The Russian Baltic Fleet

Organisation and role within the Armed Forces in 2020

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Cover: The Baltic Fleet *Grad Sviiazhsk*-class small missile ship *Serpukhov* next to the Hermitage, St. Petersburg (July 2020).

Sammanfattning

Den ryska Östersjömarinens roll har förändrats genom historien. Under perioder har dess högsjöförmåga varit betydande, medan den under andra perioder framförallt varit anpassad för kustförsvarsuppgifter. Denna rapport undersöker hur Östersjömarinens roll inom Rysslands Väpnade styrkor ser ut 2020. Bilden som framträder är komplex och Österjömarinen låter sig inte beskrivas som antingen en oceangående eller en kustförsvarsflotta. Paradoxalt nog utgörs en stor del av Östersjömarinens organisation av icke-marina förband stationerade i den ryska exklaven Kaliningrad, vilket avspeglar områdets betydelse för försvaret av västra Ryssland. Samtidigt är Östersjömarinen inte endast anpassad för kustnära operationer, utan vidmakthåller en kontinuerlig förmåga för marina operationer utanför Östersjön. Östersjömarinen har dessutom en särskild roll i marinstridskrafternas modernisering, framför allt tack vare närheten och den historiska kopplingen till Sankt Petersburg, som under lång tid varit centrum för rysk varvsindustri och marin och maritim utbildning.

Nyckelord: Ryssland, Östersjömarinen, Östersjöflottan, Östersjön, örlogsfartyg, ubåt, hjälpfartyg, marinflyg, Rysslands Väpnade styrkor.

Summary

The role of the Baltic Fleet has varied over time – ranging from projecting naval power on the world's oceans, to being a force predominantly adapted for coastal defence. In this report, the role in 2020 of the Baltic Fleet within the Armed Forces is thoroughly examined, detailed and analysed. The result is more complex than that represented by the dichotomy between an oceangoing and a coastal naval force. In 2020, paradoxically, shore-based capabilities in the Kaliningrad region constitute a large part of the Baltic Fleet's organisation, reflecting the significant role of the Baltic Fleet in the defence of Russia's western border. However, this is at the same time only partly reflected in the Baltic Fleet's ship inventory, as it retains a firm capability to conduct out-of-area operations. In addition, in the on-going modernisation of the Russian Navy, the Baltic Fleet takes a prominent position due to its proximity to several key Russian naval educational and shipbuilding facilities in the Russian naval capital of Saint Petersburg.

Keywords: Russia, Baltic Fleet, Baltic sea, surface ship, submarine, auxilliary, naval aviation, Russian Armed Forces.

Preface

In recent years, many Western countries have observed Russia's transformation of its military, and its willingness to use it. To understand what that evolution means – and what not – requires thorough study and analysis. This report presents a good part of the work involved in addressing this ambitious objective. Based on open sources, this is the first English-language report from the Swedish Defence Research Agency's (FOI) Russia and Eurasia Studies Programme to study a Russian naval force. It is thus a key step in our continuous work of analysing Russian military capability, conducted on behalf of the Swedish Ministry of Defence.

In this report, Jonas Kjellén places the Russian Baltic Fleet in a wider historical context and relates it to Russian military, naval and maritime doctrines, before expertly guiding the reader through the Baltic Fleet's constituent parts (both naval, ground and air units). He then assesses the Baltic Fleet´s potential for joint sea, air and ground operations, an aspect easily missed when looking only at equipment inventories or organisational charts.

For Sweden, the Baltic Fleet is the closest Russian military formation to its shores. Notwithstanding that particular relevance, this report is also of interest to those in Europe and beyond with a serious interest in understanding Russia's military, including policymakers, military practitioners, analysts and planners, as well as scholars, journalists and other commentators who contribute to the public debate on security issues.

On behalf of the Russia and Eurasia Studies Programme, I wish to extend my gratitude to all those who contributed knowledge and expertise to this report. Commander Anders Larsson, at the Swedish Defence University, reviewed a draft of the report. FOI's Dr Carina Gunnarsson chaired the review seminar and her colleague, Dr Per Wikström, designed the maps. Dr Richard Langlais language-edited the final text.

Johan Norberg

Head of the FOI Russia and Eurasia Studies Programme

Stockholm, December 2020.

Abbreviations

A2/AD	anti-access/anti-denial
AOE	Atlantic Oceanographic Expedition
AOR	area of responsibility
ART	artillery
ASW	anti-submarine warfare
BDE	brigade
BTN	battalion
BMEW	ballistic missile early warning
CA	composite aviation (fixed-wing)
CH	composite helicopter (rotary-wing)
CBR	chemical, biological and radiological
CFE	Treaty on Conventional Armed Forces in Europe
CINC	commander-in-chief
CIWS	close-in weapon system
CM	coastal missile
COY	company
CTR	centre
DIV	division
EEZ	exclusive economic zone
ENG	engineer
EW	electronic warfare
FA	fighter aviation
GNSS	global navigation satellite system
HF	high frequency
HSA	hydrographic survey area
JSC	joint strategic command
MAINT-EVAC	maintenance-evacuation
MD	military district
MoD	ministry of defence
MR	motorised rifle
MTO	*materialno-tekhnicheskoe obespechenie* (material-technical support)
NB	naval base
NI	naval infantry
NRS	naval reconnaissance station
OOA	out of area
OTH	over-the-horizon (radar)
OVR	*okhrana vodnogo raiona* (water area protection)
PDSS	*protivodiversionnye sily i sredstvo* (anti-diversion assets)
QRA	quick reaction alert
REG	regiment

RIB	rigid-hull inflatable boat
Rk	rank (ship)
ROB	RUFS order of battle database
RT	radio technical (radar)
SAR	search-and-rescue
SAM	surface-to-air missile
SSM	surface-to-surface missile
SSR	Soviet Socialist Republic
TRP	transportation
UAV	unmanned aerial vehicle

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Figures, Tables and Maps

1 Introduction

On the occasion of Baltic Fleet Day, on 18 May 2020, the commander-in-chief of the Russian Navy sent a telegram in which he both congratulated the Baltic Fleet's servicemen and acknowledged the important role the fleet has played for more than 300 years. Not only did he recognise its participation in several wars, but also its "invaluable contribution to the development of the Russian Navy, naval operational art, science and culture" (MoD 2020e). This vignette is illustrative of the broad and multifaceted role the Baltic Fleet has played throughout its history. This role has also shifted over time, from one nearly equalling the naval might of the Russian Empire in the early 18th century to becoming the smallest of the Soviet Fleets in the 20th.

Recent developments, such as the deterioration of the security relationship with Western countries following the 2014 annexation of Crimea, the modernisation of the Russian Armed Forces, and more assertive Russian behaviour in general have renewed the need for studying the role of the Baltic Fleet, the westernmost of Russia's military formations.

1.1 Aim and purpose

The purpose of this study is to provide a detailed portrait of the contemporary Russian Baltic Fleet. The overarching research question guiding the work is the following: *What role does the Baltic Fleet play within the Russian Armed Forces in 2020?*

Throughout the 20th century, there have been different views on the role that the Baltic Fleet ought to play within the Navy, and the role of the Navy within the overall Armed Forces. Most often, the debate has gravitated around whether the Navy should be predominantly for offensive or defensive purposes and whether it should focus on becoming a blue-ocean or a coastal (green water) navy (Dyndal 2013:25). At time of writing, in 2020, this debate is far from dead, especially considering the Navy's still strong dependency on Soviet legacy vessels and the relatively mediocre results so far, especially in renewing the inventory of large surface combatants (Parnemo 2019).

Although important, studying the role of the contemporary Baltic Fleet cannot be limited to merely studying its military might. As noted in the Introduction, the Baltic Fleet also plays a role in supporting military cultural values, maritime research and development, the shipbuilding industry and the naval educational system. In this sense, its contribution to Russian national security is not limited to its potential as a military force but also includes other types of roles.

1.2 Methodology

The research question is addressed by analysing the contemporary Baltic Fleet from three perspectives, in order to grasp the full width of its contemporary role. These three perspectives are the contextual, organisational and operational.

The contextual perspective is based on the assumption that the role of the contemporary Baltic Fleet has not been chiselled out in a vacuum. Rather, it is affected by essentially two factors. First, throughout history, geopolitical and economic changes and upheavals have shaped the role of the Baltic Fleet. Sometimes, all of Russia has been affected, while in other cases only the Baltic Sea region or the Baltic Fleet are concerned. Nevertheless, the ambition here is not to provide a full account of the Baltic Fleet's 300-year history. Rather, the aim is to uncover how historical episodes and events continue to shape the role of the Baltic Fleet within the Armed Forces. A second consideration is that, as a naval formation subordinated to the Russian Navy, the Baltic Fleet is part of a larger organisational context and shares similarities with the other fleets of the Russian Navy. Thus, studying traits common to all fleets of the Navy is a good starting point before moving on to what is unique to the Baltic Fleet.

The purpose of the organisational perspective is to provide a detailed outline of the Baltic Fleet organisation, including its combat units and their main types of equipment. Without a good idea of what military capabilities the Baltic Fleet has at its disposal, an assessment of what role it can play within the overall Armed Forces is at best futile, or at worst, misleading. Hence, most of the effort in writing this report has been put into mapping the organisation and assessing the organisational affiliation of individual ships and aircraft. The methodological challenges in obtaining reliable information in order to achieve this are further elaborated below, in Section 1.4.

The final, third perspective examines the Baltic Fleet's role in terms of military operations. The purpose of this operational perspective is essentially to achieve two things. First, to elevate the analysis from the level of individual units to general military capacities. Even though individual units, vessels and aircraft are the building blocks of military might, they are often employed in combined or joint structures. However, this analysis is far from exhaustive, as individual units and capabilities, depending on task, can be employed in a nearly infinite number of configurations. Second, this perspective takes into account the peacetime activities and exercises of the Baltic Fleet's units. This is important since paying too much attention to organisation misses how forces are employed, that is the geographical reach, level of complexity and intensity of exercises. Based on the organisational outline provided in this report, the perspective is structured around two basic categories of military operations – *naval operations* and *territorial defence operations*.

The Baltic Fleet as an object of study

This report is foremost an in-depth empirical study of the Baltic Fleet, but there are several good reasons for believing that the Baltic Fleet is an ideal entry point for studying the Armed Forces as a whole. First, the relatively small size of the Baltic Fleet makes it manageable but, at the same time, includes the basic outfit typical of a Russian naval organisation. This aspect is important, as the sheer size and complexity of the Russian Navy often makes in-depth empirical studies of the entire organisation unfeasible. Second, as a multiservice formation, the Baltic Fleet subordinates not only naval units, but also aviation, air defence and ground forces units. Hence, despite its small size, its variety of capabilities virtually makes the Baltic Fleet a Russian Armed Forces in miniature. Third, thanks to its collaboration with naval science organisations and the shipbuilding industry, the Baltic Fleet is deeply involved in state trials of new vessels, which is the best possible display of coming naval capabilities.

1.3 Limitations and terminology

As noted above, the Baltic Fleet constitutes a relatively small part of the Russian Armed Forces, and units belonging to other parts of the organisation regularly travel to the Baltic Sea region. The focus here, however, is the Baltic Fleet in itself, and not what objectives it can achieve together with other non-Baltic Fleet units temporarily located to the region. This is a necessary limitation, as an analysis of how the Kaliningrad Region, or the Baltic Sea, can be used as a staging area is a much broader scope. The only exception to this are non-Baltic Fleet capabilities that continuously support Baltic Fleet Forces, such as aerial situational awareness data provided by Aerospace Forces, which must also be considered.

Several different standards are used to refer to specific classes of Russian ships. In some cases, the Russian project name or number is used, while in others the NATO reporting name is referred to. Similarly, Russian ship types, such as guard ships and small missile ships are often referred to in the Western literature as frigates or small corvettes. This practice, consistently used in for the marketing purposes of *Rosoboroneksport,* Russia's intermediary agency for exports of defence-related and dual-use products, can also lead to confusion, but at the same time simplifies comparisons with Western navies. In this report, the Russian naval terminology is used consistently when it comes to ship types, but a mixed practice is relied on regarding ship classes. For older classes of ships, the NATO reporting name is used, whereas the name of the lead ship denotes the class name for newer vessels. The Russian project name is used to denote the class of some smaller auxiliary vessels when both a NATO reporting name and a proper ship name are absent. To minimise confusion, a translation table for combat ships is provided in the Appendix (Table A.3).

1.4 Sources

There is an abundance of information readily available on the Baltic Fleet, and the main challenge in answering the research question is to get hold of reliable and sufficiently detailed information. This study uses a variety of sources and types of information, more or less all of which come with challenges in terms of source criticism.

The Russian Ministry of Defence (MoD) produces a steady stream of press releases; MoD-affiliated media such as the national daily, *Krasnaia zvezda,* and the Baltic Fleet weekly magazine, the *Strazh Baltiki*[1], cover the Baltic Fleet continuously. Together with reports and analysis from Russian newspapers such as *Tass* and *Izvestiia,* these provide a useful picture of what is going on within the Baltic Fleet and the Russian Navy as a whole. These types of sources are not necessarily lacking in detail, but they do make an effort to avoid unintentionally disclosing military secrets. However, the internet is full of unofficial sources, such as Twitter accounts and blogs, that supply often detailed information on the Baltic Fleet in ways official channels would not. This can include, for example, photographs of a military object posted anonymously on social media, or a blog post outlining a part of the Armed Forces organisation.

At first glance, the sources eventually used may seem like only the result of a choice between either reliable, or detailed, information, but there is more to it than that. Disinformation and media manipulation have become increasingly common instruments, used for influencing both domestic and foreign audiences (Hedenskog & Persson 2019:85–86). Fabricated stories can emanate from not only obscure internet communities, but also official governmental channels.

Although the outlook for studying the Baltic Fleet based on open information might at first sight appear grim, it is actually quite the opposite, and for two reasons: the vast amount of information available and the large number of people affiliated with the Baltic Fleet. The huge amount and variety of openly obtainable information is a strength in itself. Information from unofficial channels adds the level of detail possible to discern from open sources, while official information provides a helpful tool for assessing the reliability and authenticity of unofficial sources. Even though disinformation is a reality, the sheer size of the Armed Forces organisation makes it difficult to disseminate absolute untruths and stories that are entirely fabricated. What is more likely is that achievements are exaggerated and failure is covered up or not addressed at all. This type of predisposition is common, for example, in the content of the weekly Baltic Fleet mouthpiece – the *Strazh Baltiki* – which publishes many articles that seem written with a

[1] ”Guardian of the Baltic (Sea)”

determination to increase the prestige of serving in the Armed Forces, by boosting the confidence in the armed forces, and acknowledging certain individuals or units

Order of Battle and ship database

The outline of the Baltic Fleet organisation as presented in this report is based on the RUFS Order of Battle Database (ROB), which is an attempt to keep track of organisational changes in the Russian Armed Forces over time. The ROB was first used in the FOI report *Russian Military Capabilities in a Ten-Year Perspective – 2019*. The database is founded on the order of battle that was published on the *Milkavkaz.com* homepage in 2017, which has since proven to be tolerably accurate. For this study, numerous news articles, Russian MoD press releases and various internet resources have been used to thoroughly update the Baltic Fleet part of the ROB.

In addition, for the purposes of this report, a dedicated Baltic Fleet ship inventory database has been compiled. Based on the *Russianships.info* homepage, which is a detailed and continuously updated database on ships of the Soviet and Russian Navy, vessels of the Baltic Fleet have been examined individually to render their naval base affiliation, and to assess whether they are active or inactive. The status of smaller boats and of ships that seldom go to sea are more difficult to assess, but ship-spotter internet resources, such as *Fleetphoto.ru,* are helpful. The 2020 assessment of the Baltic Fleet ship inventory is provided in Tables A.1 and A.2, in the Appendix. Similarly, active aircraft of the Baltic Fleet Naval Aviation have been assessed using the Russian-aircraft-spotting site *Russianplanes.net*.

1.5 Disposition

Chapter 2 studies how history and recent events have shaped, and are still shaping, the current role of the Baltic Fleet, and the traits the Baltic Fleet shares with the other fleets of the Russian Navy. Chapters 3–5 outline the Baltic Fleet organisation in three subsequent steps: first, the naval organisation and its ship inventory; then, naval aviation and air defence units; and, lastly, land units of the Baltic Fleet. Chapter 6 studies how and where Baltic Fleet forces can be employed, in terms of operations. Lastly, Chapter 7 presents the overall conclusions of the report.

2 The Baltic Fleet in a wider perspective

The aim of this chapter is to study how the role of the contemporary Baltic Fleet is shaped by contextual factors. First, Sections 2.1–2.4 explore the historical background of several characteristics of the contemporary Baltic Fleet. The ambition is not to provide a comprehensive account of the Baltic Fleet's history, but to focus on three aspects that have shaped the Baltic Fleet and its current role. Second, Sections 2.5–2.6 analyse how the role of the Baltic Fleet is shaped by being a naval formation of the Russian Navy. This is important, as the Baltic Fleet shares traits with other formations of the Russian Navy.

2.1 The Baltic Fleet's legacy and tradition

Formed in 1703, the Baltic Fleet is the oldest Russian naval formation. For the better part of the 18th century, the Baltic Fleet equalled the Russian Navy and has since been a main actor in several key historical events. This includes the victory over the Royal Swedish Navy, in the Battle of Hangö,[2] in 1714, which marked the Russian Navy's first-ever decisive naval victory, and a gun shot from the Baltic Fleet cruiser *Aurora,* which initiated the October Revolution, in 1917. However, with the advent of nuclear weapons and nuclear-powered submarines in the early post-World War II period, the focus shifted away from conventional capabilities. This resulted in a change of balance among the Soviet fleets. In the high north, the strategic importance of the Northern Fleet increased, partly at the expense of the Baltic Fleet. This was a pivotal moment in the modern history of the Baltic Fleet since, in terms of numbers of combat ships, it was transformed into the weakest of the four Soviet fleets. The loss of naval bases and infrastructure in the Baltic states that followed the collapse of the Soviet Union further reinforced this position. Not surprisingly, the Baltic Fleet is sometimes referred to, unofficially, as "the Former Fleet" (*Lenta* 2016c).

Changes in geopolitical, economic and domestic-political realities have affected the Baltic Fleet on several occasions throughout its 300-year existence. Nevertheless, there are two reasons why its historical past has a direct impact on the role of the contemporary Baltic Fleet in the overall Armed Forces. First, the Baltic Fleet's relationship with the city of Saint Petersburg, the Russian maritime and naval centre, has a direct effect on the fleet's role. Second, its very history and legacy endows the Baltic Fleet with certain advantages over other Russian naval formations.

[2] "Gangut", in Russian.

The maritime city of Saint Petersburg

Founded in the same year, 1703, both the Baltic Fleet and the city of Saint Petersburg have shaped one another throughout history. Soon after its founding, the city evolved into the maritime and naval centre of Russia and is, to this day, home to several of the leading shipyards, naval construction bureaus and sub-contractors of the Russian shipbuilding industries. Hence, activities such as state trials and shakedown cruises, needed to test a ship's performance after an overhaul, are very frequent in the Baltic Sea. As provider of ship crews during ship trials, the Baltic Fleet is very much involved in these activities (*Strazh Baltiki* 2019c). Ship trials and test activities also draw upon a wide range of other types of Baltic Fleet resources. This includes harbour infrastructure and tugboats in several locations, including not only the southeastern Baltic Sea (the Kaliningrad region) and the Gulf of Finland, but also Lake Ladoga. Moreover, some Baltic Fleet naval capabilities, such as search-and-rescue (SAR), degaussing, and physical fields control vessels[3] are most likely somewhat oversized due to these activities.

Similarly, Saint Petersburg is also home for several key naval educational facilities. These include Russia's main postgraduate naval educational facility, the Kuznetsov Naval Academy, and the 907th Joint Naval Training Centre, which is the Russian Navy's main training facility for naval specialists and ship crews (MoD 2015). Looking at the greater Saint Petersburg and Baltic Sea area, one sees several key naval educational facilities in Sosnovyi Bor, Pushkin, Kotlin Island (Kronshtadt) and Kaliningrad. This cluster of naval educational facilities has a very direct impact on the Baltic Fleet, especially as it operates several educational vessels, including two *Smolnyi*-class training ships. Not only are the two *Smolnyi*-class vessels the main training ships of the Russian Navy, they are also the third- and fourth-largest ships of the Baltic Fleet, in terms of displacement (*Strazh Baltiki* 2018e).

It is unlikely that Saint Petersburg will lose its status as the main Russian naval and maritime centre anytime soon; if anything, its importance has actually increased and probably will continue to do so. For example, the Navy command moved to Saint Petersburg in 2012 and, since 2017, the annual Main Naval Parade, when Baltic Fleet ships along with naval ships from other fleets are displayed, is held there (*Rossiiskaia gazeta* 2012; *Strazh Baltiki* 2020m). Moreover, the largest shipbuilding enterprise in Russia, the *United Ship Building Corporation,* announced in early 2019 that it intended to move its headquarters from Moscow to Saint Petersburg (*Tass* 2019b). Lastly, there are plans to relocate several key naval educational organisations, including the Kuznetsov Naval Academy in Saint Petersburg, to Kronshtadt in order to make it the main naval educational hub in Russia. This plan is very much alive and gradual steps are being taken in this

[3] Physical fields control vessels are used to measure the magnetic field of naval vessels; degaussing vessels are used to lower or eliminate the ship's magnetic signature through the use of large coils.

direction (CAST 2018a; *Strazh Baltiki* 2019p). When fulfilled, this will probably lead to a strengthening of the relationship between the Baltic Fleet and Russian naval educational and research organisations.

