antey to finalise the sale of its advanced POLIMENT-REDUT and SHTIL AD system to the RFN—in sum consistently falling short of the GOZs due to a “catastrophic backlog”—the innovation capacity of the shipbuilding industry overall is weak, and the lack of international cooperation and competition will likely impact on development for many years to come

¹⁴⁵ In the economic chaos of the 1990s following USSR’s collapse, several Russian shipyards depended on international financial support to dismantle nuclear platforms as the companies and shipyards servicing the fleet were left to own devices (Åtland 2007).

¹⁴⁶ Such shipyards of relevance herein include Murmansk in the North, containing the biggest dry dock in northern Russia and constituting the only place the Northern Fleet may repair larger vessels, and Sevmash north in Severodvinsk in building most of Russia’s submarines. Other shipyards of particular note are Yantar and St. Petersburg on the Baltic Sea, Sevastopol on the Black Sea which in 2015 was authorised to repair naval surface ships and submarines and Khabarovsk and Vladivostok in the East (Parson 2016). The largest shipbuilding complex is however the St. Petersburg Admiralty, alone responsible for 70 percent of all export-oriented shipbuilding and nearly 30 percent of total shipbuilding (Parson 2016).

(Golts 2017a; Oxenstierna 2016, 137).¹⁴⁷

Thus, while official statements relating to naval shipbuilding provide the appearance that the RFN is undergoing a rapid revival, the reality is that many of such projects have faced lengthy delays and cost overruns, resulting in necessarily scaling back the most prominent naval procurement projects while others have been postponed altogether (Gorenburg 2015, 3). Therefore, though the principal recipient of funding under the state armaments programs since 2010, it is however the Navy that has experienced some of the most critical issues as—despite massive military expenditures—Russia has lacked a sufficient shipbuilding base capable of supporting the construction of so many ships to a modern standard—proving an enduring strategic problem throughout (Cooper 2016, 49; Blank 2011; Goure 2011, 277). Construction of new frontline naval vessels has thus been limited to what the shipbuilding yards left on Russian territory are capable of producing—as such hampering naval modernisation while forcing the Kremlin to prioritise the maritime theatres it needs to defend the most (Thornton 2017; Parson 2016).

5.2 Procurement and Inventory

To that end, the GPVs—dovetailing with the New Look aims of increasing combat capability and readiness with the strategic deterrence concept as their foremost priority—have been steering the defence industry towards smaller production runs of more advanced material (Zysk 2016a, 156; Westerlund 2011, 67). Principal objectives have included in the main procurement of SSBNs and multi-purpose SSGNs and SSKs; recapitalisation of its surface combatants through strengthening coastal defence with capable frigates and corvettes; and preserve ocean-going capability and protect SLOCs by extending the service-lives of the Soviet-era legacy armada and concept development for a new generation of cruisers and destroyers (Malmlöf and Roffey 2016, 165). However, given the persisting shipbuilding challenges, much of the fleet's improvement that has taken place in Russian maritime defence planning has largely come from production of vessels based on well-established technology and production systems while revamping older models through MROs (Connelly and Sendstad 2016, 5). However, while variations in naval rearmament thus reflects differences in OPK's strengths and weaknesses, procurement has increasingly made significant progress under the GPV-2020 in particular (*ibid*, 3).

5.2.1 Strategic and Tactical Submarines

As dictated by Russia's geography with constrained access to the high seas everywhere but in the Pacific, submarines are the capital ships of Russian seapower due to their inherent covert nature

¹⁴⁷ 9M96 REDUT is a naval-based AD system with VLS installed on the next-generation ships of the Navy which may simultaneously capable of striking 16 targets.

enhancing survivability whether operating locally or when transiting into the open ocean (ONI 2015, 17). In line with the political- and military-doctrinal framework's focus on strategic nuclear deterrence, preservation of the seaborne nuclear deterrent has proven the GPVs' foremost priority (Golts 2017b; Malmlöf and Roffey 2016, 156).¹⁴⁸ However, by the end of the GPV-2015 armament period, of the armada of 62 SSBNs inherited from the USSR only nine SSBNs were in commission with the Northern Fleet of which only five were operational, cf. Table 5 in Appendix (Baev 2012, 10-11).¹⁴⁹ As such struggling to provide credible deterrence, Russia's recapitalization of its submarine fleet in support of the nuclear component of the strategic deterrence concept began first and foremost with its SSBN fleet as the backbone of Russian strategic forces in the North (Malmlöf and Roffey 2016, 165).

To that end, the submarine project put into practice with top priority throughout has been the development and construction of next-generation *Borei Class* SSBN as the future sea-based leg of nuclear triad (Sakaguchi 2014, 54; Zysk 2015, 168).¹⁵⁰ However, negatively affected by beset problems with the BULAVA SLBM programme and the reallocation of funding to solve them, only the lead hull of the seven *Borei Class* SSBNs scheduled for delivery under the GPV-2015 was by 2010 in sea trials with the Northern Fleet—Construction has therefore taken 13 years since the keel of pilot submarine was laid in 1997, cf. Table 6 in Appendix (Sakaguchi 2014, 56; Bosbotinis 2010, 3).¹⁵¹ Though resulting in a significant dip in nuclear ability, the first three *Borei* SSBNs were however commissioned by 2014, the lead hull of which in the Northern Fleet, as the BULAVA entered operational service in 2013 after remedying the SLBM flaws, cf. Table 7 in Appendix.

Thus, although the production delays have pushed delivery of all the remaining boomers on order until after 2020, it is nonetheless the case that the overall modernization of the SSBN fleet is progressing well with the remaining five and upgraded *Borei II Class* with significantly improved designs at various stages of construction, three of which are to be deployed with the Northern Fleet (Connelly and Sendstad 2016, 5; Gady 2018; Scott 2017).¹⁵² Nevertheless, as the costs of developing

¹⁴⁸ In the 1990s, Russia's sea-based nuclear arsenal was according to experts no longer capable of providing credible deterrence against potential aggressors (Åtland 2007, 501). Between 1985 and 1995, the number of operational nuclear-powered submarines in the RFN were reduced by 50 percent from 155 to 81 (ibid, 500).

¹⁴⁹ The SSBN fleet was made up of six Project 667BDRM Delfin *Delta IV Class* and two Project 941 Akula *Typhoon Class* as the fleet's remaining Project 667BDR Kalmar *Delta III Class* were between 1998 and 2011 decommissioned and the remaining four *Typhoon Class* had been withdrawn from active service between 1998 and 2005. As a point of detail, the Project 941 submarines are sometimes confused with other submarines, as its Russian designation is the same as the NATO designation for the Project 971 Schuka-B attack-submarines—Thus, for the sake of clarity, the thesis employs their respective NATO designations.

¹⁵⁰ Project 955 *Borei Borei Class*. Equipped with 16-20 BULAVA SLBMs while armed with cruise-missiles and torpedoes and being almost indiscoverable at deep ocean depths, the submarines are designed for multi-purpose missions, including attacks on enemy aircraft carriers and missile strikes on coastal targets (Sergunin and Konyshov 2016, 151).

¹⁵¹ In 2011, the Northern Fleet held nevertheless 67 percent of Russia's 576 sea-based nuclear warheads, and as SLBM deliveries increased, the number increased to approximately 81 percent (Laurelle 2015, 78-122).

¹⁵² Project 955A *Borei-A Borei II Class*. With significant changes, the improved design features four additional missile tubes, smaller hulls and improved quietening, increased maneuverability and improved sensor performance and increased weapons capability (Gady 2018; Scott 2017). Infrastructure at the Kola peninsula is being built to host them at the Gadzhievo naval base approximately 100 kilometres from the Norwegian border (Sergunin and

them have absorbed the lion's share funding with very little to show for it until recently, modernizing the Northern Fleet's strategic forces through the MRO programmes retrofitting and revamping the remaining its *Delta IV Class* SSBNs with next-generation missiles remain arguably the only programme sufficiently financed in the latter two armament periods, cf. Table 6 and 7 in Appendix (Laurelle 2015, 122).¹⁵³

In the Northern Fleet's first and foremost task of protecting the SSBNs, general-purpose submarines are central to the Bastion Defence concept's outer defence perimeter—tasked by the strategic deterrence concept to establish military exclusion zones and deny NATO access to Northern waters from the Atlantic Ocean (Zysk 2016b; Ulriksen 2017, 3; Rizzo 2017). However, by 2010, the Northern Fleet's entire tactical submarine fleet collectively approached an average age of 20 years, then comprising of three *Oscar II* SSGNs, six *Akula Class*, four *Sierra I and II Class* and three *Victor III Class* SSNs, cf. Table 5 in Appendix.¹⁵⁴ Thus, in strengthening the non-nuclear and conventional component of the Navy's strategic deterrence mission, construction of SSGNs, SSNs and SSKs has proven another central priority in the GPVs (Malmlöf and Roffey 2016, 165).

To that end, another weighted submarine project includes the production *Yasen Class* SSGNs to replace the Soviet-era multi-purpose nuclear submarine models by 2020 to fulfil the function of non-nuclear deterrence—However, the SLBM and SSBN delays have significantly affected its production as funds were redirected to solve their development issues (Malmlöf and Roffey 2016, 166; Connelly 2016, 2).¹⁵⁵ Consequently, while up to ten of these submarines were initially on order by 2020, the number has been readjusted and lowered to seven as the GPV-2015 saw only the lead hull in sea trials with the Northern Fleet by 2010—17 years after its construction began in 1993, cf. Table 6 and 7 in Appendix. However, as the significant delay has allowed considerable scope for redesign, technical upgrades, modern design techniques and up-to-date materials and systems, the first of the improved *Yasen-M Class* currently in sea trials with the Northern Fleet is expected to be quieter and better equipped than the original (ONI 2015, 18; Gady 2017). Nevertheless, among the most expensive pieces of military hardware ever built by Russia with the price of one supposedly equaling that of two *Borei* SSBNs, work of developing a simpler and cheaper fifth-generation SSGN dubbed the *Husky Class* has already started (Ulriksen 2017).¹⁵⁶

Konyshov 2016, 151-155).

¹⁵³ Project 667BDRM Delfin *Delta IV Class*.

¹⁵⁴ Project 949A Antey *Oscar II Class*, Project 971M Schuka-B *Akula Class*, Project 945 Barrakuda *Sierra Class*, Project 945A Kondor *Sierra II Class*, and Project 971RTM/K Schuka *Victor III Class*.

¹⁵⁵ Project 885 Yasen/Project 8851 Yasen-M *Graney Class*. In the literature, the Project 885 Yasen/Project 08851 Yasen-M submarines are invariably referred to by employing the name given the lead hull *Severodvinsk* rather than employing *Graney Class* as its NATO equivalent. To avoid confusion, the thesis employs its GRAU designation *Yasen Class*. Equipped with significant firepower through 24 ASHMs and SLCMs of the KALIBR missiles alongside eight torpedo tubes capable of launching ASHMs and up to 30 torpedoes marking a significant addition to RFN's combat capabilities, specific missions include ASW, ASuW and land-attack (ONI 2015, 18).

¹⁵⁶ The new class will allegedly come in three variants, namely in the form of SSNs, SSGNs and SSBNs—sharing a common hull design and sonar,

Thus, much of the improvement in the submarine fleet that has taken place in Russian maritime defence planning has largely come from production of tactical submarines—considered imperative components in littoral waters—based on well-established technology and production techniques alongside refurbishing older models—invigorated by the *Yasen Class*’ lag in replacing Soviet-era vessels (Connolly and Sendstad 2016, 5; Soper 2015). Within the former category, construction of new platforms for the Northern Fleet has revolved around the production of a new fifth-generation SSK series scheduled to commence in 2018 dubbed the *Kalina Class*, combining the best characteristics of the *Varshavyanka* and *Lada Class* SSKs and intended for coastal defence (Soper 2014; Pettersen 2016).¹⁵⁷ Meanwhile, in the latter category, several MROs have aimed at increasing the submarine fleet’s readiness overall—long overdue with the growing obsolescence of onboard equipment (Gady 2015). The OPK has thus in total since 2007 completed or are otherwise in the process of completing MROs of 28 SSGNs, SSNs and SSKs, 18 of which belong to the Northern Fleet, cf. 6 and 7 in Appendix.¹⁵⁸

To that end, the MROs of the Northern Fleet’s *Oscar II Class* SSGNs, *Sierra I and II Class* SSNs and *Akula Class* have extended their service-lives while revamping and retrofitting the vessels with LACM and ASHM versions of the ONYX and KALIBR missile families (Zudin 2013). Significantly increasing the number of weapons aboard each vessel providing it with extensive conventional firepower, the transformation has equaled the ageing Soviet-era submarine fleet with the technological level of the next-generation nuclear-powered submarines (Soper 2015).¹⁵⁹ As such, the tactical submarine fleet has during the past decade increasingly become one of the more effective components of the Navy, surpassing and outpacing modernization in the surface domain (Zysk 2016b; Ulriksen 2017, 40-41).

Thus in sum, Russia has through its submarine procurement programmes steadily and clearly demonstrated a will, a capability and an intended role as a “near-peer” rival to its Atlantic competitors despite its quantitative decrease from the Soviet era (Willett 2017). The submarine fleet’s qualitative

power and propulsion systems facilitating their streamlined production (Gady 2017). Likely to incorporate the advanced noise reduction technologies of the *Borei* boomers and *Yasen Class* SSGNs, construction may commence as when the remaining *Yasen Class* under construction are delivered (ibid).

¹⁵⁷ Other central programmes particularly implemented with some success are the Project 636/M/1 Paltus SSKs for export and the production of the Project 06361 *Varshavyanka Class* SSKs for the Black Sea Fleet. Both with NATO reporting name *Improved Kilo Class*, as to avoid confusion between the two classes and the significant differences between them in terms of equipment, the thesis employs the GRAU designation when referring to the latter and the NATO reporting name when referring to the former. Initially planned for all four major Russian fleets, the *Varshavyanka Class* SSKs are an advanced variant of the older Project 877/V/E/EKM Paltus *Kilo Class*: Dubbed the “Black Hole”, the class is upgraded with advanced stealth technology, extended combat range and significant combat capability in all domains (Cooper 2015, 50; Connolly 2017, 9). Spending only two years from keel laying until commissioning, the St. Petersburg Admiralty shipyard building them has since 2009 delivered eight of ten submarines in total, cf. Table 6 and 7 in Appendix.

¹⁵⁸ Project 949A Antey *Oscar II Class*, Project 971M Schuka-B *Akula Class*, Project 945 Barrakuda *Sierra Class*, Project 945A Kondor *Sierra II Class*, and Project 971RTM/K Schuka *Victor III Class*.

¹⁵⁹ Examples include the MROs of the Northern Fleet’s remaining three *Oscar II Class* SSGNs to Project 949M as an extensive reconstruction changing nuclear fuel and electronics while re-equipping them to carry 72 and 96 of the ONYX and KALIBR missile systems (Ulriksen 2017, 40). In the short term, Russia’s tactical submarine capacity will thus significantly increase as MROs continue and newer classes are commissioned (ibid, 41).

increase in professionalism and operational independence previously unseen coupled with a major increase in technological performance improving the fleet's stealth, ranges and systems through a unique investment path not mirrored in the West marks a particular change in continuity (Larrinaga 2016; Willett 2017; Courtney 2016). Moreover, while Russian submarines have been patrolling outside Western waters for the better part of the post-Cold War era, submarine activity concentrated in the Barents Sea has in particular over the last five years returned to Cold War operative levels, emphasizing speed and strategic surprise (Ewence 2016; Zysk 2016b).¹⁶⁰ An unmistakable sign that Russia has recovered much of its undersea capability lost with the collapse of the USSR, NATO's limited ASW capability furthermore struggles to localize them—constituting as such a soundless and strategically powerful weapon in the struggle for control in the Arctic and the North Atlantic (Stormark 2018d).

5.2.2 Principal Surface and Coastal Combatants

As the Northern Fleet and the RFN were increasingly been given the lion's share of allocated resources for modernizing its strategic and tactical submarine forces, the Northern Fleet's surface strength was by the end of GPV-2015 armament period in dire straits (Åtland 2011). Of 13 principal surface ships, which included the one and only aircraft carrier *Kuznetsov* aircraft carrier, two *Kirov Class* and one *Slava Class* missile cruisers, five *Udaloy I and II Class* and four *Sovremennyy Class* destroyers approaching on average 20-25 years since commission, only seven was operational (Boltenkov 2011, 89-90).¹⁶¹ Strengthening coastal defence with capable frigates and corvettes to replace the aging legacy fleet as per the conventional component of the strategic deterrence concept has thus proven another priority of Russia's shipbuilding programmes (Malmlöf and Roffey 2016, 165; Sakaguchi 2014, 55).

To that end, production of six effective and impactful *Gorshkov Class* frigates constitute the Northern Fleet's largest surface procurement programme, yet remain significantly delayed due in the main to the breakdown of supplies from Ukrainian gas turbines and issues with AD systems (Zysk 2016b).¹⁶² Consequently, with only the lead hull thus far commissioned in the Northern Fleet, the programme has been scaled down from a total number of 20 to the remaining six vessels on order, all scheduled for commissioning in the Northern Fleet by 2021, cf. Table 8 and 9 in Appendix. As such,

¹⁶⁰ As per the RFN CinC Korolyov, the submarine fleet attained 3,000 ship days in 2016, matching its Cold War operational level (Courtney 2018).

¹⁶¹ Project 11435 *Kuznetsov Class*, Project 1144/1442 Orlan *Kirov Class*, Project 1164 Atlant *Slava Class*, Project 1155/11551 Fregat/Fregat-M name *Udaloy I and II Class*, and Project 956/956E/965EM Sarych *Sovremennyy Class*. Operational vessels include *Kuznetsov*, one *Kirov Class* and *Slava Class* missile cruiser, four *Udaloy I and II Class* destroyers (Boltenkov 2011, 89-90).

¹⁶² Project 22350 with NATO reporting name *Gorshkov Class*. Equipped with 16 ONYX ASHMs and KALIBR SLCMs—twice the amount of the Norwegian *Nansen Class* frigate—and an ASW helicopter, the multi-role missile frigate for air, surface, and submarine warfare roles are intended for combat operations and missions in green and blue waters (ONI 2015, 23). The procurement programme concerning the production of the *Grigorovich Class* frigates to the Baltic Sea by 2020 dovetails the *Gorshkov* frigate project, also significantly delayed due to the breakdown of supplies from Ukraine regarding gas turbines (Cooper 2016, 107). Only the lead hull of the class managed to obtain gas turbine engines constructed at the Ukrainian Zorya-Mashproekt manufacturing plant (Golts 2017a). Earlier export of the class includes six vessels under production since 1999 until 2013 sold to India.

the Russian shipbuilding industry has proven more successful in developing, building and delivering modern smaller, shorter-range ships, such as corvettes and smaller missile platforms (Connelly 2017, 9). Perhaps intentionally or unintentionally demonstrating the losing hand of the Gorshkov school of naval thinking, the Northern Fleet is expected to take further delivery of the two *Gremyaschiy Class* and ten *Derzkiy Class* corvettes, a trend reflected in the Navy as a whole, cf. Table 8 and 9 in Appendix.¹⁶³ While smaller than the larger frigates and destroyers, all classes are highly capable and equipped with significant firepower with medium- and long-range AShM and LACM variants of the URAN, ONYX and KALIBR systems and the GROUSE or REDUT SAMS—the latter of which are considered the Russian response to the Aegis AD system, highly maneuverable with significantly reduced reaction times (Ulriksen 2017, 42; Connelly 2017, 10).¹⁶⁴

Russia is also the world's leading nation within mine warfare, possessing in comparison to the West a significant arsenal of differing types—including autonomous torpedo mines and moored mines—with significant ability to overtly or covertly placing them, aiding plausible deniability (Thomassen 2016, 16; Oder 2018). Constituting the foundation of coastal defence together with corvettes, patrol crafts and ASW ships, procurement under the GPVs to replace the ageing Soviet era fleet has however been slow with delivery of one *Natya Class* and one *Aleksandrit Class* MSC, cf. Table 8 and 9 in Appendix.¹⁶⁵ Moreover, Russian coastal defence also include amphibious elements as one of the main essentials of the Northern Fleet's combat training allowing for hardware landing on unprepared coastlines, including islands of the Arctic Ocean, with a *modus operandi* of landing on the coast behind the enemy's front (Ulriksen 2017, 44). However, the Northern Fleet's amphibious capacity—based on the *Ropucha Class* and *Alligator Class* amphibious assault ships (LHDs)—is similarly ageing as the GPVs have prioritised the other fleets given the Yantar Shipyard's struggles in producing the *Ivan Gren Class* LHDs, with the Northern Fleet receiving only two amphibious vessels, cf. Table 8 and 9 in Appendix (Trevithick 2017).¹⁶⁶

Another central concept proving a challenge for modernising the Northern Fleet's amphibious capacity has been *Mistral Class* LHD project for its Ka-52 *Katran* naval attack helicopters through a bilateral project with France, suspended after the Western sanctions after the Ukraine crisis (Sakaguchi 2014, 55).¹⁶⁷ Despite the USC insisting that Russia obtained technical data from the

¹⁶³ Project 20385 *Gremyaschiy Class* and the somewhat larger Project 20386 *Derzkiy Class*. Overall, the RFN is expected to take further delivery of a total of 60 coastal defence vessels over the next few years, comprising a mixture of Project 20380 *Stereguschiy Class*, Project 20385 *Gremyaschiy Class*, Project 22160 *Bykov Class*, Project 21630 *Buyan-M Class*, Project 22800 *Karakurt Class* and Project 20386 *Derzkiy Class* corvettes and missile patrol ships, cf. Table 6 and 7 in Appendix.

¹⁶⁴ KH-35 URAN SS-N-25 *Switchblade* and 9K38 IGLA SA-N-14 *Grouse*.

¹⁶⁵ Project 2665 *Akvamarin-M/Agat Natya Class* and Project 12700 *Aleksandrit Class*, the latter of which Russia is planning under the GPV-2027 to acquire ten by 2035 in a full-scale renewal of its minesweeper fleet (Soper 2018). However, the class' recent reclassification from its coastal to ocean-going role have garnered much critique from the Russian defence industry, citing its lacking sea control and self-defence capabilities (ibid).

¹⁶⁶ Project 11711.

¹⁶⁷ The *Katrans* are the RFN's future universal naval attack helicopters, and, often-times referred to as “flying tanks”, carries supersonic AShMs and

Mistral arrangement providing the know-how to proceed with the project, whether or not Russia's shipyards have the capacity or knowledge base to produce the future *Lavina Class* LHDs remains unclear (Trevithick 2017).¹⁶⁸ What is certain, however, is that the Northern Fleet nevertheless possess the ability to execute landing operations against undefended coastal zones, and with increased capacity the ability to execute "forced entry" operations will increase—thus significantly strengthening the ability to establish forward based denial zones (Ulriksen 2017, 45).

Protection of SLOCs, as a central component of the Bastion Defence concept, and out-of-area deployment has proven third and fourth priorities in the naval procurement programmes, providing for MROs extending the aging ocean-going fleet's service-lives alongside concepts for developing new generations of cruisers and corvettes (Malmlöf and Roffey 2016, 165). In the former, the GPVs' upgrades of Soviet-era ships laid up due to the financial limitations of the post-Soviet period have for the Northern Fleet revolved around MROs of the fleet's ageing carrier, missile-cruiser and destroyer classes, cf. Table 8 and 9 in Appendix.¹⁶⁹ A central aspect of the MROs have thus been refitting legacy vessels with a significant amount of ONYX and KALIBR LACMs and ASHMs as well as next-generation AD systems (Kipp 2009b; Ulriksen 2017, 42).

The MROs are thus arguably indicative of Moscow's inability to provide its fleet with new warships of a displacement more than 6,000-7,000 tons while simultaneously underlines their continued importance to the political and military leadership (Golts 2017a; Kipp 2009b). Though some argue heavily investing in such Cold War "dinosaurs" approaching 20-30 years since commission is a waste of limited resources which could otherwise be directed towards other procurement programmes, the ships' ongoing refits are—rather than "cosmetic facelifts" aimed at pressing a few more years out of a fatigued platform—a total revamp equipping them with modern weaponry, preparing them for active service for decades to come (Rogoway 2017).

Meanwhile, in the latter priority, future concepts for the development of new generations of cruisers and corvettes intended to be completed for service by 2030 include the new *Lider Class* destroyers as the future backbone of the Navy's ocean-going fleet more heavily armed than the

are capable of deployment in combat, target acquisition and designation, maritime patrol and convoy escort missions: To that end, the reason for purchasing the *Mistrals* was first and foremost that the Russian shipbuilding industry needed access to new technology which the deal provides and without which Russia would be unable to build new surface vessels of its own—Consequently, the technology transfer was important and possibly of greater significance than the equipment itself (Oxenstierna and Bergstrand 2011, 51). After the sanctions post-Ukraine, France sold its two formerly Russia-bound *Mistrals* to Egypt—which has allowed Russian naval engineers access to all the ships' systems in helping them rebuilding them from Russian requirements for Russian systems to NATO standards, providing for a possible and significant knowledge transfer (Trevithick 2017).

¹⁶⁸ In 2017, the DoD reportedly included the proposed Project 11770 *Lavina Class* LHD in it's the GPV-2027—Though unclear whether it will be conventionally or nuclear-powered, the *Lavina* ships would be more capable than the French LHDs capable of carrying up to 50 main battle tanks and other armored vehicles along with 500 troops and by up to 16 *Katrans* (Trevithick 2017).

¹⁶⁹ The Northern Fleet's repairs and modernisations include the return of one *Sovremenny Class* destroyer in 2012 out of active service in 1994 and one *Slava Class* missile cruiser in 2016 under modernisation since 2011, whereas the *Kuznetsov* aircraft carrier has undergone modernisation since 2017 (Malmlöf and Roffey 2016, 166). Meanwhile, the fleet's two surviving *Kirov Class* battle cruisers and five *Udaloy I and II Class* destroyers are scheduled for MROs extending their service-lives and replacing every combat-related system on-board with modern components while overhauling other systems before 2020 and 2022, respectively (ibid).

world's largest missile cruiser *Pyotr Velikiy* (Malmlöf and Roffey 2016, 165; Nilsen 2017).¹⁷⁰ Another central and controversial future concept is that of the *Shtorm Class* aircraft carrier to replace the Northern Fleet's accident-ridden aircraft carrier *Kuznetsov*, carrying up to 80-90 deck-based aircraft (Gady 2017).¹⁷¹ However, Russia's shipbuilding industry lacks the capacity of building such a supercarrier, and does not possess a large enough dry dock to accommodate a vessel the size of *Shtorm* (ibid).¹⁷² Thus, with the challenges of replacing the *Mistral Class*, as of yet *Kuznetsov* with the Northern Fleet remains the only "flat-top" in the RFN—Consequently, in the future absence of an aircraft carrier, Russian global power projection becomes an almost unsupportable mission in crisis and war, arguably demonstrating amputated blue-water ambitions (Blank 2011).

