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LARGE-SCALE COMBAT OPERATIONS: THE
BEGINNING OF THE HIGH NORTH DILEMMA**

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NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

**THE ROLE OF SMALL-STATE SOF IN LARGE-SCALE
COMBAT OPERATIONS: THE BEGINNING
OF THE HIGH NORTH DILEMMA**

by

Benjamin Slette Sverdrup

June 2024

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**THE ROLE OF SMALL-STATE SOF IN LARGE-SCALE COMBAT
OPERATIONS: THE BEGINNING OF THE HIGH NORTH DILEMMA**

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Lieutenant Commander, Royal Norwegian Navy
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Submitted in partial fulfillment of the
requirements for the degree of

**MASTER OF SCIENCE IN DEFENSE ANALYSIS
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from the

**NAVAL POSTGRADUATE SCHOOL
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ABSTRACT

This thesis explores the future roles of small-state special operations forces (SOF) in the initial phase of large-scale combat operations (LSCO) in the High North. The research findings indicate that small-state SOF could provide strategic utility through expansion of choice and economy of force by indirectly and directly supporting the conventional force, conducting operations SOF is uniquely suited for, and imposing costs to change an adversary's decision calculus. Two core requirements for SOF were identified through wargaming: the ability to maneuver covertly over great distances and the need to be given the necessary authority to conduct operations in a timely manner. This leads to four key recommendations that will increase the effectiveness of Norwegian Special Operation Forces (NORSOF) in the initial phase of LSCO: first, develop NORSOF's capability to maneuver covertly in a denied environment; second, cultivate integration with the conventional force; third, enable immediate communication solutions with senior leadership; and finally, inform relevant decision-makers and partners about the capabilities that reside within NORSOF and collaborate with them.

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LIST OF ACRONYMS AND ABBREVIATIONS

A2AD	anti-access area denial
CANSOF	Canadian Special Operations Forces
CF	conventional forces
COG	center of gravity
DA	direct action
FFI	Norwegian Defence Research Establishment
FOI	Swedish Defence Research Agency
GWoT	Global War on Terrorism
JSOC	Joint Special Operations Command
JSOU	Joint Special Operations University
LSCO	large-scale combat operations
MA	military assistance
MAD	mutually assured destruction
NATO	North Atlantic Treaty Organization
NORNAVSOC	Norwegian Naval Special Operations Command
NORSOCOM	Norwegian Special Operations Command
NORSOF	Norwegian Special Operations Forces
NSR	Northern Sea Route
SA	situational awareness
SO	special operations
SOF	special operations forces
SR	special reconnaissance
UASOF	Ukrainian Army Special Operations Forces
USSOCOM	United States Special Operations Command

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EXECUTIVE SUMMARY

This thesis explores the strategic utility of small-state special operations forces (SOF) in the initial phase of large-scale combat operations (LSCO) in the High North. By extension and design, the research lends relevance to the Norwegian Special Operations Forces. The specific research question is, How can NORSOF contribute effectively to the initial phase of LSCO in the High North? The research discovered that SOF needs the capability to operate covertly and better interact with senior leaders. Moreover, the research found that SOF can provide strategic utility for decision-makers in the initial phase of LSCO by indirectly influencing adversarial center of gravity (COG) and increasing the general force's operational reach. The research recommends that NORSOF ensure an effective dialogue with senior leaders, bolster proper integration with the conventional force (CF), and develop the capability to maneuver covertly in LSCO.

The Norwegian security strategy relies on extended deterrence and depends on the North Atlantic Treaty Organization (NATO) to help defend its territory against an adversary like Russia, capable of conducting a strategic attack on Norway. The Norwegian security environment has profoundly changed since the Russian invasion of Ukraine in 2022, which compels Norway to explore the implications of LSCO that occur during a strategic attack on its territories. However unlikely, one of the direst scenarios for Norway is if, for any reason, the NATO response is delayed and Norway faces a Russian invasion by itself for a limited period. This scenario is arguably the most demanding for the Norwegian Armed Forces, which impacts long-term defense planning. Consequently, the Norwegian Special Operations Forces (NORSOF) must transition from the Global War on Terrorism (GWOt) to being prepared unilaterally for the initial phase of LSCO in the High North. Limited academic research exists concerning the role of small-state SOF in the initial phase of LSCO in the High North, especially looking at the utility of SOF. Therefore, this thesis aims to fill this gap and contribute to the ongoing discussion by identifying propositions for using NORSOF in LSCO.

To answer the research question and explore how NORSOF can contribute to foiling a Russian invasion in the High North, this thesis uses an analytical wargame

purposely designed, developed, and conducted to answer the research question. Additionally, the thesis analyzed the effectiveness of NORSOF in the wargame through the elements of operational design, the constant comparative method of grounded theory, and comparing and contrasting with existing theoretical knowledge. Moreover, the findings are compared with data from a second analytical wargame to supplement and validate the initial findings.

First, the findings from the research discovered two core requirements for SOF: the ability to maneuver covertly over great distances and the need to be given the necessary authority to conduct operations in a timely manner. Secondly, the findings arrive at individual propositions for SOF:

1. SOF could improve anticipation by cooperating with intelligence, positioning, preparing, planning, and training for LSCO. The inadequate anticipation during the wargame showed how SOF and the conventional force lost the initiative, limited the effect of deterrence by denial, and underlined the possible role SOF could play in bolstering anticipation.
2. SOF could improve anticipation by receiving timely tasking from political and strategic-level decision-makers. SOF displayed the ability to impose cost early in the wargame but also showed an explicit dependency on concise tasking from senior leaders.
3. SOF could seamlessly adapt to the changing environment by providing SOF leaders the authority to pursue their objectives as approved in an enduring concept of operations (CONOP). Enduring CONOPs can mend the need for the hasty operational and strategic-level decision-making that was done throughout the wargame and demonstrated the need for SOF leaders to adapt rapidly to a changing environment within the intentions of senior leaders.
4. SOF could influence the adversarial COG directly or indirectly and by maintaining the appropriate level of secrecy (i.e., overt, covert, clandestine). The selected approach is ideally mutually supportive of the

one employed by conventional forces and in support of operational denial. During wargaming, SOF successfully used a covert indirect approach toward an adversary's COG to degrade principal strength, impose cost, create fear, and humiliate leadership.