Wielding the power of tradition

Its long history and traditions put the Baltic Fleet in a unique position in the Russian Navy, and even if this type of cultural impact is hard to gauge precisely, it seems to be beneficial to its leadership in at least two ways. First, serving in the Baltic Fleet is prestigious and appears to provide its naval officers with a prominent position in the naval ranks. Second, its historical legacy is used actively as a way to induce pride and patriotic sentiments, both in order to improve morale and attract young Russians to serve in the Baltic Fleet.

Although being the smallest of the four Russian Navy fleets, having served as commander of the Baltic Fleet increases an admiral's chances of rising to the highest position of the Russian Navy: Commander-in-Chief (CINC) of the Navy. An analysis conducted in 2019 showed that the career trajectory of a typical navy CINC included being commander of either the Baltic or the Northern Fleet, and that serving as Baltic Fleet chief of staff was particularly beneficial to one's career (Gorenburg 2019). Another example is that one who has served as commander of the Baltic Fleet flagship, the *Sovremennyi*-class destroyer *Nastoichivyi*, is remarkably prone to subsequent appointment to Admiral (*Strazh Baltiki* 2018a). In this sense, the Baltic Fleet outperforms in relation to its size, but it is hard to tell whether the reason is an inherent special status, or that particularly ambitious and talented naval officers tend to apply for Baltic Fleet positions. Either way, the long history of the Baltic Fleet seems to play to its advantage.

Since 2013, the Russian Armed Forces has become ever more reliant on soldiers who serve voluntarily, under contract (Kjellén & Dahlqvist 2019, pp. 24). To attract young Russians into serving, the MoD has employed a two-pronged strategy, both improving compensation (salaries and benefits), and increasing the prestige of military service. To accomplish this, the MoD has worked actively to increase patriotic sentiments among the population, especially the youth (Hedenskog & Persson 2019, pp. 86–87).

The Baltic Fleet is in a particularly good position to use history and tradition to attract young Russians into service. Well-known units, such as the 336th Naval Infantry Brigade, are able to attract recruits on their own merit, whereas less-known units have a harder time. The Baltic Fleet has recently and in several ways actively tried to use its historical past in order to increase its prestige. One example is that the Baltic Fleet has in recent years been purposely using the naming of new ships, as well as the renaming of old ones, with the intention of creating historical or geographical bonds. The former practice of giving ships technical names, consisting of an abbreviation of the ship type together with a serial number, has ended, in favour of naming ships after a historical person or city. This pertains to

not only combat ships but also smaller boats of the auxiliary fleet (*Strazh Baltiki* 2017; MoD 2014b; *Strazh Baltiki* 2019j). Since 2013, this practice has also been common within the naval aviation of the Baltic Fleet, so that both fighter and attack aircraft have been named after renowned pilots (*Krasnaia zvezda* 2019c).

2.2 The dissolution of the Soviet Union

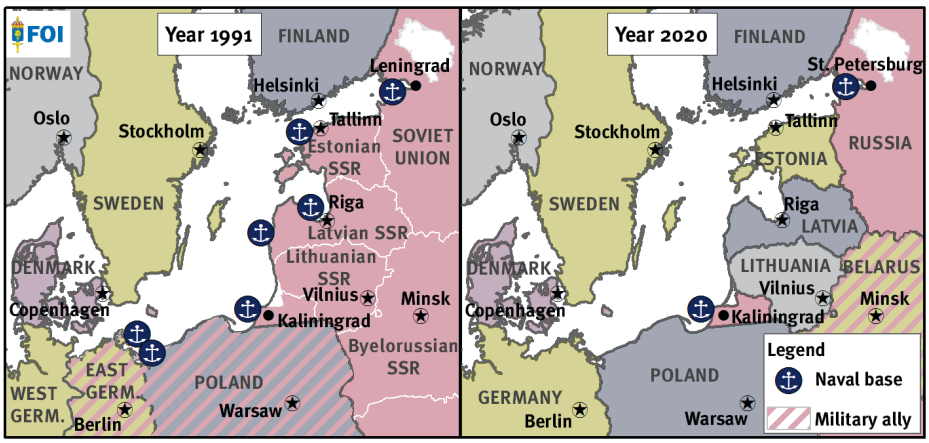
The collapse of the Soviet Union in 1991 ended the Cold War and the East-West confrontation and fundamentally altered the geopolitical conditions in the Baltic Sea region and, consequently, the purpose and rationale of the Baltic Fleet. Not only that, the substantial share of the Baltic Fleet infrastructure that had been located in the three Baltic countries was lost, which coincided with a more than decade-long decay of the former Soviet Baltic Fleet ship inventory.

In 1991, the Soviet Baltic Fleet operated several naval bases in the Baltic countries. The Baltiisk Naval Base had two naval branches in the Latvian SSR, one in Liepaja and one in Riga. Similarly, the Leningrad Naval base operated a naval branch in Tallinn (including Paldiski) in the Estonian SSR. In addition to a large number of accessible ports, the Baltic Fleet also had several naval aviation units located not only in Kaliningrad and the Baltic states, but also in Belarus and north of Saint Petersburg (Feskov *et al* 2004:160 & 169).

The signing of the Warsaw Pact in 1955 led to closer cooperation between the Soviet Baltic Fleet, the navy of the Polish Peoples' Republic and the *Volksmarine* of the German Democratic Republic. This not only gave the Soviet Navy access to ports in the southwestern parts of the Baltic Sea, but also enabled basing of naval forces in Polish and East German ports. For example, by the end of the 1980s, the Soviet Baltic Fleet operated a missile boat brigade, based in Świnoujście (Poland) (Kropotkin 2018:417). Thus, the Soviet Baltic fleet had access to a vast network of naval facilities along the southeastern part of the Baltic Sea, stretching uninterrupted from south of Zealand (Denmark) to the inner parts of the Gulf of Finland.

By 1994, after the Russian Baltic Fleet had definitely left all former Soviet garrisons in the three Baltic countries, the Baltic Fleet had lost 60 per cent of all its former mooring berths and 75 per cent of its ship repair facilities (Valuev 2003). Map 1 does not provide a full picture of the Soviet Baltic Fleet Naval Bases in the late 1980s, but roughly illustrates how large the Baltic Fleet naval base network was then in comparison to today.

Map 1: Comparison of the Soviet and the contemporary Baltic Fleet



Notes: SSR – soviet socialist republic.

With the dissolution of the Soviet Union, the Baltic Fleet not only lost a substantial part of its former infrastructure, but it was also at the start of almost two-decades of technical decay and reduction in its equipment inventory. During 1991–94, a large amount of Soviet military equipment was withdrawn from the Baltic states. Merely considering military equipment that belonged to the Baltic Fleet, this included 84 warships, 157 auxiliary ships, 103 aircraft, 7000 vehicles, and 270,000 tonnes of military equipment previously stored in the three Baltic countries (Valuev 2003). Due to lack of storage facilities and berths in Russia, as well as funding for maintenance, the bulk of the equipment surplus slowly started to deteriorate. In the beginning of 1991, the Baltic Fleet had the largest inventory of combat ships in the Baltic Sea region, amounting to about 200 ships (*Strazh Baltiki* 2019g). In 2020, the Russian Baltic Fleet had about a fourth of that number in its inventory. Similarly, in 1991, the Baltic Fleet possessed 328 fixed-wing and 70 rotary-wing aircraft (Orlova 2019), which in 2020 is at best down to a fourth of that (see Section 4.1.).

2.3 The Baltic Fleet in Post-Soviet Russia

Naturally, the Baltic Fleet has been very much affected by the events and developments of the last decade. In this section, three of these are briefly adderssed: first, the military reform set out in 2008-09; second, the deteriorated security situation in the Baltic Sea region following the annexation of Crimea; and third, the Baltic Fleet leadership purge in 2016.

Military reform

The dissolution of the Soviet Union started a two-decade-long decline of the Baltic Fleet, and the Armed Forces as a whole, due to underfunding, corruption and an obsolete and largely unreformed Soviet military establishment. This trend was first turned around in the latter years of the first decade of the 2000s, when the then incumbent minister of defence, Anatolii Serdiukov, launched a comprehensive military reform, which included far-reaching structural changes in several different areas and was accompanied by an ambitious and well-funded armament program. In short, the aim of the reform was to address fundamental problems of inefficiencies, technical backwardness, and an unbalanced personnel structure, in order to create instantly available military units composed of well-trained and motivated soldiers.

The military reform has had an immense impact both on how the Armed Forces functions and is organisationally structured, while the effect upon the Baltic Fleet has been equally comprehensive. Although, this is not a study of Russian military reform, it is worth pointing out a few important implications for the Baltic Fleet and the Navy.

One goal in carrying out the reform was to reduce the number of military facilities, both in order to save costs and free up military personnel (*Kommersant* 2018). Cramped with old garrisons and mobilisation storage facilities, formerly used by the Soviet 11th Guards Combined Arms Army, the reduction of military facilities in Kaliningrad that followed was enormous. On paper, the reduction in ground forces equipment looked almost like a de-militarization of the Kaliningrad region. For example, the total number of battle tanks in the region was reduced from 800 to 43 (Orlova 2019).

Modernising the Russian Air Force was a high priority of the reform. As part of this, the old aviation division-regiment structure was replaced with a network of air bases, and all air units within the Armed Forces were transferred to the Air Force (*Krasnaia zvezda* 2014b). Thus, the naval aviation lost fighter and attack aircraft from its inventory, and was reduced to include merely anti-submarine warfare (ASW), search-and-rescue (SAR) and maritime patrol aircraft. The purpose of concentrating all aviation under the Air Force was to facilitate its modernisation, as double infrastructure was eliminated. Paradoxically, in regions such as Kaliningrad, the direct opposite result was achieved, as the core naval aviation capabilities were separated from those of the operational-tactical aviation. This changed in 2014, however, as operational-tactical aviation based in the Kaliningrad region was returned to the Baltic Fleet Naval Aviation (Zverev 2018).

The structural reform was also accompanied by a well-funded armament program that commenced a technical modernisation of the Armed Forces. In some areas, the Baltic Fleet technical modernisation commenced early; it included, for example, the renewal of its combat ship inventory, which had already started prior to

the military reform, in 2007, with the delivery of the first of a series of four *Steregushchii*-class corvettes. In contrast, the Baltic Fleet's surface-to-surface missile (SSM) brigade was last in line to exchange its old *Tochka* for the *Iskander* SSM system. The last decade's technical modernisation of Baltic Fleet units will be outlined further in Chapters 3–5.

Deteriorated relationships with NATO and European countries

Following the annexation of Crimea in 2014, Russia's relations with both the US and the countries of the European Union have deteriorated considerably; this decline in relations has had direct implications for the Baltic Sea security situation. The Russian perspective, often expressed in the Baltic Fleet weekly paper, *Strazh Baltiki*, is one of NATO aggression and military build-up, which Russia is merely responding to (*Strazh Baltiki* 2019q & *Strazh Baltiki* 2019u). According to the Baltic Fleet leadership, NATO exercises and a steep increase in foreign reconnaissance missions are examples of aggression towards Russia (*Krasnaia zvezda* 2019d).

Because of the general massive modernisation of the Russian Armed Forces since 2008–09, not all measures taken to strengthen the military posture in the Baltic Sea region should be attributed to being a response to a change in the region's security situation. However, the Russian Chief of the General Staff's announcement, in January 2015, of the strengthening of the military posture in Crimea, Kaliningrad and the Arctic has at least led to a hastened force modernisation (*RIA novosti* 2015). The transfer of two small missile ships from the Black Sea Fleet to the Baltic Fleet, and the formation of the 11th Army Corps, both in 2016, are probably also closely related to the deteriorated security situation (CAST 2016a & *Lenta* 2016b).

At the same time, Western and Ukrainian sanctions imposed after 2014 have impeded the Baltic Fleet modernisation effort. This includes both minor and more serious delays. All three new seagoing rescue tugs of Project 02980 were planned to be delivered to the Baltic Fleet before the end of 2015, but sanctions delayed deliveries, so that instead they were all delivered from mid-2016 to mid-2017 (CAST 2017a). The return of the *Neustrashimii*-class frigate *Neustrashimii*, which has been undergoing refurbishment since 2014, has also been postponed twice due to problems with the restoration of the ship's Ukrainian-manufactured engine (CAST 2019b).

The 2016 Baltic Fleet leadership purge

In 2016, there was a dramatic removal of more or less the entire Baltic Fleet leadership. A total of 36 high-ranking officers, including the incumbent Baltic Fleet Commander-in-Chief and his chief-of-staff, were sacked. According to Russian media outlets, the reasons for this were several, including low combat readiness, withholding information and the neglect of battling misconduct and

criminality (Interfax 2016). Some Russian newspapers have speculated that the purge was the result of a political struggle between two military factions, and that the harsh implementation was to set an example (*Lenta* 2016c).

Nevertheless, several of the deficits pointed out by the military commission, whose report motivated the purge, have since been corrected. One point of criticism in the report was that no long-duration, out-of-area operation had yet been carried out by any of the four new *Steregushchii*-class corvettes. This state of affairs was very soon rectified, however, for by 2017, only one year later, two of the new corvettes had already been dispatched to the Mediterranean and the Indian Ocean (MoD 2018c). Similarly, matters of corruption, criminality and failing to satisfy the societal rights of Baltic Fleet servicemen have, since 2016, been regularly and thoroughly covered in the Baltic Fleet weekly magazine *Strazh Baltiki* (for example *Strazh Baltiki* 2019v & 2020b).

The long-term effect of this episode is difficult to assess. On one hand, this could potentially be a strong and enduring message to the military organisation that incompetent and corrupt officers, as well as *dedovshchina,*[4] are no longer tolerated in the reformed Armed Forces. On the other hand, it is also possible that this dramatic incident effectively curbs the opinions of free-minded officers who are not appreciated by the military, or political, leadership.

2.4 Doctrines and the Baltic Fleet's role

Throughout history, geopolitics, economics and societal upheavals have shaped the role that pertains to the Baltic Fleet within the Armed Forces. In cases when the Baltic Fleet's role has deviated from other fleets of the Navy, it has often been the result of historical changes that are applicable specifically to the Baltic Sea region. Nevertheless, its contemporary role is not primarily the result of a chain of accidental historical events, but rather shaped deliberately by the Russian political and military leadership. Priorities for the long-term development of Russia's naval forces and how the Naval Forces are organised have a huge impact on the Baltic Fleet.

What the Navy, the Armed Forces in general and the political leadership specifically want from the Baltic Fleet is hard to discern. Occasionally, high-ranking officers or politicians stress the importance of a certain task or role. For example, in July 2020, the Navy CINC expressed that the support that the Baltic Fleet provides in the state trials of new surface ships and diesel-electric attack submarines is "the currently most important task of the Baltic Fleet" (*Krasnaia zvezda* 2020e). Nevertheless, it is interesting that the Navy CINC stressed a role that is hardly one of the core tasks of naval organisation, which means that this statement

[4] Russian terminology for the hazing and bullying of junior conscripts.

should not be taken literally. The statement merely reflects the weight the Navy's leadership puts on the technical modernisation of the Navy.

Another place to look for an official declaration of the Baltic Fleet's role is the MoD homepage. On the page where the Baltic Fleet is presented, three main tasks for the Baltic Fleet are specified: to protect the Russian Exclusive Economic Zone (EEZ) from illegal exploitation, ensure safety of navigation and fulfil foreign policy acts of the Russian government in economically important regions of the "World Ocean" (MoD 2020a).

This declaration is unsatisfactory, however, for at least two reasons. First, it fails to acknowledge that the Baltic Fleet not only controls naval forces, but also air, air defence and ground forces. Second, and relatedly, it only partly covers basic provisions of the Russian Navy's goals and objectives, as stated in central and strategic Russian Federation planning documents that concern the Navy.

Three doctrines

There are essentially three official strategic documents of importance for tracking the purpose of the Baltic Fleet. These are the Military Doctrine, from 2014, the Maritime Doctrine, from 2015, and the Naval Doctrine, from 2017.

The Military Doctrine (2014) is an important document that establishes the basic provisions and roles of the Armed Forces. Generally held, it does not provide information directly applicable to the discerning of the Baltic Fleet's role. However, its Paragraph 32 lists the fourteen main peacetime tasks of the Armed Forces, although not explicitly put, but seemingly in descending order, in accordance to the task's centrality and importance to Russian national security. The list is crowned by such tasks as protecting the sovereignty and territorial integrity of the Russian Federation (Paragraph 32a) and ensuring strategic (nuclear and non-nuclear) deterrence (Paragraph 32b). The Baltic Fleet tasks listed on the MoD homepage (see above) are also itemised in the military doctrine, and include to combat piracy and ensure safety of navigation (Paragraph 32l), and to ensure the security of the economic activities of the Russian Federation on the high seas (Paragraph 32m) (Military Doctrine 2014).

The Maritime Doctrine (2015) assumes a much broader scope, as it not only covers issues of security, but also the development of the fishing industry, natural resource exploitation, tourism etc. The document talks about five regional priority areas of which the *Atlantic Priority Area* include the Baltic Sea. The Russian Maritime Policy is largely defined by NATO activity in this region (Paragraphs 52-53), and the document stipulates a "sufficient" naval presence in the Atlantic Ocean over time (Paragraph 54a). Although the four Russian fleets are the main force for realizing the national maritime policy in their corresponding regions (Paragraph 44), it does not specify to what extent the Baltic Fleet region extends beyond the Danish Straits, of which the Great Belt and Øresund are the two most

important, connecting the North Sea to the Baltic Sea via the Kattegat and Skagerrak. Nevertheless, within the Baltic Sea Region, further development of the Baltic Fleet military capabilities is a priority (Paragraph 55n).

The Naval Doctrine (2017) provides, by far, the most detailed overview of the purpose of Russian naval activity and presence on the world's seas. For example, it points out the threats to Russian national security perceived on the world's seas, and specifies the wide-ranging role of the Navy, from pursuing the national interest on the world's seas to safeguarding sea-lanes and contributing to strategic deterrence. However, similar to the Military Doctrine, the Naval Doctrine does not generally consider threats and objectives in geographical regions, nor the tasks of specific parts of the organisation. In addition, the scope of the doctrine is limited to naval activities, and does not encompass any non-naval tasks that the Navy as an organisation takes on.

In sum, few comprehensive official statements on the role and purpose of the Baltic Fleet are available. Although strategic documents provide a good overview of the role of the Navy in general, they lack the level of detail that would reveal the role and place the Baltic Fleet plays in the naval organisation. The next section explores what can be learnt from how the Baltic Fleet is described in terms of its position in the Armed Forces.

2.5 The role and place of the Baltic Fleet within the Russian Navy

In the military hierarchy, the Baltic Fleet is a *multiservice operational-strategic territorial naval formation* operating in the Baltic Sea (*Parlamentskaia gazeta* 2020). This is a status the Baltic Fleet shares with three of the four Russian fleets[5], a good starting point for exploring what is typical of modern Russian naval formations.

Multiservice

A key trait of the Russian Navy is that it is genuinely multiservice, and includes units normally only found within the Aerospace Forces and the Ground Forces. This is not unique to the Baltic Fleet, but pertains to the Russian Navy as a whole. The origins of this are found in the period leading up to the collapse of the Soviet Union and the years afterwards. This goes back to the early negotiations on the Treaty on Conventional Armed Forces in Europe (CFE), when the Soviet leadership transferred ground forces units to the Navy by labelling them coastal troops

[5] Since 2013, the Northern Fleet is considered a *strategic* formation. In addition to the four fleets, the Russian Navy also operates a separate flotilla, which is an *operational* formation, in the Caspian Sea.

units, to evade the troop ceiling stipulated by the treaty (*Armeiskii vestnik* 2013). Similarly, the initial agreement with Ukraine, signed in 1997, on the conditions for basing the Russian Black Sea Fleet in Crimea, stipulated that Russian basing of aircraft on Crimea was restricted to naval aviation aircraft. Hence, operational-tactical aviation, i.e. fighter and attack aircraft, were included within the definition of naval aviation (*Armeiskii vestnik* 2018).

As mentioned above, in 2011 the operational-tactical aviation elements of the Naval Aviation were nominally transferred to the Air Force, with the aim of consolidating the modernisation of the Russian Air Force. However, as the desired effect did not occur, the reform was recalled in 2014 and operational-tactical aviation units were returned to the Navy (Zverev 2018). Nevertheless, leaving the Baltic Fleet Naval Aviation equipped with only SAR, ASW and maritime patrol aircraft considerably stalled its development in the early part of 2010–20. Even though motorised rifle and tank units of the Baltic Fleet coastal troops were heavily reduced in 2009–10, the Baltic Fleet retained control over the ground forces there, facilitating its strengthening, which commenced in 2014. Hence, in 2020, the Baltic Fleet had become a multiservice formation also comprised of motorised rifle and tank units, as well as fighter aircraft and strategic air defence systems.

An operational-strategic formation

As an operational-strategic formation, the Baltic Fleet belongs to the higher echelon of the Armed Forces structure. It takes orders from the strategic level, which in the case of the Baltic Fleet is the Western Joint Strategic Command (Western JSC), located in Saint Petersburg. This situation, however, is relatively new, as in the years 1994–2009 the Baltic Fleet enjoyed a special status as an independent military-administrative entity in the Armed Forces military-administrative structure, the Kaliningrad Special Region[6] (Verkhoturov 2014).

The headquarters of the Baltic Fleet command is located in the city of Kaliningrad. Currently led by a three-star admiral, it is composed of directorates, services and units from where the staff plans and carries out the operational, administrative, and logistical needs of the Baltic Fleet. Subordinated to the Baltic Fleet command are operational-tactical formations – two naval bases and one army corps – and several separate units. Figure 1 provides a graphic overview of the Baltic Fleet's place in the military hierarchy. The tactical units of the three Baltic Fleet operational-tactical formations, as well as separate tactical units directly subordinated to the Baltic Fleet command, are further detailed in Chapters 3–5.

[6] Also, incorrectly, referred to as the Kaliningrad Defence Region.