5.2.3 Coastal Defence, the "Dual Fleet" and Cruise-Missiles as "Game-Changers"

It thus seems that military capabilities took some time to catch up with the political- and military-doctrinal framework as Russia lacked the economic means to widely support its propositions until recently, making progress under the GPV-2020 in particular. In the production of submarine and surface systems alike, it is however evident that while Russia's shipbuilding industry is capable of building variants of older models with established production processes it has greater difficulty in delivering the next-generation of serial productions (Connelly 2016, 2). Although some analysts have argued that the Navy has been poised to become a power projection fleet, Russian shipbuilding programs thus rather indicate a fleet in support of the strategic deterrence concept restrained to coastal defence while projecting power in adjacent seas whose main operational mission is defence of the homeland and maritime approaches to Russia in an apparent shift towards a classic, Corbettian posture (Thornton 2017; Fedyszyn 2017; Willett 2009, 52; Tsypkin 2010, 342).

However, financial constraints and weaknesses in Russia's shipbuilding industry has meant that the naval force structure has not developed how planners originally hoped—Rather, from the shipbuilding programmes, a dual fleet has emerged (Giles 2017, 10). On the one hand, larger Soviet-era legacy vessels are modernised to perform ocean-going duties, signaling that Russia's obligation to an ocean-going navy rather makes progress along non-traditional lines (ibid). On the other hand, the legacy fleet sits alongside a smaller, more modern multi-purpose shorter-range "mosquito" missile fleet equipped with long-range PGMs largely consistent with *Jeune École* in weighing active defence of coastal zones like its Soviet predecessor made up of so-called "muscular ships", *myshechnyye*

¹⁷⁰ Project 23560 Lider. Its nuclear-propulsion systems ensuring autonomous sailing of up to 90 days (Nilsen 2017).

¹⁷¹ Project 23000E Shtorm. The ship's design was first revealed in 2015, revealing plans of autonomous sailing for up to 90-120 days while reaching top speeds up to 30 knots, the ship would be able to carry 80-90 deck-based aircraft (Gady 2017).

¹⁷² Moreover, with the need of escort and support vessels to protect it from incoming threats, such a project—if approved—would dramatically increase costs for Russia's already cash-strapped military (Gady 2017).

korabli, as small but quite heavily-armed multi-role vessels capable of wreaking havoc particularly in smaller straits (ibid; Thornton 2017; Cavas 2015).

The force structure as developed by the GPVs is therefore in sum largely emerging as a frigate- and corvette-centred navy with smaller crafts as the most important surface vessels—a trend which likely will continue until 2025 (Ulriksen 2017, 42). Thus, with RFN’s return to its strategic role of defending and deterring against attacks against “the Fatherland”, Russian maritime defence planners have in sum favoured a low-cost fleet capable of rapid deployments and harassment of larger flotillas in recognising perhaps the excess addition of larger “leviathans” to accomplish such a limited role (Cobb 2017). Furnished with significant combat experience and the opportunity to test hardware from recent war fighting in Donbas and Syria while claiming success in achieving progress towards interoperability targets through advances in naval cooperation with NATO member states and China, the Navy has nevertheless become increasingly proficient in operating without an umbilical cord to fleet HQs—demonstrating the fleet’s central position to the Kremlin despite its coastal orientation, ought to be taken seriously (Willett 2009; Bukkvoll et al. 2017, 8; Fedyszyn 2017).

A marked departure from the Soviet-legacy armada, another protruding characteristic of Russian long-term defence planning has been the development of robust and mobile platforms extensively equipped with weapon systems capable of precision attack from significant distances (Diesen 2018, 15; Roy 2017). From a broader perspective considered a significant naval victory in the inter-service competition scheme of things as the Navy has historically been the greatest proponent of NSNWs and PGMs incapable of facing the US Navy without them, with RFN’s emergence—after two decades of neglect and catastrophic reduction—as their main carrier, it appears that the Russian naval mission has quietly expanded to become the main vehicle of sophisticated weaponry, more than capable to enforce the strategic deterrence concept as per its significantly improved capabilities in stand-off warfare (Majumdar 2018; Fedyszyn 2017; Golts 2017a; Diesen 2018, 8; Ulriksen 2015).¹⁷³

To that end seemingly recognising the long-range PGMs’ advantages and shortcomings while eyeing its significant potential, sheer numbers are crucial as Russian weapon systems are designed to overwhelm defences by forcing an enemy to “track a number of incoming target at various elevations, directions and speeds in a concerted missile attack” with the goal of reaching the target with at least one missile capable of causing significant destruction (Martyanov 2017; Cobb 2017). The addition of modern cruise missile capability in particular has therefore significantly changed and multiplied the threat paradigm in the North with the bold evolution in Russian doctrine and national resolve—While the Soviet Navy could threaten Western shipping and hold High Value Units (HVUs) at risk,

¹⁷³ Arguably, the validity of the shift in naval thinking is demonstrated by the Russian campaign in Syria where combatants of all sizes and tonnage successfully defeated targets in mainland Syria from long distance by employing KALIBR and ONYX LACMs.

Russia's next-generation cruise missiles have brought a much more lethal threat than during the Cold War (Willett 2017). While the mosquito fleet vessels in and of themselves have relatively shorter range and endurance, their significant cruise-missile instalments provide for target acquisition from larger distances—as such affording the Northern Fleet with operational flexibility and distributed lethality with a significant theoretical “first-salvo”, thus perhaps indicative of a threshold effect in Russian naval thought from which the brown-water proponents have emerged as the victorious party in the longstanding landpower-seapower debate ensuing the USSR's collapse (Ulriksen 2017, 43; Martyanov 2017).

5.3 Russian Network-Enabled Capability and C⁴ISTAR

Meanwhile, it has become increasingly evident that Russian maritime defence planning and seapower in line with the New Look reforms has provided the RFN with significant NEC for high-intensity operations by developing C⁴ISTAR systems to create the conditions within which to efficiently employ PGMs (McDermott 2017; Frühling and Lasconjarias 2016, 96). As such, Moscow has developed a number of complimentary niche capabilities with the amalgamating theme of asymmetry while appreciating first and foremost that the means and methods of modern warfare have changed (McDermott 2018). At its core is the development, adoption and improvement of C⁴ISTAR as a vital force multiplier and a means to instigate deeper and significant transformation—itsself a reflection of the shift from platform-based operations to operating in a NEC environment within which to efficiently engage PGMs, EW and improve general organisation and operational flexibility (ibid; Bosbotinis 2010, 30).

For the purposes of deeper analysis, protruding characteristics of increased Russian C⁴ISTAR as part of the strategic deterrence concept are discussed in the following in order to illustrate key areas of progress and the nature of their systems, namely the priority given to the A2/AD operational approach as per key AD systems, AShMs and LACMs alongside EW capabilities while streamlining C² as a measure to increase strategic mobility and operational flexibility through their holistic utilisation to achieve strategic and operational effects quickly. Key to all is the critical importance of an IPW as the most critical phase with the greatest effect on the conflict's outcome and the possibility of decisive losses within it, remaining embedded in Russian military planning as the so-called “Barbarossa complex” (Cimbala and McDermott 2016).¹⁷⁴ To that end, the Russian view on IPW holds that the main objectives will be achieved in such an opening phase with the central

¹⁷⁴ Russia's historical exposure to attack and invasion is first and foremost epitomized by Hitler's Operation Barbarossa in 1941 and the significant losses of the Soviet Union during its early stages, often-times referred to as embedded in the “DNA of today's and tomorrow's Russian political leaders and commanders” in perceiving an IPW as one of great danger (Cimbala and McDermott 2016. 550).

perspective that if Russian efforts in an IPW is successful there would be no need for a kinetic phase (ibid).

5.3.1 “Bubble Trouble” in the North

Thus in an IPW in line with the strategic deterrence concept, there is every reason to believe that Russia will seek to establish strategic and operational depth in the North by establishing denial zones in forward positions by first and foremost deploying such A2/AD capabilities to an AO in establishing denial in and around adjacent areas (Ulriksen 2017, 44).¹⁷⁵ Indeed, in what is often-times referred to in the literature as an “Arctic build-up”, Putin has significantly strengthened Russian control in the Barents Sea: Since 2014, Russian militarization of the Arctic has reactivated old Soviet bases and built new AZRF infrastructure to function as independent bases for Russian air defence, radar, fighter jet operations, MPAs and the like, cf. Figure 13 in Appendix (Stormark 2018a). To that effect, Russia has unveiled four new Arctic brigade combat teams, 14 new operational airfields, 16 deep-water ports and 40 icebreakers with an additional 11 in development with the purpose of connecting them by constructing “superhighways” (Gramer 2017).

However, the most severe problem starts with Russia’s sophisticated and potent radar and missile systems and infrastructure bolstering its Northern Fleet, further strengthening the A2/AD “bubbles” as layers covering all warfighting domains composed of modern anti-ship, anti-air and land-attack missile complexes as well as stockpiles of other lethal weaponry, thus significantly increasing its ability to deny access to air, sea and land in the North, cf. Figure 14 in Appendix (Ulriksen 2017, 44; Strømmen 2017, 26). To that end, a central priority is the S-300 and S-400 TRIUMPH long-range AD systems and BASTION and BAL coastal AShM systems, all of which are considered crucial components in establishing Russian denial and control zones (ibid).¹⁷⁶ Whereas only smaller groups and sub-units of the modernised S-300—considered among the world’s most potent SAM systems—have hitherto operated in the Arctic archipelago, the new generation TRIUMPH system replacing it was deployed to the Kola Peninsula in 2014 and Novaya Semlya and Franz Josef Land in 2015 (Stormark 2018a).¹⁷⁷ Moreover, considered an essential consolidating component of Russian A2/AD capabilities, a container based version of KALIBR LACMs and AShMs capable of covert launches

¹⁷⁵ Confer Chapter 4.3.1.1 *Relevance of Norwegian Territory in the Nuclear and Non-Nuclear Domain* and Chapter 4.3 *Significance to Norwegian Maritime Strategy*.

¹⁷⁶ S-300 SA-10 Grumble/SA-23 Gladiator/SA23B Giant, S-400 TRIUMPH SA-21 Growler, K-300P BASTION SSC-5 Stoooge, and 3K60 BAL SSC-6 Sennight.

¹⁷⁷ The Northern Fleet has furthermore established a land-based radar at Franz Josef Land providing additional support for target identification and selection from a longer distance than the air defence sensors are originally capable (Stormark 2018e). In addition, the Northern Fleet has supposedly started establishing a forward air defence base at Victoria Island between Franz Jozef Land and Svalbard, likely to provide longer range and greater air control in the Western direction towards Svalbard while serving as a fuel depot supporting SAR operations and any transports between the two islands (Stormark 2018e). Russian denial bubbles also include the short-range ISKANDR cruise and ballistic missile system is a central element of the strategic deterrence concept’s non-nuclear component in extending Russian A2/AD ranges. As per the Russian SOP, the ISKANDR missile system is frequently deployed and reallocated to mark discontent, and during Zapad 2017 the missile system was transferred to the Pechenga valley close to the Norwegian border—illustrative of a more assertive policy and increased importance of demonstrating against Norwegian and Allied activity in the North (ibid).

from commercial container ships or from land using rail or road infrastructure was in 2017 deployed to Franz Josef Land—significantly strengthening defences east of Svalbard, cf. Figure 14 in appendix (Stormark 2018b; Cimbala and McDermott 2016, 538-539).

In October 2015, the RFN launched in the Syrian campaign PGMs for the first time in combat operations as stand-off strikes, marking in particular the innovative approach and a shift towards NEC in exploiting various platforms with highly sophisticated targeting and supporting functions (Bukkvoll and McDermott 2017, 23). As such, a *sine qua non* of the campaign has been the extent to which it provided an invaluable opportunity to test the A2/AD systems' performance in a TVD in combat—revealing how they may create a particular multi-layered system in an AO while demonstrating the GS' views the utility of stand-off strategic strike systems (ibid, 21). The campaign is further illustrative of improved flexibility of the RFN, demonstrating how it may achieve more with fewer forces while demonstrating the fruitfulness of the mosquito fleet, capable of significant stand-off abilities, when integrated into an A2/AD operational approach (Iddon 2018).

5.3.1.1 Electronic Warfare (EW)

Another protruding characteristic of Moscow's wider effort to strengthening its NEC are efficient radar and EW systems key to efficient C⁴ISTAR, which Russia has integrated with A2/AD for offensive and defensive military effect into overall strategy and operational approaches in its bid for information superiority (McDermott 2017). Clearly tailored to target NATO's C⁴ISTAR, Russia has thus been developing its technological advances within EW as a significant combat support asset in a greater effort to counter a high-technology adversary in disrupting electromagnetic signals (ibid). Forming a key part of overall conventional doctrine with significant concentrations in the Navy, its Russian terminology of *radioelektronnaya borba* reflects its continuous aspect in peacetime uniting signals intelligence, exhaustive jamming, deception and destructive fires “to attack enemy organisations and systems through their means of control” (ibid; Grady 2018).

With an EW element assigned to each TVD aiding the A2/AD operational approaches, the Navy would thus most likely through EW systems aggressively move to control the cyber domain, complicate enemy Intelligence, Surveillance and Reconnaissance (ISR) data collection, disrupt C² and thwart communications among opposing forces through jamming land-, air-, sea- and space-based assets in the entire electromagnetic spectrum (EMS) (Fontaine and Smith 2015; Schmidt 2016). Thus in particular, Russian EW aims to exploit adversarial weakness deriving from an increasing dependence on information and communication systems—thus functioning as a central asymmetric measure levelling the playing field (McDermott 2018).

Whereas NATO neither trains on a similar scale nor routinely includes EW in its exercises, considerable resources have been assigned to develop Russian EW capabilities allowing the RFN to commit to stand-off non-contact warfare (McDermott 2017, 13-14).¹⁷⁸ The Northern Fleet was the first to receive the newest EW systems in 2017, successfully installed and in use in most surface combatants and complementing existing mobile EW systems to increase the fleet's combat resilience (Jones 2017).¹⁷⁹ Whereas the Russian fleet will renew its EW equipment by 70-75 percent by 2020, the Kremlin is moreover willing to introduce entirely new ways of using the EW assets, including conventional-electronic and electronic strikes with the use of UAVs (Sukhankin 2017; Dura 2017). To that end, the RFN has invested in the acquisition of several new intelligence collection surface vessels and deep-sea research vessels, the latter of which are perceived by NATO as instrumental to the strategic deterrence non-military component in probing undersea communications cable networks (Bosbotinis 2010; Birnbaum 2017).¹⁸⁰

Meanwhile, whereas the RAF has been gaining operational experience from southeastern Ukraine military operations in which there is a significant EMS narrative, Russian operations and exercises have in line with the political- and military-doctrinal framework been more efficiently integrating its EW capabilities with conventional military hardware and software with a focus on “spreading it across the force” since the New Look reforms—culminating in the Zapad 2017 exercise with an amount of jamming within each service at unprecedented levels (Grady 2018; Woody 2017). During the exercise, Russian EW systems jammed, intentionally or unintentionally, Norwegian civilian GPS signals across the border—an event occurring again in March 2018 (Stormark 2018c).

5.3.1.2 Streamlining C² and Achieving Strategic Mobility

Centralizing and streamlining measures of the Russian C² structure is another protruding characteristic of the Russian shift to NEC, considered an integral part of efficient C⁴ISTAR given the strategic deterrence concept's dependence upon high degrees of coordination in its universal and continuous application. Demanding as such “a single decision-making point that controls all

¹⁷⁸ The first period of intense testing and procurement of EW systems between 2010 and 2013 saw the procurement of several systems capable of substantially hampering systems operations which have entered their coverage area (McDermott 2017, 13-14). These EW systems include *Borisoglebsk-2*, *Alurgit*, *Inf fauna*, *Krasukha-2-O*, *Krasukha-S4*, *Moskva-1*, *Parodist*, *Lorandit-M*, *Leer-2*, *Leer-3*, *Lesochek*, *Less*, *Magniy-REB* and *Pole-21* communications intelligence collection, target acquisition and jamming systems (McDermott 2017, 13-14). Perhaps the most prominent is the *Krasukha-4*, a multifunctional broadband jamming system for neutralising low-orbit (LEO) satellites, airborne surveillance radars and radar-controlled delivery systems at distances between 150 and 300 km, and may furthermore damage adversarial EW and communication systems (Tjostheim 2016, 16).

¹⁷⁹ Whereas the Northern Fleet's existing *Murmansk-BN* has a reported range of 5,000 kilometers and intercepts enemy signals with a broad jamming capability, the new EW system *Svet* is a radio monitoring system (McDermott 2017, 18). Meanwhile, little public information exists on the fleet's new *Samarkand* EW capability (ibid). Procurement programs also include a broader regeneration of key reconnaissance, surveillance and targeting systems as the weakness of then-systems proved a major constraint on the effectiveness of the fleet's vessels (Bosbotinis 2010, 31).¹⁷⁹ Finally, Russia has the advantage that its forces may switch to civilian electronic infrastructure within its own territory should their military electronic networks become jammed or otherwise compromised (Woody 2017).

¹⁸⁰ Such special-purpose vessels includes an old converted *Delta III Class* SSBN, BS-136 ex-K-129 *Orenburg*, which between 1994 and 2002 was converted to an experimental vessel and nuclear carrier of smaller submarines capable of oceanographic research and underwater intelligence gathering designed to work on the ocean floor is believed to be equipped to manipulate objects on the seabed (Birnbaum 2017).

operational assets, military and non-military”, it is particularly aided by the establishment of a sleek and redundant C² structure to manage the RFN while serving as a force-multiplier to aid strategic mobility and operational flexibility (DIA 2017, 26; Thomas 2014, 117).¹⁸¹ To that end recognizing the value of improved C² in an IPW to mitigate the perception of vulnerability, troop control has thus become more expeditious with transition from a set top-down control system to automated network systems to control both squadrons and their weapons (Galeotti 2016, 293; Covington 2016, 14).

Consequently, the issue of C² is given far greater prominence than in the West, providing Russia with a comparative advantage to the EU and NATO’s cumbersome and consensus-based decision-making processes (Adamsky 2015, 26). As noted by the Western MD commander Colonel General Bakhin in 2012, victory in a future war,

[belongs] not to whoever has the most sophisticated tank or the fastest and most maneuverable fighter and most powerful missile, but to whoever is able, with the greatest effectiveness and coordination, to command and control the entire array of his own—albeit not even the most advanced—land, air, sea and space-based information armaments

(Falichev in Thomas 2014, 118).

Demonstrating a significant continuity of thought with its origins in Soviet military theory, current ambitions are most visible in Moscow’s concerted efforts to design and procure automated C² systems throughout its military to change its approach to warfare (McDermott 2017, 2-3).¹⁸² Central is the formerly mentioned OSK structure implemented in 2010 to better facilitate joint operations—With the 2014 creation of the OSK “Sever” based around the Northern Fleet, Russia possess the ability to quickly step up joint presence in the region for strength superiority and achieving escalation dominance by transferring and commanding forces from other TVDs (Bukkvoll et al. 2017, 31). Simultaneously, the 2014 establishment of the DoD’s National Command and Control Centre for State Defence, *Natsional’nyi Tsentri Upravleniya Oboroni*, (NTsUO), often-times referred to as Russia’s “Pentagon”, aims to integrate information flows into a single channel (McDermott 2014).¹⁸³

To that end, Russia’s logistics and supply system was reformed in 2010 into Material-Technical Support, *materialno-tekhnicheskogo obespechniia* (MTO), with further enhancements aiming first and foremost to mitigate Russia’s historic dependence upon LLOCs while significantly enhancing its use of SLOCs and ALOCs to aid strategic mobility (McDermott 2015). Thus significantly improving combat service support, Russia has in sum come to possess the ability of reinforcing naval forces and

¹⁸¹ Whereas *strategic mobility* traditionally in Western circles refers to a military’s ability within power projection, in Russian military thinking it rather relates to the capability of the RAF to deploy rapidly and to be self-sustained in far-flung TVDs within Russia itself (McDermott 2013, 3).

¹⁸² The extent to which a single command structure coordinates military and non-military assets has long been embraced with historical precedence in Russian political practice where integrated political-military commands dates to days of the tsar (Galeotti 2016, 293).

¹⁸³ The NTsUO integrates the leadership and direction of Russia’s defence and security structures in real time while making C² deliberately opaque in operationally linking agencies, government departments and individuals cross-spectrum—thus maximising its ability to, though perhaps implausibly, avoid claims of illegality in offensive actions against other states (Thornton and Karagiannis 2016, 339; Seely 2017, 53).

FOBs at remarkable speed through sophisticated planning advances (ibid). In line with the New Look reforms' central aim of improving combat capability and readiness, Russia's efforts in strengthening the support and logistics systems is derivative of the political- and military-strategic framework's perceptions of vulnerability to surprise at all levels and thus to the long-held priority of counter-surprise, *mazkirovka* (Covington 2016, 14).

Russian strategic exercises since the New Look reforms indeed confirm serious planning attention to improving strategic mobility as forces and supplies are moved by rail, river, sea, and air and overland between TVDs (Cimbala and McDermott 2016, 537).¹⁸⁴ The need to switch assets between theatres is particularly important in the surface domain and in the North as deployable and combat-ready units remain limited in numbers, thus continuing to depend on reinforcements from other TVDs (Zysk 2016b). As such, Russian naval operations have in recent years displayed rapid inter-theatre deployments, moving ships from Northern waters and the Baltic Sea to the Mediterranean via both the eastern Atlantic and the NSR with their crews undergoing inter-fleet transition training underway—To that end, the “mosquito” fleet play an important role in by its particular ability for inter-theatre manoeuvres using Russia's river-waterways (ibid; Martyanov 2017).¹⁸⁵

Thus in sum, by combining changes in the Navy's force structure with a streamlined and redundant C² structure the Kremlin has managed to improve the RFN's mobility and readiness in line with the focus on achieving strategic and operational objectives swiftly in an IPW (Cimbala and McDermott 2016, 538). Utilizing all the logistical advantages offered by geographical proximity and rail infrastructure aided by MTO, the speed of deployment in a crisis situation would as such significantly narrow the window for NATO decision-making (Cimbala and McDermott 2016, 538). In all, Moscow's military machine has therefore preserved and developed its ability and readiness to prepare and employ its military for defensively and offensively oriented large-scale operations, contrasting those developed within NATO's command structures (Sutyagin 2016, 3).

5.4 Significance to Norwegian Maritime Strategy

With Russian maritime defence planning's development of maritime capabilities in the North as per the RFN's increased NEC for high-intensity operations as posited by amplified A2/AD capability in combination with improvements in C⁴ISTAR and a simultaneous focus on strategic mobility and

¹⁸⁴ Other major exercises with scenarios not involving major frontal battle but rather smaller episodes consistent with local and regional crises have similarly focused on mobility with a particular emphasis on ensuring success in the logistical sphere (D. Gorenburg 2012).

¹⁸⁵ Moreover, the increasing use of SNAPEX, *vnexapniye*, makes assessing Russian military exercises more complex as the GS may evaluate such to form part of a larger exercise picture allowing them to move elements around (Cimbala and McDermott 2016, 537). The Navy in particular is increasingly conducting snap exercises in rehearsing deploying ships more swiftly with minimal reaction times, constituting as such “a naval capability focused directly on addressing the perceived advantages of NATO navies in signalling and warning that the maritime domain is a contested space” (Nordenman 2017).

long-range PGMs, Russia has taken steps to ensure the Northern Fleet is able to call upon significant stand-off strike capabilities in the North with the potential of inhibiting NATO's ability to operate in the region (Cimbala and McDermott, 538). Thus, given the technologically advanced fleet's increased ability to diminish the Alliance's transatlantic link in inhibiting its ability to transport American reinforcements across the Atlantic in a possible crisis or war situation, the deriving significant strategic and operational consequences for Norwegian maritime strategy suggest prudence in mitigating potential areas of vulnerability.

To that end, the Northern Fleet's increasing coastal orientation is comforting only to states not a NATO member near the Russian border—First and foremost, whether or not a “blue-water bear”, Russia has with its next-generation NSNWs and PGMs closed the gap and increasingly eroded the West's military-technological advantage as previously a capability possessed only by the Western powers through the American Tomahawk missile (Fedyszyn 2017; Diesen 2018, 15; McDermott and Bukkvoll 2017, 7). Whereas the Navy's increased operative levels are interpreted in general by Western navies as designed to challenge the US and NATO naval dominance, the significant qualitative increase in concentration of fire power aboard each vessel has significantly increased Russian ability in conventional first strike (Ewence 2016). In specific, a successful attack against an American convoy transporting allied reinforcements to Europe, and thus with disastrous consequences for combat ability on the continent, only requires one submarine (Ulriksen 2017, 41).¹⁸⁶

Meanwhile, the PGM development has forced naval combat from a distance of over 200 nautical miles (nm) and thus also direct combat between land and naval forces further from the coast than before—forcing RNoN to not only fight in the coastal zone but also to project force from the littoral and into the open ocean in order to deny Russian power projection and enable Norwegian sea control operations (Willett 2012; Strømme 2017, 27). Thus, if RNoN fails to secure the coastal waters, Norwegian maritime strategy will prove insufficient to enable movement of own or allied units or receive allied reinforcements, secure and resupply them with a relative degree of acceptable risk (Strømme 2017, 27). Moreover, cruise missiles fired from RFN's platforms in Russian territory may comfortably reach any target in Norway, and when fired from ships in international waters outside the Norwegian coast warning times are significantly reduced (Diesen 2018, 15). The development of Russian long-distance PGM capability thus provides Russia with the ability to eliminate forces, logistics and infrastructure without deploying into Norwegian land, sea or air territory (ibid).

Consequently, with Russia demonstrating a more aggressive, capable military force with the added element of surprise—particularly within a Bastion “arc of steel” in Northern waters—

¹⁸⁶ The concepts for transporting American reinforcements to Europe are based on using roll-on, roll-off (RO-RO) ships, single-handedly capable of transporting heavy equipment of an entire brigade (Ulriksen 2017, 41).

confidence in the Alliance's proficiency in aggregating forces in the event of a crisis is essential (Nordenman 2017). In employing highly capable and long-range AShMs, LACMs, SAMs and AD systems on the Kola Peninsula combined with EW measures and swiftly mobilizing forces, Russia may potentially close off critical access points to Alliance territory and significantly complicate the movement of forces in the region—efficiently keeping opposing forces beyond effective operating range from their main objective (Frühling and Lasconjarias 2016, 96). Thus, in the case of a major crisis, the uncomfortable truth is that Norway and its allies would face the difficult choice of either break their way through a Russian “bubble” by launching a high-intensity campaign to destroy the A2/AD and precision strike regime threatening allied forces or alternatively to accept a Russian *fait accompli* and try to negotiate a withdrawal (Pothier 2017, 76).