5. SOF could extend the general force's operational reach by employing capabilities in denied areas inaccessible to the conventional force to generate strategic and operational effects. SOF enabled joint fires and conducted special reconnaissance in areas inaccessible to the conventional force during wargaming.
6. SOF could create operational and strategic effects by influencing high-value targets and infrastructure, with first, second, and third-order effects generated in the physical, cognitive, and informational dimensions. By degrading A2AD and sabotaging critical infrastructure along the adversarial main supply line in the wargame, SOF degraded the adversary's logistical capacity and warfighting capability in the initial phase of LSCO, which consequently had second and third-order effects.

If preparations are not properly executed, potential misuse of SOF looms over urgent decision-making in the initial phase of LSCO. The remedy for several of these propositions lies within four recommendations for NORSOF:

1. NORSOF should continue to explore its utility in LSCO in the High North through wargaming at the unclassified and classified level for educational, experiential, and analytical purposes.
2. NORSOF should advance the capability to maneuver covertly over great distances in a denied environment in the High North by bolstering cooperation with conventional assets and developing organic capabilities. NORSOF's ability to maneuver in the maritime and land domains during LSCO is a vital premise for mission success.
3. NORSOF should increase integration with the conventional force through training and planning to hone potential synergies, focusing especially on

harmonizing effects by synchronizing the direct and indirect approach in time and space in LSCO. SOF should be able to harmonize with all warfighting units and other relevant national actors.

4. If war comes to Norway, it is imperative to avoid the misuse of SOF, which necessitates political and strategic leadership to deploy NORSOF for suitable tasking.
 - NORSOF should enable immediate communication solutions with senior political and strategic leadership suitable for LSCO.
 - NORSOF should establish enduring concepts of operations pre-approved at the political and strategic levels, explicitly tasking NORSOF in LSCO in the High North within the national and NATO framework.
 - NORSOF should inform and collaborate regularly with relevant decision-makers and partners about using capabilities that exist and are developed within NORSOF for LSCO.

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I. INTRODUCTION

Norway's security environment is changing. The trend toward a multi-polar international landscape increases the risk of escalation in the High North, and the inclusion of Sweden and Finland in the North Atlantic Treaty Organization (NATO) probably changes the Russian matrix for defending its second-strike capability. Norwegian proximity to Russian strategic assets, its historical relationship with Russia, and Norway's NATO membership and Western inclination all complicate Norway's relationship with Russia. We now see a significant deterioration of the Norwegian–Russian relationship because of Russian aggressive actions in the last decade.

Norway is, therefore, compelled to explore the implications of a potential strategic attack conducted by Russia, which has severe consequences for all the Norwegian Armed Forces. These implications call for reorienting the Norwegian Special Operations Forces (NORSOF) from the Global War on Terrorism (GWOt) to prepare for possible large-scale combat operations (LSCO) in the High North. However, no adequate models or frameworks exist for small-state special operations forces (SOF) in the initial phase of LSCO in the High North. Therefore, to maximize NORSOF's effectiveness and strategic utility for small-state decision makers in the initial phase of LSCO, research is needed on NORSOF's and, by extension, other small-state SOF's, initial role in LSCO.

A. RESEARCH QUESTION

To examine the strategic utility of NORSOF, we must address the potential threat Russia might present to Norway from a Norwegian grand strategic perspective; NORSOF must understand which potential roles in a high-intensity conflict will assist NORSOF in avoiding unrealistic expectations, minimizing misuse of them, and optimizing decision-making. Therefore, this thesis answers the following research question:

How can NORSOF contribute effectively to the initial phase of LSCO in the High North?

B. BACKGROUND

1. International Implications for Norway

Two factors in the changing international landscape are crucial for Norwegian security in the High North: an increasingly aggressive Russia in tandem with growing Chinese global assertiveness and the inclusion of Sweden and Finland into NATO.

First, the geopolitical stage sees an increasingly aggressive Russia in tandem with an economically assertive China striving for a multipolar geopolitical landscape. Alme et al. from the Norwegian Defence Research Establishment (FFI) argue that the international landscape is trending toward a multi-polar world, with assertive emerging economies such as China challenging the Western hegemony alongside alternative human-rights values, growing Western isolationism, the increasing power of non-governmental organizations, and the decreasing utility of soft power versus hard power.¹ The potential disruptive effect in the transition to a multipolar world involving Russia increases the risk for Norway because of its close relationship with the United States, which has been the hegemon in the existing unipolar world.

In early February 2022, Russia and China's relationship was manifested by Xi Jinping and President Vladimir Vladimirovich Putin's joint statement that the Russo-Sino relationship has "no limits."² Moreover, Russia's invasion of Ukraine in February 2022 and increased Chinese military activity close to Taiwan show the Russian and Chinese will to achieve their political objectives through military means. The relationship between Russia and China is strengthening. Russia is now receiving Chinese support in its war in Ukraine in the form of military equipment and components such as machines, vehicles,

¹ Vårin Alme et al., *Viten: Globale Trender* [Global trends] (Kjeller, Norway: Forsvarets Forskningsinstitutt [The Norwegian Defence Research Establishment], 2020), 13–15, <https://www.ffi.no/publikasjoner/viten/viten-globale-trender>.

² President of Russia, "Joint Statement of the Russian Federation and the People's Republic of China on the International Relations Entering a New Era and the Global Sustainable Development," March 23, 2024, <http://en.kremlin.ru/supplement/5770>.

electronics, and parts, and China is helping Russia to develop its arms industry.³ The aid from China points to Ukraine as a place for great power competition where the West supports Ukraine and China supports Russia. The implications for Norwegian security are profound if Russia continues to chase an expansionist path with support from China because it increases the risk of open confrontation between NATO and Russia.