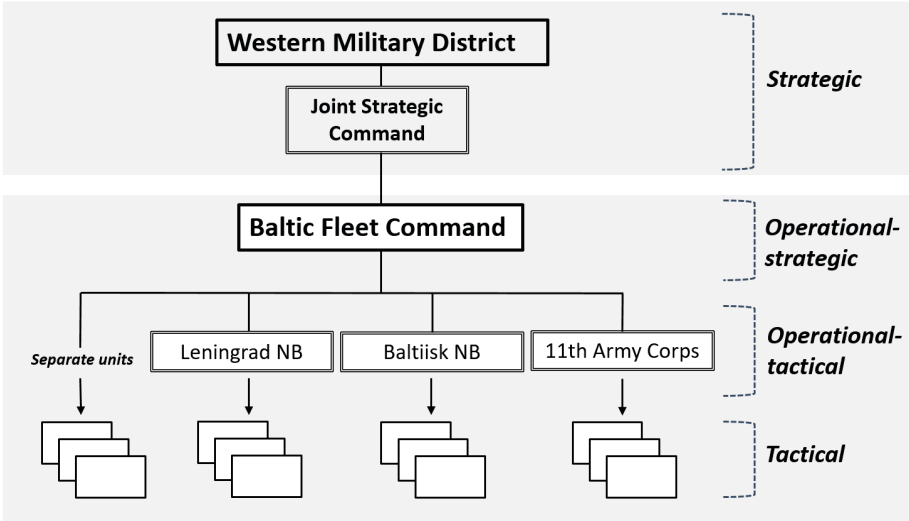


Figure 1: The structure of the Baltic Fleet

A territorial responsibility

The military-administrative *territorial* responsibility of the Baltic Fleet is less emphasised, as the Kaliningrad Region has been part of the Western Military District since 1 August 2010 (President of Russia 2014). Nevertheless, the Baltic Fleet retains a territorial responsibility, which separates it from other entities subordinated to the Western Military District, for the Kaliningrad region. The subordination of all air and ground forces located in the Kaliningrad region indicates not only that the Baltic Fleet is a multiservice naval organisation but also that it retains the undivided responsibility for the region's territorial integrity. The territorial responsibility of the naval formations is also noticeable when studying how the new military logistics system is organised.

In 2012–16, the last remnants of the vast and obsolete Soviet Rear Service system were dismantled and replaced by the leaner *materiel- and technical support* (MTO) system (Serba & Grachev 2018). The backbone of this new logistic system is comprised of the eight MTO centres: one in each Military District and one in each fleet. Even though the Fleets are both much smaller entities than, and operationally subordinated to, the Military Districts, there are several reasons for such an arrangement. First, having both naval, air and land units within its organisation, the logistical complexity is not lesser than that of the Military Districts. Second, several key Russian naval installations are located in regions isolated from mainland Russia, which causes specific logistics challenges. Third, the recurring and often protracted naval out-of-area operations supported by auxiliary ships require extensive planning and coordination.

The naval role

Even though the Baltic Fleet is a multiservice formation with a territorial responsibility for the defence of the Kaliningrad region, it is historically and culturally foremost a naval formation with the Baltic Sea as its main, but not only, area of operations. Thus, the role of the Baltic Fleet is closely related to the significance of the Baltic Sea to Russian national interests and, not least, its economy. Since 2000, Russian shipping in the Baltic Sea region has grown massively, and in 2017, Russia moved one-third of its total seaborne cargo and half of its container traffic through its Baltic Sea ports. Moreover, supply of the landlocked Kaliningrad region is either dependent on overland transports through Lithuania and Belarus or on the Baltic Sea, while the Nord Stream undersea gas pipelines, one currently in operation and a second under construction, represent a relatively new Russian interest, traversing the Exclusive Economic Zones (EEZ) of several Baltic Sea States (Lange *et al* 2019:5).

3 Baltic Fleet naval components

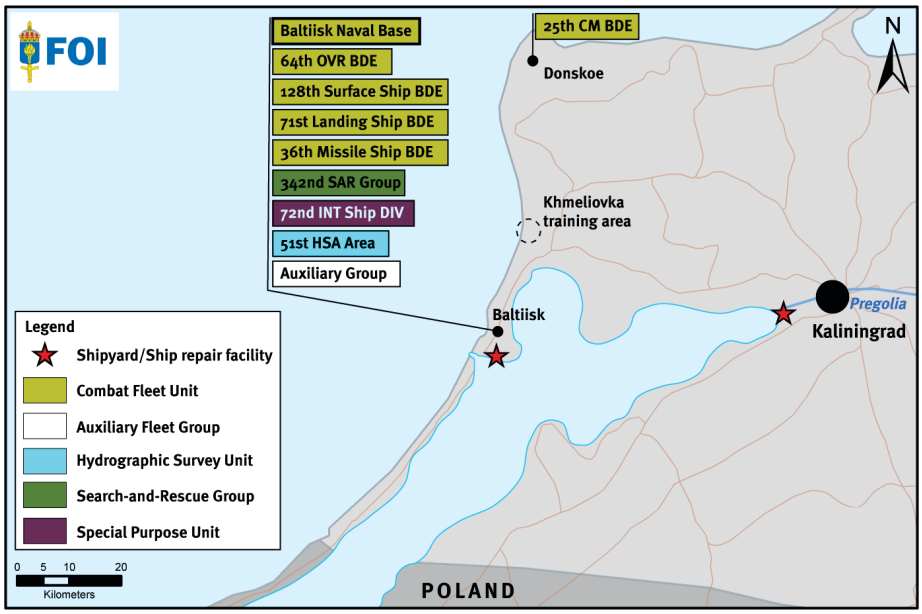
This chapter outlines the naval part of the Baltic Fleet organisation, which is structured around two naval bases: the Baltiisk Naval Base, located in the Kaliningrad region, and the Leningrad Naval Base, with its headquarters in Kronshtadt, on Kotlin Island, in the Gulf of Finland. There have been few organisational changes within the two naval bases in the last decade, and the focus here is mainly on examining how the Baltic Fleet ship inventory has evolved, from three perspectives: first, the overall distribution of vessels between the two naval bases; second, the composition of the overall ship inventory, in terms of ship types; and third, the age structure of the ship inventory. Combined, these three perspectives provide a picture of a Baltic Fleet naval component that is balanced to perform a wide range of tasks, predominantly in, but far from only, the Baltic Sea. Although, modernisation has commenced during the last 10–15 years, an uneven ships' age distribution will continue to affect the Baltic Fleet negatively in coming decades.

For the purposes of this study, two tables of information on a total of 227 presently active Baltic Fleet vessels have been compiled (see Appendix; Tables A.1 and A.2). Although the Baltic Fleet most likely operates well over 250 vessels, only vessels with a displacement exceeding 10 tonnes are included. There are two reasons for this. First, even though they are important for everyday tasks and the functioning of naval bases, vessels smaller than 10 tonnes are usually confined to the harbour area. Vessels of such small size does not represent the key capabilities of the Baltic Fleet. Second, the prospect of keeping track of these smaller vessels with accuracy and certainty, using only internet sources, is very poor. Generally, this uncertainty also applies to smaller vessels with a displacement larger than 10 tonnes, with reliability increasing with ship size.

3.1 The Baltiisk and Leningrad naval bases

The Baltic Fleet's main naval base is located in the port of Baltiisk, situated close to the Strait of Baltiisk, in the Kaliningrad region. It has an ideal location for swift exits into the Gdańsk Bay and the southern part of the Baltic Sea. Map 2 illustrates how the naval base is situated on the northern side of the artificially dredged navigable channel leading in to Kaliningrad. Garrisons of naval base units are predominantly located in Baltiisk, but the 25th Coastal Missile has its garrison in the hamlet of Donskoe.

Map 2: Baltiisk Naval Base

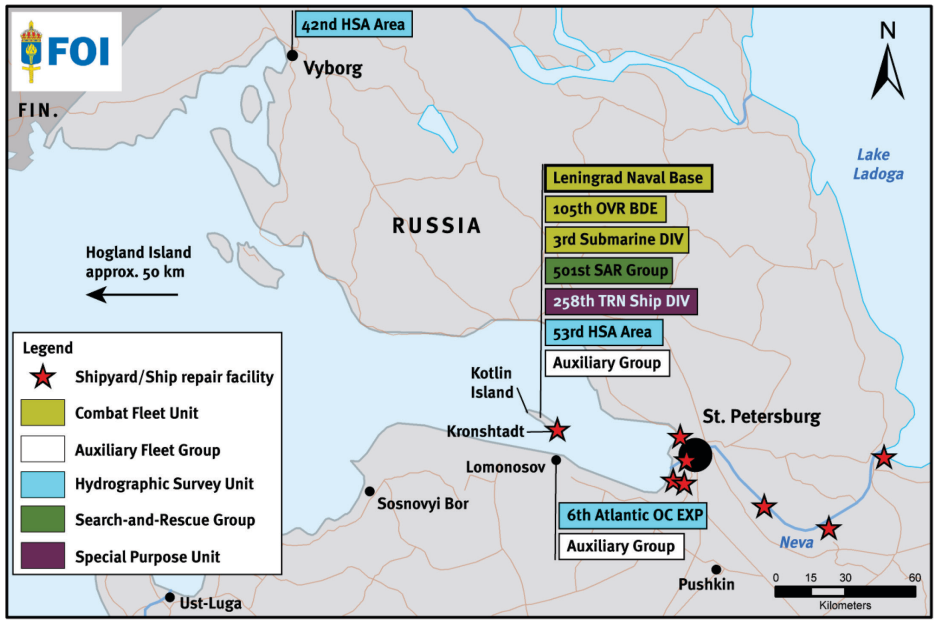


Notes: BDE – brigade; CM – coastal missile; DIV – division; HSA – hydrographic survey area; INT – intelligence; OVR – okhrana vodnogo raiona (water area protection); SAR – search and rescue.

The main port and headquarters of the second Baltic Fleet naval base, the Leningrad naval base[7], are located in Kronshtadt (on the island of Kotlin) in the inner part of the Gulf of Finland. As opposed to the Baltiisk naval base, it is not concentrated to one large port, but uses several ports and infrastructure from Vyborg in the west to Lake Ladoga in the east. Next to Kronshtadt, the port of Lomonosov, situated on the southern side of the Gulf of Finland, is the largest naval facility and homeport to several of the Baltic Fleet's auxiliary and oceanographic research vessels.

[7] The Leningrad Naval Base has retained its Soviet name.

Map 3: Leningrad Naval Base



Notes: BDE – brigade; CM – coastal missile; DIV – division; EXP – expedition; HS – hydrographic survey; Int. – intelligence; OC – oceanographic; OVR – Okhrana Vodnogo Raiona (water area protection); SAR – search and rescue; TRN – training.

In comparison with naval aviation and the Baltic Fleet coastal forces, there have been relatively few organisational changes of the Baltic Fleet naval forces during the last decade. The changes that have been made have merely been adjustments to better reflect the actual ship inventory. These include the disbandment of the 12th Surface Ship *Diviziia*[8] (Baltiisk NB), which in the early 2000s included the major Baltic Fleet surface ship units (*Kommersant* 2002). However, the *diviziia* was probably rendered a superfluous command level and most likely disbanded during the reform years 2008–09. Later, probably around 2010–12, the former 123rd Submarine Brigade was reduced to a division – the 3rd separate submarine division (Leningrad NB) (Balabin 2013). This, however, was not really a reduction, as it merely reflected the actual low number of submarines in the unit. Lastly, in 2014, the then 25th Coastal Missile Regiment was increased to a brigade-size unit, to prepare for the re-armament that the unit was waiting for (*Strazh Baltiki* 2019l).[9]

[8] A *diviziia* is the largest tactical naval unit in Russia and can easily be confused with the lower tactical naval unit *divizion* (division). The hierarchy, from large to small unit, is as follows: *diviziia*, brigade & divison.

[9] The 25th coastal missile brigade is further examined in the section on Baltic Fleet land forces.

In 2020, the Baltiisk and the Leningrad naval bases both shared characteristics that are typical for Russian naval bases in general. Technically, a naval base is an operational-tactical territorial formation responsible for ensuring favourable conditions to launch naval operations (Samedov 2018). Thus, both bases include a similar command structure, operate coastal surveillance posts, and share a similar basic set of capabilities to ensure safe entry and exit of naval vessels and the overall operation of the naval base. These sets of capabilities are assembled in so-called *water area protection brigades* (OVR brigades[10]), and include minesweeping and anti-submarine warfare (ASW) capabilities, as well as anti-diversion units, known in Russian as *PDSS*-units,[11] to ensure naval base protection. Moreover, both bases hold at least a basic outfit of auxiliary capabilities, including search-and-rescue (SAR) and hydrographic survey units. Both naval bases also include units for ships undergoing repair or construction. These units of ship crews, often composed of highly experienced naval officers and specialists, support the shipbuilding and repair industry during state trials and shakedown cruises. Because of the high concentration of shipyards in the Baltic Sea region, this is a rather extensive engagement for the Baltic Fleet and not only includes ships undergoing repairs or construction for the Russian Navy, but also includes vessels built for the export market.

There are also differences, however, between the two naval bases, which are most apparent when taking a closer look at their ship inventories. The Baltiisk naval base holds the majority of the Baltic Fleet's surface ships. This includes not only most of the surface combatants, but also the majority of larger seagoing auxiliaries and all intelligence ships. The composition of the Leningrad naval base is strongly influenced by the proximity to Saint Petersburg, and its association with the ship industry, naval educational organisations and maritime research institutes.

3.2 The Baltic Fleet ship inventory in 2020

Looking merely at organisation, one can easily get the impression that even though the two naval bases differ somewhat in composition they are similar in size. This is not, however, the case. Table 1 shows the distribution of ships between the naval bases, and of the 227 Baltic Fleet vessels, a majority of them, 131, belong to the Baltiisk naval base. Vessels of the Baltiisk naval base are also generally much larger, and the total inventory displacement is almost double the size of the Leningrad naval base. Because of a higher concentration of combat vessels, the average ship age is somewhat lower in the Baltiisk Naval Base. The total average ship age is about 29 years, but one should be careful in drawing conclusions on the overall condition of the ship inventory based on average ship age; Section 3.3 examines the ship age structure in detail.

[10] In Russian: *brigada okhrany vodnogo raiona (brigada OVR)*.
[11] In Russian: *protivodiversionnye sily i sredstvo.*

A closer look at the ship inventory in terms of five broad ship categories, that is, combat, auxiliary, search and rescue, hydrographic survey and special purpose ships, reveals additional differences between the two naval bases. Almost five out of six combat vessels are based in Baltiisk, which also operates a slightly larger number of auxiliary vessels. The numbers of SAR and special purpose vessels are the same, but the Leningrad Naval Base operates a larger number of hydrographic survey vessels.

Table 1: Baltic Fleet Naval vessels (>10 tons)

	Baltiisk NB	Leningrad NB	Baltic Fleet Total
Total no. of vessels[1]	131	96	227
- Combat vessels	52	11	63
- Auxiliary vessels	51	40	91
- Fleet of SAR vessels	19	18	37
- Hydrographic survey vessels	5	20	25
- Special purpose vessels[2]	4	7	11
Total displacement	~131,000	~71,000	~202,000
- Average displacement	~1000	~730	~890
Average ship age	27.8 years	31.0 years	29.2 years

Notes: NB – Naval base; SAR – search and rescue. [1] displacement >10 tons. [2] Here, training or intelligence ships.

In the following five sections, the Baltic Fleet ship inventory is outlined according to each of the five ship categories and naval base affiliation. With the exception of major surface combatants, the focus is on describing the ship inventory in terms of ship types (minesweepers, corvettes, and so on) and not ship classes nor individual ships.[12]

The combat fleet

Table 2 depicts the distribution of combat vessels between the naval bases according to rank and type of vessel. All Russian combat ships are assigned to one of four ship ranks. The ship rank a certain class has depends on operational-tactical characteristics, such as armament, type of propulsion, range and size (Naval Charter 2001:7). There are currently 54 combat ships in the Baltic Fleet inventory, but including smaller patrol boats that are outside the ranking system increases this figure to 63 combat vessels.

As noted earlier, the absolute majority (80 per cent) of the combat vessels are based in Baltiisk, but as shown in Table 2 the difference is even more emphasised when comparing ship ranks, as the Leningrad naval base operates no surface ship above

[12] Consult this report's Appendix for a comprehensive summary of the Baltic Fleet ship inventory.

third rank. However, it is worth noticing that the sole Baltic Fleet submarine is based at Kronshtadt.

Table 2: Combat vessels of the Baltic Fleet

Rk	Type of combat vessel	Baltiisk NB	Leningrad NB	Total
I	Destroyers	1	-	1
II	Guards ships	2	-	11
	Corvettes	4	-	
	Large landing ships	4	-	
	Large submarines	-	1	
III	Small missile ships[1]	5	-	18
	Small missile ships	4	-	
	Small ASW ships	3	3	
	Seagoing minesweeper	1		
	Small landing ship[2]	2	-	
IV	Missile boats	6	-	24
	Landing craft	8	-	
	Coastal minesweepers	4	1	
	Inshore minesweepers	3	2	
-	Anti-diversion boat	4	2	9
	Patrol Boat	1	2	
Total		52	11	63

Notes: ASW – anti-submarine warfare; NB – Naval Base; Rk – ship rank; [1] equipped with Kalibr/Oniks missile system; [2] air cushion.

Based in Baltiisk, the 128th surface ship brigade represents the main blue water capability of the Baltic Fleet. It consists of seven fairly modern surface combatants, of which all but two were available for operations in 2020. The Baltic Fleet flagship, the *Sovremennyi*-class destroyer, *Nastoichivyi*, has been undergoing refit since 2013 and was allegedly to be returned in late 2019 (*Flotprom* 2019b). In April 2020, the destroyer was still unavailable, with no announcements of when she will be expected back in service (*Strazh Baltiki* 2020j). The *Sovremennyi* destroyer-class has experienced extensive problems with the high-pressure boilers in their steam turbine propulsion system (*Izvestiia* 2019a), and its Baltic Fleet sister ship was decommissioned in 2016. However, with a renewed propulsion system, *Nastoichivyi* could probably remain in service for at least the coming 5–10 years. One of the two *Neustrashimyi*-class guard ships, *Neustrashimyi*, has a similar story. In 2014, she commenced overhaul, but due to an extensive fire on board in February 2018, the return of the ship was delayed and it is yet to re-enter service (*Flotprom* 2018b). Her sister ship, the *Iaroslavl Mudryi*, commissioned in 2009, is one of the more intensely used Baltic Fleet ships, having completed several out-of-area missions since her commissioning (*Strazh Baltiki* 2020l). Lastly, the four *Steregushchii* class corvettes commissioned during the years 2007–14 represent the most significant naval modernisation effort since the millennium.

The 71st Landing Ship Brigade constitutes the Baltic Fleet's amphibious warfare capability. The brigade consists of a division of four *Ropucha*-class large landing ships and two *Pomornik*-class air-cushion landing craft, and one division of *Ondatra-, Serna-* and *Diugon*-class landing craft. The *Ropucha*-class landing ships are also used for a variety of transport, minelaying and out-of-area missions.

The 36th Missile Ship Brigade is the oldest currently active naval unit of the Baltic fleet, and represents the major surface combatant force for green water operations in the Baltic Sea (*Strazh Baltiki* 2019x). The brigade consists of two divisions, one missile ship division consisting of *Nanucka-*, *Grad Sviiazhsk-*, and *Uragan*-class small missile ships and one missile boat division with *Tarantul*-class missile boats.

Lastly, the 64th OVR brigade has in recent years renewed its naval inventory with new *Mangust-* and *Raptor*-class patrol (anti-diversion) boats. In addition, the role of anti-diversion units (*PDSS*) has lately been more focused on underwater surveillance, as naval military police units have recently begun to be formed, taking over some of the tasks formerly handled by the *PDSS* units. Since 2018, a small unit of military police has been created on the Baltiisk naval base. Using small rigid-hull inflatable boats (RIB), this unit ensures security and some anti-diversion tasks (MoD 2018e). ASW and minesweeping capabilities are ensured by three *Parchim*-class ASW ships, and three inshore and four coastal minesweepers of *Lida-* and *Sonya*-class. Since 2016, the OVR brigade has also operated a newly built seagoing minesweeper of *Obukhov*-class.

The Leningrad Naval Base has only two combat fleet units: a separate submarine division and an OVR brigade. The 105th OVR brigade of the Leningrad naval base resembles its equivalent in Baltiisk. As in Baltiisk, older *Flamingo*-class anti-diversion boats are being gradually replaced with new patrol boats, but the Leningrad Naval Base anti-diversion unit also operate the sole Baltic Fleet *Grachionok*-class anti-diversion boat, which is a new and substantially larger vessel than both the older *Flamingo-* and newer *Raptor*-class patrol boats. With three *Parchim*-class ASW ships, its ASW capability is identical to that of the Baltiisk naval base, but operates fewer minesweepers.

In 2020, the Baltic Fleet submarine force was remarkable weak. The former 123rd Submarine Brigade was reduced, probably at some point between 2009 –12, to the 3rd Separate Submarine Division (Balabin 2013); since 2018, the division has only operated one ageing *Kilo*-class submarine.

The auxiliary fleet

The main task of the auxiliary fleet is to provide logistic support to sustain Russian naval vessels in their operations on the world's oceans. However, much of its everyday routine activities are about ensuring the functioning of naval bases. Ship crews are predominantly composed of civilian personnel, of which a majority have long experience from service within the combat fleet. Thus, the average age of auxiliary fleet crews is significantly higher than that of crews serving in the combat fleet (*Strazh Baltiki* 2020i).

Russian auxiliary vessels are categorised as either seagoing ships or boats for harbour and roadstead operations (*Rossiiskaia gazeta* 2015 & MoD 2020b). As Table 3 shows, the two Baltic Fleet naval bases partly share a similar basic outfit of support vessels. This includes both seagoing and smaller tugboats (to assist, tow and reposition other vessels), harbour boats, floating cranes, and other support vessels for the everyday operations and functioning of the naval base.