Prudent counter-measures thus include necessary development of technologically intensive *defeating strategies* capable of forcibly entering a military exclusion zone aimed at adversarial strategic and operational CoGs and asymmetric, less technologically intensive *hedging strategies* seeking to “turn the anti-access tables” on the adversary in raising the costs of potential aggression (Simón 2016, 419-420). However, whereas Russia has increasingly developed its military equipment for high-intensity warfighting, NATO and the West—focusing instead on low-intensity and counter-insurgency (COIN)—have rather through decades of crisis management ambitions allowed their high-end capabilities to atrophy while simultaneously “unlearning” how to move large force numbers and equipment across European territory (Giles 2017; Ringsmose and Rynning 2017, 133). Indeed, war games have demonstrated the impressive Russian capacity for denial through its A2/AD bubbles proving impenetrable to any NATO force, thus providing Russia with the ability to seize control of an AO nearly without warning times and thus significantly weaken NATO's ability of responding effectively—given both the time-consuming assembling and deployment process of its forces and the consensus-based decision-making process approving their move (Frühling and Lasconjarias 2016; Shlapak and Johnson 2016; Mastriano 2017, 91).

As such, without NATO's escalation dominance Russia may choose what means to employ and how to employ them in ways they see fit, from which forward-deployed forces simply function as instant targets taking heavy losses in a Russian onslaught without sufficiently slowing it (Pothier 2017, 76). Consequently, larger follow-on forces forcibly entering the AO may find their pre-positioned equipment heavily damaged or otherwise inaccessible, and “may well arrive to discover that the issue has already been settled” (Lanoszka and Hunzeker 2016, 17). Nevertheless, such a *fait accompli* is of no value if Russia is without the ability to deescalate—To that effect, the Bastion Defence in the North protecting Russian ability of nuclear retaliatory strike is the sole strategic CoG in Russian strategy securing continued room of maneuver, consequently facing NATO with crises

and conflicts in several AOs with fewer forces available, arguably diminishing its deterrence (Strømmen 2017, 24). Moreover, while NATO forces must indeed learn to operate in a Russian A2/AD environment, technical adaptations alone will arguably be insufficient to maintain the credibility of NATO's collective defence as, given the nature of the Russian A2/AD approach, some allies could hesitate before commencing what would be a high-intensity and potentially high-casualty reinforcement effort (Pothier 2017).

Russia's operational approach of A2/AD thus possess a strategic effect in affecting allied decision-making processes and thus undermining NATO solidarity through its potential of diminishing the Alliance's political will to support its allies, resulting in an unremitting deficit in its ability to promise permanent access to wherever and whenever its mandate demand (ibid). In such a context, it is arguably reasonable to question whether NATO solidarity will prove as uncompromising in prioritizing reinforcement of Norwegian force efforts in the North, not least given the increased insecurity relating to what capabilities and capacities the traditional contributors to defending Norway may actually contribute with in a demanding situation for Norway even though they would like to (Gjelsten 2017, 7). When the available military means have significantly diminished, as is the case with the main Norwegian allies with their decreasing fleet sizes, relevant means in a conflict scenario may appear too valuable to send in harm's way when they themselves must deal with challenges (ibid).

Thus in sum, important as NATO's proactive measures of forward presence may be, NATO's solution of having capable troops in theatre before any crisis occurs as tripwires signaling Russia that overt intrusions or grey-zone tactics will lead to a confrontation with the Alliance in its entirety may arguably prove insufficient without the guarantee of quick reinforcement by larger, heavier formations—to which the desired effect of deterring Russian aggression ultimately depends (Pothier 2017). As such failing to fully address the A2/AD and precision-strike regime, the tripwires and thus also naval forces forward-deployed may rather be reduced to "sitting ducks" given NATO's posture providing Russia with a substantial advantage in an IPW and the possibility of allies hesitating before committing their forces to any reinforcement effort—either way a critical delay in which may prove fatal (Boston et al. 2018, 11; Ringsmose and Rynning 2017, 133).

Thus, there is a danger that NATO's measures post-Crimea will fall short of enhancing deterrence, and may even undermine it if NATO fails to take into the account the fundamentally political nature of the Russian threat to allied solidity as per the "fog of war" in its strategic deterrence concept (Zapfe 2017). As such, NATO and Norway need a strategy mitigating geostrategic vulnerabilities while exploiting its advantages as cunning and proactive Russian engagement in areas of past NATO pre-eminence threatens the maintenance of critical cohesion and deterrence. As such,

Norwegian maritime strategy must account for those operational approaches they employ or may employ to understand its strategic and operational room of maneuver and threats facing it, necessarily forced to operate in such exclusion zones in a national framework until allied reinforcements arrive (Strømmen 2017, 25).

However, most likely conducted without fair warning, activation of Russian A2/AD capabilities in the North would first and foremost significantly reduce Norway's ability to implement defensive measures (Ravndal 2016; Hoff et al. 2012, 19-20). Moreover, the establishment of denial and control zones presumes that Norwegian bases in general and air bases in particular are neutralized either permanently or temporarily—Moreover, such zones may be established swiftly, and once established, they are costly to defeat (Ulriksen 2017, 44). Furthermore, Russian amphibious vessels and a significant number of helicopters, naval and air forces may resupply Russian land components on Norwegian territory before the Norwegian Task Group (NorTG) as RNoN's mobile tactical staff is established in the AO, and may as such entail that it will not be justifiable to enter the AO before significant resources have been spent fighting the significant missile threat from land (Keyser-Amundsen 2015, 70). As such, given the increased ranges of Russian weapon systems capable of striking any target in Norway with conventional means, in a crisis situation wherein a larger part of the fleet is docked it may in worst case threaten it to stay as such (ibid).

5.4.1 Manoeuvre and Attrition

Thus in sum, due to increased weapons precision and target effects at larger distances solidifying the importance of a forward-based maritime strategy, Norwegian dependence on the coastal zone and littoral for mobility and supply and exploiting the coast as a force multiplier is further increased (Strømmen 2017, 27). Consequently, due to Russian NEC capabilities revolving around C⁴ISTAR and stand-off warfare in general and the A2/AD and precision-strike regime in specific, central to Norwegian maritime strategy is the need for a maritime strategy based on an operational approach of a networked, integrated force capable of offensive and defensive, kinetic and non-kinetic attack-in-depth to disrupt adversarial C⁴ISTAR, destroy and defeat adversary forces threatening friendly forces in an AO as they maneuver—in sum capable of halting Russian forces before they may decimate the Norwegian defence abilities and establish themselves in Norwegian geography (ibid, 29; Grytting 2018; Callaway 2014).¹⁸⁷

¹⁸⁷ Whereas *networked* forces mitigate threats to decision-making process while facilitating cross-domain synergy by exploiting asymmetric advantages in specific domains at the operational level, the need for *integrated* forces derive the demands of pre-integration pre-deployment as an integrated and combined force in conducting operations effectively in an AO (Callaway 2014). Meanwhile, *attack-in-depth* includes offensive and defensive strikes and includes both kinetic and non-kinetic means to assault an adversary's critical weaknesses without necessitating methodical annihilation of the enemy's defences, seeking in sum to manufacture and manipulate passageways and windows of opportunity and control "temporal in nature and limited in geography" (ibid). To that end, *disrupting* adversary forces refers to the necessary focus on negatively affecting an adversary's C⁴ISTAR as it ideally will preclude attacks on friendly forces, while operational tasks of *destroy and defeat* focus force efforts on adversary A2/AD platforms and weapon systems threatening friendly forces in an AO as they manoeuvre—thus enhancing friendly survivability and provides freedom of action (ibid).

To that end, while defending Norway thus requires the need for equipping robust and complimentary means of sea denial with long-range PGMs capable of operating in and from the coast within reach of adversarial units while under cover from the archipelago, due to significant Russian AD systems RNoN must be able to deliver sizable and coordinated missile salvos saturating their defensive systems (Strømme 2016, 56-57). Thus, the ability to discover Russian units at an early stage and concentrate firepower against them is what ultimately determines whether the manoeuvre is successful as it is the increased range and speed of weapons as well as their sensor's abilities which ultimately defines it—If incapable, little or none effect at all will be achieved (Melien 1998, 97). Thus, as a coastal navy in that RNoN must first and foremost concern itself with adequate destruction as to prevent efficient use of an operative manoeuvre towards land, attrition warfare is not rendered redundant as it is still firepower or potential firepower that will contain an opponent (ibid).

For reference and on the basis of unclassified numbers, saturating the AAW abilities of RNoN's Soviet-era legacy vessels requires a missile salvo of 10-20 missiles—a number increasing when targeting the next-generation AD systems aboard the newly procured frigates and corvettes.¹⁸⁸ In theory, RNoN possess in its toolbox 88 NSM in an AO with the Nansen Class' 40 and the Skjold Class' 48 missiles, providing the potential of inflicting an opponent significant damage while capable of contributing towards a military threshold and thus deter conflict (Keyser-Amundsen 2015).¹⁸⁹ However, it is arguably unrealistic to assume that all surface warships will escape unscathed from initial skirmishes given the significantly reduced warning time of Russian missile systems capable of targeting the fleet while in port. Additionally, in the event of horizontal escalation in which RNoN is “Copenhagened”, several vessels may already be deployed as part of NATO Response Force (NRF) in another AO—further reducing the fleet's missile load.

To that end, the Norwegian political and military leadership's decision to remove the *Skjold Class* corvettes from the defence structure—citing duplicating capability with the F-35 II Lighting fighter jets—significantly weakens RNoN's ability to efficiently employ missile systems against Russian forces when operating within a Russian zone of denial or control. Given the aircrafts weapon load capable of delivering two Joint Strike Missiles (JSMs) per hull in the Barents Sea when operating from Evenes base in stealth mode, to deliver a salvo of 20 missiles within a contested AO—assuming the F-35s in totality are able to reach their target while simultaneously collecting target data and

¹⁸⁸ As information and data regarding actual capacity of offensive and defensive weapon are confidential, any public discussion of them is forced to base itself on likely numbers and unclassified information in order to calculate salvo loads necessary to saturate the ships' AAW ability, which herein is based on the open source formula and equation as provided by Hughes Jr (1995). Consequently, the calculated salvo loads must be considered only as an indication rather than fact, which herein is based on calculations for saturating *Kuznetsov's* and *Kirov's* AD systems requiring 5-10 missile hits. For most modern platforms it is reasonable to assume that its layered AD systems will be able to efficiently counter as much as 80 or 100 percent of incoming threats, thus demanding double salvos in order to for a sufficient number of missiles to reach its target, thus requiring a salvo of 10-20 missiles (Keyser-Amundsen 2015, 61).

¹⁸⁹ As per their operational concept, one frigate and one corvette are at all times undergoing maintenance, reducing the operational fleet size to nine surface vessels.

secure the air space to a sufficient degree—requires between 12-14 aircrafts compared to only three corvettes, and one aircraft functioning as their sensor, operating from the shelter of the archipelago, relatively shielded from counter-attacks. Arguably, the credibility of such a mobilization and concentration of air power absorbing approximately a quarter of the fleet in a necessarily dynamic situation preventing any realistic advanced planning of when and where to concentrate the aircrafts in time and space simultaneously as the RNoAF is tasked with supporting the other services is disputable and arguably a rationalization ought to be challenged.¹⁹⁰

Moreover, whereas the NSM provides RNoN's surface vessels with the ability to attack targets around 100 nm away, the NSM—despite a highly capable, hard-to-detect and highly lethal missile—is arguably not in the same category as other contemporary long-range LACMs or ASHMs forcing the conduct of stand-off warfare from a longer distance—constituting as such per then-CinC RNoN Saunes a significant challenge which the RNoN “needs to figure out how to deal with” (Willett 2017). To that end, if unable to deliver tactical fire power efficiently, cover will only buy time and postpone ultimate defeat, remaining as such an important challenge for Norwegian maritime strategy given RNoN's increasingly slim structure—a condition further increased given its increasing dependence on NATO, possessing neither an adequate comprehensive response as per an area-access strategy nor the necessary forces to operate in Russian exclusion zones (Strømme 2017, 19; Pothier 2017).¹⁹¹

In addition to the increased technological sophistication of the RFN, the nascent development of potentially hostile space and cyberspace capabilities threatens friendly forces also through the EMS and cyberspace—expectedly attacking C² structures through the disruption of communications and management architectures (Callaway 2014).¹⁹² To that end, given the aim of Russian EW to target adversarial information dependence, the specialization, centralization and slimming down of NATO's command structures increase its vulnerability to both conventional and cyber attacks, while threatening its movement of deploying forces, logistics forces and follow-on forces from home bases to theatre (Strømme 2017, 23). Similarly, it is likely that any Russian offensive will target the *Nansen Class* frigates as NorTG's C² centre at sea, thus critically diminishing its ability to

¹⁹⁰ The F-35s' role in efficient sea denial is arguably therefore as an enabler and a complimentary capacity in delivering target data to other platforms while increasing the total threat against Russian surface units significantly beyond what RNoN's submarines and surface vessels are capable of—Such an employment is arguably therefore much more credible and achievable, however remain inadequate as a replacement for the coastal corvettes but as a mean towards increasing their efficiency (Strømme 2016, 57).

¹⁹¹ Moreover, with the minimal warning times that may be expected, provisioning times stretching over weeks and months are no longer relevant as efficient and swift displacement to and within the AO is decisive to establish an effective threshold (Keyser-Amundsen 2015, 67). A maritime strategy capable of high-intensity conflict with Russia thus calls for a significant ammunition stockpile as ultimate lethality and victory depends on their availability: Thus, for increased mobility, RNoN must be fully equipped for combat with gun load and other equipment (ibid).

¹⁹² In such a context, the ability to inflict sufficient damage on an opponent also depends on several factors from NEC perspectives, mainly the ability to cooperate in transferring and receiving support and information from other services and organizations given the increased demands for communication, picture building and control of the battlespace—As such, implicit is the fact that attacks against those systems which includes in an opponent's sensor networks may have great effects, while own sensors and networks thus must be expected to be prioritized targets for an opponent (Callaway 2014).

communicate with allies as HVTs at a significant disadvantage through its vulnerability to jamming and other EMS means capable of disrupting RNoN's C² chain and *Maritime Situational Awareness* (MSA) from lacking redundancy of communication systems, in the main dependent on satellite communications (SATCOM) to effectively communicate with allied forces.¹⁹³

5.5 Chapter Summary

Whereas evolving threat perceptions has resulted in a long list of military capabilities that Russia intends to acquire with the strategic deterrence concept constituting the foremost priority for naval rearmament in line with New Look, the GPVs' principal objectives have included improving combat capability and readiness through strengthening the nuclear deterrent while recapitalising its conventional forces. In the simultaneous shift towards high-intensity warfighting, the GPVs have focused on enhancing the fleet's striking power restrained to a Corbettian posture and coastal defence while improving NEC by developing C⁴ISTAR systems to create the conditions within which to efficiently employ PGMs and EW and improve strategic mobility and operational flexibility (Zysk 2016a; Malmlöf and Roffey 2016, 165; McDermott 2017). To that end, Moscow has developed a number of complimentary niche capabilities with the unifying theme of asymmetry while recognising first and foremost that the means and methods of modern warfare have changed (McDermott 2018). In such a shift, ambitions reflect in the defence burden growing faster than GDP since 2011—appearing as a significant threshold effect allowing for overdue reform and modernisation plans to gain traction (Bukkvoll et al. 2017).

Whereas spending and procurement was from the outset intended to be back loaded, ambitions of Russian maritime defence planning and seapower has however throughout been negated and undermined by the state of the OPK, its lacking infrastructure and its inability to deliver the quality and quantity as demanded by the RFN—significantly hampering the modernisation processes (Bukkvoll 2013; Roffey 2013). Thus, though the principal recipient of funding under the GPV since 2010, the Navy has experienced some of the most serious problems as the Russian shipbuilding industry, while capable of building variants of older models with established production processes, has greater difficulty in delivering the next-generation of serial production (Connelly 2016, 2). Consequently, shipbuilding programs have produced a fleet restrained to costal defence and power projection in adjacent seas in a shift towards a classic, Corbettian posture (Blank 2011; Gvosdev 2017).

¹⁹³ *Maritime Situational Awareness* (MSA) is defined as “the understanding of military and non-military events, activities and circumstance within and associated with the maritime environment that are relevant for current and future operations and exercises” (Metrick and Hicks 2018, 12).

In such a shift, a dual fleet has emerged consisting of modernised Soviet-era legacy vessels and a mosquito fleet equipped with long-range PGMs, enhancing Russia's ability to assert its interests in the core areas as defined by the political- and military-doctrinal framework (Giles 2017, 10). To that end, one of the most protruding characteristics of Russian long-term defence planning has been the development of platforms and weapon systems capable of precision attack from significant distances, of which the Navy is emerging as their main carrier to support the strategic deterrence concept (Diesen 2018, 15; Mujamdar 2018; Fedyszyn 2017). Thus in sum emerging as a frigate- and corvette-centered naval force with smaller crafts as the most important surface vessels, the ultimate failure of the Gorshkov school of naval thinking and the move towards coastal defence is simultaneously indicative of the combination of a breakthrough in Russian naval thought embracing in particular *Jeune École* of "muscular ships" capable of wreaking havoc particularly in smaller straits and OPK's deficiencies arguably forcing it (Thornton 2017; Ulriksen 2015; Martyanov 2017).

Meanwhile, whereas significant improvements in NEC for high-intensity operations has improved the fleet's C⁴ISTAR as a vital force multiplier in more efficiently employing PGMs and EW systems, streamlined C² structures enabling a high degree of coordination and universal application of force aid in particular strategic mobility and operational flexibility in line with the simultaneous focus on achieving military objectives swiftly in an IPW—in sum and combination integrated for offensive and defensive effect (McDermott 2015). Consequently, the RFN has in line with the prescriptions of political- and military-doctrinal framework continued its steady New Look transition to a more capable and modern fleet with enhanced striking powers, operational flexibility and strategic mobility aiding its sea denial and sea control capability—the sum of which in the North manifests as an "arc of steel" with obvious strategic and operational implications for Norwegian maritime strategy (Bukkvoll et al. 2017; Gvosdev 2017; Tsypkin 2010, 342).

Thus in sum, despite shipbuilding challenges and while by no means overfunded, the research field's tendency to undermine Russian military capabilities is arguably most invalid as Moscow's military machine has rather preserved and developed its ability and readiness to prepare and employ its military for defensively and offensively oriented large-scale operations throughout (Sutyagin 2016, 3). What emerges *prima facie* is how the significant qualitative increase and concentration of the fleet's fire power significantly increasing Russian ability in conventional first strike may comfortably reach any target in Norway with minimal warning times—possibly eliminating friendly forces without violating Norwegian territorial integrity (Strømmen. 2017, 27; Diesen 2018, 15).

With the focus on achieving strategic mobility in an IPW within A2/AD "bubbles" in the North and thus seizing control of an AO nearly without warning times, the dependence on NATO's proficiency in aggregating forces in the event of a crisis is essential (Nordenman 2017). Thus facing

a high-intensity and potentially high-casualty reinforcement effort due to significant Russian capacity for control and denial potentially keeping allied forces beyond effective operating range of their main objective and thus diminish the transatlantic link, the Alliance is forced to technically adapt through *defeating* and *hedging* strategies based on a forward-based maritime strategy aiming to secure area-access while strengthening NATO solidarity (Pothier 2017; Simón 2016). Without it, continued lack of acknowledging the strategic deterrence concept's "fog of war" characteristic and strategic effect in undermining political will may further weaken the transatlantic link while reducing forces in forward-positions to "sitting ducks" from the consequential critical delay of allied reinforcement (Frühling and Lasconjarias 2016; Ringsmose and Rynning 2017).

To that end forced to operate in Russian exclusion zones in a national framework until allied reinforcements arrive, Norwegian dependence on the coastal zone and littoral for mobility, supply and exploitation as a force multiplier is further increased (Ulriksen 2015; Strømmen 2017). The combination of Russian maritime capabilities in North as such demands a maritime strategy based on an operational approach of networked, integrated force capable of offensive and defensive, kinetic and non-kinetic attack-in-depth to disrupt adversarial C⁴ISTAR, destroy and defeat adversary forces threatening friendly forces in an AO as they maneuver—capable first and foremost of halting Russian forces before they may decimate the Norwegian defence abilities and establish themselves in Norwegian geography (Callaway 2014; Strømmen 2017, 29). To that end, as a coastal navy first and foremost concerned with attrition and adequate destruction as to prevent efficient use of an operative manoeuvre towards land, defending Norway thus requires the need for equipping robust and complimentary means of sea denial with long-range PGMs capable of operating in and from the coast within reach of adversarial units while under cover from the archipelago, capable of delivering sizable and coordinated missile salvos saturating Russian defensive systems—If incapable, little or none effect at all will be achieved (Melien 1998, 97; Strømmen 2016, 56-57).

6 Conclusions

After the collapse of the USSR, a common academic assumption is that of the North temporarily losing its strategic importance and becoming of marginal importance to the Kremlin—On the contrary, the North has figured prominently in Moscow’s political- and military-strategic objectives and its maritime defence planning and seapower throughout the post-Cold War period. Again treated to witness a land power hungry for the sea whose seapower switch has been reactivated, the arrival of Putin to presidential power in 1999 marks a critical juncture for an evolving trajectory with an increased role and importance of seapower and maritime strategy in national frameworks as military modernisation and naval resurgence assumed highest priority (Fedyszyn 2017; Bosbotinis 2010, 3; Grätz 2014, 4). Seemingly first and foremost respecting the naval *raison d’être* in strengthening the Navy’s position vis-à-vis the other services, several threshold effects have since increasingly mitigated the previous path dependency of Russian maritime defence planning’s seemingly chronic escapism permitting its seapower to atrophy (Haas 2011b, 12).

To that end, the twin aims of the 2008 New Look reforms of improving combat capability and readiness appear an instrumental driving force aiding the Navy’s shift to NEC and improving its C⁴ISTAR capabilities. Meanwhile, the GPV-2020 in particular proves a significant change from the previous continuity of major discrepancies between ambition and reality as its dramatic increase in funding compared to preceding GPVs allowed the longstanding perceptions and ambitions of the political- and military-doctrinal framework to reflect in maritime capabilities. As such the principal priority of naval rearmament throughout, the strategic deterrence concept has gradually manifested in the Navy’s fleet structure after 2011 in particular, positing that Norway and NATO may be exposed to significant Russian power-wielding of differing variants in peace, crisis and war with several implications to Norwegian maritime strategy as the RFN has increasingly come to possess the means necessary to enforce it—preparations to which, as posited by the analysis herein, may be considered *prima facie* a collective failure by the lack of appropriately prudent counter-measures.

6.1 Russian Maritime Defence Planning and Seapower

With the central theme of developing a balanced, powerful naval force capable of operating against a high-end adversary in line with *derzhavnost*, Russian maritime defence planning and seapower has first and foremost been fueled by evolving threat perceptions and the need to defend Russia at sea and from the sea, deriving from the identification of US and NATO and their naval activity and capability alongside the Alliance’s eastward expansion (Åtland 2007; Staun 2015). Bringing a sense of urgency to the plans of strategic and conventional modernisation, the New Look reforms marks

Conclusions

yet another threshold effect driven by the adoption of NEC designed to first and foremost respond to the US and NATO threat, since replacing the Soviet-era mass-mobilization war machine with combat capability and readiness as per the reforms' twin aims (Boltenkov 2011; Thornton and Karagiannis 2016). Juxtaposed the strategic deterrence concept aiming to universally and continuously deterring, containing and coercing an opponent in times of peace, crisis and war by skillfully integrating the nuclear, non-nuclear and non-military domain in a holistic campaign without triggering Article V, the Kremlin intends to achieve political- and military-strategic objectives by first and foremost levelling the playing field to manipulate concessions on terms favorable to Russia (Bruusgaard 2016; Adamsky 2015).

In it, the Navy occupy an important role in meeting the challenges of the concept's components through its ability to deliver conventional and nuclear concentrated strikes, to which its task of enforcing the concept have remained unchanged throughout reform efforts and the sum of which its abilities have been significantly strengthened (Bosbotinis 2010, 18; Schneider 2018). To that end, with strategic deterrence as the first and foremost priority for naval rearmament, the GPVs' principal objectives have dovetailed with the New Look aims of improving combat capability and readiness through strengthening the nuclear deterrent while recapitalising its conventional forces, which in the shift towards high-intensity warfighting has improved NEC and C⁴ISTAR while focusing on enhancing the fleet's striking power, operational flexibility and strategic mobility (Bosbotinis 2010; Bukkvoll et al. 2017; McDermott 2017).

Meanwhile, characterized throughout by the push-and-pull between the need for blue- or brown-water capabilities, Russian maritime defence planning has increasingly restrained the RFN to coastal defence and power projection in adjacent seas in a classic, Corbettian posture while enhancing its capacity for sea control and sea denial—providing in sum a significant A2/AD and precision-strike regime in the North (Gvosdev 2017; Tsyppkin 2010, 342; Nordenman 2017). To that end, Moscow has developed a number of complimentary niche capabilities with the unifying theme of asymmetry while recognising first and foremost that the means and methods of modern warfare have changed (McDermott 2018). As such, one of the most protruding characteristics of Russian long-term defence planning has been the emerging dual fleet consisting of modernised Soviet-era legacy vessels alongside a mosquito fleet—both significantly equipped with PGMs capable of stand-off warfare from significant distances as which the Navy has arisen as their main carrier to enforce the strategic deterrence concept (Giles 2017, 10; Diesen 2018, 15; Mujamdar 2018; Fedyszyn 2017).

Thus in sum emerging as a frigate- and corvette-centered navy with smaller crafts as the most important surface vessels, the ultimate failure of the Gorshkov school of naval thinking and the move towards coastal defence is simultaneously indicative of a breakthrough in Russian naval thought

Conclusions

arguably provoked and enforced by the shipbuilding industry's stubborn deficiencies of supporting blue-water ambitions (Ulriksen 2015; Martyanov 2017). Meanwhile, significant NEC improvements for high-intensity operations through improving C⁴ISTAR as a vital force multiplier in more efficiently employing PGMs, EW and improve C² enabling a high degree of coordination and universal application of force in line with the overall focus of achieving strategic mobility have aided the Navy's ability to obtain strategic and operational objectives swiftly in an IPW. As such, the ability of establishing strategic and operational depth in the North through denial zones in forward positions through the Bastion Defence concept by A2/AD "bubbles" is significantly strengthened—efficiently establishing military exclusion zones denying NATO access from the Atlantic Ocean to Northern waters (Zysk 2016b; Ulriksen 2017, 41; Rizzo 2017).