Second, the inclusion of Sweden and Finland in NATO changes the security environment of the High North by creating more dilemmas for Russia and thereby reducing the security burden Norway carries in the north on behalf of NATO.⁴ The inclusion of Finland increases NATO's border with Russia significantly; a potential front between Russia and NATO will be much longer than when Norway was the only Scandinavian NATO country. This opens more NATO avenues of approach into Russia and may change the Russian matrix for defending its second-strike capability in the Northern Fleet, which might reduce Russian focus on Norway. Moreover, Finland possesses a land-based military with a wartime army of 180,000 personnel, which poses a significant dilemma for Russian forces.⁵ Likewise, the Swedish military contributes significantly with air, land, and sea power.⁶ In sum, as NATO expands in the north, this strengthens NATO's military posture in Scandinavia and alleviates the burden on Norway as NATO in the north.

2. The Norwegian-Russian Relationship

Since the end of World War II (WWII) and the establishment of NATO on April 4, 1949, Norway has considered its relationship with the Soviet Union and later Russia to be

³ Norwegian Intelligence Service, *Focus* (Oslo: The Norwegian Intelligence Service, 2024), 24, <https://www.etterretningstjenesten.no/publikasjoner/fokus/focus-english/Focus2024%20-%20EN%20-%20Printer-friendly%20v4.pdf>; Frederick Kempe, "The Biden Administration Is Sounding the Alarm about Chinese Support for Russia," *Atlantic Council* (blog), April 8, 2024, <https://www.atlanticcouncil.org/content-series/inflection-points/the-biden-administration-is-sounding-the-alarm-about-chinese-support-for-russia/>.

⁴ "NATO Allies Sign Accession Protocols for Finland and Sweden," NATO, accessed September 15, 2022, https://www.nato.int/cps/en/natohq/news_197763.htm.

⁵ Finnish Defence Forces, "The Finnish Army," *Maavoimat*, accessed March 13, 2024, <https://maavoimat.fi/en/about-us>.

⁶ Försvarsmakten [Swedish Armed Forces], "Personalsiffror [Number of personnel in the Swedish armed forces]," accessed March 25, 2024, <https://www.forsvarsmakten.se/sv/organisation/om-var-organisation/personalsiffror/>.

characterized by deterrence and reassurance.⁷ As with any other state, Norway's primary security goal is to ensure its sovereignty and territorial integrity. Therefore, Norway must deter Russia from aggression in concert with ensuring that the relationship between the two states does not suffer unnecessarily from any spillover effect from other conflicts, such as the Ukraine war or increased tensions between the United States and Russia. Moreover, Norway has been in a strategically complicated position as a neighboring country to the Soviet Union throughout the Cold War and now Russia, because of three primary aspects: proximity, history, and ideational and political differences.

First, Norway is one of six NATO countries that shares a border with Russia in Europe. There are significant amounts of Russian strategic assets on the Kola peninsula on the Russian side of the border, which Russia depends on for nuclear deterrence. This incentivizes Norway to show prudence to reassure Russia that Norway does not pose a threat to Russian nuclear deterrence and to dissuade Russia from taking preemptive military actions against Norway to secure the critical elements of its security insurance. Senior defense analyst Per Erik Solli and research assistant Øystein Solvang at the Norwegian Institute of International Affairs claim,

A key consideration in Norwegian policy is the sensitivity due to proximity to the Russian strategic submarines with nuclear weapons on patrol in the Barents Sea and their support structure in the Kola Peninsula. Also, proximity to Russian test areas for new systems and weapons in the White Sea, Kola Peninsula and Barents Sea areas. These aspects are important considerations and explains the Norwegian conservative approach to allied presence in Eastern Finnmark and the adjacent maritime areas.⁸

NATO's proximity to these vital military resources incentivizes Russia to protect its second-strike capability against potential aggression from Norway as a NATO state. As a part of Norwegian reassurance strategy, the Norwegian conservative approach, in

⁷ Folk og Forsvar, "Norges forhold til Russland [Norway's relationship with Russia]," May 5, 2021, <https://folkogforsvar.no/norges-forhold-til-russland/>; Per Erik Solli and Øystein Solvang, "Deterrence and (Re)Assurance in the High North," *Norwegian Institute of International Affairs* 4 (February 23, 2024): 2, <https://www.nupi.no/en/publications/cristin-pub/deterrence-and-re-assurance-in-the-high-north-finland-and-norway-compared>.

⁸ Solli and Solvang, "Deterrence and (Re)Assurance in the High North," 3.

particular, limits the allied presence in the High North to west of the 24th longitude, as shown during the Nordic Response exercise in 2024.⁹

Second, the historical relationship between the two states, where the two countries have never been in direct open conflict over border disputes in the north, gives Norway a unique position as a neighboring country to Russia without a history of direct military confrontation. Moreover, in October 1944, the Soviet Union liberated parts of Eastern Finnmark from Nazi occupation and consequently withdrew its forces on September 25, 1945, giving the Finnmark territory back to Norway.¹⁰ The withdrawal differed from Soviet strategic decisions to occupy parts of Europe following WWII. Still, this withdrawal and the historical aspect did not prevent Norway from becoming a founding member of NATO, defining Norway's position against the Soviet Union for the duration of the Cold War.

Third, Norway's NATO membership, its ideational and political differences from Russia, and its close relationship with the United States and other Western countries have set Russia and Norway on foundational opposite sides regarding security. Still, after the Cold War and the fall of the Soviet Union, the Norwegian position is that the relationship between Norway and Russia experienced a significant improvement from the fall of the Soviet Union until the Russian conflict with Georgia over Abkhazia and South Ossetia in 2008.¹¹ From 2008, the Russo–Norwegian relationship deteriorated because Russia showed its willingness to use military force for political objectives. Political scientist Julie Wilhelmsen from the Norwegian Institute of International Affairs argues that the Russo–Ukrainian conflict in 2014 was a watershed in the Norwegian relationship with Russia

⁹ Astri Edvardsen and Birgitte Annie Molid Martinussen, “Nordic Response: Over 20 000 Soldiers From 13 Nations Will Practice Defending NATO’s Northern Flank,” High North News, February 14, 2024, <https://www.highnorthnews.com/en/nordic-response-over-20-000-soldiers-13-nations-will-practice-defending-natos-northern-flank>.