Table 3: Baltic Fleet auxiliary vessels

Seagoing auxiliary ships	Bal	Len	Roadstead auxiliary boats	Bal	Len
Seagoing tug	2	3	Harbour tug	8	12
M. seagoing tanker	3	-	Tugboat	2	1
S. seagoing tanker	2	2	Oil/debris skimmer	6	1
Seagoing water tanker	1	-	Torpedo retriever	2	1
L. seagoing cargo transport	1	-	Radiological monitoring craft	1	1
M. seagoing cargo transport	2	-	Harbour boat	2	1
S. seagoing cargo transport	1	-	Communications boat (VIP)	2	5
Seagoing armament transport	-	1	Barracks vessel	-	1
Floating workshop	3	-	Passenger boat	3	-
Degaussing ship	4	1	Harbour ferry	1	-
Physical fields control vessel	1	3			
Trial ship	-	2			
Seagoing crane	2	2			
S. cable ship	-	1			
Icebreaker	-	1			
Mooring-buoy tender	1	1			
L. Communication boat (VIP)	1	-			
Total	24	17	Total	27	23

Notes: Bal – Baltiisk Naval Base; Len – Leningrad Naval Base; L. – large; M. – medium; S. – small.

However, a closer look at the composition of the auxiliary fleet exposes some characteristics of the two naval bases and of the Baltic fleet as a whole. First, the majority of auxiliary ships and especially seagoing ones are based in Baltiisk, which underlines that it is the main port not only for the combat fleet, but also for the auxiliary fleet. In terms of displacement, the difference is even more distinct,

with the total displacement of auxiliary vessels based in Baltiisk being almost twice as large. Second, and relatedly, Baltiisk holds most of the larger seagoing support vessels such as tankers, floating workshops and cargo transports. Hence, seagoing auxiliaries to support naval operations beyond the Baltic Sea region are primarily based in Baltiisk. Third, because the Leningrad NB operates several ports, it also operates a larger number of harbour tugs.

In comparison with the combat fleet, the auxiliary fleet operates generally much older vessels. Even though auxiliary vessels are considered to have a longer life-span, a significant number of still active auxiliary ships were commissioned in the 1950s or early 1960s, especially tankers and transport ships. Several of these will probably have to be replaced in this decade. Notable renewals of the auxiliary fleet inventory include the thorough renewal of the harbour tugs inventory, and the deliveries of the seagoing tug, *Viktor Konetskii*, in 2013 (Leningrad NB), the small seagoing tanker *Aleksandr Grebenshchikov*, in 2014 (Baltiisk NB), deliveries of two self-propelled cranes, in 2016 (Baltiisk & Leningrad NB) and, lastly, the commissioning of the *Ladoga* trial ship, in 2018 (Leningrad NB).

Fleet of Hydrographic survey vessels

The main task of the Russian Navy Hydrographical Survey Service is conducting surveys of the seabed and measuring sea properties such as currents, salinity, and so on. This is not only to ensure the safety of maritime navigation, but also to update the nautical charts that are essential for enabling operations at sea as well as in the littoral environment. The Russian Navy Hydrographic Survey Service is also responsible for providing support to civilian shipping (Anisin 2017:73). In 2019, the organisation published the first comprehensive Baltic Sea atlas of nautical charts (*Strazh Baltiki* 2019f).

In 2020, the Baltic Fleet Hydrographical Survey Service was divided into three hydrographic survey areas (HSA) and one oceanographic research unit – the 6th Atlantic Oceanographic Expedition (6th AOE) (Hydrographic Service 2017:55). The HSA operates predominantly smaller hydrographic survey vessels for hydrographic surveys in areas of water in the vicinity of the naval base, whereas the 6th AOE operates oceanographic research ships and larger hydrographic survey vessels. The Leningrad naval base subordinates the 42nd HSA in Vyborg, responsible for surveying the north and western part of the Gulf of Finland, whereas the 53rd HSA in Kronshtadt/Lomonosov is responsible for the southeastern part, probably all the way to Lake Ladoga (Vyborg Press 2008). The 51st HSA of the Baltiisk naval base has a similar responsibility in waters in the vicinity of the port of Baltiisk. The 6th AOE, with vessels based in Lomonosov, operates in the whole Baltic Fleet AOR but also executes longer oceanographic research expeditions.

Table 4: Hydrographic survey & Oceanographic research vessels

Hydrographic survey ship type	Baltiisk Naval Base	Leningrad Naval Base
Oceanographic research ship	–	1
Hydrographic survey ship	2	3
Small hydrographic survey ship	2	5
Large hydrographic survey boat	1	11
Small hydrographic survey boat	N.a.[1]	
Total	5	20

Notes: NB – naval base; [1] several with a displacement less than 10 tons.

The HSA operates several smaller hydrographic survey boats, which are not listed in Table 4 due to their small size. At the same time, the 6th AOE operates the second largest vessels in the Baltic Fleet inventory in terms of displacement – the Oceanographic research ship *Admiral Vladimirskii* (Leningrad NB).

Fleet of search and rescue vessels

Search and rescue (SAR) is a support function of the Russian navy; its main task is to conduct search operations and to aid personnel, vessels, or aircraft, in distress. The Baltiisk and Leningrad naval bases share a similar outfit of smaller SAR vessels, such as rescue boats and firefighting boats. However, as Table 5 shows, most of the Baltic Fleet seagoing SAR capabilities are operated within the Baltiisk naval base and its 342nd SAR group, as it holds the majority of the seagoing rescue tugs that provide SAR support to combat and auxiliary vessels on naval out-of-area operations, and submarine rescue capabilities. The latter include the *Kashtan*-class *SS-750* rescue ship, with the *Priz*-class deep submersible rescue vehicle, *AS-26*, onboard. In 2020, the Baltic Fleet only operated one ageing *Kilo*-class conventional submarine. However, the Baltic Fleet submarine rescue capabilities are still important for ensuring the safety of the extensive state trials of submarines built for export, and lately for the Black Sea Fleet and the Pacific Fleet, at the Admiralty shipyard in Saint Petersburg.

The Baltic Fleet SAR groups operate a rather small share of the Baltic Fleet ship inventory. Nevertheless, in recent years, deliveries of new vessels have been quite extensive. Notable is the delivery of three seagoing salvage tugs (project 02980), and a relatively larger number of small diving and rescue boats. Facilities for training ship crews in salvage have also been improved. Since 2014, a facility to train ship crews in damage control/assessment, fire extinguishing and ship flood control operates in Baltiisk. Prior to 2014, decommissioned ships were typically used for these types of exercises (*Strazh Baltiki* 2020c & *Strazh Baltiki* 2019h).

Table 5: Search and rescue vessels

SAR ship type	Baltiisk Naval Base	Leningrad Naval Base
Seagoing salvage tug	5	1
Rescue ship	1	–
Deep-diving AUV	1	–
Rescue boat	1	3
Seagoing diving ship	3	2
SAR/diving boat	6	2
(Harbour) dive boat	–	7
Firefighting boat	2	3
Total	19	18

Notes: AUV – autonomous underwater vehicle; SAR – search and rescue.

Special purpose ships

In 2020, the Baltic Fleet operated four intelligence ships, all subordinated to the 72nd intelligence ship division in Baltiisk. Information about the operations of the Baltic Fleet signal intelligence ships is hard to come by, but the two smaller *Alpinist*-class ships probably operate predominantly in the Baltic Sea, while the larger *Vishnya*-class have been operating in the Mediterranean Sea (VPK News 2017). Both of the two large *Smolnyi*-class training ships and a small number of *Petrushka*-class training boats are based in Kronshtadt.

Intelligence and training ships are considered neither combat nor auxiliary vessels, but rather special purpose vessels. The fact that all four intelligence ships are stationed in Baltiisk and all training vessels belong to Leningrad Naval Base is logical and fits well in the overall division of labour between the two naval bases. The main combat capabilities and intelligence collecting capabilities are based in Baltiisk, whereas vessels for scientific research, state testing and educational purposes are predominantly part of the Leningrad Naval Base.

Table 6: Special purpose vessels

Special purpose ship type	Baltiisk Naval Base	Leningrad Naval Base
Medium intelligence ships	2	-
Small intelligence ships	2	-
Training ships	-	2
Training boats	-	5
Total	4	7

3.3 Renewing the Baltic Fleet ship inventory

The previous section outlined the distribution of naval vessels in the two Baltic Fleet naval bases, according to ship category and type. The technical modernity of the inventory varies substantially, from new combat ships, carrying Russian state-of-the-art missile systems, to auxiliary ships laid down in the 1950s. This section takes a closer look at the ship age distribution of the Baltic Fleet and at what is known about future modernisation.

Baltic Fleet ship age distribution in 2020

Looking at the Baltic Fleet ship inventory as an entirety, in terms of ship age and displacement, reveals several characteristics of its current state. Based on the data compiled in Table A.1 and A.2, in the Appendix, Figure 2 shows the distribution of the time when ships currently active in the Baltic Fleet were commissioned. The columns show total numbers of vessels commissioned in each 5-year period, and the share of combat vessels. To avoid giving small vessels the same weight as larger, an additional dotted line is added, showing the aggregated displacement of ships commissioned in each period.

There are several conclusions to draw from this figure. First, as noted earlier, the dissolution of the Soviet Union had an enormous impact on the Baltic fleet. This effect is also possible to trace in the current Baltic Fleet ship inventory, as very few new vessels were commissioned for the Russian navy during the years 1995–2005. This has led to an uneven ship age distribution, which despite the deliveries of recent years will take decades to adjust. Second, and relatedly, the Baltic Fleet currently depends heavily on vessels that are between 25 and 40 years old. This is not only true for auxiliary vessels, which generally have longer lifetimes, but also for the majority of combat vessels. Third, the commissioning of new vessels has picked up speed since 2006, with nearly 40 new vessels delivered during the years 2015–20. However, the majority of recently commissioned vessels are generally smaller ones, and the Baltic Fleet still has a high dependence on older vessels, which becomes even more apparent in terms of aggregated displacement.

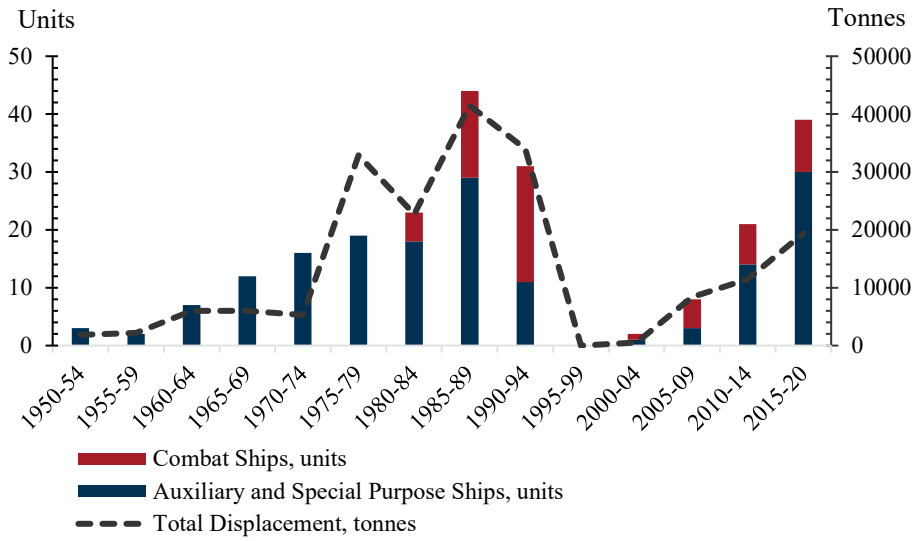


Figure 2: Age distribution by year of Baltic Fleet vessels currently active

Studying Figure 2, one should also bear in mind that quite a few major ships have recently left the Baltic Fleet ship inventory. The total displacement of the *Kilo*-class submarine, *Vyborg*, and the *Sovremennyi*-class destroyer, *Bespokoinyi*, decommissioned in 2018 and 2016, respectively, amounted to almost 9000 tonnes. Hence, the positive development shown in the figure is not only because of new vessels entering service, but also old ones leaving.

Ship inventory modernisation

The uneven age distribution of the ship inventory will likely be challenging to the Baltic Fleet and its associated shipyards. Life extension programmes of ships commissioned in the 1980s are probably needed in order not to lose key capabilities. Most important for a continued Baltic Fleet ship inventory modernisation is to maintain a steady renewal pace, and from what is publicly known regarding future procurement, its renewal will continue in the coming decade.

We should not expect, however, a one-to-one replacement, as contemporary Russian naval procurement is slowly deviating from the Soviet. In comparison with their Soviet equivalents, small missile ships (3rd rank) tend to get larger and slower, and are armed with land-attack instead of merely anti-ship capabilities. At the same time, new Russian large surface combatants (1st and 2nd rank) tend to be of less displacement than their Soviet counterparts. This is not primarily because of an inability to build large surface combatants, but rather because of the improved efficiency of naval weapon systems in terms of range and precision, and

smaller ship crews, thanks to automation. A similar development is also taking place with auxiliary ships, where new Russian vessels tend to be multipurpose and take on several support roles.

Several ongoing and future procurement plans are publicly known. For example, there are the ongoing deliveries of *Uragan*-class small missile ships, which can carry up to eight *Kalibr* anti-ship or land-attack cruise missiles. With the delivery of *Odintsovo*, in November 2020, the third out of a total of six small missile ships have been handed over to the Baltic Fleet. This is also the first small missile ship equipped with the new close-in weapon system (CIWS) *Pantsir-M* that is entering the Baltic Fleet inventory (*RIA Novosti* 2020 & *Izvestiia* 2019g). In addition, deliveries of smaller non-ranked patrol boats will probably continue. For example, two additional *Raptor*-class patrol boats, for possible anti-diversion units (PDSS) of the two Baltic Fleet naval bases were most likely delivered in late autumn 2020 (Tass 2020c).

In November 2019, the Russian Navy CINC revealed that additional orders of modernised *Kilo*-class diesel-electric attack submarines will be placed, and it is likely that the Baltic Fleet will be next to receive a smaller number of submarines, possible a division of three submarines, once deliveries to the Pacific Fleet are completed, in 2024 (*Flotprom* 2019c & CAST 2019e). However, it is possible that one or both of the *Sankt Petersburg*-class diesel-electric attack submarines currently under construction could be handed over to the Baltic Fleet before the deliveries of new *Kilo*-class submarines. According to the Russian newspaper *Izvestiia,* in 2018, the Black Sea Fleet *Kilo*-class *Alrosa*[13] was to be transferred to the Baltic Fleet, but as of October 2020 this has not yet happened (*Izvestiia* 2018a).

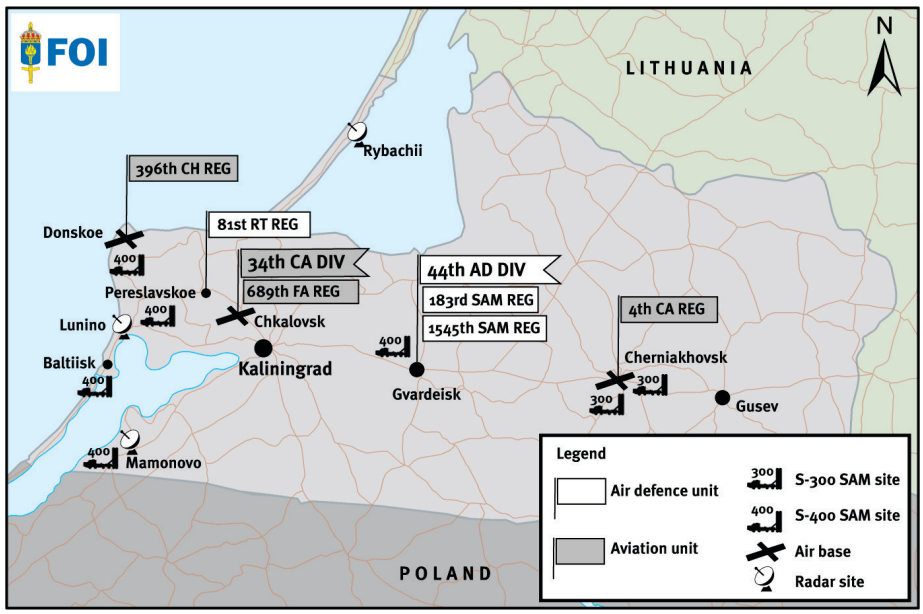
Not much is known about the plans for renewing the Baltic Fleet's inventory of special purpose and auxiliary vessels. There are plans to order new training ships to replace the two *Smolnyi*-class training ships built in the 1970s, but delivery is first expected after 2030 (*Zhavoronkov* 2020). In order to sustain the current capabilities of the Baltic Fleet, replacement auxiliary vessels such as transports and tankers will need to commence in this decade. However, except for a new large armament transport currently under construction at the Nobel Shipyard, in Rybinsk, there are few known ongoing projects in the renewal of the Baltic Fleet auxiliary ships (*Flotprom* 2019a).

[13] The sole Russian submarine that uses pump jet propulsion instead of a screw.

4 Baltic Fleet Naval Aviation and Air Defence

This chapter outlines the Baltic Fleet Naval Aviation and Air Defence. The main takeaway is that in the last few years, the Baltic Fleet Naval Aviation and Air Defence have modernised and improved in several ways. The modernisation of the air defence has gone furthest, with a nearly complete renewal of the strategic air defence in the Kaliningrad region. The revitalisation of the Baltic Fleet Naval Aviation has picked up since 2017, when the thorough modernisation of the Chkalovsk air base was finished.

Map 4: Units of the Baltic Fleet Naval Aviation and Air Defence



Notes: AD – air defence; CA – composite aviation; CH – composite helicopter; DIV – division; FA – fighter aviation; REG – regiment; RT – radio technical (radar); SAM – surface-to-air missile.

The Baltic Fleet Naval Aviation and Air Defence consists of two separate divisions. These are the 34th Composite Aviation Division (34th CA DIV) and the 44th Air Defence Division (44th AD DIV), which both subordinate three regiments each. Whereas the three aviation regiments are stationed at three separate air bases, the garrisons of units belonging to the 44th AD DIV are located in Gvardeisk and Pereslavskoe, but operate radar and SAM sites at several locations in the Kaliningrad region. Map 4 shows the location of the 34th CA DIV's

regiments, air bases and alleged peacetime locations of S-400 and S-300 SAM sites (CAST 2019c).

In 2020, the Baltic Fleet operated about 78–104 fixed- and rotary-wing aircraft (including three medium UAVs), six battalions of the long-long-range SAM system, S-400, comprised of about 48 launch vehicles, a *Pantsir-S1* battalion with 12–18 firing units, and possibly 1–2 battalions of the S-300 long-range SAM system (8–16 launch vehicles).

4.1 34th Composite Aviation Division

There are several reasons why the decade following the military reform initiated in 2008 was generally unfavourable to the Baltic Fleet Naval Aviation. First, the military reform resulted in a significant reduction in the Baltic Fleet Naval Aviation organisation, with all its regiments reduced to squadrons. Second, during the years 2011–14, the operational-tactical aviation, that is, all Su-27 fighters and Su-24 attack aircraft, were nominally transferred to the Air Force, leaving mainly naval helicopters in the Baltic Fleet organisation. This partition considerably stalled the development of the Baltic Fleet Naval Aviation (Zverev 2018). Third, the result of the major reconstruction of the Chkalovsk Air Base, initiated in October 2012 and completed first in 2018, was that nearly all aviation was concentrated to the Cherniakhovsk Air Base, which effectively restricted air operations during that period (*Krasnaia zvezda* 2019e).

Since 2017, however, the organisation has grown considerably, in two steps. First, in 2017–18, it grew through the resurrection of two aviation regiments and the creation of a helicopter regiment and, in 2019, the replacement of the 72nd Aviation Base by a separate aviation division, the 34th Composite Aviation Division (34th CA DIV)[14] (*Krasnaia zvezda* 2020b). Both new personnel as well as additional aircraft have been assigned to the new division, but in 2020, it was probable that the process was still far from finished (*Krasnaia zvezda* 2019e). Not only is there a nation-wide deficit in military pilots, but the requirement that Baltic Fleet pilots must be certified to fly over water has most likely slowed down the recruitment of new pilots (Dronina 2019a). Nevertheless, a substantial share of all Russian fighter pilots who graduated in 2019 were assigned to the 34th CA DIV's fighter aircraft regiment (*Izvestiia* 2019e).

In 2020, the 34th CA DIV operated 78 to 104 aircraft in following units:

- 689th Guards Fighter Aviation Regiment Chkalovsk.
- 4th Guards Composite Aviation Regiment Cherniakhovsk.
- 396th Guards Composite Helicopter Regiment Donskoe.

[14] Initially, in 2019, the new composite aviation division was wrongly labelled 132nd Composite Aviation Division (*Izvestiia* 2019f).

Table 7: Assessed aircraft inventory of the Baltic Fleet Naval Aviation

Aircraft type	Aircraft model	Assessed number of aircraft
4th Composite Aviation Regiment, Cherniakhovsk		
Attack aircraft	*Su-24M*	12–16
Multirole aircraft	*Su-30SM*	8–9
689th Fighter Aviation Regiment, Chkalovsk		
Fighter aircraft	*Su-27P*	16–24
Fighter aircraft (twin-seat)	*Su-27UB/UBP*	4
Light transport aircraft	*An-26*	4
VIP aircraft	*Tu-134*	1
Medium UAV	*Forpost (UAV)*	3
396th Composite Helicopter Regiment, Donskoe		
Transport helicopter	*Mi-8*	6–10
Attack helicopter	*Mi-24VP*	10–14
SAR helicopter	*Ka-27PS*	5–7
ASW helicopter	*Ka-27PL/M*	6–9
(Naval) Transport helicopter	*Ka-29*	3
	Total	78–104 aircraft

Notes: ASW – anti-submarine warfare; SAR – search-and-rescue; UAV – unmanned aerial vehicle; VIP – very important person.