Thus in sum, while maritime capabilities in the North took some time to catch up with the Russian political- and military-doctrinal framework, the main changes and continuities in Russian maritime defence planning and seapower demonstrate long-standing historical traditions of asymmetric thinking and a consistent determination to poke and prod adversarial vulnerability—Grounded in the long-standing preoccupation with the Great Limitrof while making the most of asymmetry to level the playing field (Courtney 2018). In triangulating the maritime, nuclear, non-nuclear and non-military domain in an increasingly integrated national framework, the role of seapower in achieving political- and military-strategic objectives is at the very least is no *mare incognitum* to Russia—accustomed to style of warfare embracing more keenly the “irregular and the criminal, the spook and the provocateur, the activist and the fellow-traveler” (Galeotti 2016, 296; Seely 2017, 52).

Calling such developments new may as such reflect more a cognitive pitfall inhibiting objective analysis of novel Russian maritime defence planning and seapower than its accurate description, as such “muddying the water” as much as it facilitates valid inferences and research cumulation. While the arrival of Putin correlates with an increased prominence of seapower and maritime strategy—seemingly sharing the Navy's values—it is not so much that seapower moved back into the heart of Russian politics under Putin's presidency, rather it was always there: The difference is that the Kremlin managed to adopt a far more comprehensive and consistent approach around its needs to better achieve military- and political-strategic objectives while increasingly coming to possess the wherewithal to achieve them (Galeotti 2013, 3; Sussex 2017, 504).

6.2 Relevance to Norwegian Maritime Strategy

In terms of the strategic and operational consequences to Norwegian maritime strategy as posited by Russian maritime defence planning and seapower, what first and foremost becomes evident *prima facie* is its parallel interfaces with varying implications to RNoN's structure and maritime strategy as

Conclusions

a small navy. Whereas a bilateral Norwegian-Russo conflict and the non-military domain constitute the strategically most demanding scenario as Norway in a conflict “too small for NATO, but too large for Norway” alone must create the conditions triggering Article V, the nuclear and non-nuclear domain’s Bastion Defence and Bastion Offence scenarios remain the tactically most demanding due to the likely significant Russian force concentrations (ibid, 8). To that end, Norwegian territory lend itself of particular use to Russian strategy and operational approaches through the non-military domain’s preoccupation with critical sea infrastructure with the potential of major economic disruption juxtaposed the Bastion Defence and Bastion Offence with its elongated coastline—the latter exploitation of which is a central Russian interest due in the main from the Russian reliance on NSNWs and PGMs (Moen 2017, 16).

To that end, the encompassing strategic deterrence concept posits that Norway and NATO may be exposed to significant Russian power-wielding in differing variants also before traditional acts of war—first and foremost independent of the state of bilateral Russo-Norwegian relations (Diesen 2018). Thus with Russia demonstrating a more aggressive, capable military force with the added element of surprise—particularly within its bastions in Northern waters—confidence in the Alliance’s proficiency in aggregating forces in the event of a crisis is essential (Nordenman 2017). To that end, in the case of a major crisis, Norway and its allies would face the difficult choice of either break their way through Russian zones of denial and control by launching a high-intensity campaign and potentially high-casualty effort to destroy weapon-systems threatening allied forces in reclaiming territory or alternatively to accept *fait accompli* of a *coup de main* and try to negotiate a withdrawal (Pothier 2017, 76; Zapfe 2017, 149).

As such requiring *defeating* and *hedging* strategies, NATO’s mitigating response since 2014 has largely been based on conventional adaption emulating similar evolutionary steps in the Alliance’s history based on pre-positioning equipment and forces (Simón 2016; Zapfe 2017). However, whereas Russia has increasingly developed its military capabilities in the North for high-intensity warfighting, NATO has through its decades-long crisis management ambition and lack of an access-strategy allowed their high-end capabilities to degenerate while simultaneously “unlearning” how to swiftly move reinforcements of a significant clout across European territory—in sum significantly weakening the Alliance’s ability to respond efficiently, and thus aiding Russia’s ability of securing *fait accompli* implemented without warming times (Ringsmose and Rynning 2017, 133; Shlapak and Johnson 2016). As such exploiting political and military fault lines, allied reinforcements—if successful in forcibly entering the AO—may find their pre-positioned equipment heavily damaged or otherwise inaccessible while discovering that “the issue has already been settled” (Lanoszka and Hunzeker 2016, 17).

Conclusions

Whereas the qualitative increase in Russian abilities in first strike, A2/AD, stand-off warfare, strategic mobility and thus to seize control of an AO nearly without warning times may thus significantly reduce RNoN's ability to implement defensive measures, force a docked RNoN to stay as such while successfully preventing NATO from reaching and operating within the region, the uncomfortable truth emerging is that RNoN is necessarily forced to survive and operate within Russian exclusion zones—handling the conditions they entail first and foremost in a national framework (Ulriksen 2015, 4; Strømme 2016, 19). Within such zones, RNoN be able to complete its tasks of preventing Russian power projection, enable reception and projection of allied reinforcements while contributing to enable tactical counter-offensives—demanding necessary degrees of sea denial and sea control cross-spectrum (Strømme 2017, 27).

The deriving significant strategic and operational consequences for Norwegian maritime strategy first and foremost pertain from the increased weapons precision and target effects at larger distances, in sum solidifying the importance of a forward-based maritime strategy and increasing its dependence on the coastal zone and littoral for mobility and supply whilst exploiting the coast as a force multiplier (Strømme 2017, 27). Based on an operational approach of a networked, integrated force capable of offensive and defensive, kinetic and non-kinetic attacks-in-depth to disrupt adversarial C⁴ISTAR, destroy and defeat adversary forces threatening friendly forces in an AO as they maneuver—in sum capable of halting Russian forces before they may decimate the Norwegian defence abilities and establish themselves in Norwegian geography—naturally-given advantages mitigating the A2/AD and precision-strike regime first and foremost include the elongated coastline (ibid, 29; Callaway 2014).

In exploiting the Norwegian littorals, RNoN may operate with a sufficient degree of maneuver given their natural cover—Thus, Norwegian maritime strategy may force an opponent to employ his resources in a demanding and less cost-effective way, forced to fight on RNoN's terms in order to eliminate the fleet (Strømme 2017, 29). In such an approach, given the minimal warning time that may be expected in any Russian offensive or defensive, presence and mobility through a maritime strategy based on forward presence is a force multiplier in itself as RNoN and NATO's mobility in effectively and swiftly deploying to or within an AO is decisive to establish an effective threshold, complicate initial establishment of Russian exclusion zones while bringing Russian units within the range of friendly weapon-systems (Keyser-Amundsen 2015, 68).

As such, RNoN's forward presence through a *fleet-in-being* strategy employing the fleet's mobility while exploiting the protection of the archipelago as a force multiplier to harass the opponent through offensive operations may sufficiently deprive him of the chance to obtain his objectives until allied reinforcements arrive (Tjøstheim 1998, 34). To that end, given significant Russian AD

Conclusions

capabilities, RNoN must be able to deliver sizable and coordinated missile salvos saturating their defensive systems (Strømme 2016, 56-57). Thus, the ability to discover Russian units at an early stage and concentrate firepower against him is what ultimately determines whether manoeuvre is successful as it is the increased range and speed of weapons as well as their sensor's abilities which ultimately defines the manoeuvre (Melien 1998, 97; Strømme 2016, 57). As such, defending Norwegian sovereignty and territorial integrity requires the need for equipping robust and complimentary means of sea denial with long-range PGMs capable of operating in and from the coast within reach of adversarial units while under cover from the archipelago (Strømme 2016, 56-57).

Thus in sum, given RNoN's decreasing coastal defence abilities, the simultaneous axiom of the Norwegian maritime strategy's need of securing sufficient degrees of sea control and sea denial to secure the fleet's room of maneuver and engage an adversary until allied reinforcements arrive and the simultaneous lack of a sufficiently uncompromising and unison allied reinforcement plans ensuring their access, RNoN may in conflict or war find itself between "the Devil and the deep blue sea". However, increased Russian naval strength does neither automatically imply their violent employment nor that conflict is inevitable in the future—Yet, as its avoidance is contingent on the credibility of deterrence and the promise of costly and perilous resistance, the credibility of NATO entering an AO where and when it pleases cannot be based on bluffs (Lanoszka and Hunzeker 2016, 12).

Similarly, in order for RNoN to maintain its tasks in crisis and war of preventing maritime power projection against Norwegian territory, enabling reception and advancement of allied reinforcements while contributing to enable tactical counter-offensives to secure territorial integrity, Norwegian maritime strategy in line with military organizations' fundamental *raison d'être* in securing state security is necessarily forced to prepare for the worst. To that end, given RNoN's decreasing fleet size and its primary objective a coastal navy in attempting to deter large-scale naval action through inflicting punishment through attrition rather than crudely attempting to defeat it, naturally-given advantages provided by the Norwegian elongated coastline arguably proves a cost-efficient and particularly prudent counter-measure mitigating Russian maritime defence planning and seapower in the North while simultaneously providing RNoN with a much-needed comparative advantage.

6.2.1 Implications for Further Research

In light of the above findings, future research aiding cumulation on Russian military affairs may further in-depth investigate the maritime defence planning process in focusing on the individual inputs within rather than outcomes *ex post* as to generate deeper knowledge of its push-and-pull characteristics facilitating in-depth study of the main changes and continuities identified herein and

Conclusions

allotting them to their original sponsor and the conflicts in Russian CMR characterising it. Though perhaps seemingly a futile task given Russia's increasingly centralised defence decision-making structure and the secrecy surrounding it, an in-depth study focusing on open sources of the political- and military-doctrinal framework would nevertheless arguably provide useful inferences as the majority of the literature on Russian military affairs and CMR remain primarily land-dominated. Research may furthermore probe further the causes of the Navy's shift to a Corbettian force structure restrained to coastal defence given the simultaneous, long-standing difficulties of the OPK to support Russian naval ambitions suggesting the need to probe further its causal relationship as to properly and validly determine the political and military intentions behind such a shift.

Furthermore, in light of the analysis findings suggesting a miscalculation by the West to prudently prepare for the future as per the lack of appropriate counter-measures identified herein, an in-depth study of the Norwegian defence planning process, its antecedent perceptions of the Russian approach to the maritime domain in the North and any rivalry between them may in a covariate research design establishing Russia as an exogenous, orthogonal determinant and Norwegian defence planning as the dependent variable aid detailed understanding of how the changes and continuities identified herein have empirically influenced the Norwegian political and military leadership. Similarly, in the context of military intra- and inter-service competition for roles, missions and resources juxtaposed RNoN's decreasing fleet size and coastal defence capabilities paradoxically paralleling their increased need and presence in the North, an in-depth investigation of RNoN's efforts in the defence planning process to influence the Norwegian military and political leadership may allow productive inferences of the causal mechanisms and causes of the *prima facie* lack of a political will to implement appropriately prudent counter-measures in the maritime domain.

Appendix

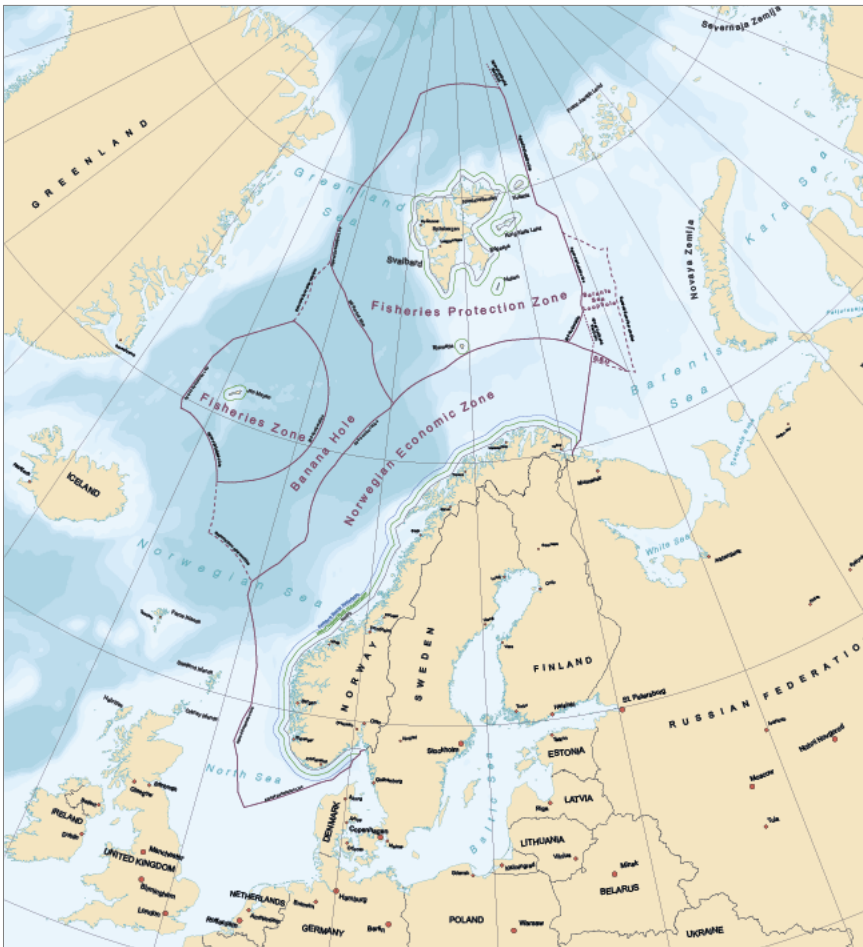


FIGURE 1. Northern Waters and Norwegian-Russian Maritime Borders. *Source:* Department of Foreign Affairs (2011).

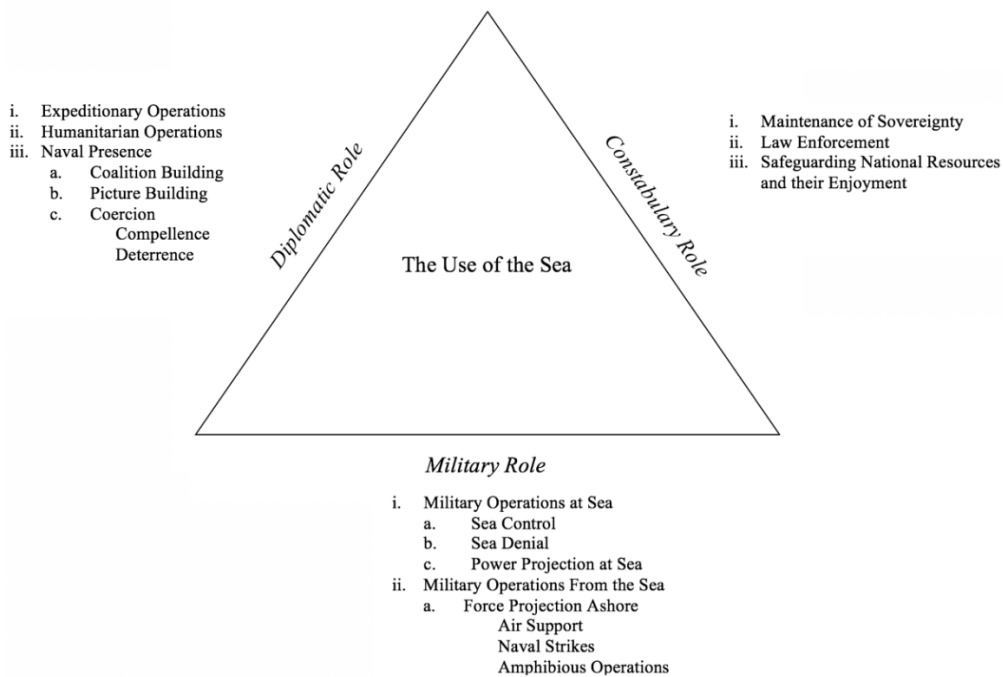


FIGURE 2. The Use of the Sea Framework. *Source:* Speller (2013) and Till (2013).

	HNøMS Skjold	1966		25																	
	HNøMS Kjekk	1966		25						30											
	HNøMS Djerv	1966		25						30											
	HNøMS Skudd	1966		25						30											
	HNøMS Arg	1966		25																	
	HNøMS Steil	1966		25						30											
	HNøMS Brann	1966		25																	
	HNøMS Hvass	1966		25						30											
	HNøMS Traust	1967			25																
	HNøMS Brott	1967			25																
	HNøMS Odd	1967																			
	HNøMS Brask	1967			25															30	
	HNøMS Gnist	1967			25															30	
<i>Snøgg Class</i>																					
	HNøMS Snøgg	1969										25									
	HNøMS Rapp	1969										25									
	HNøMS Snar	1970										25									
	HNøMS Kvik	1970										25									
	HNøMS Kvik	1970										25									
	HNøMS Kjapp	1970										25									
<i>Hauk Class</i>																					
	HNøMS Hauk	1977			15					20					25					30	
	HNøMS Ørn	1978			15				20					25						30	
	HNøMS Terne	1978			15				20					25						30	
	HNøMS Tjeld/Sel	1978			15				20					25						30	
	HNøMS Skarv	1978			15				20					25						30	
	HNøMS Teist	1978			15				20					25						30	
	HNøMS Jo	1979				15				20				25							
	HNøMS Lom	1979				15				20				25							
	HNøMS Stegg	1979				15				20				25							
	HNøMS Ravn/Knurr	1979				15				20				25							
	HNøMS Gribb	1980	10				15				20						25				
	HNøMS Geir	1980	10				15				20						25				
	HNøMS Erle	1980					15				20						25				
<i>Skjold Class</i>																					
	HNøMS Skjold	1998																		15	
	HNøMS Storm	2006																		5	
	HNøMS Skudd	2007															5				10
	HNøMS Steil	2008																	5		
	HNøMS Glimt	2009																		5	
	HNøMS Gnist	2009																		5	
Mine Countermeasures																					
<i>Vidar Class Minelayer</i>																					
	HNøMS Vidar	1977		15					20											30	
	HNøMS Vale	1977		15					20												
	HNøMS Borgen	1960	30																	35	
<i>Sauda Class</i>																					
	HNøMS Ulla	1955	35																		
	HNøMS Tista	1954		35																	
	HNøMS Tana	1952									40										

<i>Oksey Class</i>	HNoMS Alta	1953	40																								
	HNoMS Oksey	1993					5					10					15					20					25
	HNoMS Karmøy	1994					5					10					15					20					25
	HNoMS Måløy	1995					5					10					15					20					25
<i>Alta Class</i>	HNoMS Hinney	1993					5					10					15					20					25
	HNoMS Alta	1995					5					10					15					20					25
	HNoMS Otra	1996					5					10					15					20					25
	HNoMS Rauma	1996					5					10					15					20					25
	HNoMS Orkla	1997					5					10					15					20					25
	HNoMS Glomma	1997					5					10					15					20					25
Amphibious Vessels																											
<i>Reinøysund/Tjeldsund Class</i>																											
	HNoMS Reinøysund	1970	20		25		30																				
	HNoMS Sørøysund	1971	20		25		30																				
	HNoMS Maursund	1971	20		25		30																				
	HNoMS Rotsund	1972	20		25		30																				
	HNoMS Borgsund	1972	20		25		30																				
Logistics and Support																											
	HNoMS Horten	1977	15		20		25		30																		
	HNoMS Sarpn	1972	20		25																						
	HNoMS Draug	1972	20		25																						
	HNoMS Valkyrien	1981					5					10					15					20					25
	HNoMS Tyr	1981					5					10					15					20					25
	Project P2513 HNoMS Maud																										

Notes: Numbers denote years since commissioning.

TABLE 2. The Political and Military Leadership in Russia.

<i>The Political and Military Leadership</i>	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	GPV-2005		GPV-2010					GPV-2015					GPV-2020							
	Post-Cold War Consolidation Phase			Modemisation Phase																
President and Supreme Commander in Chief	Vladimir Putin						Dmitry Medvedev						Vladimir Putin							
Minister of Defence (MoD)	Igor Sergeev		Sergei Ivanov						Anatoly Serdyukov						Sergey Shoygu					
Chief of the General Staff (ChGS)	Anatoly Kvashnin				Yuri Baluyevsky				Nikolai Makarov				Valery Gerasimov							
Russian Federation Navy Commander in Chief (CinC)	Vladimir Kuroyedov					Vladimir Vysotsky			Viktor Chirkov					Vladimir Korolyov						
The Northern Fleet Commander in Chief (CinC)	Vyacheslav Popov	Gennady Suchkov	Mikhail Abramov	Vladimir Vysotsky	Nikolay Maksimov	Andrey Volozhinsky	Vladimir Korolev	Nikolai Evmenov												



FIGURE 3. Military Districts and Operational Strategic Commands (OSKs) as per 1999. *Source:* GlobalSecurity.org



FIGURE 4. Military Districts and Operational Strategic Commands (OSKs) as per 2010. *Source:* IISS (2011).



FIGURE 5. Military Districts and Operational Strategic Commands (OSKs) as per 2015. *Source:* IISS (2017).

TABLE 3. Sequences in and Indicators of Russian Maritime Defence Planning and Seapower, Operationalizations and Dimensions of Military Continuity and Change.

<i>Dimensions of Continuity and Change</i>	<i>Operationalisations and Measurements</i>	<i>Data</i>
<i>The Political- and Military-Doctrinal Framework</i>	Strategic and Doctrinal Documents at the Political- and Military-Strategic Level Governing the Security and Defence Policy Process in Russia	Qualitative Primary and Secondary Data By Triangulation of Multiple Sources:
Threat Perceptions	"The expectation of harm to assets or values of the nation in the absence of action by the decision-making units" (Maoz 1997, 174) <i>Low levels</i> of threat imply that the decisionmaker foresees little damage to values or assets and low probability of damage to existing values and assets (ibid) <i>Moderate levels</i> of threat is either a perception of expected loss to important values with low probability or perception of a high probability of loss to moderately important values or assets (ibid) <i>High levels</i> of threat represents a high probability of loss to important national values or assets (ibid)	Primary sources as per national security strategies, region-specific strategy documents alongside military and maritime doctrines and secondary sources as per the triangulation of multiple sources from extant research
Naval Thought	"Maritime strategic thought as the definition of the likely scope or maritime arena for which it must prepare" (Cole 2013)	
Inter- and Intra-Service Competition	The inter-military competition between branches of service within a military organisation and the intra-service competition within branches of service for roles, missions and resources (Raska 2015, 3-4)	
Military Reform	"Significant transformation of the military systems of the state undertaken after decision by the highest organs of state power (...) brought about by new political tasks of the state and the emergence of new kinds of arms, economic considerations, or a change in the level of production, the means and methods of warfare" (Pallin 2008, 50)	
Strategic Thinking	Consistent and coordinated calculations based on perceptions of the strategic environment with sustainable ideas and long-term objectives as per the desired end-state (Rozman and Togo 2006, 1-4)	
Operational Art	The theory and practice of achieving strategic goals through the design, organisation and conduct of operations and combat (Adamsky 2015, 9)	Qualitative data by triangulation of multiple secondary sources from extant research
<i>Maritime Capabilities</i>	The Russian Long-Term Defence Planning Process as per the State Armaments Programmes (GPVs)	Quantitative and Qualitative Secondary Data by Triangulation of Multiple Sources:
Strategic Resources	Input measures necessary to generate effective military capability provided to the military organisation (Tellis et al. 2001, 136)	Oxenstierna and Bergstrand (2011), (Tsyppkin 2010), Åtland (2011), Oxenstierna (2016), Cooper (2016), IISS (2018) and UN Report on Military Expenditures
Military Expenditures	The size of defence budgets as a micro-indice as per the percentage of Gross Domestic Product (GDP), State Armament Programmes (GPVs) and State Defence Orders (GOZ) in percentage and in absolute terms in Roubles.	
Naval Share	The distribution of the military expenditures to the Navy	
Military Inventory and Procurement	Military holdings as per tangible components empirically observable and counted, and includes precision guided munitions (PGMs) and Command, Control, Communications, Computers, Intelligence, Surveillance, Reconnaissance and Target Acquisition (C ⁴ ISTAR) as critical categories of equipment	
Infrastructure	The physical infrastructure, i.e. bases and installations, possessed by a military force (Tellis et al. 2001, 139)	
Conversion Abilities	The military organisation's ability to convert available strategic resources into effective military capabilities capable of conducting operations (Tellis et al. 2001, 143)	Quantitative and qualitative data by triangulation of multiple secondary sources from extant research
Maritime Strategy	The principles governing the conduct of war "in which the sea is a substantial factor", observable through the Use of the Sea-framework (Corbett in Till 2013, 63)	
Training and Operational Practice	Military exercises, sailing patterns and deployments	

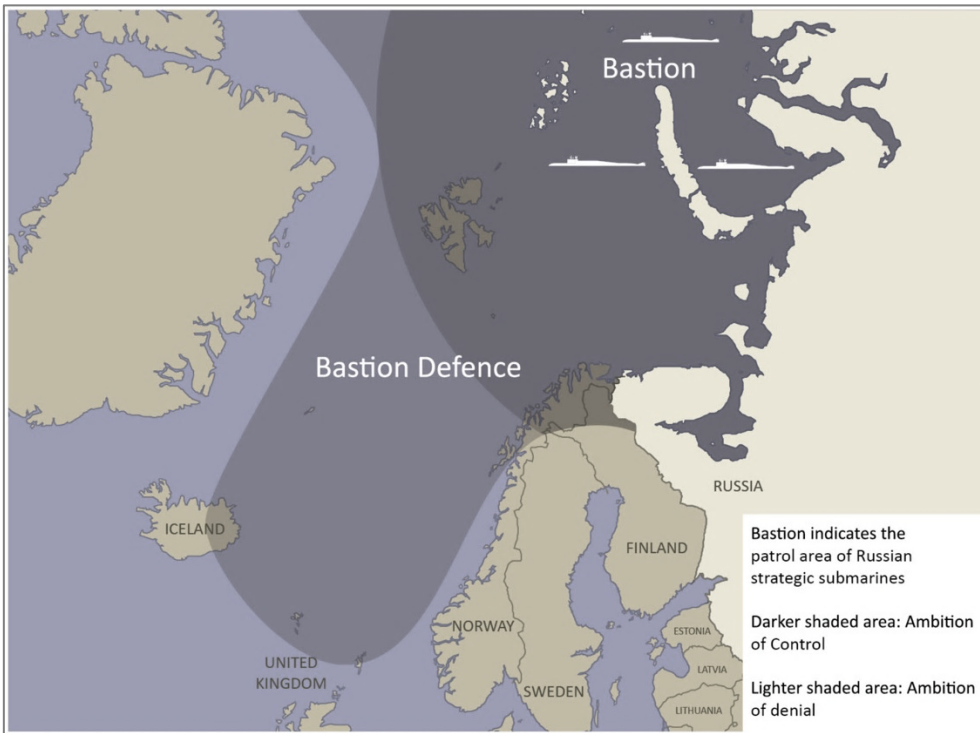


FIGURE 6. The Reach of Russia’s Bastion Defence Concept. *Source:* RUSI (2017).