¹⁰ Folk og Forsvar, “Norges forhold til Russland” [Norway’s relationship with Russia].

¹¹ Folk og Forsvar.

because of Russian expansionism and the West’s increasing influence in old Soviet states, resulting in a reciprocal adversarial relationship between the West and Russia.¹²

3. Trends Since the Fall of the Soviet Union

The Norwegian–Russian relationship has historically dictated the Norwegian military posture and, therefore, the Norwegian military spending to enable an effective deterrence. The Norwegian threat perception, with respect to Russia, has been reflected in decreasing military spending since the fall of the Soviet Union, which hampers the Norwegian military’s ability to withstand a strategic attack. During the 1990s and 2000s, Norway steadily reduced its military capacity and capabilities because of the reduced threat from Russia after the Cold War. This reduction in military spending likewise resulted in a reduction in Norwegian military readiness from Cold War levels in the watershed moment when Russia annexed Crimea in 2014, and the West again had to account for Russia as a potential adversary in LSCO. The Norwegian defense budget was reduced from almost 3.5 percent of GDP in 1990 to under 2 percent from 2000 to 2021, except for 2002, when Norway started reorganizing its defense structure.¹³ The decreasing trend in Norwegian military expenditure is consistent with the general NATO trend for defense spending in European countries, which generally decreased after the Cold War.¹⁴

However, since 2014, the Norwegian defense budget has been increasing, which can be seen as a response to Norway’s growing concerns about Russian assertiveness and expansionist behavior.¹⁵ When Russia invaded Ukraine on February 24, 2022, the

¹² Julie Wilhelmsen, “Russland: Hvor reell er trusselen og hvordan bør Norge forholde seg til den? [Russia: How real is the threat and how should Norway handle it?],” Norwegian Institute of International Affairs, November 28, 2017, <https://www.nupi.no/nyheter/russland-hvor-reell-er-trusselen-og-hvordan-boer-norge-forholde-seg-til-den>.

¹³ Bjørn Mobeck-Hanssen, Magnus Håkenstad, and Gjermund Forfang Rongved, “Forsvarets omstilling etter den kalde krigen” [The restructuring of the Norwegian military following the Cold War], *IFS Insights* 8 (2021): 4; Norwegian Ministries, “Defence Budget 2002 – Short Version, Text Edition,” Government.no, October 24, 2001, <https://www.regjeringen.no/en/dokumenter/Defence-Budget-2002---Short-Version-Text-Edition/id419349/>.

¹⁴ NATO, “Financial and Economic Data Relating to NATO Defence – Defence Expenditures of NATO Countries (1990–2011) (Rev1),” *NATO*, April 13, 2012, 4, https://www.nato.int/cps/en/natohq/news_85966.htm.

¹⁵ Paal Sigurd Hilde, “Norske forsvarsutgifter – en oversikt” [Norwegian defense spending – an overview], *IFS Insights*, IFS, 10 (2020): 28.

Norwegian concern was reaffirmed, and Norway now views the Northern Fleet in Russia as the greatest significant military threat to Norway.¹⁶ This increase in Norwegian defense spending is, again, consistent with other NATO country's increase in defense expenditure since 2014.¹⁷ Moreover, Norwegian defense spending is expected to increase by almost 60 percent over the next ten years through the Norwegian Defence Pledge.¹⁸ Trends over the last and next decade, thus, clearly show a growing concern regarding the potential threat from Russia.

4. Norway in Dire Straits

Despite few indicators of an imminent Russian invasion of Norway in the short to medium term, it is instrumental for the Norwegian military and senior policymakers to understand, plan, prepare, and train for such a possibility. Sigurd Glaerum, head of research at the Department of Strategic Analysis at the FFI, Mona Sagsveen Guttelvik, and Alf Christian Hennem argued in 2021 that the most significant challenge that Norway can face is a strategic assault from Russia through Finnmark to protect its strategic capabilities at the Kola peninsula.¹⁹ This scenario is reiterated by FFI scientist Iver Johansen's scenarios for defense planning, stating that due to its proximity, Russia is the most likely adversary capable of conducting a strategic attack in Norway.²⁰ This catastrophic scenario is considered unlikely by both Iver Johansen and Glaerum et al. because of Norwegian NATO

¹⁶ Norwegian Intelligence Service, *Focus*, 15.

¹⁷ NATO, "Defence Expenditures of NATO Countries (2014–2023)," July 7, 2023, 4, 7, https://www.nato.int/cps/en/natohq/news_216897.htm.

¹⁸ Norwegian Ministry of Defence, "The Norwegian Defence Pledge," Government.no, April 5, 2024, 8, <https://www.regjeringen.no/en/dokumenter/the-norwegian-defence-pledge/id3032809/>.

¹⁹ Sigurd Glærum, Mona Sagsveen Guttelvik, and Alf Christian Hennem, "Kontroll eller nektelse? Hvilket konsept skal legges til grunn for forsvaret av Norge?" [Control or denial? Which concept should be foundational in the defense of Norway?], *Luftled*, no. 2 (2021): 7–8, <https://luftled.info/wp-content/uploads/2021/06/212254-LUFTLED-nr-2-2021-WEB.pdf>.

²⁰ Iver Johansen, *Scenarioklasser for Forsvarsplanlegging – Revisjon av FFIs Scenariogrunnlag* [Scenario classes for defense planning – a revision of the Norwegian defense research establishment's existing scenarios], FFI Report (Kjeller, Norway: The Norwegian Defense Research Establishment, January 20, 2022), 36.

membership and because several non-existing prerequisites must be in place.²¹ But neglecting the scenario of a Russian invasion of Norway is still not permissible for Norwegian defense planning.