689th Fighter Aviation Regiment

The 689th FA REG, formed in 1 December 2018 out of the former 72nd Air Base fighter squadron, operates from Chkalovsk Air Base. It consists of two fully equipped squadrons of Su-27 fighter aircraft, and an unmanned aerial vehicle (UAV) squadron (*Krasnaia zvezda* 2019b). A transport aviation squadron, with primarily An-26 light turboprop transport aircraft and a single Tu-134 VIP aircraft, is also stationed at Chkalovsk.

In 2019, shortly after the 689th FA REG was formed, additional Su-27 fighter aircraft were transferred from the Western Military District. These were aircraft that became surplus after the rearmament of 790th Fighter Aviation Regiment, in Khotilovo (Tver region) to Su-35S (CAST 2019a). The total number of fighter aircraft is probably somewhere around 22–26 Su-27, mostly Su-27P versions, but also about four Su-27UB/UBP for training (*Krasnaia zvezda* 2019b). The 689th FAR constantly has some 2–4 fighters on Quick Reaction Alert (QRA), with the frequency of QRA-missions having grown substantially over the last few years (*Strazh Baltiki* 2019s).

The Unmanned Aerial Vehicle (UAV) squadron of 689th FA REG was formed in 2014–15 (*Izvestiia* 2017a). The squadron operates two types of UAVs, the mobile *Orlan-10* system, which is launched by a catapult, and the medium-size *Forpost* UAV system, which uses a runway. The former is used for reconnaissance

missions, whereas the latter is relied on for both reconnaissance and correcting naval artillery fire at sea (*Strazh Baltiki* 2018f & MoD 2020d).

4th Composite Aviation Regiment

The 4th CA REG, in Cherniakhovsk, had probably already been formed by late 2017, as it was less affected by the Chkalovsk air base modernisation (*Izvestiia* 2019e). In 2020, the regiment operated one full squadron of Su-24M attack aircraft and a partially equipped squadron of the modern Su-30SM multirole aircraft. The first Su-30SM multirole aircraft were received in late 2016 (Tass 2017a), and in 2018 the Su-30SM squadron was equipped to 75 per cent, to a total of nine aircraft (*Strazh Baltiki* 2018i)

With the Su-30SM multirole aircraft, the regiment can take on a wider set of tasks, including counter-air operations. However, the main tasks of both the Su-24M and the Su-30SM aircraft are providing close air support to Baltic Fleet land forces as well as engaging naval ships at sea. Similar to the 689th FAR, the 4th CA REG maintains a QRA to conduct reconnaissance missions on foreign naval ships entering the Baltic Sea. However, the frequency of QRA missions for the 4th CA REG is considerably fewer (*Strazh Baltiki* 2019s).

396th Composite Helicopter Regiment

The 396th CH REG was probably formed at the same time as the 689th FAR, in late 2018 (*Krasnaia zvezda* 2020b). It operates three helicopter squadrons: one squadron of naval helicopters, another of transport helicopters and a third, of attack helicopters.

The naval helicopter squadron operates about five to seven Ka-27PS SAR helicopters, six to nine Ka-27PL and Ka-27M ASW helicopters, and three Ka-29 naval transport helicopters. Four of the latter were delivered in 2017, but one was lost in in an accident in April 2018 (*Rossiiskaia gazeta* 2017 & Interfax 2018b). By October 2018, the regiment had received five modernised Ka-27M, but as pilots were retrained in Yeisk (Krasnodar Krai, Southern Russia), the new ASW helicopters were first operative in 2019 (MoD 2018f & *Tass* 2018b). In addition, 2019 was the first year in almost a decade that the naval helicopter squadron received newly graduated pilots, and as a seaborne ASW helicopter requires a flight group of nine people, the major bottleneck for seaborne ASW helicopters is most likely lack of personnel (*Strazh Baltiki* 2019zf).

In comparison with the naval helicopter squadron, the aircraft of both the transport and the attack helicopter squadrons are in poorer shape. However, in coming years both squadrons will receive additional staff as well as new or modernised helicopters (*Strazh Baltiki* 2019y). The transport squadron is not close to being

fully equipped;[15] it consists of around six to ten Mi-8 helicopters. One of their main tasks is to conduct parachute training for reconnaissance and naval assault subunits of the 336th Naval Infantry Brigade (*Strazh Baltiki* 2019w). The approximately ten to fourteen aircraft of the attack helicopter squadron are predominantly the Mi-24VP.

4.2 44th Air Defence Division

In contrast to the development of the Baltic Fleet Naval Aviation, the modernisation of the Kaliningrad air defence has been a very high priority. The clearest sign of this distinction is that the 183rd Air Defence Regiment, in Gvardeisk, was in 2012 the first unit outside Moscow to receive the S-400 long-range surface-to-air missile (SAM) system (Karpychev 2017). Since then, air defence units in the Kaliningrad region have received several additional battalion sets of S-400, thereby replacing older systems such as S-200, S-300 and S-300V, together with short-range *Pantsir-S,* to protect the long-range SAM system sites. Although, air defence modernisation in Kaliningrad started early, the full potential of the S-400 system relies on the performance of its components, such as radars and missiles. For example, the operational status of the long-range active radar homing missile (40N6) of the S-400 system has recently been questioned (Dalsjö *et al* 2019:27–29).

In 2020, the 44th Air Defence Division (44th AD DIV) was composed of the following two SAM and one radio-technical regiments:

- 183rd Guards Maladzechna Aleksandr Nevskii Orden Air Defence Missile Regiment Gvardeisk.
- 1545th Air Defence Missile Regiment Gvardeisk.
- 81st Radiotechnical Regiment Pereslavskoe.[16]

183rd Surface-to-Air Missile Regiment

The 183rd Surface-to-Air Missile Regiment (183rd SAM REG), is the larger of the two SAM regiments of the 44th AD DIV. It main garrison is most likely located in Gvardeisk, but with its subunits disseminated at various SAM sites in the Kaliningrad region. From April 2012 until December 2016, the regiment rearmed to the S-400 SAM system. With four battalion sets delivered, the regiment operates some 32 launch vehicles[17] (Karpychev 2017). In 2013, as one of the first units in the Western MD, the 183d SAM REG also received a battalion set of the *Pantsir-S1* short- to medium-range SAM system (*Lenta* 2016a). The Battalion has at least

[15] A helicopter squadron usually consists of 16–24 aircraft.
[16] Units of the Radiotechnical Troops are essentially radar units, conducting radar surveillance for the needs of the air and air defence forces.
[17] Technically, the battalion set can vary, but the standard battalion set is composed of eight launch vehicles (Tass 2017b).

two, perhaps three, batteries, each with six firing-units, totalling 12–18 units for the Battalion as a whole (*Strazh Baltiki* 2019n). In 2020, the regiment still had a few S-300 SAM systems operational on a few SAM sites (MoD 2020f).

1545th Surface-to-Air Missile Regiment

The 1545th SAM REG was originally a Ground Forces air defence brigade, and until recently equipped with the S-300V tracked vehicle SAM system. It was later transferred, however, to the Aerospace Forces, moved from Znamensk to Gvardeisk, and equipped with the S-300 SAM system (CAST 2019c). In 2017, the Russian newspaper *Izvestiia* stated that the 1545th SAM REG unit had received one battalion set of the new S-300V4, thereby receiving a SAM system primarily used by the Ground Forces Air Defence Troops (*Izvestiia* 2017b). However, in 2020 there was no sign that such a delivery had taken place. Instead, the regiment received two battalion sets of the S-400 in 2019, thereby replacing the former S-300 systems (CAST 2019d & *Strazh Baltiki* 2019m).

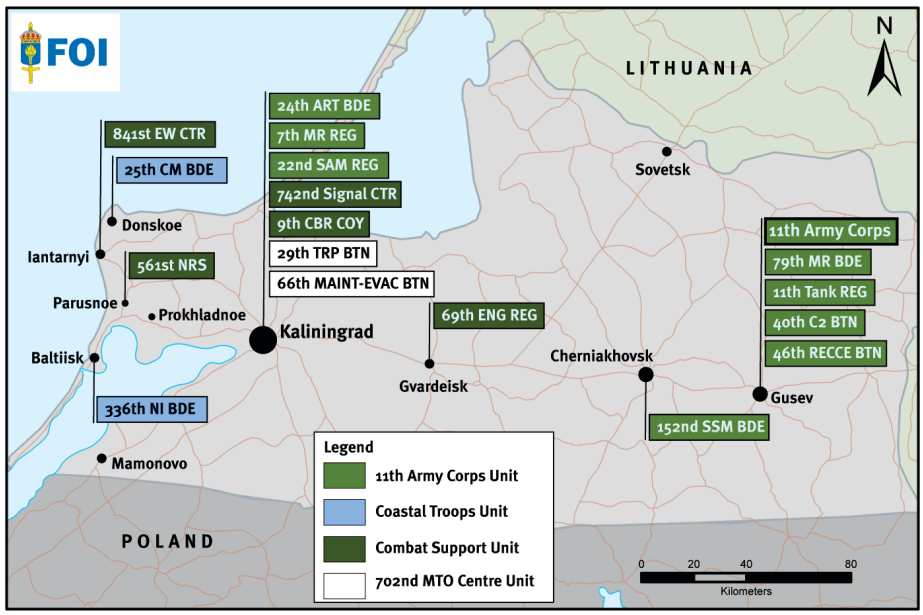
81st Radiotechnical Regiment

Equipment details of the 81st Radiotechnical Regiment (81st RT REG) are rarely revealed, but both its inventory of radars and automated command and control systems are described as modern (*Krasnaia zvezda* 2020c). This includes modern mobile long-range/high-altitude surveillance radars of both the *Nebo* and the *Gamma* series 3D long-range search and acquisition radar (Tass 2018a). Pictures from a local Kaliningrad blog confirm that the regiment operates the *Nebo-U* system as well as the *Kasta-2E2* low-altitude surveillance radar (Kaliningrad blog 2018). Given the thorough modernisation of the surface-to-air missile systems of the 44th AD DIV, it is reasonable to assume that the modernisation of its radar capabilities is of equal priority. There are several radar sites at different locations along the Kaliningrad shoreline, including sites in the vicinity of Mamonovo, in Lunino, and near the hamlet of Rybachii, on the Curonian Spit (Regnum 2016). The regiment has in recent years distinguished itself in competition with other radiotechnical units (*Strazh Baltiki* 2019d).

5 Baltic Fleet Land Forces

This chapter examines the Baltic Fleet land forces[18] component stationed in the Kaliningrad region. For the general reader, the main takeaway is that the Baltic Fleet subordinates a wide range of land-based units, including ground forces that are able to carry out combined arms operations, primarily to defend the exclave, since the lack of logistics support prevents operations at any distance beyond the exclave's borders. Map 5 shows the geographical distribution of the Baltic Fleet land forces units, and their unit type affiliation: ground forces (11th Army Corps), coastal troops, combat support, or logistics support (702nd MTO Centre).

Map 5: Land Forces units of the Baltic Fleet



Notes: ART – Artillery; CBR – chemical, biological and radiological; CTR – centre; C2 – command & control; BDE – brigade; BTN – battalion; ENG – engineer; MAINT-EVAC – maintenance-evacuation; EW – electronic warfare; MR – motorised rifle; MTO – materiel-technical support ; NI – naval Infantry; NRS – naval reconnaissance station; RECCE – reconnaissance; REG – regiment; SAM – surface-to-air missile; SSM – surface-to-surface missile; TRP – transportation.

This chapter is divided into five sections. Starting with the largest entity, the 11th AC, which is a ground forces formation within the Baltic Fleet. Second, the two

[18] The notion of *Land Forces* used here does not fit well, however, into Russian military terminology, but for analytical purposes it is fruitful to handle all types of ground-based combat units[18] collectively in order to gauge capabilities for land operations as a whole (Sutyagin & Bronk 2017:7). Baltic Fleet combat and logistics support units are also coded as land force units.

Baltic Fleet Coastal Troops units are covered. Thereafter, the Baltic Fleet combat support and logistic support organisation are presented. Lastly, non-Baltic Fleet installations and units in the Kaliningrad region are briefly addressed.

5.1 11th Army Corps

Formed in April 2016, the 11th Army Corps (11th AC) constitutes the main land force in the Kaliningrad region (*Krasnaia zvezda* 2020d). At the time of its formation, it subordinated the same units as its predecessor, the Baltic Fleet Ground and Coastal Forces. However, whereas the Baltic Fleet Ground and Coastal force staff was a branch of the Baltic Fleet HQ, the 11th AC, with headquarters in Gusev, is a separate operational-tactical formation. Similar army corps have also been set up in both the Kola (Northern Fleet) and Crimea (Black Sea Fleet) peninsulas, and all three are allegedly responses to the increased NATO activity in these regions (*RIA Novosti* 2015). With a total of somewhere between 8000–11,000 men (RDP blog 2020), the 11th AC represents a large portion of the total Baltic Fleet staffing of approximately 25,000–30,000 servicemen (Dronina 2019b).

Since 2016, several of the 11th AC's units have undergone substantial technical modernisation, especially considering its fire support units. In addition, the strength of the army corps seems to have been gradually growing, with new units added. Moreover, in late 2019, the formation of another motorised rifle unit was announced (*Strazh Baltiki* 2019zg). It is highly likely that this either is, or will eventually lead to, the resurrection of the 1st Minsk Proletarian Motorised Rifle Division, perhaps already in late 2020 (Stepanov 2019).

In August 2020, the 11th AC consisted of at least eight units. Three manoeuvre units, three fire support units and two, smaller, combat support units. The two latter are the 40th Command and Control Battalion (40th C2 BTN) and the 46th Reconnaissance Battalion (46th RECCE BTN), both located in the town of Gusev, but will not be detailed further (Gusev Online 2019).

Army Corps Manoeuvre units

The following three units represent the manoeuvre units of the 11th AC:

- 7th Separate Guards Moscow-Minsk Proletarian Motorised Rifle Regiment Kaliningrad.
- 79th Separate Guards Insterburg Red Banner Second Class Order of Suvorov Motorised Rifle Brigade Gusev.
- 11th Tank Regiment Gusev.

All three share some similarities in terms of equipment in order to facilitate repair and sustainment. For example, all three units are equipped with the BMP-2 infantry fighting vehicle; both motorised rifle units share the same type of self-

propelled howitzer (*2S3 Akatsiia*); and all main battle tanks within the army corps units are modernised versions of the T-72, including a battalion of the T-72B3M (MoD 2020i). There are also differences, however, both in terms of equipment and the role they have in the defence of the Kaliningrad region. Table 8 provides an overview of the type of equipment found in each unit.

Table 8: Equipment types of the 11th Army Corps' units

Unit	APC	MBT	Artillery			AD
			Gun	*MLRS*	*ATGM / SSM*	
7th MR REG	BMP-2	-	2S3	BM-21	Shturm-S	ZSU-23-4
79 MR BDE	BMP-2	T-72B3	2S3	BM-21	Shturm-S	Tunguska
11th Tank REG	BMP-2	T-72B3(M)	2S19	-	Shturm-S	N.a.
244th Art BDE	-	-	2A36 / 2S7	BM-27	Khrizantema-S[1]	-
152nd SSM BDE	-	-		-	Iskander	-
22nd SAM REG	-	-	-	-	-	Tor-M1/M2

Notes: [1] mounted on BMP-3; AD – air defence; APC – armoured personnel carrier; ART – artillery; ATGM – anti-tank guided missile; MBT – main battle tank; MLRS – multiple launch rocket system; MR – motorised rifle; N.a. – not available; REG – regiment; SAM – surface-to-air missile; SSM – surface-to-surface missile.

Reduced during the reform years from a brigade-size unit, the 7th MR REG is currently a relatively weak motorised rifle unit, with the defence of Kaliningrad city as its main task. It currently lacks a tank battalion, and relies mainly on older ZSU-23-4 *Shilka* self-propelled anti-aircraft guns and manpads for its air defence (*Strazh Baltiki* 2020f). Located in the town of Gusev, the 79th MR BDE is, in terms of firepower, the strongest ground forces unit in the Kaliningrad region. This includes the *Tunguska* self-propelled anti-aircraft missile system, and a full BM-21 *Grad* rocket-artillery battalion. The tank battalion of the 79th MR BDE, consisting of approximately 40 units of T-72 tanks, was during 2010–18 the sole tank unit in Kaliningrad. This was changed, however, in early 2018, when a separate new tank battalion was set up in Gusev, which a year later was increased to a tank regiment (MoD 2018d) & *Strazh Baltiki* 2019i). The new regiment has gradually received battalion sets of T-72 MBTs, and self-propelled howitzers (MoD 2019a & Strazh Baltiki 2019i). The latter are probably 152 mm 2S19 *Msta-S*, as such vehicles were shown for the first time in the 2019 Victory Day parade in Kaliningrad (Tass 2019a).

Army Corps Fire Support

Artillery fire support of the 11th AC is found in its three manoeuvre units: a 2S19 battalion in the 11 Tank REG, and 152 mm 2S3 *Akatsiia* self-propelled howitzers and Bm-21 *Grad* rocket artillery in both the 7th MR REG and the 79th MR BDE. In addition, the 244th ART BDE holds at least one, probably two, battalions of 152 mm 2A36 *Giatsint-B* towed artillery and a 122 mm Bm-21 *Grad* rocket-artillery battalion (*Strazh Baltiki* 2019zc). In recent years, the brigade has been reinforced with even heavier artillery. In 2018, probably, the brigade was supplemented with a smaller number of both 220 mm BM-27 *Uragan* rocket artillery, and 203 mm 2S7 *Pion* self-propelled artillery (*Izvestiia* 2018b, *Izvestiia* 2019c & *Strazh Baltiki* 2020o). The 244 ART BDE, similarly to analogous units elsewhere in Russia, has embraced the use of UAVs for reconnaissance and target damage assessment, and automated C2 systems (*Strazh Baltiki* 2019zc). In 2018, a new battalion, with the *Khrizantema-S* anti-tank guided missile battalion, was set up within the brigade (*Strazh Baltiki* 2019ze). The 244th ART BDE is the fourth unit to receive this system in Russia (Karpychev 2019), and mounted on a BMP-3, the *Khrizantema-S* introduces a new type of combat vehicle to the 11th AC.

As the last brigade in line to re-arm to the *Iskander-M* surface-to-surface missile system, the 152nd SSM BDE's personnel finished their rearmament training in late 2017, making the system operational in Kaliningrad in 2018 (CAST 2017b). With three battalions, the total launch capacity of the brigade is 24 missiles (four launch vehicles in each battalion, each carrying two missiles), with the option to reload another 24 missiles (*Telekanal zvezda* 2014).

Late in 2019, the 22nd SAM BDE received at least 12 units (a battalion set) of the *Tor-M2* SAM system, thereby replacing at least more than half of the old *Tor-M1* system (*Rossiiskaia gazeta* 2019 & *Strazh Baltiki* 2020k).

5.2 Baltic Fleet Coastal Troops

The coastal troop units of the Baltic Fleet consist of the following two units:

- 336th Separate Guards Belostok Orders of Suvorov and Alexander Nevskii Naval Infantry Brigade Baltiisk.
- 25th Coastal Missile Brigade Donskoe.

The Baltic Fleet's two coastal troop units are sometimes assumed, mistakenly, to be part of the 11th army corps. However, aside from being coastal troop units, very little holds the two units together. Whereas the 336th NI BDE is directly subordinated to the Baltic Fleet command, the 25th CM BDE is part of the Baltiisk Naval Base. However, both are high-priority units and tend to attract a lot of attention due to the elite status of the 336th NI BDE and the standoff capability of the recently modernised coastal missile brigade.

336th Naval Infantry Brigade

The 336th NI BDE is probably one of the more well-known Baltic Fleet units, and certainly one of the most prestigious. This is partly reflected in the brigade's personnel structure, which, in 2019, included almost 80 per cent contract soldiers. Relative to motorised rifle units, this is a very high share. The main tasks of the brigade are to conduct amphibious warfare operations and fight in coastal areas, but lately its role as an expeditionary rapid-reaction force has been emphasised (*Izvestiia* 2019d). The BTR-82 amphibious armoured personal carrier (APC) is the brigade's main equipment. The brigade consists of several sub-units, including one or two naval infantry battalions, an assault landing battalion, and a reconnaissance battalion (*Strazh Baltiki* 2019e & *Strazh Baltiki* 2020e). Artillery fire support is relatively light, with the 120 mm 2S9 *Nona* self-propelled mortar and the 122 mm *2S1 Gvozdika* self-propelled amphibious howitzer, as are the brigade's organic air defence assets, mainly composed of the short-range SAM system *Strela-10* and *Igla*-type manpads (*Strazh Baltiki* 2020h).

25th Coastal Missile Brigade

Subordinated to the Baltiisk Naval base, the 25th Coastal Missile Brigade (25th CM BDE) has its garrisons in the hamlet of Donskoe. In 2016, the unit was first transformed from a regiment to a brigade unit and later the same year replaced the obsolete *Redut* coastal missile system and rearmed with two modern coastal missile battalions – one with the *Bal* and one with the *Bastion-P* coastal missile system (*Strazh Baltiki* 2019l). In 2019–20, a second *Bal* coastal missile battalion was probably added (Interfax 2019). Both the *Bal* and *Bastion-P* battalions have a similar structure, with four launchers, four transporter-reloader vehicles, and three command and support vehicles (*Voennoe Obozrenie* 2015; *Vesti* 2020).