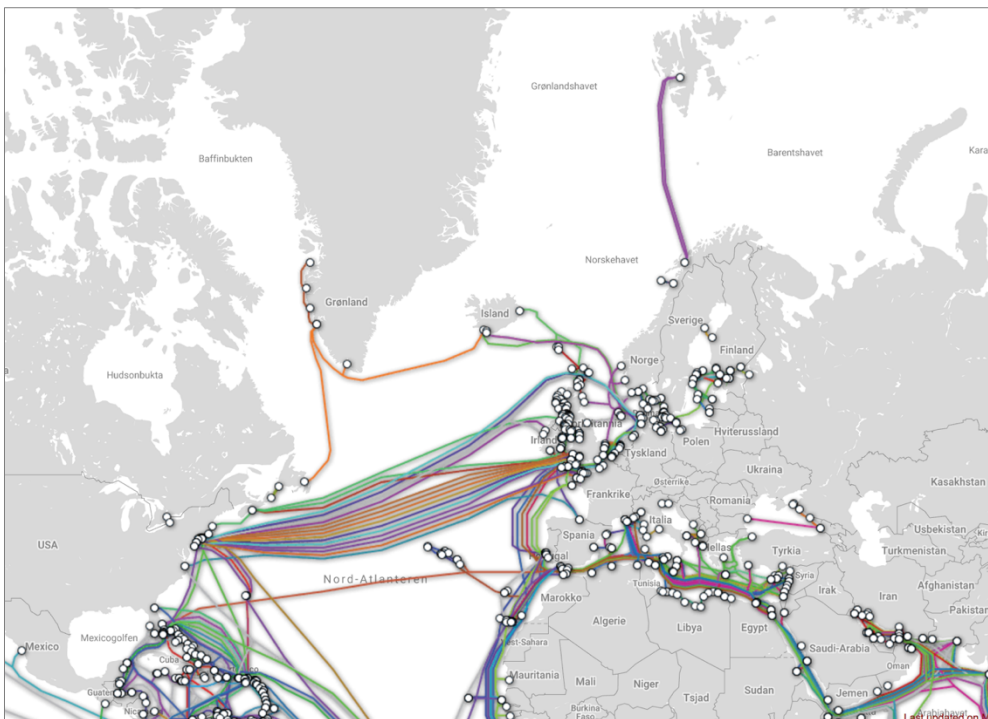


FIGURE 7. Critical Undersea Infrastructure in the North Atlantic. *Source:* SubmarineCableMap.com



FIGURE 8. Norwegian Critical Undersea Infrastructure. *Source:* Kystinfo.no

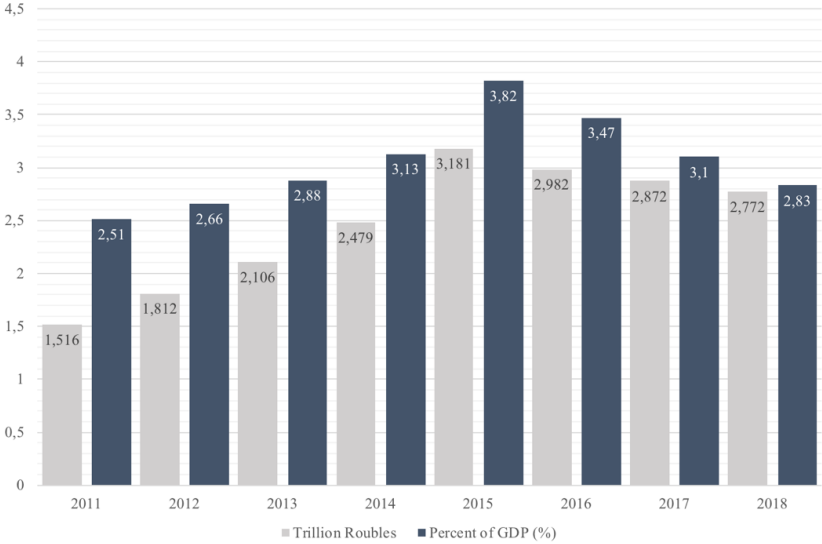


FIGURE 9. Military Expenditures and Defence Burden as per the GPV-2020, 2018 Rubles. *Source:* IISS (2018).

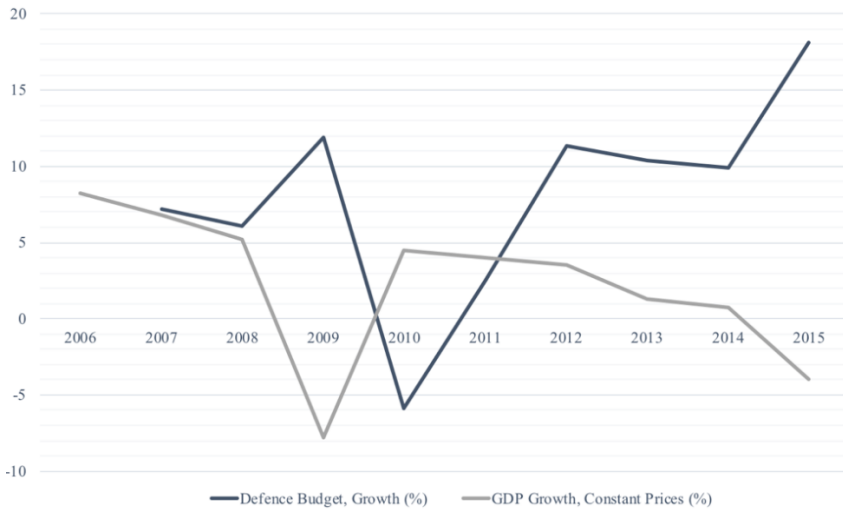


FIGURE 10. Growth in Russian Military Expenditures and GDP, Percent. *Source:* Oxenstierna (2016).

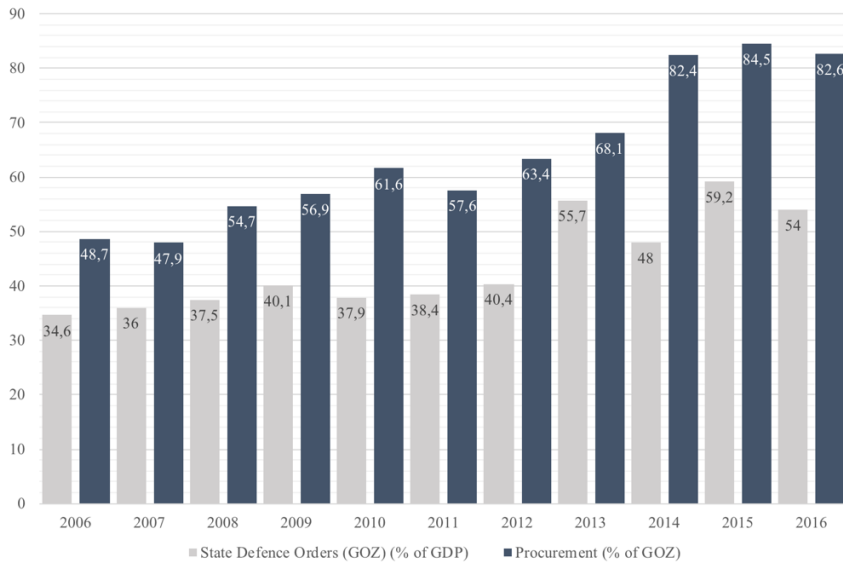


FIGURE 11. Growth in Annual GOZ and Procurement, Percent. *Source:* Oxenstierna (2016) and Cooper (2016).

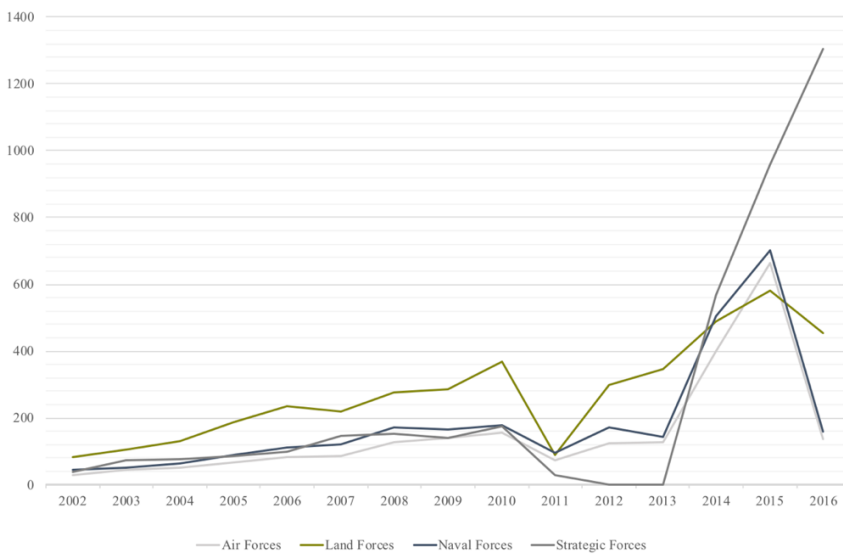


FIGURE 12. Disbursement of Russian Military Expenditures, Million Rubles. *Source:* UN.org.

TABLE 4. Modernisation Goals, The State Armaments Programme 2011-2020. *Source:* Connelly and Sendstad (2016).

Type of Weapon System	2013	2015	2020
Submarines	47	51	71
Surface Ships	41	44	71
Aircrafts	39	37	71
Helicopters	39	63	85
Ground Missile Systems	27	54	100
Artillery	51	53	79
Armored Vehicles	20	37	82
Multi-Role Vehicles	40	48	72

TABLE 5. The Northern Fleet's Force Composition, 1998-2018. *Source:* IISS 1998-2018.

Order of Battle, the Northern Fleet	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
	GPV-2005					GPV-2010					GPV-2015				GPV-2020							
	Post-Cold War Consolidation Phase					Modernisation Phase																
<i>Submarines</i>	57	39	37	34	32	32	41	43	41	41	42	42	42	40	40	40	41	33	34	32	30	
Strategic Submarines	18	15	14	12	10	10	11	11	11	11	11	12	12	9	9	9 (+1)	10	9	9	7 (+1)	6 (+2)	
SSBNs	18	15	14	12	10	10	11	7 (+4)	7 (+4)	7 (+4)	7 (+4)	8 (+4)	8 (+4)	9	9	9 (+1)	10	9	9	7 (+1)	6 (+2)	
Tactical Submarines	39	24	23	22	22	22	30	24	22	22	23	22	22	23	23	23	23	24	25	25	22	
SSGNs	10	4	4	4	4	4	3	3	16	16	3	3	4	3	3	3	3	4	4	3 (+1)	4	
SSNs	20	14	14	12	11	11	11	14			13	12	11	13	13	13	13	13	13	13	9 (+3)	8 (+4)
SSKs	9	3	2	2	2	2	6	7	6	6	7	7	7	7	7	7	7	7	8	5 (+1)	5 (+1)	
AGS/SSAN	-	3	3	4	5	5	10	3 (+5)	3 (+5)	3 (+5)	3 (+5)	4 (+4)	4 (+4)	8	8	8	8	-	-	-	-	
<i>Principal Surface Combatants</i>	18	12	12	12	11	11	11	11	11	11	10	10	10	10	10	10	10	11	11	10	11	
Aircraft Carriers	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	(1)
Cruisers	8	3	3	3	3	3	3	3	3	3	1 (+1)	1 (+1)	1 (+1)	2	1 (+1)	1 (+1)	1 (+1)	1 (+2)	1 (+2)	2 (+1)	2 (+1)	
Destroyers	5	6	6	6	5	5	5	5	5	5	6	6 (+1)	6 (+1)	7	6 (+1)	6 (+1)	6 (+1)	7	7	6	6	
Frigates	4	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	(1)	
<i>Coastal Combatants</i>	63	63	52	52	52	52	52	52	52	52	31	27	27	28	29	29	28	25	24	28	26	
Corvettes and Patrol Crafts	30	30	26	26	26	26	26	26	26	26	14	12	12	12	12	12	12	9	8	10	10	
Mine Warfare and MCM	25	25	18	18	18	18	18	18	18	18	11	10	10	11	12	12	12	12	12	12	10	
Amphibious	8	8	8	8	8	8	8	8	8	8	6	5	5	5	5	5	4	4	4	6	6	

Notes: Numbers in parentheses indicate vessels in reserve or undergoing MROs or MLUs or are otherwise not in active service with the fleet

TABLE 6. Submarines in the State Armaments Programme 2007-2015.

Submarines	Fleets	Developed ^a	GPV-2015 Goal ^b	Planned (GOZ) ^c	Total (GOZ) ^d	NF ^e	NF ^f
<i>New Weapon Systems</i>			16	3	4 (2)	7	2 (2)
Strategic Submarines			6	3	(1)	3	(1)
Project 955/A Borey Borei Class SSBN	NOR/PAC	1997-	6	3	(1)	3	(1)
Tactical Submarines			10	n/a	4 (1)	4	2 (1)
Project 885/M Yasen Yasen Class SSGN	NOR/PAC	1993-	10	n/a	(1)	3	(1)
Project 20120 Sargan Sarov Class SSK	NOR	1989-2007	n/a	n/a	1	1	1
Project 677 Lada Lada Class SSK	BAL	1997-	n/a	n/a	1	0	1
Project 636.3 Varshavyanka Class SSK	BSF/PAC	2007-	n/a	n/a	2	0	0
<i>Modernisation, Renovation & Overhaul (MRO)</i>			n/a	n/a	16	7	11
Project 667BDRM Delfin Delta IV Class SSBN	NOR	1981-1990	n/a	n/a	4	4	4
Project 949A Antey Oscar II Class SSGN	NOR/PAC	1982-1996	n/a	n/a	1	0	0
Project 945A Kondor Sierra II Class SSN	NOR	1986-1992	n/a	n/a	1	1	1
Project 941U/M Schuka-B Akula Class SSK	NOR/PAC	1985-1999	n/a	n/a	1	n/a	1
Project 671RTM(K) Victor III Class SSN	NOR/PAC	1986-1992	n/a	n/a	1	1	1
Project 877 Kilo Class SSK	NOR/BSF/BAL	1980-1991	n/a	n/a	7	n/a	3
Project 20120 Sargan Sarov Class SSK	NOR	1989-2007	n/a	n/a	1	1	1

NOR: The Northern Fleet
PAC: The Pacific Fleet
BSF: The Black Sea Fleet
BAL: The Baltic Fleet
CAS: The Caspian Flotilla

Sources: Frolov (2011), Boltenkov (2011), Oxenstierna and Bergstrand (2011), Westerlund (2011), Jane's Navy International and RussianShips.info.
Notes: Number in parentheses denotes vessels launched, in sea trials or otherwise soon to be commissioned in the RFN, while numbers in brackets denotes additional OPK deliveries as per commissions after the GPV-2015's armament period until 2010.

^aDevelopment periods here denote years from the lead hull of the class was first laid down until the launch of the final vessel.
^bGoals and contracts of the GPV's first armament period until 2010.
^cOPK deliveries for the armament period as planned in the State Defence Orders (GOZ).
^dActual GOZ deliveries in the GPV-2015 armament period.
^eNumber of OPK deliveries intended for the Northern Fleet.
^fActual OPK deliveries for the Northern Fleet as per the commissions of vessels.

TABLE 7. Submarines in the State Armaments Programme 2011-2020.

Submarines	Fleets	Developed ^a	GPV-2020 ^b	Planned (GOZ) ^c	Total (GOZ) ^d	NF ^e	NF ^f
<i>New Weapon Systems</i>			28-33	20	8 (2)	6	2 (2)
Strategic Submarines			6-8	3	3 (1)	3	1 (1)
Project 955/A Borey Borei Class SSBN	NOR/PAC	1997-2014	6-8	3	3 (1)	3	1 (1)
Tactical Submarines			22-25	17	5 (1)	3	1 (1)
Project 885/M Yasen Yasen III Class SSGN	NOR/PAC	1993-	7-10	2	1 (1)	3	1 (1)
Project 677 Lada Lada Class SSK	BAL	1997-	5	2	0	0	0
Project 636.3 Varshavyanka Class SSK	BSF/PAC	2010-2014	10	3	4 [2]	0	0
Project 6361 Kilo Class SSK	-	2007-	10	10	7 [3]*	0	0
Project 971 Schuka-B Akula Class SSK	NOR/PAC	1993-2006	n/a	n/a	1**	0	0
<i>Modernisation, Renovation & Overhaul (MRO)</i>			3	n/a	12 [1](4)	2	8 (5)
Project 667BDRM Delfin Delta IV Class SSBN	NOR	1981-1990	1	n/a	2	2	2
Project 949A Antey Oscar II Class SSGN	NOR/PAC	1982-1996	2	n/a	3	n/a	2
Project 945/A Barrakuda/Kondor Sierra II Class SSN	NOR	1979-1986	n/a	n/a	1	n/a	1 (2)
Project 971U/M Schuka-B Akula Class SSK	NOR/PAC	1985-1999	n/a	n/a	4 (3)	n/a	1 (3)
Project 877 Kilo Class SSK	NOR/BSF/BAL	1980-1991	na	n/a	3 1	n/a	2
<i>Research & Development (R&D)</i>							
Project Husky SSGN	All Fleets						
Project Kalina SSK	NOR/PAC						

NOR: The Northern Fleet
PAC: The Pacific Fleet
BSF: The Black Sea Fleet
BAL: The Baltic Fleet
CAS: The Caspian Flotilla

Sources: Frolov (2011), Malmlöf and Roffey (2016), Cooper (2016), Connelly and Sendstad (2016), Jane's Navy International and RussianShips.info.
Notes: Number in parentheses denotes vessels launched, in sea trials or otherwise soon to be commissioned in the RFN, while numbers in brackets denotes additional OPK deliveries as per commissions after the GPV-2020's armament period until 2015.

^aDevelopment periods here denote years from the lead hull of the class was first laid down until the launch of the final vessel.
^bGoals and contracts of the GPV's first armament period until 2015.
^cOPK deliveries for the armament period as planned in the State Defence Orders (GOZ).
^dActual GOZ deliveries in the GPV-2020 armament period.
^eNumber of OPK deliveries intended for the Northern Fleet.
^fActual OPK deliveries for the Northern Fleet as per the commissions of vessels.
* Submarine class for export.
** Submarine for export.

TABLE 8. Principal Surface and Coastal Combatants in the State Armaments Programme 2007-2015.

<i>Principal Surface and Coastal Combatants</i>	<i>Fleets</i>	<i>Developed^a</i>	<i>GPV-2015 Goal^b</i>	<i>Planned (GOZ)^c</i>	<i>Total (GOZ)^d</i>	<i>NF^e</i>	<i>NF^f</i>
<i>New Weapon Systems</i>			43	n/a	35	2	2
<i>Frigates</i>			26	n/a	1	0	0
Project 11356 <i>Grigoryevich Class</i>	BAL/BSF	2010-	6	n/a	3*	0	0
Project 22350 <i>Gorshkov Class</i>	NOR/PAC	2006-	20	n/a	0	0	0
Project 11540 <i>Yastreb Neustrashimy Class</i>	BAL	1987-	n/a	n/a	1	0	0
<i>Corvettes and Guard Ships</i>			13	n/a	3	0	0
Project 21630 <i>Buyan Class</i>	CAS	2004-2012	n/a	n/a	1	0	0
Project 20380 <i>Stereguschiy Class</i>	BAL/PAC	2001-	12	n/a	1	0	0
Project 11661/1K/E/2 <i>Gepard Class</i>	CAS/BAL/BSF	1991-	1	n/a	1	0	0
<i>Amphibious Landing Craft</i>			4	n/a	15	1	1
Project 21820 <i>Diugon Class</i>	CAS/BAL/PAC	2006-	n/a	n/a	1	0	0
Project 1176 <i>Akula Ondatra Class</i>	All Fleets	1971-	n/a	n/a	4	1	1
Project 775/II/III <i>Ropucha I/II Class</i>	All Fleets	1974-1991	n/a	n/a	3	0	0
Project 11770 <i>Serna Class</i>	CAS/BAL/BSF/PAC	1993-2014	n/a	n/a	7	0	0
<i>Mistral Class</i>	NOR/PAC	n.d.	4	n/a	0	0	0
<i>Mine Warfare Vessels</i>			n/a	n/a	1	1	0
Project 02668 <i>Agat Natya Class</i> MSC	All Fleets	1990-2008	n/a	n/a	1	0	0
Project 12700 <i>Aleksandrit Class</i> MSC	NOR/BAL	2011-	n/a	n/a	0	0	0
<i>Support vessels</i>	n.d.	n.d.	n/a	n/a	11	n/a	n/a
<i>Cargo Vessels</i>	n.d.	n.d.	n/a	n/a	1	n/a	1
<i>Deep Diving Craft</i>	n.d.	n.d.	n/a	n/a	3	n/a	n/a
<i>Naval Missile Systems</i>	n.d.	n.d.	n/a	n/a	50	n/a	n/a
<i>Modernisation, Renovation & Overhaul (MRO)</i>			3	n/a	14	3	3
Project 11435 <i>Kuznetsov Class</i> CV	NOR	1982-1988	1	n/a	1	1	1
Project 11442 <i>Kirov Class</i> CGN	NOR	1974-1989	2	n/a	2	2	2
Project 1164 <i>Atlant Slava Class</i> CG	NOR/PAC/BAL	1976-1990	n/a	n/a	1	0	0
Project 956E/EM <i>Sovremennyi Class</i>	NOR/PAC/BAL	1988-2002	n/a	n/a	2	0	0
Project 1265/1265E <i>Yakhont Sonya Class</i> MCM	All Fleets	1971-1991	n/a	n/a	3	n/a	n/a
Project 266M <i>Akvamarin-M Natya Class</i> MCM	All Fleets	1970-1976	n/a	n/a	1	n/a	n/a
Deep Diving Craft	n/a	n/a	n/a	n/a	2	n/a	n/a
Support Vessels	n/a	n/a	n/a	n/a	2	n/a	n/a
<i>Research & Development (R&D)</i>							
New AShMs							
New Corvette Class							
New Frigate Class							
Project 11770 <i>Serna Class</i>	CAS						
Project 23560E <i>Lider Class</i> CGN	NOR/PAC						
Project 23000E <i>Shtorm Class</i> CVN	NOR						

NOR: The Northern Fleet
PAC: The Pacific Fleet
BSF: The Black Sea Fleet
BAL: The Baltic Fleet
CAS: The Caspian Flotilla

Sources: Frolov (2011), Boltenkov (2011), Oxenstierna and Bergstrand (2011), Westerlund (2011), Jane's Navy International and RussianShips.info.
Notes: Number in parentheses denotes vessels launched, in sea trials or otherwise soon to be commissioned in the RFN, while numbers in brackets denotes additional OPK deliveries as per commissions after the GPV-2015's armament period until 2010.

^aDevelopment periods here denote years from the lead hull of the class was first laid down until the launch of the final vessel.

^bGoals and contracts of the GPV's first armament period until 2010.

^cOPK deliveries for the armament period as planned in the State Defence Orders (GOZ).

^dActual GOZ deliveries in the GPV-2015 armament period.

^eNumber of OPK deliveries intended for the Northern Fleet.

^fActual OPK deliveries for the Northern Fleet as per the commissions of vessels.

*Vessels for export.

TABLE 9. Principal Surface and Coastal Combatants in the State Armaments Programme 2011-2020.

Principal Surface and Coastal Combatants	Fleets	Developed ^a	GPV-2020 Goal ^b	Planned (GOZ) ^c	Total (GOZ) ^d	NF ^e	NF ^f
<i>New Weapon Systems</i>			56-206 [23-41]	23-25	22 [9]	20	[2]
<i>Frigates</i>			12-27	12	[4]	6	[1]
Project 11356 <i>Grigorovich Class</i>	BAL/BSF	2010-2017	6	6	[3]	0	0
Project 22350 <i>Gorshkov Class</i>	NOR/PAC	2006-	6-15	6	[1]	6	[1]
<i>Corvettes and Guard Ships</i>			24-76 [23-41]	8	13 [3]	12	0
Project 20380 <i>Stereguschiy Class</i>	BAL/PAC	2001-	12-20	2	3 [1]	0	0
Project 20386 <i>Gremyaschy Class</i>	BAL/PAC	2011-	2-22	n/a	0	2	0
Project 21630 <i>Buyan Class</i>	CAS	2004-2012	n/a	n/a	2	0	0
Project 21631 <i>Buyan-M Class</i>	CAS/BAL	2010-	8-10	5	5	0	0
Project 11661/1K/E/2 <i>Gepard Class</i>	CAS/BAL/BSF	1991-	n/a	1	3 [2]	0	0
Project 22800 <i>Karakut Class</i>	NOR/BSF	2015-	[7-18]	n/a	0	0	0
Project 20386 <i>Derzkiy Class</i>	NOR	2016-	[10]	n/a	0	10	0
Project 22160 <i>Bykov Class</i>	BSF	2014-	[6]	n/a	0	0	0
<i>Amphibious Landing Crafts</i>			6-12	2-4	9 [1]	1	[1]
Project 11711 <i>Ivan Gren Class</i>	NOR	2004-	2-6	n/a	[1]	1	[1]
Project 21820 <i>Diugon Class</i>	CAS/BAL/PAC	2006-	n/a	n/a	4	0	0
Project 11770 <i>Serna Class</i>	CAS/BAL/BSF/PAC	1993-2012	n/a	n/a	3	0	0
Project 12322 <i>Zubr Zubr Class</i>	BSF/BAL	1983-	n/a	n/a	2	0	0
<i>Mistral Class</i>	NOR/PAC	2013-2014	4	2-4	0	0	0
<i>Mine Warfare Vessels</i>			14	1	[1]	1	0
Project 12700 <i>Aleksandrit Class</i>	NOR/BAL	2011-	14	1	[1]	1	0
<i>Support vessels</i>	n/a	n.d.	n/a	n/a	165	n/a	n/a
Naval Attack Helicopters (Ka-226)	n/a	n.d.	180	n/a	76	n/a	n/a
Naval Airborne Warning & Control Helicopter (Ka-31)	n/a	n.d.	n/a	n/a	1	n/a	n/a
<i>Modernisation, Renovation & Overhaul (MRO)</i>			4	n/a	4	4	3
Project 11435 <i>Kuznetsov Class CV</i>	NOR	1982-1988	1	n/a	1	1	1
Project 1144/2 <i>Orlan Kirov Class CGN</i>	NOR	1974-1989	2	n/a	1	2	1
Project 1164 <i>Atlant Slava Class CG</i>	NOR/PAC/BAL	1976-1990	1	n/a	2	1	1
<i>Research & Development (R&D)</i>							
New ASHM							
New Corvette Class							
Project 23560E <i>Lider Class CGN</i>	NOR/PAC	2010-2017					
<i>Shtorm Class CVN</i>	NOR	2009-n/d					

NOR: The Northern Fleet
PAC: The Pacific Fleet
BSF: The Black Sea Fleet
BAL: The Baltic Fleet
CAS: The Caspian Flotilla

Sources: Frolov (2011), Malmlöf and Roffey (2016), Cooper (2016), Connelly and Sendstad (2016), Jane's Navy International and RussianShips.info.