5. Implications for SOF

A disastrous scenario for Norway would be a strategic attack by a major adversary. Therefore, the Norwegian Special Operations Forces (NORSOF) must reorient its efforts to operate in such scenarios. Furthermore, the Ukrainian SOF efforts in the early phase of the Russian invasion offer lessons for Western SOF. On February 24, 2022, Russia attempted a coup de main in Ukraine by inserting airborne forces and advancing mechanized formations aiming for strategic locations, including Kyiv.²² Ukrainian forces repelled the initial attack. According to Dr. Spencer Meredith, a professor of National Security Strategy at the National Defense University, and Andrew White, a veteran Breaking Defense journalist, the initial Russian airborne operation against the Hostomel airport was thwarted by a mix of Ukrainian regular and Special Forces, whereas Ukrainian SOF (UASOF) conducted operations on day one of the Russian attacks.²³ However, cofounders of the Ukraine Defense Support Group Erik Kramer and Paul Schneider argue that Ukrainian SOF is also improperly used as conventional infantry in trenches and not used for traditional SOF tasks.²⁴ According to Thomas Searle, Christopher Marsh, and Brian Petit the Ukraine case shows that during LSCO, SOF might find itself used for crucial

²¹ Glærum, Guttelvik, and Hennum, “Kontroll eller nektelse? [Control or Denial?],” 9; Johansen, “Scenarioklasser for Forsvarsplanlegging – Revisjon av FFIs Scenariogrunnlag [Scenario Classes for Defense Planning – a Revision of the Norwegian Defense Research Establisshemnt’s Existing Scenarios],” 41, 42.

²² Andrew S. Bowen, *Russia’s War in Ukraine: Military and Intelligence Aspects*, CRS Report No. R47068 (Washington, DC: Congressional Research Service, 2023), <https://crsreports.congress.gov/product/details?prodcode=R47068>.

²³ Spencer Meredith, “The Key to Ukrainian Victory Is Partnering (Not Ukrainifying),” Irregular Warfare Initiative, February 6, 2024, <https://irregularwarfare.org/articles/the-key-to-ukrainian-victory-is-partnering-not-ukrainifying/>; Andrew White, “Europe’s Special Operators Are Watching Ukraine Closely for Lessons Learned,” Breaking Defense, January 18, 2023, <https://breakingdefense.com/2022/04/europes-special-operators-are-watching-ukraine-closely-for-lessons-learned/>.

²⁴ Erik Kramer and Paul Schneider, “What the Ukrainian Armed Forces Need to Do to Win,” War on the Rocks, June 2, 2023, <https://warontherocks.com/2023/06/what-the-ukrainian-armed-forces-need-to-do-to-win/>.

tasks such as defending an airfield like Hostomel, but also misused by being deployed as elite infantry.²⁵ Therefore, the potential misuse of SOF in LSCO is an aspect that should be discussed.

Many Western SOF units are now looking for lessons learned, particularly concerning surprise engagement with a superior military adversary.²⁶ The change in Russian aggression and geopolitical environment puts near-peer competition and conflict on the agenda and necessitates more attention to high-intensity conflict. This shift is essential for Norway, a small neighbor of Russia. It affects the country's view of deterrence, defense planning, and the need to address SOF's initial role in a high-intensity conflict.

No clear and adequate model exists for the kind of reorientation that Western SOF units, including NORSOF, seek to undertake. The U.S. SOF reorientation after the GWoT does not sufficiently align with the problem set that NORSOF is facing, as the U.S. SOF community is focusing on strategic competition and bolstering deterrence. According to U.S. Senator Mark Kelly, the continuous U.S. SOF effort in Ukraine from 2014 until the 2022 invasion reflects some key lessons learned concerning preparations for LSCO.²⁷ This narrative is further bolstered by U.S. Assistant Secretary of Defense for Special Operations and Low-Intensity Conflict (ASD [SO/LIC]) Christopher P. Maier's statement that

we're looking increasingly to be focused on really shaping the environment so if there is a fight against a near-peer adversary or an adversary like a China or a Russia, we're able to shape the conflict before it even occurs and

²⁵ Thomas Searle, Cristopher Marsh, and Brian Petit, "Ten Surprising Lessons for Special Operations Forces from the First 20 Months of Putin's Full-Scale Invasion of Ukraine," SOF Support, November 5, 2023, <https://sofsupport.org/ten-surprising-lessons-for-special-operations-forces-from-the-first-20-months-of-putins-full-scale-invasion-of-ukraine/>.

²⁶ White, "Europe's Special Operators."

²⁷ *Hearing to Receive Testimony on United States Special Operations Command's Efforts to Sustain the Readiness of Special Operations Forces and Transform the Force for Future Security Challenges*, Subcommittee on Emerging Threats and Capabilities, Senate Committee on Armed Services (April 27, 2022).

in many cases hopefully establish deterrence to ensure it does not occur or if it does occur, it occurs to our advantage.²⁸

The United States' focus on grey zone activities to create an advantage in strategic competition, shaping operations before war breaks out, bolstering deterrence, and aiding partners to fight is crucial for the current geopolitical landscape. Still, it does not provide substantial insights into how a small state, such as Norway, should align its SOF effort in the outbreak of LSCO because, thus far, limited academic efforts have been put into analyzing situations in which a NATO nation will have to fight alone for a short period. Therefore, more research needs to be done on how a small state such as Norway should align its SOF effort in the outbreak of LSCO.

Aligning the strategic utility of NORSOFF with the defense planning of Norway is inherent in its function, and its existential operational line of effort; however, the changing international situation necessitates NORSOFF to provide strategic utility in harmony with the conventional force (CF) and defend Norway in the event of the scenario previously described. Former Commander of NORSOFF Torgeir Graatrud states that NORSOFF is aimed to be a strategic instrument for Norwegian decision-makers, which also extends to operating alongside the CF.²⁹ Steve Lambakis, a senior defense analyst at the National Institute for Public Policy, points to Colin Gray's two master claims that the strategic utility of SOF is that it can achieve decisive effects in battle with a distinctly limited force and directly support a conventional campaign (economy of force) but also provide political and military leaders with options (expansion of choice).³⁰ As a Special Operations Force, NORSOFF is designed to perform various special operations at any level of conflict, making them a valuable instrument for the defense of Norway and NATO.