5.3 Baltic Fleet Combat Support Units

The Baltic Fleet has a number of combat support units that are directly subordinated to its headquarters, and include an electronic warfare, a signal, a CBR, and an engineer unit. They serve the Baltic Fleet as a whole, but also provide combat support to the naval infantry brigade and army corps units. Centrally subordinated combat support units are not unusual within the Armed Forces but, as noted earlier, the absence of combat support units within the army corps is a major difference from the CAAs of the Ground Forces (Kjellén & Dahlquist 2019:27). The naval special forces unit located in the hamlet of Parusnoe is also treated, due to its reconnaissance role, as a combat support unit.

Signal and Electronic Warfare Centres

A special trait of the Navy is that, due to territorial responsibilities, the fleet's electronic warfare and signal troops are organised as centres rather than regiments.[19] The following two combat support centres are found in the Baltic Fleet:

- 841st Electronic Warfare Centre Yantarnyi.
- 742nd Guards Orshanskii Aleksandr Nevskii Orden Signal Centre Kaliningrad.

On a twenty-four hour, seven-day-a-week basis, the responsibility of the 841st EW CTR is to monitor radio signals emanating from both civilian and military aircraft and vessels operating in the southern part of the Baltic Sea region (*Strazh Baltiki* 2014). Similarly, the 742nd SIG CTR operates several communication nodes that ensure functioning of the administrative military communication network within the Baltic Fleet.

The 841st EW CTR has its garrison in Yantarnii on the Baltic Sea coastline. In recent years, the centre has experienced growth both in terms of personnel and technical modernisation (*Strazh Baltiki* 2019o). For example, in 2018, the centre's mobile unit was equipped with the *Murmansk-BN* high-frequency (HF) jamming system (*Izvestiia* 2019b). Other modern tactical EW systems have been noted in use during exercises in the Kaliningrad region. These include, for example, tactical systems capable of GNSS jamming, and EW capabilities fitted onto *Orlan-10* drones (MoD 2019b). These systems could be part of the mobile unit of the EW CTR, as well as belonging to one of the motorised rifle units of the 11th AC.

The 742nd SIG CTR is a large unit of almost 2500 personnel, of which about 1000 are military and 1500 are civilian employees, operating some 30 stationary communications nodes (*Strazh Baltiki* 2018j). The centre also operates a mobile unit that can establish one or several field communication nodes (*Strazh Baltiki* 2020a).

Engineer, CBR and Naval SpetsNaz

The 69th Separate Naval Engineer regiment, located in the town of Gvardeisk, is composed of three engineer battalions: one engineer-sapper, one naval engineer and one pontoon-bridge battalion (*Krasnaia zvezda* 2014a). The regiment was formed in 2014, out of several separate battalions, and has since then congregated in one garrison, undergone a technical modernisation and adapted its organisation, for example by adding a mine detection canine unit, in 2018-19 (*Strazh Baltiki* 2018g). The naval engineer battalion has one landing-assault company, which supports naval infantry units with mine and obstacle clearance during amphibious

[19] Both are probably of regiment size.

landings (*Strazh Baltiki* 2019b). The pontoon bridge and engineer-sapper battalions primarily support other units of the Baltic Fleet, especially units of the 11th AC.

The 9th Separate Chemical, Biological & Radiological Protection Company (9th CBR COY) is a small unit with special equipment employed to indicate, assess and clean-up CBR contamination. It is also engaged in camouflaging activities, such as temporarily reducing the signature of military objects through the use of smokescreens (*Strazh Baltiki* 2019r).

Each fleet of the Russian Navy has a naval special forces (*SpetsNaz*) unit. Unlike the army *SpetsNaz* brigades, naval *Spetsnaz* is not operationally subordinated to the military intelligence Main Directorate (the GRU), and reconnaissance missions are authorised by the fleets (Ramm 2017). The 561st Naval Reconnaissance Station (561st NRS) of the Baltic Fleet is located in the hamlet Parusnoe, north of Baltiisk. The unit is relatively small, with some sources claiming the core force consists of three groups of twelve soldiers each, while others claim the unit consists of well over 100 people: 56 soldiers and a large group of technical personnel (Ramm 2017; Ardashev 2015:51-54).

5.4 Baltic Fleet Logistics Support Units

The 702nd MTO centre is the backbone of the Baltic Fleet logistics organisation. It provide goods and services for the everyday needs that ensure the functioning of garrisons, naval bases, and other military objects. This includes storage and distribution of goods and fuel, medical services, operation of military restaurants, air base logistics, and so on. The past years of extensive reform of the military logistical system has also resulted in large investments in the Baltic Fleet MTO structure. In 2019, a large ammunition storage facility was under construction in the hamlet of Prokhladnoe, located between Baltiisk and the city of Kaliningrad (Rugrad 2019).

Companies affiliated to the Armed Forces are regularly used for technical maintenance, especially for more extensive overhaul and service work. The 33rd Ship Repair Plant in Baltiisk, and the Kronshtadt Shipyard and 150th Aircraft Repair Plant, in Liubino, are examples of companies located in the Russian Baltic region and used by the Baltic Fleet (*Flotprom* 2018a, *Strazh Baltiki* 2019k & *Strazh Baltiki* 2020n). These are all part of the stationary logistical chain and will not be detailed further in this report.

There is also, however, a mobile logistic component in the MTO centre structure. This includes not only small and specific functions such as, for example, a mobile bread-baking factory, but also larger units. The 702nd MTO centre of the Baltic Fleet operates two separate battalions to provide logistical support to other Baltic Fleet units as well as to the Baltic Fleet organisation as a whole. The two units, both with garrisons in the city of Kaliningrad, are the 29th Separate Vehicle

Battalion (29th VEH BTN) and the 66th Separate Maintenance-Evacuation Battalion (66th MAINT-EVAC BTN) (*Krasnaia zvezda* 2020f).

The 29th VEH BTN is composed of approximately 300, predominantly military but also civilian, servicemen, and operates more than 300 vehicles of various configuration and purposes (*Strazh Baltiki* 2018b & *Strazh Baltiki* 2019z). The Baltic Fleet depends on the battalion for all types of everyday military transport, but the unit is also regularly involved in military exercises. Usually the vehicle battalion cooperates closely together and participates in exercises with the maintenance-evacuation battalion of the Baltic Fleet (*Strazh Baltiki* 2019z). The main task of the 66th MAINT-EVAC BTN is to restore damaged combat vehicles recovered from the battlefield; since 2016, similar units have been formed elsewhere in Russia (*Voennoe obozrenie* 2019).

5.5 Non-Baltic Fleet military units in the Kaliningrad region

As noted earlier, because of the territorial responsibility of the Baltic Fleet in the Kaliningrad region, it also subordinates the absolute majority of military units located there. Nevertheless, there are facilities and structures of other subordination. A few military units and functions are most likely directly subordinated to the Western Military District. This includes for example recruitment offices and the military prosecutor organisation; the latter also includes such functions as the military road inspection (*Strazh Baltiki* 2020g).

A *Voronezh-DM* ballistic missile early warning (BMEW) radar operated by the Russian Aerospace Forces is located in Dunaevka, approximately 25 kilometres northwest of Kaliningrad city centre. The facility has been on combat duty since December 2014, and is part of a national network of ground-based radars and satellites, tasked with detecting foreign launches of ballistic missiles and space rockets. Hence, the radar is solely for nuclear attack early warning purposes, and is located in Kaliningrad merely due to the prominent geographical location of Kaliningrad. However, according to the Russian news outlet, *TASS,* the building of a second large radar installation, a *Konteyner* radar with over-the-horizon (OTH) capabilities, will commence in Kaliningrad soon (*Tass* 2020b). This installation will add, in contrast, to the aerial surveillance capability of Baltic Fleet air and air defence forces.

6 Baltic Fleet operations

Hitherto, much of the effort represented by this report has been on force description – i.e. outlining the Baltic Fleet's units in terms of size, inventory and modernity level. The capabilities the Baltic Fleet commander has at his disposal are indicative of the role the fleet plays in the Armed Forces, but can at the same time be misleading. Geographical reach and level of "jointness" are examples of important factors missed out in overly focusing on organisation. In this chapter, the focus shifts somewhat from the study of individual units to assessing the combined or joint effort of several units, in terms of military operations. This is done by assessing the combined capabilities of several units, and looking at peacetime activities such as training, exercises and missions.

Naval and territorial defence operations

Based on the findings in previous chapters, I argue that the raison d'être of the Baltic Fleet is in being ready to conduct two basic categories of military operations – *naval operations* and *territorial defence operations*. The former is about pursuing and defending Russian national interests at sea, whereas the latter is essentially about defending the Kaliningrad region. Indeed, Russia could potentially use Baltic Fleet forces stationed in Kaliningrad as a means of aggression against a neighbouring country. A swift deployment of a limited Baltic Fleet force is very probable in such a scenario, but for a large-scale military operation, it is more likely that the Kaliningrad region would be used as a staging area for other forces. It is unlikely that the military leadership would put the defence of the Kaliningrad region at risk through the employment of Baltic Fleet army corps units.

The use of these two categories should be seen as an analytical framework for analysing Baltic Fleet operations. For each two of these categories, a few types of operations are examined more closely. First, five aspects of *naval operations* are examined: naval strike missions, AWS warfare, mine warfare, amphibious warfare and out-of-area missions. Then, four aspects of *territorial defence operations* are examined: maritime awareness and coastal defence, air domain awareness and air defence, protection of critical infrastructure, and nuclear deterrence capabilities, in terms of tactical nuclear weapons.

The types of operations suggested here are derived from the foregoing chapters of this report, but these are far from conclusive. The variety of scenarios where Baltic Fleet units and capabilities could be employed is almost infinite, and other types of analytical approaches are conceivable. The study of the Baltic Fleet's capability to create anti-access/anti-denial (A2/AD) "bubbles" in the southern Baltic Sea is, for example, one that involves a combination of both naval and territorial defence capabilities (see for example Dalsjö *et al* 2019).

Military training and exercises

The study of peacetime military activities, such as training, exercises and the naval presence on the world's seas provides valuable information on the role of the Baltic Fleet. Such study can, for example, show how several units are combined to solve a shared task, reveal the type of conflict scenarios forces are trained for and provide a sense of the Baltic Fleet's geographical responsibilities.

The Russian military educational year is divided into two periods, the winter training period (December–April) and the summer training period (June–October). Traditionally, shifts in training intensity are closely related to the two draft periods – spring draft period 1 April – 15 June, and autumn draft period 1 October – 31 December (Tass 2020a). Hence, a training period normally starts with an emphasis on individual training, such as the basic soldier training, and ends with exercises at a higher level of complexity. Even if the Russian military leadership has put more emphasis on snap exercises and training in unfamiliar terrain, this basic training pattern still governs much of the annual activities.

This regularity is also shown when taking a closer look at different types of training. All ship crews are obliged to recurrently undergo a series of certifications in order to be allowed to sail at sea (*Strazh Baltiki* 2019c). This includes ship mooring, testing the crew's skills in using the ships technical systems and mastering a variety of emergency procedures, including fire-fighting, dewatering and the CBR threat. All these initial exams, called K-1, are all pursued while the ship is still in harbour. After these have been passed, the ship is allowed to go to sea and a second series of certification exams starts – the K-2 certificate. The purpose of these is ultimately to check and control the preparedness of the crew to take on combat tasks as an individual ship. After these are in turn passed, the vessel is ready to solve more complex missions together with other vessels. In the case of a snap-exercise or a, for some reason, unplanned mission at sea, completion of the K-2 certificates can be postponed. The annual training cycles for the Baltic Fleet land forces, as well as naval aviation and air defence, are also governed by the military educational year in a similar way.

6.1 Naval Operations

This section examines Baltic Fleet naval operations in terms of where and how they can operate. Not all types of naval tasks are equally interesting in terms of the Baltic Fleet's overall role and purpose. Everyday tasks performed by harbour tugs, hydrographic survey boats, and so on, are often a necessity in order that combat ships can perform their duties, but they do not reveal much about the role the Baltic Fleet plays on the world's oceans. The focus here is on combat capabilities and the capability to project naval power.

The Russian Navy has substantially increased its overall activity at sea in the last ten years, and during the period 2014–18, the total amount of days at sea doubled

(*Krasnaia zvezda* 2018). This is certainly also true for the Baltic Fleet, which for example in 2019 increased the total distance sailed by 15 per cent, to more than 170,000 nautical miles, compared to 2018 (*Krasnaia zvezda* 2020a). This naval activity includes missions both in and beyond its area of responsibility (AOR).

The Baltic Fleet's area of responsibility[20] goes beyond the Danish Straits and, as illustrated in Map 6, most likely encompasses the greater part of the North Sea and the English Channel (at least to the Straits of Dover). Formally, the Gulf of Bothnia was probably part of the Baltic Fleet's AOR, but there is no information on recurring Russian naval activity north of the Åland islands. Missions beyond the Danish Straits are restricted to larger surface combatants (primarily 1st or 2nd rank surface combatants), seagoing auxiliaries, training ships, intelligence ships, or research ships. Naturally, most of the Baltic Fleet's activity is carried out in the Baltic Sea, especially in the vicinity of the two naval bases. The territorial responsibility of the two naval bases encompasses the bases themselves and the adjoining water regions, in order to ensure safe entry and exit for naval vessels. Inner waterways east of Saint Petersburg, including Lake Ladoga, if not part of the Baltic Fleet AOR, are at least regularly used by Baltic Fleet crews during state trials. Smaller ships, such as third- or fourth-ranked combats ships, and in exceptional cases even larger ships, can perform inter-fleet transfers on the inner waterways (MoD 2020h).

Map 6: An approximation of the Baltic Fleet naval area-of-responsibility

[20] The Russian notion is *operativnaia zona* (operational zone)

Combat ships of the Baltic Fleet do not usually operate within their basic organisational units, brigades, or separate divisions. Rather, tasks are carried out by either individual ships or a tactical group of ships, put together to form a temporary naval tactical group tailored to a specific task or mission. Tactical groups usually consist of ships with similar capabilities, but not necessarily the same ship type or class. A tactical commander is usually onboard one of the ships, usually the largest, in the tactical group. Table 9 lists the types of tactical ship groups regularly formed within the Baltic Fleet. Theoretically, larger temporary naval units, such as naval squadrons composed of several tactical groups, could also be put together, but, in 2020, the Baltic Fleet lacked the capability (and size) to form, without being aided, a larger temporary naval formation consisting of only Baltic Fleet ships. However, temporary ship formations larger than a tactical group can be formed together with other Russian fleets during, for example, large-scale naval exercises.

Table 9: Examples of Baltic Fleet naval tactical groups

Capabilities	Naval Tactical Group	Russian terminology (abbreviation)
Standoff Warfare	(Naval) Strike Group	*Korabelnaia udarnaia gruppa (KUG)*
ASW	ASW Group	*Korabelnaia poiskovo-udarnaia gruppa (KPUG)*
Mine Warfare	Minesweeping Group	*Korabelnaia tralnaia gruppa (KTG)*
Mine Warfare	Minelaying Group	*Korabelnaia minno-zagraditelnaia gruppa (KMZG)*
Amphibious Warfare	Amphibious Landing Group	*Korabelnaia desantnaia gruppa (KDG)*

Notes: ASW – anti-submarine warfare;

The number of conceivable scenarios of naval operations are nearly infinite, and unit composition can vary substantially depending on the operation's objective. A large-scale amphibious landing operation probably includes more or less all types of capabilities listed in Table 9, either as individual ships or as one of several tactical groups. In other scenarios, the naval component is merely a support to a joint operation, and is limited to a few individual ships. Because of this huge variation in conceivable scenarios, the focus in the following sections is on examining the Baltic Fleet's capacity to carry out a few key naval capabilities. These are naval strike (standoff) warfare, anti-submarine warfare, mine warfare, amphibious warfare and out-of-area missions.

Naval Strike missions

Some 20 combat ships within the Baltic Fleet's ship inventory carry anti-ship missiles. As shown in Table 10, there is a rather large amount of different systems, and the technical modernity of both ships and missile systems varies substantially. This ranges from the obsolete *P-15M Termit,* which entered service in the early 1970s, to the modern vertically launched *Oniks/Kalibr* anti-ship and land attack cruise missiles fitted on the four Baltic Fleet *Uragan* and *Grad Sviazhsk* small

missile ships. The shipborne land-attack cruise missile capability is a novelty in the Baltic Fleet, having been introduced with these new small missile ships.

Theoretically, the total quantity of shipborne anti-ship missiles loaded onto Baltic Fleet surface combatants' amounts to 128, and another 74 can be launched from coastal missile batteries. In reality, unit availability is always lower. It is notable that one of the two *Neustrashimii*-class guard ships (frigates) lacks anti-ship missile systems. Naval strike missions can be supported by Baltic Fleet Naval Aviation Su-24M attack aircraft or Su-30SM multirole fighter aircraft for both reconnaissance and aerial strike missions in the southern part of the Baltic Sea.

Table 10: Ship- and shore-based anti-ship and cruise missiles

Rk	Ships /btn's	Class/ Unit	Missile system		
			MSL	Ru (launch tubes)	NATO
I	*1*	*Sovremennyi*	*8*	*P-270 Moskit* (8)	SS-N-22
II	*1*	*Neustrashimyi*	-	-	-
II	*1*	*Neustrashimyi*	*8*	*Kh-35 Uran* (8)	SS-N-25
II	*4*	*Steregushchii*	*32*	*Kh-35 Uran* (8)	SS-N-25
III	*2*	*Uragan (2)*	*16*	*Kalibr* (8)	SS-N-27/30A
III	*2*	*Grad Sviiazhsk*	*16*	*Kalibr* (8)	SS-N-27/30A
III	*4*	*Nanuchka*	*24*	*P-120 Malakhit* (6)	SS-N-9
IV	*4*	*Tarantul*	*16*	*P-270 Moskit* (4)	SS-N-22
IV	*2*	*Tarantul*	*8*	*P-15M Termit* (4)	SS-N-2
-	*2*	25th CM BDE[1]	*64*	*Bal (64)*	SS-C-6
-	*1*	25th CM BDE	*8*	*Bastion-P (8)*	SS-C-5
Total	21 ships/3 btn´s		202 (128 ship-based / 74 shore-based)		

Source: Russianships.info; Voennoe obozrenie 2015.

Notes: btn – battalion; MSL – total number of missiles; NATO – North Atlantic Treaty Organisation reporting name; RK – rank; Ru – Russian missile system name.

Naturally, the Baltic Fleet coastal missile batteries are confined to operating on shore, and predominantly along the Kaliningrad region coastline. Since they are both mobile (wheeled) and able to operate autonomously, coastal missile batteries can easily relocate along the coastline. By using Baltic Fleet landing ships, coastal missile batteries could also relocate to other, more unexpected places in the Baltic Sea region.

Third- and fourth-ranked small missile ships and missile boats are more or less confined to operations in the Baltic Sea. This is especially, but most likely, true for the older *Tarantul* and *Nanuchka* small missile ships/boats. The larger *Grad Sviazhsk*- and *Uragan*- class small missile ships are more versatile, but will most likely be used predominantly in the Baltic Sea due to their limited range and the questioned seaworthiness of the *Grad Sviazhsk*-class (*Krasnaia zvezda* 2019a). For AOR missions with strike capacity beyond the Danish Straits, as well as OOA

missions, the Baltic Fleet is currently highly reliant on the four *Steregushchii*-class corvettes. Missions lasting longer than 20 days, or that extend beyond the AOR, for example into the Norwegian Sea, require floating support facilities, usually provided by a tanker and a salvage tug (*Strazh Baltiki* 2019zb).

Anti-submarine warfare

In 2020, the Baltic Fleet's three main types of ASW capabilities were dedicated ASW ships, organic ASW capabilities aboard multipurpose surface combatants, and ASW helicopters. Overall, this amounted to 16 combat ships with ASW capabilities and approximately one squadron (12) of ASW helicopters. The Baltic Fleet lacked maritime patrol aircraft and effectively, submarines for ASW missions. The sole *Kilo*-class submarine of age was probably more valuable as an ASW practice target than as an effective ASW capability in its own right (*Strazh Baltiki* 2018h).

Each of the two Baltic Fleet naval bases operated three *Parchim*-class small ASW ships, armed with *RBU-6000* ASW rocket launchers and 533 mm torpedoes. Their main task is to prevent enemy submarines from endangering safe entry and exit from the Baltic Fleet's naval bases, but they are also used for ASW missions in the entire Baltic Sea (*Strazh Baltiki* 2019t). The underwater surveillance capability near the naval base is probably good, as the Baltic Fleet coastal surveillance posts are likely to be operating stationary hydro-acoustic sensors (MoD 2011 & Kozarenko 2016). Based in Donskoe, on the Kaliningrad coast, the Baltic Fleet ASW helicopters can easily conduct ASW patrols in, and north of, the Gulf of Gdańsk.

The most modern, and likely most effective, Baltic Fleet ASW capability is held by the four *Steregushchii*-class corvettes, which are armed with the new modern *Paket-NK* torpedo system. The two *Neustrashimii*-class guard ships have the older *Vodopad-NK* and *RBU-6000* ASW rocket launchers, and the sole Sovremennyi-class destroyer carries 533 mm torpedoes as well as the older *RBU-1000* ASW rocket launcher. All these surface combatants can carry an ASW naval helicopter, either the older Ka-27PL or the modernised version, the Ka-27M. A seaborne ASW helicopter's operations are restricted to approximately three-hour-long patrols, up to 80 kilometres ahead of its respective ship, with take-off prohibited when wind speeds exceed 10 m/s (*Strazh Baltiki* 2020d)

Overall, despite the lack of maritime patrol aircraft and submarines, the Baltic Fleet's ASW capabilities are in a good state. With the *Steregushchii*-class corvettes, equipped with the most modern Russian ASW weaponry (*Paket-NK*) and the new Ka-27M ASW helicopter, this is an ASW capability that is available for use both in the Baltic Sea as well as beyond the Danish Straits.