Notes: Number in parentheses denotes vessels launched, in sea trials or otherwise soon to be commissioned in the RFN, while numbers in brackets denotes additional OPK deliveries as per commissions after the GPV-2020's armament period until 2010.

^aDevelopment periods here denote years from the lead hull of the class was first laid down until the launch of the final vessel.

^bGoals and contracts of the GPV's first armament period until 2015.

^cOPK deliveries for the armament period as planned in the State Defence Orders (GOZ).

^dActual GOZ deliveries in the GPV-2020 armament period.

^eNumber of OPK deliveries intended for the Northern Fleet.

^fActual OPK deliveries for the Northern Fleet as per the commissions of vessels.



FIGURE 13. Russian Military Infrastructure in the North. *Source:* Southfront.org

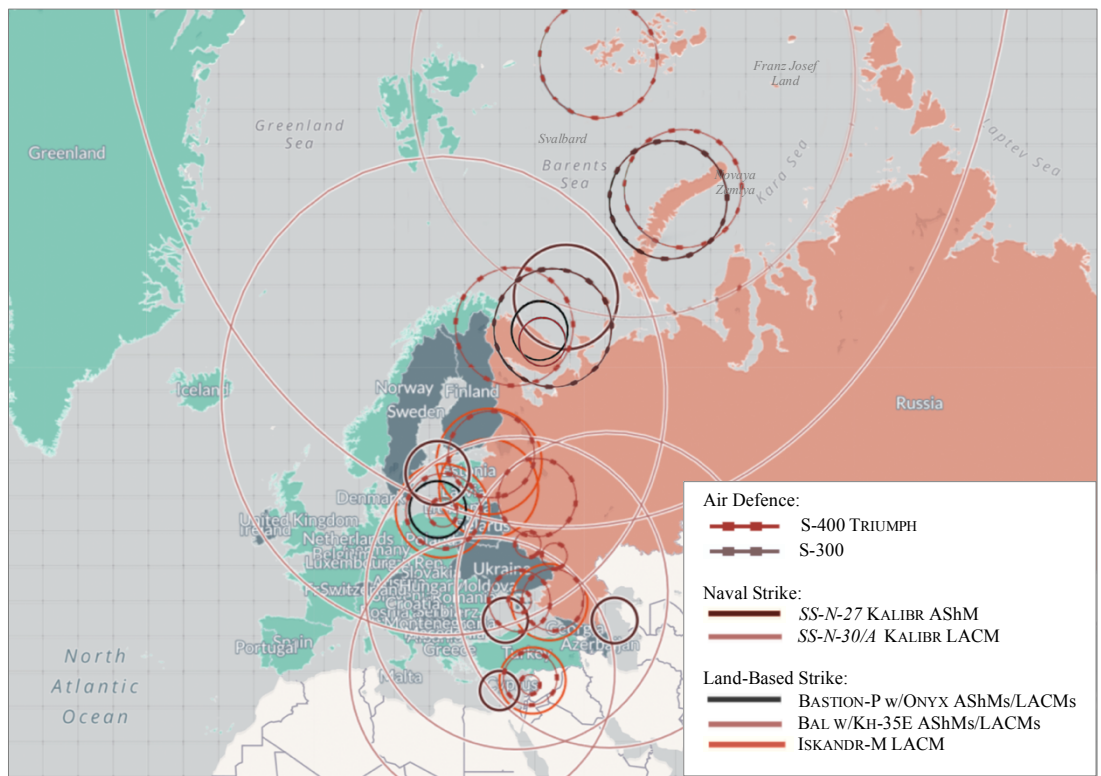


FIGURE 14. The Russian A2/AD Environment. *Source:* CSIS with modifications and additions by thesis author.

Bibliography

- Abramov, Admiral M. L. 2006. "Submarine Forces of the Russian Federation: Current Status and Prospects (Translated by World News Connection)." *Voennaya mysl*.
- Adamsky, Adam. 2015. *Cross-Domain Coercion: The Current Russian Art of Strategy*. Paris: IFRI Security Studies Center.
- Adamsky, Dmitry. 2015. "Cross-Domain Coercion: The Current Russian Art of Strategy." *Proliferation Papers*.
- Aldis, Anne C., and Roger N. McDermott. 2003. *Russian Military Reform, 1992-2002*. London: Frank Cass Publishers.
- Ambrosio, Thomas. 2009. *Authoritarian Backlash: Russian Resistance to Democratization in the Former Soviet Union*. Ashgate.
- Andersen, Morten, and Halvor Johansen. 2012. "Kommandostrukturen og det operasjonelle nivå." In *Innblikk i Fellesoperasjoner - synergi gjennom felles innsats*, by Eldar Berli, 30-40. Oslo: Forsvarets Stabsskole.
- Anderson, R. Reed, Patrick J. Ellis, Antonio M. Paz, Kyle A. Reed, Lendy "Alamo" Rodriguez, and John T. Vaughan. 2017. *Resurgent Russia: An Operational Approach to Deterrence*. New York: Skyhorse Publishing Inc.
- Arbatov, A., and V. Dvorkin. 2013. *Russia's Military Reform: Status and Prospects*. Moscow: Moscow Carnegie Centre.
- Asmus, Ronald. 2010. *A Little War That Shook the World: Georgia, Russia and the Future of the West*. New York: St. Martin's Press.
- Zdeněk, Kris. 2015. "Disaster or Success? Evaluation of Worst Case Scenario." In *Newcomers No More? Contemporary NATO and the Future of Enlargement from the Perspective of "Post-Cold War" Members*, by Robert Czulda and Marek Madej, 117-130. Brussels: NATO Diplomacy Division.
- Åtland, Kristian. 2016. "North European security after the Ukraine conflict." *Defense & Security Analysis* 32 (2): 163-176.
- Åtland, Kristian. 2007. "The Introduction, Adoption and Implementation of Russia's "Northern Strategic Bastion" Concept, 1992-1999." *Journal of Slavic Military Studies* 20 (4): 499-528.
- Åtland, Kristian, and Torbjørn Pedersen. 2008. "The Svalbard Archipelago in Russian Security Policy: Overcoming the Legacy of Fear - or Reproducing It?" *European Security* 17 (2-3): 227-251.
- 2007:15, NOU. 2007. "Et styrket forsvar." Defence Commission Report, Oslo. <https://www.regjeringen.no/no/dokumenter/nou-2007-15/id489383/>.
- Baev, Pavel K. 2012. *Russia's Arctic Policy and the Northern Fleet Modernization*. Paris: Institut Français des Relations Internationales.
- Baev, Pavel K. 2009. "Troublemaking and Risk-Taking: The North in Russian Military Activities." In *Russia and the North*, by Elana Wilson Rowe, 17-34. Ottawa: University of Ottawa Press.
- Ball, Nicole. 2010. "The Evolution of the Security Sector Reform Agenda." In *The Future of Security Sector Reform*, by Mark Sedra, 29-44. Waterloo: The Centre for International Governance Innovation.
- Baluyevsky, General Yuri. 2007. "Thaoretical and Methodological Foundations of the Military Doctrine of the Russian Federation." *Military Thought* (2).
- Barany, Zoltan. 2007. *Democratic Breakdown and the Decline of the Russian Military*. Princeton: Princeton University Press.
- Bateman, Sam. 2016. "Managing Maritime Affairs: The Contribution of Maritime Security Forces." In *International Order at Sea: How it is challenged. How it is maintained*, by Jo Inge Bekkevold and Geoffrey Till, 261-282. London: Palgrave Macmillan.

- Børresen, Jacob, and Hans Christian Helseth. 2011. *Norske interesser og Sjømakt*. FFI-rapport 2011/00759, Norwegian Defence Research Establishment (FFI).
- Børresen, Jacob. 2004. "Coastal Power: The Sea Power of the Coastal State and the Management of Maritime Resources." In *Navies in Northern Waters, 1721-2000*, by Rolf Hobson and Tom Kristiansen, 249-275. London: Frank Cass.
- Beadle, Alexander W. 2016. *Å forske på Forsvaret i fremtiden: Muligheter, begrensninger og kognitive fallgruver*. FFI-REPORT 16/01810, Kjeller: Norwegian Defence Research Establishment.
- Bekkevold, Jo Inge, Ian Bowers, and Michael Raska. 2015. "Introduction." In *Security, Strategy and Military Change in the 21st Century: Cross-Regional Perspectives*, by Jo Inge Bekkevold, Ian Bowers and Michael Raska. Routledge.
- Bennett, Andrew. 2010. "Process Tracing and Causal Inference." In *Rethinking Social Inquiry: Diverse Tools, Shared Standards*, by Henry E. Brady and David Collier, 207-220. Plymouth: Rowman & Littlefield Publishers Inc.
- Biddle, Stephen D. 1988. "The European Conventional Balance: A Reinterpretation of the Debate." *Survival* 30 (2): 99-121.
- Birkemo, Gunn Alice. 2013. *Is Norwegian long term defence planning risk based?* FFI-report 2012/00923, The Norwegian Defence Research Establishment.
- Birnbaum, Michael. 2017. "Russian submarines are prowling around vital undersea cables. It's making NATO nervous." *The Washington Post*. December 22. Accessed January 15, 2018. https://www.washingtonpost.com/world/europe/russian-submarines-are-prowling-around-vital-undersea-cables-its-making-nato-nervous/2017/12/22/d4c1f3da-e5d0-11e7-927a-e72eac1e73b6_story.html?noredirect=on&utm_term=.4a6631765b4d.
- Bjerga, Kjell Inge, and Torunn Laugen Haaland. 2012. "Doctrinal Innovation in a small state." In *Contemporary Military Innovation: Between anticipation and adaptation*, by Dmitry Adamsky and Kjell Inge Bjerga, 83-106. London & New York: Routledge.
- Blackham, Jeremy, and Gwyn Prins. 2010. "Why Things Don't Happen." *The RUSI Journal* 155: 14-22.
- Bland, Douglas L. 1999. "A unified theory of civil-military relations." *Armed Forces and Society* 26 (1): 7-26.
- Blank, Stephen. 2011. "Russia's Navy Muscles Up and Looks East." *The Jamestown Foundation*. 2 February. Accessed March 18, 2018. <https://jamestown.org/program/russias-navy-muscles-up-and-looks-east/>.
- . 2005. "Russia's Navy Pins Hopes on Bulava Nuclear Missile." *The Jamestown Foundation*. October 5. Accessed March 18, 2018. <https://jamestown.org/program/russias-navy-pins-hopes-on-bulava-nuclear-missile/>.
- Boltenkov, Dmitry. 2011. In *Russia's New Army*, by Dmitry Boltenkov, Aleksey Gayday, Anton Karnaukhov, Anton Lavrov and Vyacheslav Tseluiko, 81-102. Moscow: Center for Analysis of Strategies and Technologies.
- Booth, Ken. 1977. *Navies and Foreign Policy*. London: Holmes & Meier.
- Bosbotinis, James. 2010. *The Russian Federation Navy: An Assessment of its Strategic Setting, Doctrine and Prospects*. Defence Academy of the United Kingdom.
- Boston, Scott, Michael Johnson, Nathan Beauchamp-Mustafaga, and Yvonne K. Crane. 2018. *Assessing the Conventional Force Imbalance in Europe: Implications for Countering Russian Local Superiority*. Research Report, RAND Corporation.
- Brannon, Robert. 2016. *Russian Civil-Military Relations*. Routledge.
- Brink, H.I.L. 1993. "Validity and reliability in qualitative research." *Qualitative Sociology* 16 (2).
- Bruusgaard, Kristin Ven. 2016. "Russian Strategic Deterrence." *Survival*, 7-26.
- Bugajski, Janusz. 2010. *Georgian Lessons: Conflicting Russian and Western Interests in the Wider Europe*. Washington D.C.: Center for Strategic and International Studies.

- Bukkvoll, Tor. 2011. "Iron Cannot Fight - The Role of Technology in Current Russian Military Theory." *Journal of Strategic Studies* 34 (5): 681-706.
- Bukkvoll, Tor. 2013. *The Russian Defence Industry - status, reforms and prospects*. FFI-rapport 2013/00616, Norwegian Defence Research Establishment.
- Bukkvoll, Tor, Sigurd Glærum, Una Hakvåg, Cecilie Sendstad, and Kristian Åtland. 2017. *10 år med russisk forsvarsmodernisering*. Report, Kjeller: Norwegian Defence Research Establishment.
- Burilkov, Alexandr, and Torstein Geise. 2013. "Maritime Strategies of Rising Powers: Developments in China and Russia." *Third World Quarterly* 34 (5): 1037-1053.
- Button, Robert W., Irv Blickstein, Laurence Smallman, David Newton, Michele A. Poole, and Michael Nixon. 2008. *Small Ships in Theater Security Cooperation*. Arlington: RAND Corporation.
- Caforio, Giuseppe. 2007. "Introduction: the interdisciplinary and cross-national character of social studies on the military - the need for such an approach." In *Social Sciences and the Military: An interdisciplinary overview*, by Giuseppe Caforio, 1-20. London & New York: Routledge.
- Callaway, John. 2014. "The National Interest." *The Operational Art of Air-Sea Battle*. December 4. Accessed November 5, 2017. <http://nationalinterest.org/blog/the-buzz/the-operational-art-air-sea-battle-11810>.
- Carlsnaes, Walter. 1992. "The Agency-Structure Problem in Foreign Policy Analysis." *International Studies Quarterly*, 245-270.
- Carlsson, Marta. 2012. *The Structure of Power - an Insight into the Russian Ministry of Defence*. FOI-R--3571--SE, Swedish Defence Research Agency.
- Cavas, Christopher P. 2015. "Is Caspian Sea Fleet a Game-Changer?" *DefenseNews.com*. October 11. Accessed November 18, 2018.
- Charap, Samuel. 2015. "The Ghost of Hybrid War." *Survival* 57 (6): 51-58.
- Chernyavskii, Sergei. 2005. "The Era of Gorshkov: Triumph and Contradictions." *Journal of Strategic Studies* 28 (2): 281-308.
- Cigar, Norman. 2009. "The Soviet/Russian Sea Power, Land Power Debate in the Era of Perestroika." *The Journal of Slavic Military Studies* 22 (4): 459-484.
- Cimbala, Stephen J. 2012. "Conclusion." In *Civil-Military Relations in Perspective: Strategy, Structure and Policy*, by Stephen J. Cimbala, 193-212. Surrey: Ashgate.
- Cimbala, Stephen J. 2017. "Putin and Russia in retro and forward: the nuclear dimension." *Defense & Security Analysis* 33 (1): 57-67.
- . 2001. *Russia and Armed Persuasion*. Oxford: Rowman & Littlefield.
- Cimbala, Stephen J., and Roger N. McDermott. 2016. "Putin and the Nuclear Dimension to Russian Strategy." *The Journal of Slavic Military Studies* 29 (4): 535-553.
- Cobb, Robert. 2017. "The US Origins of the Russian Navy's Surface Warfare Strategy." *The Diplomat*. March 29. Accessed June 17, 2017. <https://thediplomat.com/2017/05/the-us-origins-of-the-russian-navys-surface-warfare-strategy/>.
- Cohen, Ariel, and Robert E. Hamilton. 2011. *The Russian Military and the Goergian War: Lessons and Implications*. Carlisle: Strategic Studies Institute.
- Cohen, Eliot A. . 2004. "Change and Transformation in Military Affairs." *The Journal of Strategic Studies* 27 (3): 395-407.
- Cole, Bernard. 2013. *Asian Maritime Strategies: Navigating Troubled Waters*. Annapolis: Naval Institute Press.
- Collier, David. 1993. "The Comparative Method." In *Political Science: The State of the Discipline II*, by Ada W. Finifter, 105-119. Washington D.C.: American Political Science Association.
- Collier, David, and James Mahoney. 1996. "Insights and Pitfalls: Selection Bias in Qualitative Work." *World Politics* 49 (1).

- Collier, David, Henry E. Brady, and Jason Seawright. 2010a. "Introduction to the Second Edition: A Sea Change in Political Methodology." In *Rethinking Social Inquiry: Diverse Tools, Shared Standards*, by Henry E. Brady and David Collier, 1-10. Plymouth: Rowman & Littlefield Publishers.
- Collier, David, Henry E. Brady, and Jason Seawright. 2010b. "Introduction to Part II." In *Rethinking Social Inquiry: Diverse Tools, Shared Standards*, by Henry E. Brady and David Collier, 201-204. Plymouth: Rowman & Littlefield.
- Conley, Heather A., Jeffrey Rathke, and Matthew Melino. 2018. *Enhanced Deterrence in the North. A 21st Century European Engagement Strategy*. A Report of the CSIS Europe Program, Washington: Center for Strategic and International Studies.
- Connelly, Richard. 2016. *Economic and Technological Constraints on Russia's Naval Ambitions*. FOI Memo 5851, Stockholm: Swedish Defence Research Agency, FOI.
- Connolly, Richard, and Cecilie Sendstad. 2016. "Russian Rearmament: An Assessment of Defense-Industrial Performance." *Problems of Post-Communism* 1-18.
- Conrad, Matthias. 2011. *NATO-Russia Relations Under Putin*. Wien: Lit Verlag.
- Cooper, Julian. 2016. *Russia's state armement programme to 2020: a quantitative assessment of implementation 2011-2015*.
- Cooper, Julian. 2016. "The 'Security Economy'." In *The Politics of Security in Modern Russia*, by Mark Galeotti. New York: Routledge.
- Cooper, Julian. 2010. "The 'Security Economy'." In *The Politics of Security in Modern Russia*, by Mark Galeotti, 145-170. Surrey: Ashgate.
- Courtney, Joe. 2018. "Russia's resurgent Navy demands a coherent response, not wishful thinking." *DefenseNews.com*. February 20. Accessed March 18, 2018. <https://www.defensenews.com/smr/munich-security-forum/2018/02/20/russias-resurgent-navy-demands-a-coherent-response-not-wishful-thinking/>.
- Covington, Stephen R. 2016. *The Culture of Strategic Thought Behind Russia's Modern Approaches to Warfare*. Defense and Intelligence Projects paper, Cambridge: Harvard Kennedy School BBELFER Center for Science and International Affairs.
- Craanen, Claire. 2017. "Putting the North Atlantic Back on NATO's Agenda." *Carnegie Endowment for International Peace*. July 21. Accessed August 14, 2017. <http://carnegieeurope.eu/strategieurope/71591?lang=en>.
- Crefeld, Martin Van. 2015. *Air Power and Maneuver Warfare*. New York: Pickle Partners Publishing.
- Creswell, John W., and Cheryl N. Poth. 2013. *Qualitative Inquiry and Research Design*. Thousand Oaks: SAGE Publications.
- Daly, John C.K. 2008. "Russian Navy Deployments Apparently Intended to Annoy U.S." *The Jamestown Foundation*. 26 September. Accessed March 18, 2018. <https://jamestown.org/program/russias-navy-pins-hopes-on-bulava-nuclear-missile/>.
- Department of Foreign Affairs, The. 2011. "White Paper no. 7 (2011-2012) The High North. Visions and strategies." November 18. Accessed April 28, 2018. <https://www.regjeringen.no/en/dokumenter/meld.-st.-7-20112012/id663433/sec2>.
- DIA. 2017. *Russia Military Power. Building a Military to Support Great Power Aspirations*. Defence Intelligence Agency.
- Dibb, Paul. 2014. *The Geopolitical Implications of Russia's Invasion of Ukraine*. The Centre of Gravity Series paper no. 16, Strategic & Defence Studies Centre.
- Diesen, Sverre. 2018. "Forstår vi dagens norske forsvarsproblem?" *Norsk Militært Tidsskrift* 188 (1): 4-16.
- Dura, Maksymilian. 2017. *Electronic Warfare: Russian Response to NATO's Advantage?* May 5. Accessed March 23, 2018. <http://www.defence24.com/electronic-warfare-russian-response-to-the-natos-advantage-analysis>.

- Eide, Ole Kåre, Gro Anita Furrevik, and Christian Nørstebø. 2017. *Det vi har, er bra. Men vi trenger mer*. September 13. Accessed February 26, 2018. <https://forsvaretsforum.no/%C2%ABdet-vi-har-er-bra-men-vi-trenger-mer-av-det%C2%BB>.
- Emmott, Robin. 2017. "NATO agrees new military commands to protect Europe." *Reuters*. November 8. Accessed January 20, 2018. <https://www.reuters.com/article/us-nato-defence/nato-agrees-new-military-commands-to-protect-europe-idUSKBN1D82RK>.
- Ewence, Martin. 2016. "Co-operate to compete: NATO navies respond together to counter Russian resurgence." *Jane's Navy International*. July 20. Accessed March 18, 2018. <http://janes.ihs.com/Janes/Display/jni77752-jni-2016>.
- Facon, Isabelle, and Jerome Legrand. 2017. *Russia's national security strategy and military doctrine and their implications for the EU*. Policy Department, Directorate-General for External Policies, The European Parliament, Belgium: European Union.
- Farrell, Theo. 2008. "The dynamics of British military transformation." *International affairs* 84 (4): 777-807.
- Farrell, Theo, and Terry Terriff. 2010. "Military Transformation in NATO: A Framework for Analysis." In *A Transformation Gap? American Innovations and European Military Change*, by Theo Farrell, Terry Terriff and Frans Osinga, 1-13. Stanford: Stanford University press.
- Farrell, Theo, and Terry Terriff. 2002. "The Sources of Military Change." In *The Sources of Military Change: Culture, Politics, Technology*, by Theo Farrell and Terry Terriff, 3-20. Boulder & London: Lynne Rienner Publishers.
- Feaver, Peter D. 2003. *Armed Servants: Agency, Oversight, and Civil-Military Relations*. Cambridge: Harvard University Press.
- Feaver, Peter D. 1996. "The Civil-Military Problematique: Huntington, Janowitz, and the Question of Civilian Control." *Armed Forces & Society* 23 (1): 149-178.
- Fedyszyn, Tom. 2017. "Russia: A Land Power Hungry for the Sea." *War on the Rocks*. April 19. Accessed March 18, 2018. <https://warontherocks.com/2017/04/russia-a-land-power-hungry-for-the-sea/>.
- Ferguson, Yale, and Rey Koslowski. 2000. "Culture, International Relations Theory, and Cold War History." In *Reviewing the Cold War: Approaches, Interpretations, Theory*, by Odd Arne Westad, 149-179. London: Frank Cass.
- Filinkov, Alexei, and Peter J. Dortmund. 2014. "An enterprise portfolio approach for defence capability planning." *Defense & Security Analysis* 30 (1): 76-82.
- Flint, Colin. 2017. *Introduction to Geopolitics*. New York: Routledge.
- Fontaine, Richard, and Julianne Smith. 2015. "Anti-Access/Area Denial Isn't Just for Asia Anymore." *Defense One*. April 2. Accessed March 25, 2017. <http://www.defenseone.com/ideas/2015/04/anti-accessarea-denial-isnt-just-asia-anymore/109108/>.
- Frühling, Stephan. 2014. *Defence Planning and Uncertainty: Preparing for the Next Asia-Pacific War*. New York: Routledge.
- Freedman, David A. 2010. "On Types of Scientific Inquiry: The Role of Qualitative Reasoning." In *Rethinking Social Inquiry: Diverse Tools, Shared Standards*, by Henry E. Brady and David Collier, 221-236. Plymouth: Rowman & Littlefield.
- Freedman, Lawrence. 2014. "Stop Looking for the Center of Gravity." *War on the Rocks*. June 24. Accessed March 2018. <https://warontherocks.com/2014/06/stop-looking-for-the-center-of-gravity/>.
- Fridheim, H., G.A. Birkemo, and F. Rutledal. 2015. "Bridging the gap between long-term planning and short-term requirements: A risk-based perspective." In *Safety and Reliability of Complex Engineered Systems*, by Luca Podofillini, Bruno Sudret, Bozidar Stojadinovic, Enrico Zio and Wolfgang Kroger, 127-135. CRC Press.