²⁸ Christopher P. Maier, Courtney Kube, and Matthew Kroenig, "Special Operations Forces in an Era of Strategic Competition," video, 49:58, YouTube, Atlantic Council, March 7, 2024, sec. 5:17–5:50, <https://www.atlanticcouncil.org/event/special-operations-forces-in-an-era-of-strategic-competition/>.

²⁹ Torgeir Gråtrud, "Innovasjon, kreativitet og forskning er vesentlig for utvikling av spesialstyrkene" [Innovation, creativity, and research are essential for the development of the Norwegian Special Forces], Forsvarets Forum, June 23, 2021, <https://forsvaretsforum.no/forsvaret-meninger-spesialstyrke/innovasjon-kreativitet-og-forskning-er-vesentlig-for-utvikling-av-spesialstyrkene/205583>.

³⁰ Steve Lambakis, "Colin Gray on the Strategic Utility of Special Operations," *Comparative Strategy* 40, no. 2 (March 4, 2021): 207, <https://doi.org/10.1080/01495933.2021.1880841>; Colin S. Gray, *Explorations in Strategy* (Westport, CT: Praeger, 1998), 169.

Research pertaining to the reorientation of NORSOFF to prepare for a strategic assault shows that NORSOFF should focus on special reconnaissance (SR), direct actions (DA), and military assistance (MA) to conventional military units. Iver Johansen and Henrik Gråtrud from FFI claim that NORSOFF would mainly conduct SR to initially provide situational awareness to military and political decision-makers and facilitate joint targeting at a later phase.³¹ Moreover, Johansen and Gråtrud state that NORSOFF would conduct irregular warfare together with CFs via a direct approach.³² Finally, Johansen and Gråtrud claim that NORSOFF should conduct DA against anti-access/area denial (A2AD) systems like the Russian S-400 system, radar systems, communication nodes, and command and control (C2) facilities.³³ These three recommendations comprise the bulk of academic knowledge of how NORSOFF should operate during LSCO against Russia.

NORSOFF must, therefore, transition from being a tactical elite for extended deterrence to include being able to support the overall conventional fight to deny an enemy invasion and to impose cost on an adversary to dissuade further enemy advancements.³⁴ NORSOFF has been a preferred instrument for achieving strategic military goals to enhance Norwegian extended deterrence. The Norwegian Armed Forces states that NORSOFF helped establish the Crisis Response Unit (CRU) 222 starting in 2007 and subsequently contributed to CRU 222 in Kabul through the NATO Resolute Support Mission (RSM) in Afghanistan until June 2021.³⁵ This effort has arguably enhanced Norwegian extended deterrence strategy by continuously supporting NATO Article 5 efforts in Afghanistan. Therefore, NORSOFF has been a crucial tool in the Norwegian political toolbox for

³¹ Iver Johansen and Henrik Gråtrud, *Fra Taktisk Elite Til Strategisk Tilrettelegger – Hvordan Forsvarets Spesialstyrker Kan Møte Fremtidens Utfordringer* [From a tactical elite to a strategic facilitator – how will the Norwegian special operations forces face future challenges?] (Kjeller, Norway: The Norwegian Defense Research Establishment, November 1, 2018), 48, <https://www.ffi.no/en/publications-archive/fra-taktisk-elite-til-strategisk-tilrettelegger-hvordan-forsvarets-spesialstyrker-kan-mote-fremtidens-utfordringer>.

³² Johansen and Gråtrud, 48.

³³ Johansen and Gråtrud, 49.

³⁴ Chairman of the Joint Chiefs of Staff, *Joint Planning*, Joint Publication 5-0 (Washington, DC: Joint Chiefs of Staff, 2020), E-2–E-8, https://irp.fas.org/doddir/dod/jp5_0.pdf.

³⁵ “Afghanistan,” Forsvaret [Norwegian Armed Forces], accessed March 12, 2024, <https://www.forsvaret.no/om-forsvaret/operasjoner-og-ovelser/internasjonale-operasjoner/afghanistan>.

achieving strategic military goals during the last two decades. However, for NORSOFF to function as a strategic tool for extended deterrence through counterterrorism is increasingly difficult with the rise of great power competition and NATO's declining focus on terrorism.

The habit among high-ranking officers and politicians of using NORSOFF only for counterterrorism in Afghanistan presents a potential risk of leaders misunderstanding the potential strategic utility of NORSOFF in LSCO. Therefore, exploring and communicating the renewed strategic utility of NORSOFF is urgent. This urgency, together with the evolving geopolitical environment, requires NORSOFF to rapidly adapt and explore different tasks and purposes than was the reality in the GWOFF.

C. METHODOLOGY

The explorative nature of this study fits best with a qualitative research method. The qualitative nature of exploring roles in a potential future that does not have readily available valid quantifiable empirical datasets has resulted in using qualitative data collection generated through analytical wargaming and constant comparative analysis to generate theory for this study.

Because the data collected through wargaming is dependent on wargame type and design, subjective factors within the players, group dynamics, individual experience and knowledge, human behavior, and the fictional scenario, it will be challenging to generate valid propositions on player decisions in advance because the number of variables involved gives infinite possible solutions to a wargame. Moreover, if hypotheses were developed before the study, it could give the researcher preconceived ideas about the results of the data collection, which hampers the possibility of discovering novel knowledge from wargaming. Thus, this research is using grounded theory to discover new knowledge through Barney Glaser and Anselm L. Strauss's approach to generating social theories in their book *The Discovery of Grounded Theory: Strategies for Qualitative Research*.³⁶

³⁶ Barney G. Glaser and Anselm L. Strauss, *The Discovery of Grounded Theory: Strategies for Qualitative Research* (London: Routledge, 2017).