Mine warfare

The Baltic Fleet most certainly has rather good minelaying capabilities, but they are a capability that is hard to keep track of. Most likely, all the Baltic Fleet's major surface combatants are prepared to carry and lay mines, as are some of the auxiliary ships. However, the organic Baltic Fleet capability of covert minelaying, using submarines, is currently low, as is the capability to air-drop sea mines. The few Baltic Fleet An-26 small transport aircraft could theoretically carry sea mines, but this has never been observed during exercises (VPK News 2015a). It is more likely that larger maritime patrol aircraft from the Northern Fleet, such as the Tu-142 or the Il- 38, are relied on for offensive placement of sea mines in the Baltic Sea. The most common exercise involving the deployment of sea mines is conducted by one or several *Ropucha*-class landing ships (MoD 2018a; MoD 2020c).

The Baltic Fleet's capacity for minesweeping is a mixed picture. Currently, the Baltic Fleet operates one seagoing, five coastal and five inshore minesweepers, which means that the share of minesweepers in the combat ship inventory (ranked ships) is about 20 percent. The focus is more or less entirely on ensuring safe entry to and exit from naval bases and supporting individual, or groups of, surface combatants; most of the minesweepers are located in Baltiisk. The sole seagoing minesweeper is the lead ship of the *Obukhov*-class seagoing minesweepers, which entered service in December 2016. The *Obukhov*-class is the first Russian minesweeper with mine-hunting capabilities (CAST 2016b). Nevertheless, the current minesweeping capability is low. Depending on their missions, minesweepers usually operate in tactical groups of 2–4 ships, which effectively restricts the minesweeper support to a maximum of three groups of ships and the capability to sweep 90–160 square kilometres during each 24-hour period (VPK News 2015a). Thus, there is a very limited capability to support Russian civil shipping. Unsatisfactory results of training related to naval mine-clearance capabilities (minesweeping) was one of the reasons mentioned to explain why the Baltic Fleet leadership was sacked in 2016 (*Lenta* 2016c).

Amphibious warfare

Amphibious landings constitute an important naval Baltic Fleet capability, and at least one, but usually several, large amphibious landing exercise is held annually at the Khmeliovka exercise range, north of Baltiisk (MoD 2017b; *Strazh Baltiki* 2019r). The 71st Landing Ship Division and 336th Naval Infantry brigade compose the core of the Baltic Fleet's amphibious capabilities, but engineer units of the 69th ENG REG are typically part of the landing party. Rotary- and fixed-wing aircraft belonging to the 396th CH REG (Mi-8 and Ka-27/29) and the Baltic Fleet transport squadron (An-26) are also typically used for aerial or airborne landing of engineers and naval infantry assault units.

Table 11 provides an overview of the assessed maximum Baltic Fleet capacity for three theoretical types of amphibious landing parties in the southern Baltic Sea –

a light type, with only infantry, a medium type with APCs or trucks, and a heavy type, with main battle tanks.[21] As ideal types, these do not reflect an actual amphibious landing scenario, and it is highly likely that at least a fourth of the total landing capacity is unavailable at any given time. Exercises reveal that the actual number of APCs, predominantly BTR-82A's, is usually around 15–30, but occasionally reaches 40 (*Strazh Baltiki* 2019r; *Strazh Baltiki* 2019zd; MoD 2020g). In addition to the amphibious landing party, additional naval infantry assault landing units can also be airdropped, or landed on the shore by helicopter.

Table 11: Assessed landing ship capacity for operations in the southern Baltic Sea

			Light	Medium		Heavy	
Type	Class	q	Sol	Sol	APC/Truck	Sol	MBT
Large landing ship	*Ropucha*	4	>400	150	10-12 BTR	150	8–10 MBT
Hovercraft	*Pomornik*	2	360	140	8 BTR	30	3 MBT
Landing boat	*Diugon*	3	90	30	3 BMP/BTR	20	2 MBT
Landing boat[1]	*Serna*	3	92	20	2 BMP/BTR	10	1 MBT
Landing boat	*Ondatra*	3	50	20	2 Trucks	10	1 MBT
		Total[2]	>2 881	1 090	77–85	780	50–58

Source: Russianships.info; Strazh Baltiki 2018c.

Notes: [1] air-cavity [2] landing capacity multiplied by number of ships in Baltic Fleet inventory; APC – armoured personnel carrier; MBT – main battle tank; Sol – soldiers; q – quantity of ships in Baltic Fleet inventory.

Amphibious landing operations are dependent on favourable weather conditions, with late spring until early autumn providing the best conditions; the size of the landing party is dependent on the availability of *Ropucha*-class landing ships. It is feasible to assume that, in favourable weather conditions, the Baltic Fleet has the capacity to conduct an amphibious operation in the southern Baltic Sea comprised of one full naval infantry battalion (approximately 40 APCs). With additional naval infantry and engineer units, the total assault force could comprise about 800–1100 soldiers. It is important, however, to bear in mind that amphibious operations of this scale would also require other types of capabilities, such as fire support and minesweeping.

The *Ropucha*-class large landing ships could also be used for amphibious operations beyond the Danish Straits. The main limitation for such operations is living quarters for the landing parties, which are about 150 soldiers per ship and, with 10 onboard APCs, equals approximately one fully equipped naval infantry company.

[21] MBTs must be transported to shore, as they cannot swim as an APC of type BTR.

Out-of-area missions

A substantial portion of the last decade's increase in Baltic Fleet naval activity has been out-of-area missions (OOA). The main types of OOA tasks for the Baltic Fleet's surface combatants have been patrols in the northeast Atlantic Ocean; anti-piracy missions and convoying in the Gulf of Aden, from 2008; supporting the permanent naval presence in the Mediterranean Sea, from 2013; and friendly (diplomatic) visits to foreign ports. It is usual that several, or even all, of these tasks are carried out during the same mission.

The *Neustrashimii*-class guard ship *Neustrashimii* was the first Russian naval ship to participate in the anti-piracy mission in the Gulf of Aden, first from September 2008 and then again from January 2010 (Lenta 2010). It is her sister ship, however, the *Yaroslavl Mudrii*, commissioned in 2009, that is by far the Baltic Fleet ship used most for OOA missions in the last decade, having conducted nine longer OOA missions during 2009–19 (*Strazh Baltiki* 2019zb). It is usually accompanied by auxiliary ships, such as one of the two Baltic Fleet *Altay*-class tankers, and one salvage tug, for example a *Sorum*-class vessel (MoD 2019c).

In 2013, the Russian navy stepped up its naval presence in the Mediterranean Sea by creating a permanent Mediterranean naval unit subordinated to the Black Sea Fleet (*Sdelanounas* 2013). The Black Sea Fleet lacked the capacity to sustain a permanent naval presence, while other fleets, including the Baltic Fleet, sent ships to sustain naval operations in the Mediterranean Sea. In addition to the participation of the *Neustrashimii* guard ships, during 2014–18 all four of the Baltic Fleet *Ropucha*-class large landing ships have at least once, and sometimes more often, been part of the "Syrian express". This is the informal name of Russia's continuous support in the form of military equipment going from Novorossiysk to Tartus, to aid the Al-Assad war effort in Syria (MoD 2016). Other Baltic Fleet ships have also been sent to the Mediterranean. In both 2015 and 2017, the Baltic Fleet's *Vishnya*-class intelligence ship, *Vasilii Tatishchev,* operated in the eastern Mediterranean, and, in 2017, its *Amur*-class floating workshop, *PM-82*, was sent to Tartus to be part of the Russian Mediterranean naval unit (VPK News 2015b & VPK News 2017). Notably, this was the first longer journey for the *PM-82* in 22 years and it has since been sent to the Mediterranean three times (Interfax 2018c & *Strazh Baltiki* 2020i).

Another side of the Baltic Fleet's OOA activity is the longer journeys conducted by its research or training ships. In 2014, the Baltic Fleet launched the first in a series of oceanographic research expeditions to, predominantly, the Indian and the Antarctic Oceans. The 2014 expedition was the first global circumnavigation by a Russian Navy ship in 30 years (*Komsomolskaia Pravda* 2014). The two Baltic Fleet *Smolnyi*-class training ships are also used more frequently for longer, and more spectacular, annual journeys. In 2018, the *Smolnyi*-class training ship, *Perekop*, finished the longest journey by a Russian training ship ever, when it both

rounded the Eurasian landmass and sailed the Northeast Passage for the very first time (*Strazh Baltiki* 2019za).

6.2 Territorial defence operations

The Kaliningrad region is of considerable military significance to Russia's western strategic direction. It is not only host to the most important naval base of the Baltic Fleet, it is also a key cog in the defence of the Russian capital region. To ensure the territorial integrity of the Kaliningrad exclave, the Baltic Fleet controls a combination of ground, air and sea assets for enabling situational awareness, and use in defensive/offensive operations. This section briefly discusses the following four areas of importance to Baltic Fleet operations in ensuring the territorial integrity of the Kaliningrad region: maritime awareness and coastal defence, air domain awareness and air defence, territorial defence and protecting critical infrastructure and, lastly, the option of using tactical nuclear weapons.

Maritime awareness and coastal defence

The Baltic Fleet maintains a high level of constant situational awareness of activities in the Baltic Sea. Surveillance data of both surface and underwater activities emanates from multiple sources, of which shore-based coastal surveillance posts, shipborne sensors and the Baltic Fleet's signal intelligence are the most important ones. These provide radar, hydro-acoustic and electronic intelligence (ELINT) data that are fused to create a naval situation picture (Kozarenko 2016). The last decade's increase in naval activity has both increased the need for maritime awareness and provided additional situational data. Both sea- and shore-based sensors are also generally more modern, due to deliveries of new combat ships and new radar systems, such as the new *Bussol-S* coastal radar system delivered to the Leningrad Naval Base in 2018 (MoD 2018b). In addition, the unification of civilian and military surveillance radars in a *Unified Automated Radar System* (during the years 2007-15) has most likely also contributed to a considerably improved Baltic Fleet maritime awareness (Koban & Samotonin 2017).

The coastal defence of the Kaliningrad region starts at sea, with the seaborne strike and ASW capabilities detailed in the previous section. However, the rearmament of the 25th Coastal Missile Brigade has resulted in approximately one-third of Baltiisk Naval Base's anti-ship missile launch tubes not being fitted on a naval ship, but shore-based. The 4th CA REG, in Cherniakhovsk, operates some 20–25 Su-24M attack and Su-30SM multipurpose aircraft, with anti-ship capabilities. It is possible that each of the latter can be armed with up to six Kh-31A anti-ship missiles (Tass 2016).

Lastly, much effort has recently been put into the strengthening of the anti-diversion (*PDSS*) capabilities of the two naval bases. The mobility and overall

capability of these units has considerably increased through procurement of new anti-diversion and patrol boats.

Air defence and air domain awareness

The level of technical modernisation within the field of aerial situational awareness and air defence capabilities far exceeds any other Baltic Fleet capability in the last decade. The reason is that the Kaliningrad region is merely a cog, albeit an important one, in a larger multi-layered and integrated air defence structure, not only including the Russian western military district but also, since 2017, partly integrated with the Belarusian air defence (MoD 2017a). In this perspective, the early (relative to other Russian regions) and massive air defence modernisation makes perfect sense. The small Kaliningrad region has received 10 per cent of the total amount of S-400 long-range SAM systems delivered to the Russian Armed Forces since 2007, and has continued to retain several battalions of the older, but still capable, S-300 long-range SAM system (Aminov 2019).

The two main components of the Kaliningrad air defence are the strategic long-range SAM systems of the 44th AD DIV and the fighter aircraft of the 689th FRA REG. These include six battalions of the S-400 long-range SAM system (approx. 48 launchers) delivered in 2012–19, another 1–2 battalions of S-300 (8–16 launchers), and a *Pantsir-S1* battalion. The two squadrons of Su-27 fighter aircraft amount to approximately 22–26 aircraft, and another 8–9 Su-30SM multirole aircraft. It is worth noting that aviation regiments of the Aerospace Forces located in Besovets and Tver (Western MD) have been allocated higher priority in upgrading their fighter aircraft inventories to include the Su-35S. Even though the Kaliningrad region is a key priority and the first line of defence, it is rational, however, to keep highvalue aviation assets secure in case of an unanticipated attack.

The Baltic Fleet air defence modernisation goes beyond the 44th AD DIV and the much talked about S-400 long-range and *Pantsir-S1* short-range SAM systems. Both new naval and ground forces air defence capabilities, along with electronic warfare capabilities, have also been added. The four *Steregushchii*-class corvettes, delivered to the Baltic Fleet in 2007–14, all carry the modern medium-range *Poliment-Redut* air defence system, currently, the most capable Russian naval air defence system of its kind, and in 2019, the 22nd AD REG of the 11th AC received the upgraded short-range Tor-M2 SAM system.

Parallel with the modernisation of air defence strike capabilities, the renewal of air surveillance radars within the 81st RT REG has most likely been as thorough. This includes new generations of air surveillance radars, adapted to detect both high- and low-altitude targets and, most likely, modern automated air defence command and control systems, such as the *Fundament-M*, which has been delivered to western military district units since at least 2014 (MoD 2014a). This is closely conected with the development of a modern Russian integrated air defence system (Bronk 2020:23–40). Allegedly, the organic Baltic Fleet radar coverage provided by the

81st RT REG extends to the Swedish land border (*Strazh Baltiki* 2018d). However, for situational awareness in the aerial domain, the air defence of the Kaliningrad region relies just as much on radar coverage and target identification emanating from a network of radar units operating from numerous sites, stretching from Franz Joseph land in the Arctic to Crimea in the Black Sea. The range of the radar coverage has most likely also improved, especially since the first bi-static over-the-horizon (OTH) *Konteyner* radar, built in the Republic of Mordoviia, was put into combat duty on 1 December 2019. This increases the radar coverage substantially, to include the North Sea as far as the eastern shoreline of the United Kingdom (CAST 2018b).

Territorial defence and critically important infrastructure in the Kaliningrad region

Kaliningrad is small, but has several critically important military and civilian infrastructure objects. This includes several objects in the city of Kaliningrad itself, as well as the Baltiisk naval base, the Chkalovsk and Cherniakhovsk air bases, the military storage facility in Prokhladnoe, the Khrabrovo international airport, the nuclear weapons storage facility northwest of Kaliningrad city, the ballistic missile early warning (BMEW) radar in Pionerskii and military garrisons in Baltiisk, Kaliningrad, Gusev and Cherniakhovsk. Although, this is far from an exhaustive list, it is safe to say that the majority of critically important facilities are located predominantly on the Sambian Peninsula[22], and in the central parts of the region (along the European highway, E28) from the city of Kaliningrad to the city of Gusev. The reduction in military facilities that commenced with the 2008–09 military reform has meant that the Baltic Fleet relies less on facilities located close to the Polish and Lithuanian borders.

A strong trend in Russian military capability development is an increased focus on both making reconnaissance against, and increasing the survivability of objects and units from, attacks using precision-guided munitions. The improved Russian electronic warfare capabilities, especially, have attracted much attention (Kjellén 2018:84). Given its exposed location and the NATO advantage in the air domain, it is reasonable to assume that military installations in the Kaliningrad region are given priority regarding measures to increase survivability.

The formation of the 11th AC has since 2016 enlarged the Baltic Fleet's ground forces component substantially and thereby also the standing military force for manoeuvre warfare, in the Kaliningrad region. The structure of the army corps is both similar to and different from that of the combined arms armies (CAA) of the ground forces. In terms of fire support, the army corps is similar, with both an artillery brigade and a surface-to-surface missile brigade and, in terms of manoeuvre units, there are CAAs that are of equal, or even lesser, strength. Rather, its

[22] The peninsula northeast of Kaliningrad city.

main difference from a regular CAA is the lack of organic logistics support units within the army corps structure. As discussed in Chapter 5, combat and logistics support capacities are centralised in the Baltic Fleet structure. Hence, the 11th AC is highly dependent on the Baltic Fleet support structure for its operations, whereas the CAAs of the Ground Forces operate more independently from their respective military districts. Consequently, since the 11th AC is optimised for territorial defence operations, it most likely cannot operate independently if it is far from the Kaliningrad region.

Tactical nuclear weapons

In 2020, Russia clarified its nuclear deterrence policy by releasing the document "Basic Principles of State Policy of the Russian Federation on Nuclear Deterrence" (Nuclear Deterrence Policy 2020). This document stresses both that the use of nuclear weapons is a measure of last resort and its purpose is to guarantee the sovereignty and territorial integrity of the Russian Federation (paragraphs 4 & 5). In 2020, the Baltic Fleet retained a nuclear capability, which has been recently consolidated by new delivery systems, such as the *Iskander-M* SSM system, and modernised storage facilities.

The controversy around the possibility that Russia may be maintaining non-strategic nuclear weapons in the Kaliningrad region goes back to the 1990s. In 2001, a disclosed U.S. intelligence report revealed that Russia had moved nuclear weapons to the region; they were assumed to be warheads for the surface-to-surface missile system *Tochka* (SS-21 Scarab), which at the time was the missile system of the 152nd surface-to-surface missile brigade (152nd SSM BDE), located in Cherniakhovsk (Arbman & Thornton 2003:35-37).

In mid-2016, a major upgrading of a nuclear storage facility, including three underground nuclear weapons storage bunkers, was commenced in the hamlet of Kulikovo, northwest of Kaliningrad city (FAS 2018). The upgrade of the storage facilities coincided with the infrastructural preparations for the rearming of the 152nd SSM BDE to the surface-to-surface missile system *Iskander* (SS-26 Stone), in 2017–18 (*Interfax* 2018a; *Strazh Baltiki* 2019a). The brigade is the most likely Baltic Fleet unit prepared to launch nuclear warhead missiles, but there are also other delivery systems within the Baltic Fleet's inventory that, theoretically, could be used, including the *Bastion-P* coastal missile system and the seaborne *Kalibr* land attack cruise missile.

7 Conclusions

This study examines the modern Russian Baltic Fleet in terms of the role it plays within the Russian Armed Forces in 2020. The approach is to study the role of the Baltic Fleet from three perspectives – contextually, organisationally and operationally. All three perspectives add valuable insight into whether the Baltic Fleet's piece fits in a modern way into not only the overall Armed Forces but also the broader Russian national security puzzle.

It is possible to discern the modern Russian Baltic Fleet's three main roles, which are all key to Russian national security in their own right. In short, these roles are ensuring the territorial integrity of the Kaliningrad region, conducting naval operations and last, but not least, being a key bearer of naval traditions.

Territorial integrity of the Kaliningrad region

The disintegration of the Soviet Union had an extreme impact on the geopolitical situation in the Baltic Sea region. The Baltic Fleet went from dominating the southeastern Baltic Sea in the 1980s, on shore as well as at sea, to finding its main naval base and headquarters located in an isolated Russian exclave. Acknowledged already in the 1990s, this new geopolitical situation gave Kaliningrad a special military status in which the Baltic Fleet was the leading, but not sole, actor.

In 2020, the role of the Baltic Fleet in the territorial defence of the Kaliningrad region is more accentuated. The Baltic Sea region's deteriorated security situation, which followed the annexation of Crimea, in 2014, has underscored the geostrategic significance the exclave has for Russia, and acted as a stimulus for a hurried technical modernisation and the strengthening of the military posture. One would expect that it is the Baltic Fleet's naval component that has been reinforced, but instead it is predominantly its shore-based assets, such as air defence, coastal missile, and ground forces units that have been strengthened since 2014.

Looking at the bigger picture, the Kaliningrad region has certainly lost its special military status and the Baltic Fleet is now operationally subordinated under the Western Military District, all of which merely underscores that the Baltic Fleet forces in the Kaliningrad region are a key military cog in the defence of the western strategic direction. This is especially true when it comes to the Baltic Fleet's air defence capabilities, since the main threat anticipated in Russia's western strategic direction is a foe with ascendancy in air power.

Naval role

Notwithstanding its territorial responsibility for Kaliningrad and its multiservice composition, the Baltic Fleet is foremost a naval formation. The two roles, however, are not mutually exclusive; a large portion of the combat fleet inventory is composed of smaller vessels primarily suited for Baltic Sea operations. Indeed,

one could assume that the increased focus on the defence of the Kaliningrad region would change the composition of the Baltic Fleet's naval inventory to one that primarily supports *green water* operations. However, when one looks at the current ship inventory and how and where the Baltic Fleet conducts naval operations, there is very little evidence of such a development.

A majority of the Baltic Fleet's vessels are small and thereby confined to operations in the Baltic Sea. However, deliveries of one frigate and four corvettes in 2007–14 have substantially increased the capability of the naval presence in the Baltic Fleet AOR beyond the Danish Straits, as well as for out-of-area operations. In addition, the increase in naval activity in recent decades is not only limited to the Baltic Sea. Baltic Fleet vessels have actively participated in anti-piracy operations, contributed to the permanent naval presence in the Mediterranean, and set sail for longer journeys to, for example, the Indian Ocean. Thus, the contemporary naval role of the Baltic Fleet is best characterised as balanced.

The Baltic Fleet's ship inventory is still marked by the decay that followed the collapse of the Soviet Union. This is best observed when considering the very uneven ship age distribution, with very few vessels between 10–25 years of age. Even though deliveries of new vessels have picked up in the last 10–15 years, uneven ship age will most likely continue to be a challenge in at least the coming decade, with large variation in the need for overhaul and replacements over time. In terms of naval operations, this could also have a detrimental effect on the Baltic Fleet's role.

Bearer of naval traditions

The Baltic Fleet holds a unique position in the Russian Navy as its oldest naval formation. This not only has vital practical implications for the Baltic Fleet, but also equally important symbolic effects, which have become ever more critical in recent years.

The Baltic Fleet and the maritime city of Saint Petersburg have a symbiotic relationship that has evolved through the centuries. In this common history, both naval traditions and specific tasks have evolved that still, in 2020, define several of the modern Baltic Fleet's responsibilities. These include supporting the Baltic Sea Region's domestic shipbuilding industry by providing ship crews for state trials of new naval vessels, operating the main training ships of the Russian Navy, and conducting maritime and oceanographic research expeditions on a global level. These tasks are to a varying degree also performed by other fleets of the Russian Navy, but their scale cannot match that of the Baltic Fleet's involvement, which is unique.