- Friedman, George. 2017. "Russia's Strategy: Built on Illusion." *Geopolitical Futures*. July 19. Accessed March 16, 2018. <https://geopoliticalfutures.com/russias-strategy-built-illusion/>.
- Frolov, Andrey. 2011. "Russian Military Spending in 2011-2020." *Moscow Defense Brief* 12-16.
- Fuller, William C. 1992. *Strategy and Power in Russia 1600-1914*. New York: Free Press.
- Gady, Franz-Stefan. 2018. *Russia Launches Its Most Advanced Ballistic Missile Sub*. April 20. Accessed May 18, 2018. <https://thediplomat.com/2017/11/russia-launches-its-most-advanced-ballistic-missile-sub/>.
- . 2017. "Russia Launches New Nuclear-Powered Killer Sub." *The Diplomat*. April 4. Accessed June 16, 2017. <https://thediplomat.com/2017/04/russia-launches-new-nuclear-powered-carrier-killer-sub/>.
- . 2015. *Russia to Upgrade 10 Nuclear Submarines by 2020*. March 24. Accessed March 18, 2018. <https://thediplomat.com/2015/03/russia-to-upgrade-10-nuclear-submarines-by-2020/>.
- Galeotti, Mark. 2016. "Hybrid, ambiguous, and non-linear? How new is Russia's 'new way of war'?" *Small Wars & Insurgencies* 27 (2): 282-301.
- Galeotti, Mark. 2013. "Introduction." In *The Politics of Security in Modern Russia*, by Mark Galeotti, 1-6. New York: Routledge.
- Gayday, Aleksey. 2011. "Reform of the Russian Army." In *Russia's New Army*, by Mikhail Barbanov, 9-32. Moscow: Centre or Analysis of Strategies and Technologies.
- George, Alexander L., and Andrew Bennett. 2004. *Case Studies and Theory Development in the Social Sciences*. Cambridge: MIT Press.
- Gerring, John. 2012. *Social Science Methodology: A Unified Framework*. Cambridge: Cambridge University Press.
- Giles, Keir. 2015. "A New Phase in Russian Military Transformation." In *The Transformation of Russia's Armed Forces: Twenty Lost Years*, by Roger N. McDermott, 194-209. London: Routledge.
- Giles, Keir. 2017. *Assessing Russia's Reorganised and Rearmed Military*. Task Force White Paper, Carnegie Endowment for International Peace.
- Giles, Keir. 2012. *Who Gives the Orders in the New Russian Military?* NATO Defense College.
- Gjelsten, Roald. 2017. "Glemte Stortinget at Norge er en maritim nasjon?" *Norsk Tidsskrift for Sjøvesen* 6-7.
- Gjelsten, Roald. 2011. *Marinens beredskap 1960-90. Kampklar i Nordflåtens skygge*. Oslo Files on Defence and Security, Oslo: Norwegian Institute for Defence Studies (IFS).
- Golts, Aleksandr. 2017a. "Russia Moving Toward Missile Frigate-Centric Navy?" *The Jamestown Foundation*. May 4. Accessed March 18, 2018. <https://jamestown.org/program/russia-moving-toward-missile-frigate-centric-navy/>.
- Golts, Alexander. 2017b. "The Russian Navy: To deter the US and to Compete With China." *The Jamestown Foundation*. August 1. Accessed March 18, 2018. <https://jamestown.org/program/the-russian-navy-to-deter-the-us-and-to-compete-with-china/>.
- Gorbunov, V.N., and S.A. Bogdanov. 2009. "Armed Confrontation in the 21st Century." *Voennaja mysl'* 1.
- Gorenburg, D., H. Gaffney, and K. Gause. 2008. *The Current State of the Russian Navy*. Alexandria: Center for Naval Analyses.
- Gorenburg, Dmitry. 2015. *Russian Naval Shipbuilding. Is It Possible to Fulfill the Kremlin's Grand Expectations?* PONARS Eurasia Memo No. 395, PONARS Eurasia.
- . 2012. "Vostok-2010: Another step forward for the Russian military." *Russian Military Reform*. December 20. Accessed March 18, 2018. <https://russiamil.wordpress.com/tag/strategic-operational-commands/>.
- Goure, Daniel. 2011. "Caught Between Scylla and Charybdis: The Relationship Between Conventional and Nuclear Capabilities in Russian Military Thought." In *Russian Nuclear*

- Weapons: Past, Present, and Future*, by Stephen J. Blank, 261-292. Carlisle: Strategic Studies Institute, U.S. Army War College.
- Grady, John. 2018. *Russian Operations, Exercises Have Better Integrated Electronic Warfare*. January 30. Accessed March 23, 2018. <https://news.usni.org/2018/01/30/russian-operations-exercises-have-integrated-electronic-warfare>.
- Gramer, Robbie. 2017. *Here's What Russia's Military Build-Up in the Arctic Looks like*. January 25. Accessed March 2, 2018. <http://foreignpolicy.com/2017/01/25/heres-what-russias-military-build-up-in-the-arctic-looks-like-trump-oil-military-high-north-infographic-map/>.
- Grau, Lester W., and Charles K. Bartles. 2017. *The Russian Way of War*. Foreign Military Studies Office (FMSO).
- Gray, Colin S. 2014. *Geopolitics, Geography and Strategy*. New York: Routledge.
- Gray, Colin S. 2016. "Strategy and Defence Planning." In *Strategy in the Contemporary World: An Introduction to Strategic Studies*, by John Baylis, James J. Wirtz and Colin S. Gray, 157-174. Oxford: Oxford University Press.
- Gray, Colin S. 2010a. "War - Continuity in Change, and Change in Continuity." *Parameters* 40: 5-13.
- Gray, Colin S., and Geoffrey Sloan. 2013. *Geopolitics, Geography and Strategy*. New York: Routledge.
- Grønmo, Sigmund. 2008. *Samfunnsvitenskapelige metoder*. Oslo: Fagbokforlaget.
- Grätz, Jonas. 2014. "Russia's Military Reform: Progress and Hurdles." CSS Analyses in Security Policy, Center for Security Studies .
- Gritsenko, Daria. 2013. "The Russian Dimension of Baltic Maritime Governance." *Journal of Baltic Studies* 44 (3): 425-449.
- Grove, Eric. 1990. *The Future of Sea Power*. Annapolis: Naval Institute Press.
- Grygiel, Jakub. 2013. "Geography and seapower." In *Twenty-First Century Seapower: Cooperation and conflict at sea* , by Peter Dutton, Robert S. Ross and Øystein Tunsjø, 18-41. New York: Routledge.
- Grytting, Trond. 2018. "Air Sea Battle på norsk." *Norsk Tidsskrift for Sjøvesen* 133 (1): 20.
- Gvosdev, Nicholas K. 2017. "America Must Rethink Its Assumptions about Russia." *The National Interest*. January 17. Accessed March 18, 2018.
- Haines, Steven. 2016. "The Influence of Law on Maritime Strategy." In *Maritime Strategy and Global Order: Markets, Resources, Security*, by Daniel Moran and James A. Russell, 239-260. Georgetown University press.
- Haaland, Torunn Laugen. 2004. "Tordenskjolds soldater? Bruk av norske spesialstyrker i internasjonale operasjoner." In *Bruk av norske styrker i kampen mot internasjonal terrorisme*, by Torunn Laugen Haaland and Erik Guldhav, 17-28. Institute for Defence Studies.
- Hammick, Denise. 2006. "Northern shield: Norway's frigate force takes shape." *Jane's Navy International*. October 19. Accessed March 18, 2018. <https://janes.ihs.com/Janes/Display/jni70488-jni-2006>.
- Hamre, John J., and Heather A. Conley. 2016. "III. The Centrality of the North Atlantic to NATO and US Strategic Interests." *Whitehall Papers* 87 (1): 43-58.
- Harding, Richard. 2015. *Modern Naval History: Debates and Prospects*. Bloomsbury Academic.
- Haas, Marcel de. 2011a. "Russia's Military Doctrine Development (2000-10)." In *Russian Military Politics and Russia's 2010 Defense Doctrine*, by Stephen J. Blank, 1-62. Carlisle: US Army War College.
- Haas, Marcel de. 2011b. "Russia's Military Reforms: Victory after Twenty Years of Failure?" Clingendael Paper No. 5, Netherlands Institute of International Relations.
- Hattendorf, John B. 2013. *What is a Maritime Strategy?* Canberra: Sea Power Centre.

- Hayakawa, Hiroaki. 2000. "Bounded rationality, social and cultural norms, and interdependence via reference groups." *Journal of Economic Behavior and Organisations* 43: 1-34.
- Hay, Colin. 2011. "Political Ontology." In *The Oxford Handbook of Political Science*, by Robert E. Goodin, 461-478. New York: Oxford University Press.
- Høiback, Harald. 2013. *Understanding Military Doctrine: A Multidisciplinary Approach*. London: Routledge.
- Håkenstad, Magnus, and Kristian Knus Larsen. 2012. "Long-term defence planning. A comparative study of seven countries." *Oslo Files on Defence and Security*, October.
- Hedenskog, Jakob, Jan T. Knoph, Robert L. Larsson, Ingmar Oldberg, Roger Roffey, Maria Tisell, and Fredrik Westerlund. 2008. *Russian Military Capability in a Ten-Year Perspective*. FOIR—2759. Stockholm: Swedish Defence Research Agency.
- Heier, Tormod, and Anders Kjølberg. 2015. *Norge og Russland: Sikkerhetspolitiske utfordringer i Nordområdene*. Oslo: Universitetsforlaget.
- Herspring, Dale R. 2013. *Civil-Military Relations and Shared Responsibility: A Four-Nation Study*. Baltimore: The Johns Hopkins University Press.
- Herspring, Dale R. 2016. "Searching for a More Viable Form of Civil-Military Relations." In *Civil-Military Relations in Perspective: Strategy, Structure and Policy*, by Stephen J. Cimbala, 31-52. New York: Routledge.
- Herspring, Dale R. 2005. "Vladimir Putin and Military Reform in Russia." *European Security* 14 (1): 137-155.
- Hilde, Paal Sigurd. 2014. "Nordic-Baltic security and defence cooperation: the Norwegian perspective." In *Northern Security and Global Politics*, by Ann-Sofie Dahl and Pauli Järvenpää, 93-107. New York: Routledge.
- Hill, Christopher. 2016. *Foreign Policy in the Twenty-First Century*. London: Palgrave Macmillan.
- Holme, Nils. 2013. *Forsvarspolitikken ved et veiskille*. Oslo: Civita.
- Holsti, Ole R. 2006. *Making American Foreign Policy*. New York: Routledge.
- Horrell, Steven, Magnus Nordenman, and Walter B. Slocombe. 2016. *Updating NATO's Maritime Strategy*. Issue Brief, Atlantic Council.
- Huckabey, Jessica. 2014. "The Paradox of Admiral Gorshkov." *Center for International Maritime Security*. October 1. Accessed February 13, 2018. <http://cimsec.org/paradox-admiral-gorshkov/13197>.
- Hudson, George E. 2012. "Russian Perspectives on Tactical Nuclear Weapons." In *Tactical Nuclear Weapons and NATO*, by Tom Nichols, Douglas Stuart and Jeffrey D. McCausland, 109-115. U.S. Army War College.
- Huntington, Samuel. 1957. *The Soldier and the State: The Theory and Politics of Civil-Military Relations*. Cambridge: Harvard University Press.
- Iddon, Paul. 2018. "Russia's Military Is Proving Just How Dangerous It Really Is." *The National Interest*. January 1. Accessed March 18, 2018. <http://nationalinterest.org/blog/the-buzz/russias-military-proving-just-how-dangerous-it-really-23884>.
- IISS. 1998-2017. *The Military Balance*. The International Institute for Strategic Studies.
- Jackson, Robert, and Georg Sørensen. 2007. *Introduction to International Relations. Theories and approaches*. Oxford: Oxford University Press.
- Jacobs, Andreas, and Guillaume Lasconjarias. 2015. *NATO's Hybrid Flanks. Handling Unconventional Warfare in the South and the East*. Research Paper, Rome: NATO Defense College.
- Jones, Bruce. 2017. "Russia's Northern Fleet first to receive newest EW systems." *Jane's Navy International*. April 19. Accessed March 23, 2018. <http://www.janes.com/article/69631/russia-s-northern-fleet-first-to-receive-newest-ew-systems>.

- Jonsson, Oscar, and Robert Seely. 2015. "Russian Full-Spectrum Conflict: An Appraisal After Ukraine." *The Journal of Slavic Military Studies* 28 (1): 1-22.
- Jordan, David, James D. Kiras, David J. Lonsdale, Ian Speller, Christopher Tuck, and C. Dale Walton. 2016. *Understanding Modern Warfare*. Cambridge: Cambridge University Press.
- Kamp, Karl-Heinz. 2015. *Nuclear Implications of the Russian-Ukrainian Conflict*. NDC Research Report, NATO Defense College.
- Kühn, Ulrich. 2018. *Preventing Escalation in the Baltics: A NATO Playbook*. Washington D.C.: Carnegie Endowment for International Peace.
- Keyser-Amundsen, Christian. 2015. *Marinens rolle i et fremtidig konfliktscenario ved Svalbard*. Master thesis, Oslo: The Norwegian Defence University College.
- Khramchikhin, Aleksandr. 2018. "Rethinking the Danger of Escalation: The Russia-NATO Military Balance." *Carnegie Endowment for International Peace*. January 25. Accessed February 14, 2018. <http://carnegieendowment.org/2018/01/25/rethinking-danger-of-escalation-russia-nato-military-balance-pub-75346>.
- King, Gary, Robert O. Keohane, and Sidney Verba. 1994. *Designing social inquiry: scientific inference in qualitative research*. Princeton: Princeton University Press.
- Kipp, Jacob W. . 2010. "Russian Navy and Defense Industry: Anxious August and Sober September." *The Jamestown Foundation*. September 20. Accessed March 18, 2018. <https://jamestown.org/program/russian-navy-and-defense-industry-anxious-august-and-sober-september/>.
- Kipp, Jacob W. 2016. "'Smart' Defense From New Threats: Future War From a Russian Perspective." In *The Transformation of Russia's Armed Forces: Twenty Lost Years*, by Roger N. McDermott, 83-109. New York: Routledge.
- . 2009b. "The Russian Navy Recalibrates its Oceanic Ambitions." *The Jamestown Foundation*. October 30. Accessed March 18, 2018. <https://jamestown.org/program/the-russian-navy-recalibrates-its-oceanic-ambitions/>.
- . 2009a. "The Shifting Strategic Priorities of the Russian Navy." *The Jamestown Foundation*. October 23. Accessed March 18, 2018. (Kipp 2010).
- Kjølbørg, Anders. 2007. *Livet i hegemonens skygge - en småstats sikkerhetslogikk*. FFI Report, Kjeller: Norwegian Defence Research Establishment.
- Konyshev, Valery, Alexander Sergunin, and Sergei Subbotin. 2017. "Russia's Arctic strategies in the context of the Ukrainian crisis." *The Polar Journal* 1-21.
- Konyshev, Valery, and Alexander Sergunin. 2014. "Is Russia a revisionist military power in the Arctic?" *Defense & Security Analysis* 30 (4): 323-335.
- Korsvold, Thorstein. 2018. "Mener Evenes er det beste alternativet." *AldriMer.no*. January 15. Accessed March 18, 2018. <https://www.aldrimer.no/mener-evenes-er-det-beste-alternativet/>.
- . 2017. "Nye skip til Nordflåten." *AldriMer.no*. November 29. Accessed March 18, 2018. <https://www.aldrimer.no/nye-skip-til-nordflaten/>.
- Krause, Joachim, and Sebastian Bruns. 2016. "Introduction. The changing face of twenty-first century naval strategy and maritime security." In *Routledge Handbook of Naval Strategy and Security*, by Joachim Krause and Sebastian Bruns, 3-10. New York: Routledge.
- Kristiansen, Tom, and J.A. Olsen. 2007. *War Studies: Perspectives from the Baltic and Nordic War Colleges*. Oslo: Institute for Defence Studies.
- Kroenig, Matthew. 2018. "The Case for Tactical U.S. Nukes." *The Wall Street Journal*. January 24. Accessed February 17, 2018. <https://www.wsj.com/articles/the-case-for-tactical-u-s-nukes-1516836395>.
- Kryshchanovskaya, Olga, and Stephen White. 2003. "Putin's Militocracy." *Post-Soviet Affairs* 19 (4): 289-306.
- Landman, Todd. 2004. *Issues and methods in comparative politics*. London: Routledge.
- Lange, Matthew. 2013. *Comparative-Historical Methods*. London: SAGE Publications.

- . 2013. *Comparative-Historical Methods*. California: Sage Publications.
- Lanoszka, Alexander, and Michael A. Hunzeker. 2016. "Confronting the Anti-Access/Area-Denial and Precision Strike Challenges in the Baltic Region." *The RUSI Journal* 161 (5): 12-18.
- Larrinaga, Nicholas de. 2013. "Norway completes Skjold-class programme." *Jane's Navy international*. May 2. Accessed March 25, 2018. <https://janes.ihs.com/Janes/Display/jdw52054-jni-2013>.
- . 2016. "Russian submarine activity topping Cold War levels." *Jane's Navy International*. February 2. Accessed March 18, 2018. <http://janes.ihs.com/Janes/Display/jdw60904-jni-2016>.
- Laurelle, Marlene. 2015. *Russia's Arctic Strategies and the Future of the Far North*. New York: Routledge.
- Lewis, Kevin. 1994. "The Discipline Gap and Other Reasons for Humility and Realism in Defense Planning." In *New Challenges for Defense Planning*, by Paul K. Davis, 101-132. Santa Monica: RAND Corporation.
- Lijphart, Arend. 1971. "Comparative Politics and Comparative Method." *American Political Science Review* 65: 682-693.
- Lijphart, Arend. 1975. "The Comparable-Case Strategy in Comparative Research." *Comparative Political Studies* 158-177.
- Lykke Jr., Arthur F. 1997. "Defining military strategy." *Military Review* 77 (1).
- Mahnken, Thomas, and Joseph A. Maiolo. 2008. *Strategic Studies: A Reader*. London & New York: Routledge.
- Mahoney, James, and Dietrich Rueschemeyer. 2009. *Comparative Historical Analysis in the Social Sciences*. New York: Cambridge University Press.
- Mahoney, James, and Dietrich Rueschemeyer. 2003. *Comparative Historical Analysis in the Social Sciences*. Cambridge: Cambridge University press.
- Majumdar, Dave. 2018. "The Russian Navy's Master Plan to 'Sink' the U.S. Navy Is Now Clear." *The National Interest*. January 3. Accessed March 18, 2018. <http://nationalinterest.org/blog/the-buzz/the-russian-navys-master-plan-sink-the-us-navy-now-clear-23913>.
- Malmlöf, Tomas, and Roger Roffey. 2016. *The Russian Defence Industry and Procurement*. Vols. FOI-R--4326--SE, in *Russian Military Capability in a Ten-Year Perspective - 2016*, by Gudrun Persson, 151-188. Swedish Defence Research Agency.
- Mansfield, E.D., and J. Snyder. 2002. "Incomplete Democratization and the Outbreak of Military Disputes." *International Studies Quarterly* 46 (4): 529-249.
- Maoz, Zeev. 1997. "Decisional Stress, Individual Choice, and Policy Outcomes: The Arab-Israeli Conflict." In *Decisionmaking on War and Peace: The Cognitive-Rational Debate*, by Nehamia Geva and Alex Mintz, 163-182. London: Lynne Rienner Publishers Inc.
- Martyanov, Andrei. 2017. "Russian Navy, Mission Found?" *U.S. Naval Institute*. June 1. Accessed March 18, 2018. <https://blog.usni.org/posts/2017/06/01/russian-navy-mission-found>.
- Mathers, Jennifer G. 2002. "Reform and the Russian Military." In *The Sources of Military Change: Culture, Politics, Technology*, by Theo Farrell and Terry Terriff, 161-185. London: Lynne Rienner Publishers.
- Mathers, Jennifer. 2002. *Reform and the Russian military*. Vol. 18, in *Sources of Military Change*, by Theo Farrell and Terry Terriff, 161-184. Boulder and London: Lyenn Rienner.
- McDermott, Roger N. 2005b. "Admiral Kuroyedov Plans Improvements to Russian Navy." *The Jamestown Foundation*. June 10. Accessed March 18, 2018. <https://jamestown.org/program/admiral-kuroyedov-plans-improvements-to-russian-navy/>.
- . 2008. "Another Disaster in the Russian Navy." *The Jamestown Foundation*. 11 November. Accessed March 18, 2018. <https://jamestown.org/program/another-disaster-in-the-russian-navy/>.

- . 2014. "Russia Activates New Defense Management Center." *The Jamestown Foundation*. November 4. Accessed March 18, 2018. <https://jamestown.org/program/russia-activates-new-defense-management-center/>.
- . 2004. "Russia Launches New Submarine, Boosting Navy's Image." *The Jamestown Foundation*. November 2. Accessed March 18, 2018. <https://jamestown.org/program/russia-launches-new-submarine-boosting-navys-image/>.
- . 2005a. "Russia's Air Defense Forces and Navy Boast Improvements." *The Jamestown Foundation*. April 14. Accessed March 18, 2018. <https://jamestown.org/program/russias-air-defense-forces-and-navy-boast-improvements/>.
- McDermott, Roger N. 2017. *Russia's Electronic Warfare Capabilities to 2025. Challenging NATO in the Electromagnetic Spectrum*. Report, Tallinn: International Centre for Defence and Security.
- . 2018. "Russia's Evolving Electronic Warfare Capability: Unlocking Asymmetric Potential." *The Jamestown Foundation*. April 17. Accessed April 18, 2018. <https://jamestown.org/program/russias-evolving-electronic-warfare-capability-unlocking-asymmetric-potential/>.
- McDermott, Roger N. 2015. *Russia's Strategic Mobility and Its Military Deployment in Syria*. RUFs Briefing No. 31, Stockholm: Swedish Defence Research Agency.
- McDermott, Roger N. 2013. *Russia's Strategic Mobility. Supporting 'Hard Power' to 2020?* FOI-R-3587--SE, Stockholm: Swedish Defence Research Agency.
- . 2011. *The Reform of Russia's Conventional Armed Forces: Problems, Challenges and Policy Implications*. Washington D.C.: The Jamestown Foundation.
- McDermott, Roger N., and Tor Bukkvoll. 2017. *Russia in the Precision-Strike Regime - military theory, procurement and operational impact*. 17/00979, Kjeller: Norwegian Defence Research Establishment.
- Melien, Tor Jørgen. 1998. "Manøverkrigføring som et sentralt prinsipp." In *Sjøkrig. Perspektiver på historie og samtid*, by Lars Chr. Jenssen, 91-99. Oslo: Institute for Defence Studies.
- Metrick, Andrew, and Kathleen H. Hicks. 2018. *Contested Seas: Maritime Domain Awareness in Northern Europe*. Washington D.C.: Center for Strategic and International Studies.
- Meyer, Eystein L. 2016. "Sjøstyrker." In *Militære fellesoperasjoner - en innføring*, by Morten Andersen and Geir Ødegaard, 181-196. Oslo: Abstrakt Forlag AS.
- Mière, Christian Le. 2014. New York: Routledge.
- Mikhaylichenko, Yuriy G., and Valentin P. Sinetsky. 2015. "The Marine Policy of the Russian Federation: Its Formation and Realization." In *Routledge Handbook of National and Regional Ocean Policies*, by Biliana Cicin-Sain, David L. VanderZwaag and Miriam C. Balgos, 162-185. New York: Routledge.
- Mintz, Alex, and Karl DeRouen Jr. 2010. *Understanding Foreign Policy Decision Making*. New York: Cambridge University Press.
- Moen, Tore Lasse. 2017. "Norge har ikke lenger et forsvar som kan beskytte kystsonen." *Norsk Tidsskrift for Sjøvesen* 12-17.
- Monaghan, Andrew. 2016. *The New Politics of Russia: Interpreting Change*. Oxford: Oxford University Press.
- Moran, John P. 2002. *From Garrison State to Nation-State: Political Power and the Russian Military Under Gorbachev and Yeltsin*. Westport: Praeger.
- Moses, Jonathon W., and Torbjørn L. Knutsen. 2017. *Ways of Knowing: Competing Methodologies in Social and Political Research*. New York: Palgrave Macmillan.
- Mujamdar, Dave. 2017. "The Real Reason Russia Wants New Missiles and Hypersonic Weapons." *The National Interest*. November 20. Accessed March 18, 2018. <https://nationalinterest.org/blog/the-buzz/the-real-reason-russia-wants-new-missiles-hypersonic-weapons-23284>.

- Munck, Gerardo L. 2004. "Tools for Qualitative Research." In *Rethinking Social Inquiry: Diverse Tools, Shared Standards*, by Henry E. Brady and David Collier, 105-122. Oxford: Rowman & Littlefield Publishers.
- NATO. 2016. "Warsaw Summit Communiqué." *The North Atlantic Treaty Organisation*. July 9. Accessed March 6, 2018. https://www.nato.int/cps/en/natohq/official_texts_133169.htm.
- Nevers, Renee de. 2015. "Sovereignty at Sea: States and Security in the Maritime Domain." *Security Studies* 24 (4): 597-630.
- Nilsen, Thomas. 2017. *Russian navy gets go-ahead for design of new nuclear powered destroyers*. August 28. Accessed March 23, 2018. <https://thebarentsobserver.com/en/security/2017/08/russian-navy-gets-go-ahead-design-new-nuclear-powered-destroyers>.
- Nilssen, Andrea Sofie. 2015. *Norges Russland-retorikk. Fra brobygging til fiendebilder*. Oslo: The Norwegian Defence College.
- NIS. 2018. *FOKUS 2018. Etterretningstjenestens vurdering av aktuelle sikkerhetsutfordringer*. The Norwegian Intelligence Service.
- Norberg, Johan, and Fredrik Westerlund. 2016. "Russia's Armed Forces in 2016." In *Russian Military Capability in a Ten-Year Perspective - 2016*, by Gudrun Persson, 23-66. Stockholm: Swedish Defence Research Agency.
- Nordanger, Narve. 2006. "Det moderne NATO." *Norsk Tidsskrift for Sjøvesen (Sjømilitære Samfund)* (5): 42-43.
- Nordenman, Magnus. 2017. "Back to the Gap." *The RUSI Journal* 162 (1): 24-30.
- Norheim-Martinsen, Per M. 2016. "New sources of military change - armed forces as normal organizations." *Defence Studies* 16 (3): 312-326.
- Norris, Guy. 2017. "Classified Report on Hypersonics Says U.S. lacking Urgency." *Aviation Week & Space Technology*. February 14. Accessed June 18, 2017. <http://aviationweek.com/defense/>.
- Novichkov, Nikolai. 2017. "Russia updates its maritime doctrine to reflect Syria experience." *Jane's Navy International*, August 1.
- Nye, Joseph S. 2011. *The Future of Power*. New York: Hachette UK.
- Oder, Tobias. 2018. "The Dimensions of Russian Sea Denial in the Baltic Sea." *Center for International Maritime Security*. January 4. Accessed March 1, 2018. <http://cimsec.org/dimensions-russian-sea-denial-baltic-sea/35157>.
- Odom, William E. 1988. *Soviet Military Doctrine*. Accessed 25 2018, April. <https://www.foreignaffairs.com/articles/russia-fsu/1988-12-01/soviet-military-doctrine>.
- Ogarkov, N. V. 1983. *Military Encyclopedic Dictionary*. Moscow: Military Publishing House.
- O'Halloran, James C. 2016. *IHS Jane's Weapons: Strategic 2015-2016*. IHS.
- Oliker, Olga. 2016. "Russia's Nuclear Doctrine." *Center for Strategic & International Studies*. May 5. Accessed November 10, 2017. <https://www.csis.org/analysis/russia%E2%80%99s-nuclear-doctrine>.
- Olsen, Alf Ragnar. 2018. "- Gir økt sårbarhet og fare for sabotasje." *Aldrimer.no*. March 28. Accessed April 9, 2018. <https://www.aldrimer.no/eksperter-sjokabel-detajler-pa-nett-gjor-oss-sarbare/>.
- . 2018. "- Kina og Russland kan ta kontroll i lufta." *AldriMer.no*. May 22. Accessed May 24, 2018. <https://www.aldrimer.no/kina-og-russland-kan-ta-kontroll-i-lufta/>.
- . 2018. "Missilsystemet som ble plassert ved grensen." *AldriMer.no*. March 7. Accessed March 18, 2018. <https://www.aldrimer.no/dette-er-missilsystemet-som-ble-plassert-ved-grensen/>.
- Olsen, John Andreas. 2017. "Introduction: The Quest for Maritime Supremacy." *Whitehall Papers* 87 (1): 3-7.
- ONI. 2015. *The Russian Navy: A Historic Transition*. Washington D.C.: The Office of Naval Intelligence.