Moreover, this thesis uses the framework provided by Col. (R) Jeff Appleget, Col. (R) Robert Burks, and Fred Cameron's book *The Craft of Wargaming: A Detailed Planning Guide for Defense Planners and Analysts* to create, conduct, and analyze the analytical wargame.³⁷ Given the variables accounted for in the grounded theory approach, this thesis has used established categories and known constants from Joint Publication 5-0: Joint Planning (JP 5-0) *Operational Design* as the foundational skeleton of the wargame analysis.³⁸ However, the ambiguity and uncertainty inherent in exploring future roles and decisions in a fictional future scenario do not provide empirical evidence for how to fight future wars. Still, they give unique insights into what principal decisions and potential decision patterns might occur, which can provide preliminary recommendations and conclusions and function as a starting point for future research, explorations, and refinements.

D. CHAPTER OVERVIEW

This thesis comprises five chapters: introduction, literature review, research method, research findings, and discussion. The literature review explores the knowledge gap that resides within the use of small-state SOF in LSCO in the High North. The next chapter on the research method explains how wargames produced qualitative data and how these datasets were analyzed through the constant comparative method. The research findings chapter presents the most essential results analyzed from the wargames and describes the propositions that emerged from the analysis. The discussion chapter concludes the findings, explains the implications for NORSOE, and recommends a way to optimize the use of NORSOE in the initial phase of LSCO in the High North.

³⁷ Jeff Appleget, Robert Burks, and Fred Cameron, *The Craft of Wargaming: A Detailed Planning Guide for Defense Planners and Analysts* (Annapolis, MD: Naval Institute Press, 2020).

³⁸ Chairman of the Joint Chiefs of Staff, *Joint Planning*, 2020, IV-1–IV-45.

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II. LITERATURE REVIEW

This thesis has identified that the research question and the methodology for answering it reside in the juxtaposition between at least three fields of knowledge that must be examined to understand the premise and interconnectedness of the problem and the research. The first field of knowledge comprises Thomas Schelling’s deterrence as the premise for the foundation of the Norwegian security strategy. Second, understanding Russian security concerns and strategy contextualizes the challenging situation in the High North. Third, recognizing the strategic utility of small-state SOF in LSCO serves as a segue into the research method framework of researching SOF in LSCO in the High North through grounded theory and analytical wargaming.

The literature review found a gap in the research on the strategic utility of twenty-first-century small-state SOF in the initial phase of LSCO before NATO reinforcements arrive, especially in the High North.

A. DETERRENCE AND THE SMALL STATE

A small-state deterrence strategy to deter a stronger adversary is incentivized to use what Ian Bowers, an associate professor in the Section for International Security at the Norwegian Institute for Defence Studies (IFS), refers to as *extended deterrence*, *deterrence by denial*, and *deterrence by punishment* in concert with the continuum of conflict to provide a visible and credible deterrence posture and manage escalation.³⁹ The goal of successful deterrence, in its basic form, is to prevent war, but the premise is credible and visible deterrence primarily aimed at shaping the thinking of a potential adversary. Tami Davis Biddle, a retired professor of history and national security at the U.S. Army War College, states that Thomas Schelling is central to coercion theory, which illuminates the logic of threats, violence, and war.⁴⁰ Schelling’s definition of coercion encompassed both

³⁹ Ian Bowers, *Small State Deterrence in the Contemporary World*, IFS Insights 9 (Oslo: Forsvarets Høgskole, 2018), 2, <https://fhs.brage.unit.no/fhs-xmlui/handle/11250/2569031>.

⁴⁰ Tami Davis Biddle, “Coercion Theory: A Basic Introduction for Practitioners,” *The Strategist* 3, no. 2 (2020): 95; Thomas C. Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 2008).

deterrence and compellence, which are accounted for in this literature review. Deterrence involves a threat to keep an adversary from starting a war or preventing an adversary from reaching their goal. However, Schelling also points to *graduated deterrence*, which means that the threat of force continues if the aggressive move takes time.⁴¹ Graduated deterrence assumes that the aggressor did not understand the deterrence posture it would encounter and, therefore, changed its course of action because of the discovered deterrent posture. According to Michael J. Mazarr, deterrence by denial emphasizes denying an aggressor's confidence in attaining its objectives, for example, by effectively defending against an invasion.⁴² Deterrence by denial favors large military formations designed to withstand a conventional invasion. Moreover, it implies that SOF would contribute to the conventional effort in a supporting role. On the other hand, deterrence by punishment threatens to impose costs for the aggressor if the defender is attacked. This opens a broader arena for SOF to have a more prominent role because punishment no longer depends solely on conventional military formations. For smaller states, deterrence by punishment is better explained by the *threat* of deterrence by punishment. The challenge is that the threatened penalty of an attack or reward for avoiding an attack must be credible.⁴³ Deterrence by punishment can also be an indirect approach that assumes that the threat of imposing cost is sufficient to persuade the adversary to stand down from an attack. Therefore, deterrence by denial can be a more reliable form of deterrence than deterrence by punishment.

Small states typically lack military, political, or economic leverage to deter major powers. Bowers mentions the apparent problem of small states deterring a larger state that possesses overwhelming military power.⁴⁴ Yet, he also claims that this might be an oversimplification. In a complex deterrent relationship, small states can deter by maintaining a capacity to raise the cost to an adversary across domains.⁴⁵

⁴¹ Schelling, *Arms and Influence*, 78.

⁴² Michael J. Mazarr, *Understanding Deterrence* (Santa Monica, CA: RAND Corporation, April 19, 2018), 2, <https://www.rand.org/pubs/perspectives/PE295.html>.

⁴³ Schelling, *Arms and Influence*, 75.

⁴⁴ Bowers, "Small State Deterrence in the Contemporary World," 3.

⁴⁵ Bowers, 4.