Lastly, history and tradition have become ever more important tools for the Russian political and military leadership in recent years. Patriotic sentiments and pride in the Russian Armed Forces have been used as tools for societal cohesion,

at a time when Russia has become more isolationistic. Showcased annually in the main naval parade in Saint Petersburg, the Baltic Fleet has in part turned into a symbol of the whole Russian Navy.

Appendix

Tables A.1 and A.2 list the units and ship inventory of the Baltiisk and Leningrad Naval Bases, respectively. The first two columns of each table provide ship names and types. A direct translation of the Russian terminology for ship types is used, not the adaptation to Western standards sometimes used for export reasons; for example, a *small missile ship* is occasionally called a *missile corvette*. The Russian ship project number is the most accurate way to describe the class an individual ship belongs to. However, the class name is in many cases more well-known and, when applicable, also provided. In cases where there are no NATO class names, either the Russian project name or the name of the first ship built is used. The last two columns provide the year of commissioning and displacement. In a few cases, the commissioned year is assessed (and marked with a tilde sign, ~), with a margin of error of 1–4 years.

The organisational structure is based on ROB. Naval base affiliation and ship status of each vessel are assessed individually, based on reports of a vessel's having been used (MoD press releases, news articles, etc.) or analysis of photographs posted on *Fleetphoto.ru*. Vessels assessed unavailable are placed within square brackets: [].

Table A.1: Baltiisk Naval Base units and ship inventory.

Unit / Ship	Project, Class	Com	Size[1]
128th Surface Ship Brigade			
Destroyer *[Nastoichivyi]*	956A, *Sovremennyi*	1992	6500
Guard ship *[Neustrashimyi]*	11540, *Neustrashimii*	1990	3950
Guard ship *Yaroslavl Mudrii*	11540, *Neustrashimii*	2009	3950
Corvette *Steregushchii*	22380, *Steregushchii*	2007	1800
Corvette *Soobrazitelnyi*	22380, *Steregushchii*	2011	1800
Corvette *Boikii*	22380, *Steregushchii*	2013	1800
Corvette *Stoikii*	22380, *Steregushchii*	2014	1800
71st Landing Ship Brigade			
Landing Ship Division			
Large landing ship *Minsk*	775/II, *Ropucha*	1983	2750
Large landing ship *Kaliningrad*	775/II, *Ropucha*	1984	2750
Large landing ship *Aleksandr Shabalin*	775/II, *Ropucha*	1985	2750
Large landing ship *Koroliov*	775/III, *Ropucha*	1991	2750
Small landing ship[2] *Yevgenii Kocheshkov*	12322, *Pomornik*	1990	500
Small landing ship[2] *Mordoviia*	12322, *Pomornik*	1991	500

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Table A.1 (continued)

Unit / Ship	Project, Class (NATO)	Com	Size[1]
Small Landing Craft Division			
Landing craft *Denis Davydov*	21820, *Diugon*	2014	280
Landing craft *Lt. Rimskii-Korsakov*	21820, *Diugon*	2014	280
Landing craft *Michman Lermontov*	21820, *Diugon*	2014	280
Landing craft *D-325*	1176, *Ondatra*	1991	60
Landing craft *D-465*	1176, *Ondatra*	1986	60
Landing craft[3] *D-67*	11770, *Serna*	1994	60
Landing craft[3] *D-1441 Sergei Barinov*	11770, *Serna*	2009	60
Landing craft[3] *D-1442 Ivan Pasko*	11770, *Serna*	2009	60
64th OVR Brigade			
Communication boat *Andrei Pervozvannyi*	1388NZK, *Shelon*	2018	990
Communication boat *Nikolai Ugodnik*	14670	1985	40
Communication boat (VIP) *Serafim Sarovskii*	21270	2009	95
Torpedo retriever *TL-1603*	1388N, *Shelon*	1985	370
Torpedo retriever *Boris Ushchev*	1388N, *Shelon*	1983	370
CBR monitoring boat *Sergei Osipov*	1388R, *Shelon*	1988	270
146th Tactical ASW Group			
Small ASW ship *Aleksin*	1331M, *Parchim*	1989	865
Small ASW ship *Kabardino-Balkariia*	1331M, *Parchim*	1989	865
Small ASW ship *Kalmykiia*	1331M, *Parchim*	1990	865
323th Minesweeper Division			
Seagoing minesweeper *Aleksandr Obukhov*	12700, *Obukhov*	2016	620
Coastal minesweeper *Aleksei Lebedev*	1265, *Sonya*	1989	425
Coastal minesweeper *Novocheboksarsk*	1265, *Sonya*	1991	425
Coastal minesweeper *Sergei Kolbasiev*	1265, *Sonya*	1992	425
Coastal minesweeper *Leonid Sobolev*	1265, *Sonya*	1990	425
Inshore minesweeper *Vasilii Poliakov*	10750, *Lida*	1991	130
Inshore minesweeper *Viktor Sigalov*	10750, *Lida*	1992	130
Inshore minesweeper *Leonid Perepech*	10750, *Lida*	1993	130
313th Anti-diversion Group			
Patrol boat *Yevgenii Kolesnikov*	03160*, Raptor*	2017	20
Anti-saboteur boat *Vasily Zhiltkov*	PV1415*, Flamingo*	1980	30
Anti-saboteur boat *P-386*	PV1415*, Flamingo*	1980	30
Anti-saboteur boat *P-389*	12150*, Mangust*	2013	23
Anti-saboteur boat *N.a*	12150*, Mangust*	2013	23
Diver Support boat	23040	2015	100
36th Missile Ship Brigade			
106th Missile Ship Division			
Small Missile ship *Mytisjtji*	22800, *Uragan*	2018	800
Small Missile ship *Sovetsk*	22800, *Uragan*	2019	800
Small Missile ship *Odintsovo*	22800, *Uragan*	2020	800
Small Missile ship *Zelionyi Dol*	21631, *Grad Sviiazhsk*	2015	950
Small Missile ship *Passat*	1234.1, *Nanuchka*	1990	580
Small Missile ship *Liven*	1234.1, *Nanuchka*	1991	580

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Table A.1 (continued)

Unit / Ship	Project, Class (NATO)	Com	Size[1]
1st Guards Missile Boat Division			
Missile craft *[Kuznetsk]*	1241.1T*, Tarantul*	1985	390
Missile craft *R-257*	1241.1T*, Tarantul*	1986	390
Missile craft *Zarechnyi*	1241.1*, Tarantul*	1989	435
Missile craft *Dmitrovgrad*	1241.1*, Tarantul*	1991	435
Missile craft *Morshansk*	1241.1*, Tarantul*	1992	435
Missile craft *Chuvashiia*	1241.1*, Tarantul*	2000	435
342nd SAR Group			
Seagoing salvage tug *SB-123*	02980	2016	1200
Seagoing salvage tug *Aleksandr Frolov*	02980	2017	1200
Seagoing salvage tug *Yevgenii Churov*	712, *Sliva*	1985	1970
Seagoing salvage tug *Yakov Grebelskii*	563, *Goryn*	1978	1435
Seagoing salvage tug *Yevgenii Khorov*	714, *Goryn*	1982	1435
Rescue ship *SS-750*	141*, Kashtan*	1990	4200
Submergence rescue vehicle *AS-26*	1855, *Priz*	1987	55
SAR/diving boat *RVK-2162*	23040	2015	100
SAR/diving boat *RVK-2163*	23040	2015	100
SAR/diving boat *RVK-2164*	23040	2015	100
SAR/diving boat *RVK-2166*	23040	2015	100
SAR/diving boat *RVK-2167*	23040	2015	100
Rescue boat *SMK-2172*	23370	2015	100
Firefighting boat *PZhK-415*	14611, *Morkov*	1984	290
Firefighting boat *PZhK-1680*	14611, *Morkov*	1987	290
Seagoing diving ship *VM-143*	535, *Yelva*	1973	280
Seagoing diving ship *VM-909*	535, *Yelva*	1976	280
Seagoing diving ship *VM-268*	535, *Yelva*	1978	280
Auxilliary Ship Group			
Seagoing tug *Anatolii Ptitsyn*	02790	2015	685
Seagoing tug *Georgii Fedotov*	745, *Sorum*	1981	1090
Medium seagoing tanker *Kola*	160, *Altay*	1967	2200
Medium seagoing tanker *Yelna*	160, *Altay*	1968	2200
Medium seagoing tanker *Lena*	577, *Uda*	1966	2900
Small seagoing tanker *Aleksandr Grebenshchikov*	03180, *Umba*	2014	1070
Small seagoing tanker *Mikhail Protsenko*	1844D, *Toplivo*	1988	540
Seagoing water tanker *[V. Palgov]*	561	1954	980
Large seagoing cargo transport *[Yamal]*	596P, *Vytegrales II*	1964	4760
Medium seagoing cargo transport *Irgiz*	572	1958	1100
Medium seagoing cargo transport *[Bira]*	572	1959	1100
Small seagoing cargo transport *[Indigirka]*	V53	1955	775
Harbour tug *Vladimir Motuzhenko*	90600	2011	350
Harbour tug *Mikhail Novikov*	90600	2012	350
Harbour tug *Anatolii Ivanov*	90600	2012	350
Harbour tug *RB-401*	90600	2013	350
Harbour tug *Vladimir Vartanov*	90600	2014	350

Table A.1 continued

Unit / Ship	Project, Class	Com	Size[1]
Harbour tug *RB-201*	498, *Protei*	1979	250
Harbour tug *[RB-314]*	498, *Protei*	1975	250
Harbour tug *[RB-192]*	737K	1970	170
Tugboat *BK-2182*	04690	2017	200
Tugboat *BUK-1865*	1606	1986	20
Floating workshop *PM-86*	304/IV, *Amur*	1987	4600
Floating workshop *PM-82*	304/II, *Amur*	1978	4800
Floating workshop *[PM-30]*	304/III, *Amur*	1982	4700
Degaussing ship *Pavel Belous*	130, *Bereza*	1984	1800
Degaussing ship *Gennadii Blinov*	130, *Bereza*	1989	1800
Degaussing ship *Igor Petrov*	130, *Bereza*	1989	1800
Degaussing ship *Vladilen Nazarenko*	130, *Bereza*	1991	1800
Physical fields control vessel *Akademik*	1806.1, *Onega*	1992	1350
Seagoing crane *SPK-50150*	02690	2016	2000
Seagoing crane *Valerii Telegin*	15201	1990	3100
Mooring-buoy tender *Aleksandr Pushkin*	141, *Kashtan*	1988	4200
Oil/debris skimmer *MUS-496*	25505	1990	50
Oil/debris skimmer *MUS-76*	14630	1975	130
Oil/debris skimmer *MUS-508*	14630	1984	130
Oil/debris skimmer *MUS-489*	1515	1974	25
Oil/debris skimmer *MUS-757*	1515	1972	25
Oil/debris skimmer *MUS-897*	1515	1975	25
Harbour boat *RK-170*	RM376	1985	30
Harbour boat *RK-1579*	P1415	1983	30
Passenger boat *PSK-1556*	SK620	1985	215
Passenger boat *[PSK-1562]*	SK620	1985	215
Passenger boat *[PSK-405]*	SK620	1980	215
Harbour ferry *Yevgenii Marchenko*	618M	1967	420
51st Hydrographic Survey Area			
Hydrographic survey vessel *Andromeda*	861, *Moma*	1972	1200
Hydrographic survey vessel *[Gigrometr]*	860, *Samara*	1965	975
Small hydrographic survey ship *Petr Popov*	870, *Kamenka*	1969	590
Small hydrographic survey vessel *GS-214*	871, *Biya*	1974	585
Large hydrographic survey boat *Aleksandr Yevlanov*	23040G	2019	150
72nd Intelligence Ship Division			
Medium intelligence ship *Vasilii Tastishchev*	864, *Vishnya*	1988	2500
Medium intelligence ship *Fiodor Golovin*	864, *Vishnya*	1986	2500
Small intelligence ship *Syzran*	503M, *Alpinist*	1981	1020
Small intelligence ship *Zhiguliovsk*	503M, *Alpinist*	1982	1020
79th Ship Repair Division			
25th Coastal Missile Brigade			

Notes: [1] metric tonnes; [2] air cushion; [3] air-cavity; ASW – anti-submarine warfare; CBR – chemical, biological, and radiological; Com – commissioned; OVR – protection of water area (Okhrana vodnogo raiona); n.a. – not available; SAR – search and rescue.

Table A.2: Leningrad Naval Base units and ship inventory

Unit / Ship	Project, Class	Com	Size[1]
105th OVR Brigade			
Communication boat *Iuann Kronshtadtskii*	21270	2017	95
Communication boat *Burevestnik*	21270	2003	95
CBR monitoring craft *KRKh-1821*	1388R, *Shelon*	1989	270
Torpedo retriever *Vasliy Starostin*	1388N, *Shelon*	1988	370
ASW Ship Group			
Small ASW ship *Urengoi*	1331M, *Parchim*	1986	865
Small ASW ship *Kazanets*	1331M, *Parchim*	1986	865
Small ASW ship *Zelenodolsk*	1331M, *Parchim*	1987	865
Minesweeper Group			
Coastal minesweeper *Pavel Khenov*	1265, *Sonya*	1993	420
Inshore minesweeper *RT-57*	10750, *Lida*	1989	130
Inshore minesweeper *RT-248*	10750, *Lida*	1990	130
473rd Anti-diversion Group			
Anti-saboteur boat *Nakhimovets*	21980, *Grachonok*	2009	140
Patrol boat *Grigorii Davidenko*	03160, *Raptor*	2018	20
Patrol boat *P-342 Yunarmeets Baltiki*	03160, *Raptor*	2015	20
Anti-saboteur boat *P-336*	PV1415, *Flamingo*	1980	30
3rd Separate Submarine Division			
Large submarine *B-806 Dmitrov*	877, *Kilo*	1986	2325
501st SAR Group			
Seagoing salvage tug *Nina Sokolova*	02980	2016	1200
SAR/dive boat *RVK-1102*	23040	2014	100
SAR/dive boat *Boris Kiseliov*	23040	2014	100
Rescue boat *Leonid Molchanov*	23370	2014	100
Rescue boat *Valerii Rozhdestvenskii*	23370	2014	100
Rescue boat *Vladimir Yegorov*	23370	2015	100
Harbour dive boat *RVK-779*	RV1415, *Flamingo*	1980	30
Harbour dive boat *RVK-1251*	PV1415, *Flamingo*	1978	30
Harbour dive boat *RVK-2059*	PV1415, *Flamingo*	1990	30
Harbour dive boat *[RVK-1052]*	PV1415, *Flamingo*	1977	30
Dive boat *RVK-1148*	14517	2015	80
Dive boat *[VM-48]*	522, *Niryat*	1953	90
Dive boat *[VM-129]*	522, *Niryat*	1960	90
Firefighting boat *PZhK-5*	364, *Pozharny-1*	1960	150
Firefighting boat *PZhK-53*	364, *Pozharny-1*	1960	150
Firefighting boat *PZhK-900*	14611, *Morkov*	1985	290
Seagoing diving ship *VM-250*	535, *Yelva*	1970	280
Seagoing diving ship *VM-420*	535, *Yelva*	1972	280
Auxilliary Ship Group			
Seagoing tug *Viktor Konetskiy*	745MBS	2013	1300
Seagoing tug *MB-96*	02790	2015	850
Seagoing tug *MB-169*	733, *Okhtenskiy*	1963	800

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Table A.2 (continued)

Unit / Ship	Project, Class	Com	Size[1]
Small seagoing tanker *VTN-45*	1844M, *Toplivo*	1977	540
Small seagoing tanker *VTN-34*	1844D, *Toplivo*	1990	540
Harbour tug *RB-346*	N3291	1988	900
Harbour tug *RB-348*	N3291	1988	900
Harbour tug *RB-167*	192	1985	500
Harbour tug *RB-20*	90600	2011	350
Harbour tug *RB-27*	90600	2011	350
Harbour tug *RB-366*	90600	2015	350
Harbour tug *RB-393*	90600	2017	350
Harbour tug *RB-283*	705BM	2019	310
Harbour tug *RB-284*	705BM	2020	310
Harbour tug *RB-98*	498, *Prometey*	1970	250
Harbour tug *RB-327*	498, *Prometey*	1986	250
Harbour tug *RB-250*	737K	1968	190
Tugboat *BUK-408*	05T	1960	30
Icebreaker *Buran*	97K, *Ivan Susanin*	1966	2050
Degaussing ship *SR-120*	130, *Bereza*	1979	1800
Physical fields control vessel *Viktor Subbotin*	1806.1, *Onega*	2006	1350
Physical fields control vessel *SFP-511*	1806.1, *Onega*	1985	1350
Physical fields control vessel *[SFP-283]*	1806, *Onega*	1972	1300
Seagoing crane *Boris Pykhtin*	02690	2016	2000
Seagoing crane *PK-13035*	D-9040	1990	960
Small cable ship *Nepriadva*	1172, *Emba*	1981	2100
Mooring-buoy tender *Kil-1*	419, *Sura*	1965	3100
Seagoing armament transport *VTR-92*	1823	1970	440
Trial ship *Ladoga*	11982	2018	1040
Trial ship *OS-57*	1824	1969	750
Harbour boat *RK-1598*	P1415, *Flamingo*	1977	30
Communication boat *Keksgolm*	14670	1990	40
Oil/debris skimmer *MUS-859*	1515	1970	40
Patrol boat (VIP) *Georgii Potekhin*	03160, *Raptor*	2017	20
Patrol boat (VIP) *P-281*	03160, *Raptor*	2015	20
Barracks ship *[PKZ-33]*	130, *Bereza*	1986	1800
258th Training Ship Division			
Training ship *Smolnyi*	887, *Smolnyi*	1976	6200
Training ship *Perekop*	887, *Smolnyi*	1977	6200
Training boat *UK-712*	UK-3, *Petrushka*	1983	340
Training boat *UK-287*	UK-3, *Petrushka*	1984	340
Training boat *UK-167*	UK-3, *Petrushka*	1985	340
Training boat *[UK-155]*	UK-3, *Petrushka*	1982	340
Training boat *[UK-162]*	UK-3, *Petrushka*	1985	340

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Table A.2 (continued)

Unit / Ship	Project, Class	Com	Size[1]
6th Atlantic Hydrographic Expedition			
Oceanographic research ship *Admiral Vladimirskii*	852, *Akademik Krylov*	1975	6700
Hydrographic survey vessel *Nikolai Matusevich*	862, *Yug*	1982	1800
Hydrographic survey vessel *Sibiriakov*	865, *Sibiryakov*	1990	2200
Small hydrographic survey vessel *GS-525*	REF-100	1985	370
Small hydrographic survey vessel *GS-439*	16611	1993	310
Small hydrographic survey vessel *GS-270*	872, *Finik*	1978	940
Small hydrographic survey vessel *GS-403*	872, *Finik*	1979	940
Large hydrographic survey boat *Georgii Zima*	23040G	2018	150
Large hydrographic survey boat *Yevgenii Gintsevich*	19920	2015	320
53rd & 42nd Hydrographic Survey Areas			
Small hydrographic survey vessel *Vygach*	19910	2007	910
Small hydrographic survey vessel *Nikolai Krylov*	870, *Kamenka*	1968	590
Large hydrographic survey boat *BGK-716*	1896, *Nyryat-II*	1970	100
Large hydrographic survey boat *BGK-772*	1896, *Nyryat-II*	1973	100
Large hydrographic survey boat *Mikhail Kazanskii*	23370G	2019	100
Large hydrographic survey boat *BGK-719*	G-376	1960	35
Large hydrographic survey boat *Georgii Rybin*	1896, *Nyryat-II*	1970	100
Large hydrographic survey boat *BGK-217*	1896, *Nyryat-II*	1966	100
Large hydrographic survey boat *BGK-887*	1896, *Nyryat-II*	1974	100
Large hydrographic survey boat *BGK-1333*	1459	1981	75
Large hydrographic survey boat *Igor Miroshnikov*	G1415, *Flamingo*	1979	30
13th Ship Repair Brigade			

Notes: [1] metric tonnes; ASW – anti-submarine warfare; Com – commissioned; CBR – chemical, biological, and radiological; OVR – protection of water area (*Okhrana vodnogo raiona*); n.a. – not available; SAR – search and rescue.

Table A.3: Translation key – Project designation and class of surface combatants.

Project	NATO Class[1]	Type (Russian)	Alternative type
956, Sarych	*Sovremennyi*	Destroyer	
11540, Yastreb	*Neustrashimii*	Guards ship	Frigate
22380, Tigr	*Steregushchii*	Corvette	Corvette (large)
775	*Ropucha*	Large landing ship	-
12322, Zubr	*Pomornik*	Air cushion landing ship	-
21820, Diugon	*Diugon*	Landing craft	-
11770, Serna	*Serna*	Landing craft (air-cavity)	-
12700, Aleksandrit	*Obukhov*	Seagoing minesweeper	MCM
10750, Sapfir	*Lida*	Inshore minesweeper	-
1265, Yakhont	*Sonya*	Coastal minesweeper	-
1331	*Parchim*	Small ASW ship	ASW Corvette
22800, Karakurt	*Uragan*	Small missile ship	Missile Corvette
21631, Buyan-M	*Grad Sviiazhsk*	Small missile ship	Missile Corvette
1234.1, Ovod-1	*Tarantul*	Small missile ship	Missile Corvette
03160, Raptor	-	Patrol boat	-
12150, Mangust	-	Patrol boat	-

Notes: [1] traditional NATO reporting name or name of lead ship; ASW – anti-submarine warfare; AUV – autonomous underwater vehicle; MCM – mine countermeasures vessel.

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