- Oxenstierna, Susanne. 2016. "Russian Military Expenditures." In *Russian Military Capability in a Ten-Year Perspective, 2016*, by Gudrun Persson, 133-150. Stockholm: Norwegian Defence Research Agency.
- Oxenstierna, Susanne, and Bengt-Goran Bergstrand. 2011. "Defence Economics." In *Russian Military Capability in a Ten-Year Perspective - 2011*, by Carolina Vendil Pallin, 43-64. Stockholm: Swedish Defence Research Agency.
- Paev, Pavel. 2010. "Neither Reform Nor Modernisation: The Armed Forces Under and After Putin's Command." In *The Politics of Security in Modern Russia*, by Mark Galeotti, 69-88. Surrey: Ashgate.
- Pallin, Carolina Vendil. 2011. "Russian Military Capability in a Ten-Year Perspective." In *Russian Military Capability in a Ten-Year Perspective - 2011*, by Carolina Vendil Pallin, 15-22. Stockholm: Swedish Defence Research Agency.
- . 2008. *Russian Military Reform: A Failed Exercise in Defence Decision Making*. London: Routledge.
- Pape, Robert A. 1996. *Bombing to Win: Air Power and Coercion in War*. New York: Cornell University Press.
- Parson, Joe. 2016. "How Russia Will Struggle to Keep Its Shipbuilders Afloat." *Stratfor Worldview*. 20 January. Accessed March 18, 2018. <https://worldview.stratfor.com/article/how-russia-will-struggle-keep-its-shipbuilders-afloat>.
- Pedersen, Jørn Normann. 2016. "Her er russiske krigsskip utenfor kysten av Nord-Norge." *Nordlys*. October 17. Accessed July 18, 2017. <https://www.nordlys.no/syria/rusland/forsvaret/her-er-russiske-krigsskip-utenfor-kysten-av-nord-norge/s/5-34-500224>.
- Persen, Kjell, and Lene Østby. 2016. "Politiet slo alarm: Fremmed ubåt observert i norsk fjord." *Tv2.ndo*. May 12. Accessed February 28, 2018. <https://www.tv2.no/a/8301546/>.
- Persson, Gudrun. 2016. "Introduction." In *Russian Military Capability in a Ten-Year Perspective, 2016*, by Gudrun Persson, 17-22. Stockholm: Swedish Defence Research Agency.
- Persson, Gunilla. 2017. *The War of the Future: A Conceptual Framework and Practical Conclusions: Essays on Strategic Thoughts*. Russian Studies 03/17, Research Division, NATO Defense College.
- Pettersen, Trude. 2016. *Northern Fleet to get fifth generation non-nuclear submarines*. June 1. Accessed March 18, 2018. <https://thebarentsobserver.com/en/security/2016/06/northern-fleet-get-fifth-generation-non-nuclear-submarines>.
- Pezard, Stephanie, Abbie Tingstad, Kristin Van Abel, and Scott Stephenson. 2017. *Maintaining Arctic Cooperation with Russia. Planning for Regional Change in the Far North*. Research Report, Rand Corporation.
- Pierson, Paul. 2004. *Politics in Time. History, Institutions, and Social Analysis*. New Jersey: Princeton University Press.
- Pomerantsev, Peter. 2014. "How Putin Is Reinventing Warfare." *Foreign Policy*. May 4. Accessed March 2, 2018. <http://foreignpolicy.com/2014/05/05/how-putin-is-reinventing-warfare/>.
- Ponsard, Lionel. 2007. *Russia, NATO and Cooperative Security. Bridging the Gap*. New York: Routledge.
- Posen, Barry R. 2016. "Foreword: Military doctrine and the management of uncertainty." *Journal of Strategic Studies* 39 (2): 159-173.
- Pothier, Fabrice. 2017. "An Area-Access Strategy for NATO." *Survival* 59 (3): 73-80.
- Prezelj, Iztok, Erik Kopač, Aleš Žiberna, Anja Kolak, and Anton Grizold. 2016. "Quantitative monitoring of military transformation in the period 1992-2010: Do the protagonists of transformation really change more than other countries?" *Defence Studies* 16 (1): 20-48.
- Pugh, David C. 1984. "Guns in the Cupboard: The Home Guard, Milord and the Politics of Reconstruction 1945-46." *Forsvarsstudier III*, 88-155.

- Punch, Keith F. 2014. *Introduction to Social Research: Quantitative and Qualitative Approaches*. London: SAGE Publications.
- Purcell, Michael. 2016. "Introduction: The Need for a New Assessment." In *Russia's Military: Assessment, Strategy and Threat*, by Alexander Golts and Michael Kofman, 1-2. Washington D.C.: Center on Global Interests.
- Ragin, Charles C. 1987. *The Comparative Method: Moving Beyond Qualitative and Quantitative Strategies*. Oakland: University of California Press.
- Raska, Michael. 2016. *Military Innovation in Small States: Creating a Reverse Asymmetry*. London: Routledge.
- Ravnaas, Paal. 2017. "For få ubåter i Nato - Norge burde kjøpe seks ubåter." *Forsvarets Forum* (4): 42.
- Ravndal, Øyvind. 2016. *Øket russisk operativ evne - implikasjoner for Norges evne til å avverge eller motstå et væpnet angrep*. Master thesis, Oslo: The Norwegian Defence College.
- Røksund, Arne. 2004. "The Jeune École: The Strategy of the Weak." In *Navies in Northern Waters, 1721-2000*, by Rolf Hobson and Tom Kristiansen, 117-150. London: Frank Cass.
- Reddaway, Peter. 2018. *Russia's Domestic Security Wars*. Cham: Palgrave Pivot.
- Renz, Bettina. 2006. "Putin's militocracy? An alternative interpretation of Siloviki in contemporary Russian politics." *Europe-Asia Studies* 58 (6): 903-924.
- Renz, Bettina, and Rod Thornton. 2012. "Russian Military Modernization." *Problems of Post-Communism* 59: 44-54.
- Reppert, John. 2003. "Russia's Threat Perceptions." In *Russia's Policy Challenges: Security, Stability and Development*, by Stephen K. Wegren, 2-18. London: Routledge.
- Reppert, John. 2003. "Russia's Threat Perceptions." In *Russia's Policy Challenges: Security, Stability and Development*, by Stephen K. Wegren, 3-18. New York: Routledge.
- Repstad, Pål. 2007. *Mellom nærhet og distanse. Kvalitative metoder i samfunnsforskning*. Oslo: Universitetsforlaget.
- Rinelli, Sebastian, and Isabelle Duyvesteyn. 2018. "The Missing Link: Civil-Military Cooperation and Hybrid Wars." In *A Civil-Military Response to Hybrid Threats*, by Eugenio Cusumano and Marian Corbe, 16-40. Cham: Palgrave Macmillan.
- Ringsmose, Jens, and Sten Rynning. 2017. "Now for the Hard Part: NATO's Strategic Adaption to Russia." *Survival*.
- Rios-Figueroa, Julio. 2016. *Constitutional Courts as Mediators: Armed Conflict, Civil-Military Relations, and the Rule of Law in Latin America*. New York: Cambridge University Press.
- Rizzo, Rachel. 2017. "It's Time for NATO to Look North." *Defense One*. June 28. Accessed March 18, 2018. <https://www.defenseone.com/ideas/2017/06/its-time-nato-look-north/139045/>.
- Roffey, Roger. 2013. "Russian Science and Technology is Still Having Problems--Implications for Defense Research." *Journal of Slavic Military Studies* 26 (2): 162-188.
- Rogoway, Tyler. 2017. "Delivery of Russia's Refit Nuclear Battlecruiser Delayed But Progress Looks Impressive." *The Warzone*. October 31. Accessed March 18, 2018. <http://www.thedrive.com/the-war-zone/15608/delivery-of-russias-refit-nuclear-battlecruiser-delayed-but-progress-looks-impressive>.
- Rohlfing, Ingo. 2012. *Case Studies and Causal Inference: An Integrative Framework*. New York: Palgrave Macmillan.
- Roy, Rajorshi. 2017. *Decoding Russia's 2017 Naval Doctrine*. August 24. Accessed March 20, 2018. https://idsa.in/idsacomments/decoding-russia-2017-naval-doctrine_rroy_240817.
- Rozman, Gilbert, Kazuhiko Togo, and Joseph P. Ferguson. 2006. "Overview." In *Russian Strategic Thought Toward Asia*, by Gilbert Rozman, Kazuhiko Togo and Joseph P. Ferguson, 1-36. New York: Palgrave Macmillan.
- Rubel, Robert C. 2012. "Command of the Sea: An Old Concept Resurfaces in a New Form." *Naval War College Review* 65 (4): 21-34.

- Rubel, Robert C. 2010. "Talking about sea control." *Naval War College Review* 63 (4): 38-47.
- RUSI. 2017. "NATO and the North Atlantic: Revitalising Collective Defence." *The Royal United Services Institute*. Accessed March 2, 2018. <https://rusi.org/publication/whitehall-papers/nato-and-north-atlantic-revitalising-collective-defence>.
- Sakaguchi, Yoshiaki. 2014. "Russia's Policy on Strengthening the Navy and the Defense Industry." *NIDS Journal of Defense and Security* 15 (12): 51-67.
- Sartori, Giovanni. 1970. "Concept Misformation in Comparative Politics." *The American Political Science Review* 64 (4): 1033-1053.
- Saxi, Håkon Lunde. 2014. *Norwegian and Danish defence policy. A comparative study of the post-Cold War era*. Norwegian Institute for Defence Studies.
- Scaparotti, Curtis M. 2017. "NATO's Military Commander Concerned About Russia's Tactical Nuclear Weapons in Europe." *Atlantic Council*. May 3. Accessed March 18, 2018. <http://www.atlanticcouncil.org/blogs/natosource/nato-s-military-commander-concerned-about-russia-s-tactical-nuclear-weapons-in-europe>.
- Scassola, Andrea. 2013. "All Is Well in the High North? Contemporary Sources of Tension in the Arctic." *New Global Studies* 7 (2): 183-204.
- Schaub Jr., Gary, Martin Murphy, and Frank G. Hoffman. 2017. "Hybrid Maritime Warfare. Building Baltic Resilience." *The RUSI Journal* 162: 32-40.
- Schneider, Mark B. 2018. "Russian Tactical Nukes Are Real." *U.S. Naval Institute*. April. Accessed May 2, 2018. <https://www.usni.org/magazines/proceedings/2018-04/russian-tactical-nukes-are-real>.
- Scott, Richard. 2017. "Images of Russian Project 955A SSBN reveal design changes." *Jane's Navy International*. November 28. Accessed December 17, 2017. <http://janes.ihs.com/NavyInternational/Display/1823372>.
- Seely, Robert. 2017. "Defining Contemporary Russian Warfare. Beyond the Hybrid Headline." *The RUSI Journal* 162: 50-59.
- Sergunin, Aleksander, and Valery Konyshev. 2017. "Russian military strategies in the Arctic: change or continuity?" *European Security* 26 (2): 171-189.
- Sergunin, Alexander. 2016. *Russia in the Arctic: Hard or Soft Power?* Stuttgart: Ibidem Verlag.
- Shlapak, David A., and Michael W. Johnson. 2016. *Reinforcing Deterrence on NATO's Eastern Flank: Wargaming the Defence of the Baltics*. Santa Monica: RAND Corporation.
- Simón, Luis. 2016. "The 'Third' US Offset Strategy and Europe's 'Anti-Access' Challenge." *Journal of Strategic Studies* 39 (3): 417-445.
- Smith, Mark. 2010. "The Politics of Security." In *The Politics of Security in Modern Russia*, by Mark Galeotti, 29-50. New York: Routledge.
- Sokolsky, Richard. 2017. *The New NATO-Russia Military Balance: Implications for European Security*. Carnegie Endowment for International Peace.
- Solli, Per Erik, Ståle Ulriksen, and Bjørn Kristiansen. 2014. "Operasjonell tilgang - Introduksjon til nygamle begreper og konsepter." *Norsk Militært Tidsskrift* 184 (4): 40-55.
- Soper, Karl. 2014. "All four Russian fleets to receive Improved Kilos." *Jane's Navy International*. March 3. Accessed March 18, 2018. <http://janes.ihs.com/Janes/Display/jni76037-jni-2014>.
- . 2015. "Russia details ambitious effort to modernise nuclear-powered submarines to bolster order of battle." *Jane's Navy International*. October 1. Accessed March 19, 2018. <http://janes.ihs.com/Janes/Display/jni77231-jni-2015>.
- . 2018. "Russia to acquire 10 minesweepers in new arms programme." *Jane's Navy International*. January 4. Accessed March 8, 2018. <http://www.janes.com/article/76808/russia-to-acquire-10-minesweepers-in-new-arms-programme>.
- Speller, Ian. 2014. *Understanding Naval Warfare*. New York: Routledge.

- Staalesen, Atle. 2016. *New missile complex for Russian Arctic*. November 17. Accessed March 23, 2018. <https://thebarentsobserver.com/en/security/2016/11/new-missile-complex-russian-arctic>.
- Staun, Jørgen. 2015. *Russia's Strategy in the Arctic*. Report, Copenhagen: Royal Danish Defence College.
- Stavridis, Admiral (R) James. 2016. "Maritime Hybrid Warfare Is Coming." *U.S. Naval Institute*. December. Accessed January 15, 2018. <https://www.usni.org/magazines/proceedings/2016-12-0/maritime-hybrid-warfare-coming>.
- Stavridis, Admiral (USN Ret.) James . 2017a. *Sea Power: The History and Geopolitics of the World's Oceans*. New York: Penguin Press.
- Stavridis, James. 2017b. "VI. The United States, the North Atlantic and Maritime Hybrid Warfare." *Whitehall Papers* 87 (1): 92-101.
- Stojkovic, Dejan, and Bjørn Robert Dahl. 2007. *Methodology for long-term defence planning*. FFI-report 2007/00600, Norwegian Defence Research Establishment.
- Stormark, Kjetil. 2018a. "Dette er basen som kan ha atomvåpen." *AldriMer.no*. March 3. Accessed March 15, 2018. <https://www.aldrimer.no/dette-er-basen-som-kan-ha-atomvapen/>.
- . 2018b. "Frykter atomvåpen nær Svalbard." *AldriMer.no*. March 12. Accessed March 15, 2018. <https://www.aldrimer.no/frykter-atomvapen-naer-svalbard/>.
- . 2018c. "Ny runde med GPS-jamming i Øst-Finnmark." *AldriMer.no*. April 24. Accessed May 18, 2018. <https://www.aldrimer.no/ny-runde-med-gps-jamming-i-ost-finnmark/>.
- . 2018d. "Putins lydløse og fryktede våpen." *AldriMer.no*. March 28. Accessed April 9, 2018. <https://www.aldrimer.no/putins-lydløse-og-fryktede-vapen/>.
- . 2018e. "Strammer grepet i Barentshavet." *AldriMer.no*. March 12. Accessed March 15, 2018. <https://www.aldrimer.no/strammer-grepet-i-barentshavet/>.
- Strachan, Hew. 2007. "Maritime Strategy." *The RUSI Journal* 152 (1): 29-33.
- Strømmen, Tor Ivar. 2018. "Bulwark and Balancing Act. The Strategic Role of the Royal Norwegian Navy." *Conference proceedings at Europe, Maritime Security and Small Navies, King's College*. London, January 19-20.
- Strømmen, Tor Ivar. 2017. "Ein strategi på leirføter." *Necesse* 2 (2): 14-33.
- Strømmen, Tor Ivar. 2016. "Kystforsvar og forsvar av Noreg." *Norsk Tidsskrift for Sjøvesen* (5): 18-
- Stubbs, Bruce B., and Scott C. Truver. 2011. "Towards a New Understanding of Maritime Power." In *The Politics of Maritime Power*, by Andrew T. H. Tan, 3-28. New York: Routledge.
- Stulberg, Adam N., and Michael D. Salomone. 2016. *Managing Defense Transformation: Agency, Culture and Service Change*. New York: Routledge.
- Sukhankin, Sergey. 2017. *Russian Capabilities in Electronic Warfare: Plans, Achievements and Expectations*. July 19. Accessed March 23, 2018. <https://jamestown.org/program/russian-capabilities-in-electronic-warfare-plans-achievements-and-expectations/>.
- Sussex, Matthew. 2017. "The triumph of Russian national security policy? Russia's rapid rebound." *Australian Journal of International Affairs* 71 (5): 499-515.
- Sutyagin, Igor. 2016. *Russia Confronts NATO: Confidence-Destruction Measures*. Briefing Paper, RUSI.
- Sutyagin, Igor, and Justin Bronk. 2017. "III. Geographical Distribution and Mission Assignments of Russian Military Units." *Whitehall Papers* 89 (1): 89-129.
- Sutyagin, Sergey. 2018. "From 'Bridge of Cooperation' to A2/AD 'Bubble': The Dangerous Transformation of Kaliningrad Oblast." *The Journal of Slavic Military Studies* 31 (1): 15-36.
- Szászdi, Lajos F. 2008. *Russian Civil-Military Relations and the Origins of the Second Chechen War*. Maryland: University Press of America.
- Tamnes, Rolf. 2017. "I. The Significance of the North Atlantic and the Norwegian Contribution." *Whitehall Papers* 87 (1): 8-31.

- Tamnes, Rolf, and Kristine Offerdal. 2014. *Geopolitics and Security in the Arctic: Regional Dynamics in a Global World*. Routledge.
- Tangredi, Sam J. 2013. *Anti-Access Warfare: Countering A2/AD Strategies*. Naval Institute Press.
- Tarrow, Sydney. 2004. "Bridging the Quantitative-Qualitative Divide." In *Rethinking Social Inquiry: Diverse Tools, Shared Standards*, by Henry E. Brady and David Collier. Oxford: Rowman & Littlefield Publishers Inc.
- Tellis, Ashley J., Janice Bially, Christopher Layne, and Melissa McPherson. 2000. *Measuring National power in the Postindustrial Age*. Santa Monica: RAND Corporation.
- Terjesen, Bjørn, Tom Kristiansen, and Roald Gjelsten. 2010. *Sjøforsvaret i krig og fred*. Fagbokforlaget.
- . 2010. *Sjøforsvaret i krig og fred*. Fagbokforlaget.
- Thelen, Kathleen, and James Mahoney. 2015. "Comparative-historical analysis in contemporary political science." In *Advances in Comparative-Historical Analysis*, by Kathleen Thelen and James Mahoney, 1-38. Cambridge: Cambridge University Press.
- Thomas, Timothy. 2015. "Russia's Military Strategy and Ukraine: Indirect, Asymmetric--and Putin-Led." *The Journal of Slavic Military Studies* 28 (3): 445-461.
- Thomas, Timothy. 2016a. "The Evolution of Russian Military Thought: Integrating Hybrid, New-Generation, and New-Type Thinking." *Journal of Slavic Military Studies* 29 (4): 554-575.
- Thomas, Timothy. 2016b. *Thinking Like a Russian Officer: Basic Factors and Contemporary Thinking on the Nature of War*. FMSO Monograph, Fort Lavenworth: The Foreign Military Studies Office.
- Thomassen, Daniel. 2016. "Russisk sjømakt. På leting etter en maritim identitet og strategi." *Norsk Tidsskrift for Sjøvesen* 12-23.
- Thornton, Rob. 2016. "Turning strengths into vulnerabilities: the art of asymmetric warfare as applied by the Russian military in its hybrid warfare concept." In *Russia and Hybrid Warfare - Going Beyond the Label*, by Bettina Renz and Hanna Smith, 52-60. Helsinki: Aleksantri Institute.
- Thornton, Rob, and Manos Karagiannis. 2016. "The Russian Threat to the Baltic States: The Problems of Shaping Local Defense Mechanisms." *The Journal of Slavic Military Studies* 29 (3): 331-151.
- Thornton, Rod. 2017. "The Russian Military's New 'Main Emphasis': Asymmetric Warfare." *The RUSI Journal* 162 (4): 18-28.
- . 2017. "Today's Russian Navy taking the asymmetric route - with caveats." *Defence-In-Depth*. June 17. Accessed March 18, 2018. <https://defenceindepth.co/2017/07/17/todays-russian-navy-taking-the-asymmetric-route-with-caveats/>.
- Tigner, Brooks. 2018. "Defence ministers agree to reform NATO C2 structure but much work lies ahead." *Jane's Defence Weekly*. February 18. Accessed April 24, 2018. <http://www.janes.com/article/77930/defence-ministers-agree-to-reform-nato-c2-structure-but-much-work-lies-ahead>.
- Till, Geoffrey. 2014. "Are Small Navies Different?" In *Small Navies: Strategy and Policy for Small Navies in War and Peace*, by Michael Mulqueen, Deborah Sanders and Ian Sanders, 21-32. London: Routledge.
- Till, Geoffrey. 2017. "Best and Worst: Preparing Navies for All Possible Worlds." *IHS Jane's Navy International* 122 (1).
- . 2016a. *Future conditional: naval power sits at the centre of Russian strategy*. July 20. Accessed August 28, 2016.
- . 2013. *Seapower: A Guide for the Twenty-First Century*. New York: Routledge.
- Till, Geoffrey. 2016b. "The Cold War at Sea." In *Maritime Strategy and Global Order.*, by Daniel Moran and James A. Russell, 62-90. Washington D.C.: Georgetown University Press.

- Tjøstheim, Inge. 2016. "NATO's nordflanke i en ustabil og truende omverden." *Norsk Tidsskrift for Sjøvesen* 5-18.
- Tjøstheim, Inge. 1998. "Sjømaktsdoktriner: En belysning av enkelte hovedoppfatninger og deres relevans på 90-tallet." In *Sjøkrig. Perspektiver på historie og sanntid.*, by Lars Chr. Jenssen, 26-41. Oslo: Institute for Defence Studies.
- Trevithick, Joseph. 2017. *Russia Says It's Going To Build This New Amphibious Assault Ship*. June 5. Accessed March 23, 2018. <http://www.thedrive.com/the-war-zone/11130/russia-says-its-going-to-build-this-new-amphibious-assault-ship>.
- Tsygankov, Andrei P. 2012. "The heartland no more: Russia's weakness and Eurasia's meltdown." *Journal of Eurasian Studies* (3): 1-9.
- Tsyppkin, Mikhail. 2003. "Rudderless in a Storm: The Russian Navy 1992-2002." In *Russian Military Reform, 1992-2002*, by Anne C. Aldis and Roger N. McDermott. Frank Cass.
- Tsyppkin, Mikhail. 2012. "Russia, America and missile defense." *Defense & Security Analysis* 28 (1): 55-64.
- Tsyppkin, Mikhail. 2010. "The Challenge of Understanding the Russian Navy." In *The Russian Military Today and Tomorrow: Essays in Memory of Mary Fitzgerald*, by Stephen J. Blank and Richard Weitz, 331-158. Carlisle: U.S. Army War College.
- Tverbakk, Rolf Arild Lie. 2016. *Russisk maritimt diplomati i tiden etter 2000. Hvor er det på vei?* Master thesis, Stockholm: Försvarshögskolan.
- Ulriksen, Ståle. 2015. *En kommentar til Forsvarssjefens fagmilitære råd (2): Strategi og struktur*. Policy Brief 29/2015, Oslo: Norwegian Institute of International Affairs.
- Vego, Milan. 2016. *Maritime Strategy and Sea Control: Theory and Practice*. New York: Routledge.
- Vego, Milan N. 2009. *Joint Operational Warfare: Theory and Practice*. Government Printing Office.
- . 2003. *Naval Strategy and Operations in Narrow Seas*. Oxon: Frank Cass.
- Vego, Milan. 2000. "Soviet and Russian Strategy in the Mediterranean since 1945." In *Naval Policy and Strategy in the Mediterranean: Past, Present and Future*, by John B. Hattendorf, 164-195. New York: Frank Cass Publishers.
- Venesson, Pascal. 2008. "Case studies and process tracing: theories and practices." In *Approaches and Methodologies in the Social Sciences: A Pluralist Perspective*, by Donatella della Porta and Michael Keating, 223-239. New York: Cambridge University Press.
- Veronica, Thurmond. 2001. "The point of triangulation." *Journal of Nursing Scholarship* 33 (3): 253-258.
- Westerlund, Fredrik. 2011. "The Defence Industry." In *Russian Military Capability in a Ten-Year Perspective - 2011*, by Carolina Vendil Pallin, 65-96. Stockholm: Swedish Defence Research Agency.
- Westerlund, Fredrik, and Johan Norberg. 2016. "The Fighting Power of Russia's Armed Forces in 2016." In *Russian Military Capability in a Ten-Year Perspective, 2016*, by Gunilla Persson, 67-96. Stockholm: Swedish Defence Research Agency.
- Widen, J.J. 2016. *Theorist of Maritime Strategy: Sir Julian Corbett and his Contribution to Military and Naval Thought*. New York: Routledge.
- Willett, Lee. 2012. "Frozen over: Maritime security challenges in the 'High North'." *Jane's Navy International*. November 26. Accessed February 13, 2018. <https://janes.ihs.com/NavyInternational/Display/1531915>.
- . 2017. "Russian submarines present peer competition for Western boats, says US admiral." *Jane's Navy International*. 7 Marcg. Accessed March 28, 2017. <http://janes.ihs.com/NavyInternational/Display/1798410>.
- Willett, Lee. 2009. "The Navy in Russia's 'Resurgence'." *The RUSI Journal* 154 (1): 50-55.

- Woody, Christopher. 2017. "Russia practiced electronic warfare on its own troops during a massive military exercise this year." *Business Insider*. November 30. Accessed January 3, 2018. <http://www.businessinsider.com/russia-practiced-electronic-warfare-on-own-troops-zapad-2017-11?r=US&IR=T&IR=T>.
- Woolf, Amy F. 2017. *Nonstrategic Nuclear Weapons*. CRS Report, Washington: Congressional Research Service.
- Yazbeck, Tania. 2010. *The Russian Economy and Resources Available for Military Reform and Equipment Modernization*. DRDC CORA TM 2010-192, DRDC Centre for Operational Research and Analysis.
- Yin, Robert K. 2009. *Case Study Research: Design and Methods*. Thousand Oaks: SAGE Publications.
- Zapfe, Martin. 2017. "Deterrence from the Ground Up: Understanding NATO's Enhanced Forward Presence." *Survival*, 147-160.
- Zisk, Kimberly Marten. 2001. "Institutional Decline in the Russian Military: Exit, Voice and Corruption." In *Russia in the New Century: Stability or Disorder?*, by Victoria Bonnell and George W. Breslauer. New York: Routledge.
- Zudin, Alexander. 2013. "Russia to overhaul Sierra-class submarines." *Jane's Navy International*. March 11. Accessed March 18, 2018. <http://janes.ihs.com/Janes/Display/jni75491-jni-2013>.
- Zysk, Katarzyna. 2015. "Managing military change in Russia." In *Security, Strategy and Military Change in the 21st Century*, by Jo Inge Bekkevold, Ian Bowers and Michael Raska, 155-177. New York: Routledge.
- Zysk, Katarzyna. 2016a. "Maritime Security and International Order at Sea in the Arctic Ocean." In *International Order at Sea: How it is challenged. How it is maintained.*, by Jo Inge Bekkevold and Geoffrey Till, 141-174. London: Palgrave Macmillan.
- Zysk, Katarzyna. 2013. "Russia's naval ambitions: driving forces and constraints." In *Twenty-First Century Seapower: Cooperation and Conflict at Sea*, by Peter Dutton, Robert Ross and Øystein Tunsjø, 112-135. Routledge.
- . 2016b. "The new normal: Russia to increase northern European naval operations." *Jane's Navy International*. July 21. Accessed March 18, 2018. <http://janes.ihs.com/Janes/Display/jni77751-jni-2016>.