Small states are investing in smaller and more mobile forces, supported by more networked assets across domains. These assets act as force multipliers; for example, the Norwegian investments in F-35s and naval strike missiles (NSM) might enforce deterrence by denial or punishment.⁴⁶ For Norway, the lack of substantial power may lead to a disadvantage. Still, examples such as Ukraine are showcasing that it is possible for a small state to “punch above its weight.”

Over the past decades, the Norwegian security strategy has emphasized military contributions abroad to ensure support in a domestic crisis or conflict. This could be understood as an *extended* deterrence by drawing allied nations closer in mutual defense.⁴⁷ Michael Mazarr explains extended deterrence as discouraging attacks on third parties. The most robust U.S. commitment to extended deterrence resides within the U.S. commitments to NATO Article 5.⁴⁸ Extended deterrence is inherently difficult because of the balance between domestic national interests and credible commitment to support a third party in the event of war. The challenge lies in justifying the domestic cost of aiding another country. Until today, the only time NATO Article 5 has been invoked is by the United States following the 9/11 terrorist attacks.⁴⁹ In extended deterrence, SOF has, for instance, been used actively abroad for cooperation and intelligence sharing.⁵⁰ Nevertheless, with the current security environment, NORSOE is drawn closer to a strategic role in national defense.⁵¹

However, the Norwegian extended deterrence strategy might, theoretically, not be sufficient to avoid LSCO because of diverging allied commitments and a shortage of

⁴⁶ Bowers, 2, 5.

⁴⁷ Glærum, Guttelvik, and Hennem, “Kontroll eller nektelse?” [Control or denial?], 7.

⁴⁸ Mazarr, “Understanding Deterrence,” 3.

⁴⁹ Supreme Headquarters Allied Powers Europe, “SHAPE History | Invoking Article 5,” accessed April 24, 2024, <https://shape.nato.int/history/information/podcasts/episodes/invoking-article-5>; “NATO’s Response to Terrorism Statement Issued at the Ministerial Meeting of the North Atlantic Council Held at NATO Headquarters, Brussels, on 6 December 2001,” NATO, accessed April 24, 2024, http://www.nato.int/cps/en/natohq/official_texts_18848.htm.

⁵⁰ Bowers, “Small State Deterrence in the Contemporary World,” 5.

⁵¹ Johansen and Gråtrud, “Fra taktisk elite til strategisk tilrettelegger” [From a tactical elite to a strategic facilitator], 4.

resources. Norwegian political discourse, defense strategy, and military organization and doctrine all account for Article 5 in NATO, and its importance for Norway cannot be stressed enough. However, the North Atlantic Treaty Article 5 states, “Parties agree ... taking forthwith, individually and in concert with the other Parties, such action as it deems necessary, including the use of armed force, to restore and maintain the security of the North Atlantic area.”⁵² The term “such action as it deems necessary” gives room for interpretation of what the actions taken will be. Moreover, if several NATO states invoke Article 5 and the major military powers are occupied in other regions like the Indo-Pacific, there could potentially be a temporary conflict in prioritizing military resources. This has not happened in NATO’s history; still, this scenario is theoretically possible, which gives a potential aggressor to a NATO country the possibility to question the credibility of NATO’s extended deterrence under certain circumstances. Some scholars, like Ståle Ulriksen, a scientist at the Royal Norwegian Naval Academy (RNNA) and the Norwegian Institute of International Affairs (NUPI), double down on this theoretical possibility and argue that the Norwegian perception of its perceived extended deterrence might not be as solid as Norway might think because the great powers in NATO are experiencing declining military power and are focused in the Indo-Pacific.⁵³ In particular, the United States, the United Kingdom, France, and Germany might find themselves occupied in Southern Europe and the Indo-Pacific. Ulriksen claims that this reduces the likelihood of sufficient support to Norway if NATO is stretched on multiple fronts and the United States is dealing with, for example, China.

Previous and current experiences with the mechanisms in NATO, such as NATO support to Ukraine, the inclusion of Sweden and Finland, and the GWoT, show that NATO is a quite well-functioning organization that unifies when necessary and where semantics

⁵² NATO, “The North Atlantic Treaty,” last modified October 19, 2023, https://www.nato.int/cps/en/natohq/official_texts_17120.htm.

⁵³ Ståle Ulriksen, “Stormaktenes militærmakt: Militær kapasitet og muligheter for å bidra med forsterkninger til Norge” [The military power of the great powers: Military capacity and possibilities to reinforce Norway], *NUPI*, no. 3 (November 30, 2023), <https://www.nupi.no/publikasjoner/cristin-pub/stormaktenes-militaermakt-militaer-kapasitet-og-muligheter-for-aa-bidra-med-forsterkninger-til-norge>.

in Article 5 do not limit the timeliness or volume of support, contrary to Ulriksen's argument.

Norwegian reliance on the effect of extended deterrence has permitted Norwegian defense spending to decrease versus the growing operational demands for deterrence by denial, resulting in increased government spending in other areas. This is currently changing.

Thomas Schelling's *Coercive Warfare and Compellence* lends its value to Norwegian security strategy and is especially relevant for SOF.⁵⁴ Norway does not have and does not plan any use of nuclear weapons. Cost imposition for a small state like Norway dramatically differs from nuclear states that can destroy cities. As a small substitute, SOF can potentially produce cost-imposing effects, however, on a smaller scale by sabotaging economical vulnerabilities, for example. Compellence is viewed as an active offense designed to induce a change in behavior rather than making an aggressor refrain from action. Compellence is, therefore, a way for SOF to impose cost at the appropriate level to both manage escalation and induce a change in behavior. Deterrence, on the other hand, retains the ability to impose cost and threaten to impose cost if the aggressor takes certain steps. SOF will, again, play a role as the cost-imposing tool. The difference in how SOF is used is not on the tactical or even operational level but on the strategic and political level, as to why SOF is used, what intentions are inherent, and how these intentions are communicated to the adversary.

An FFI report by Espen Skjelland et al. suggested four paths for strengthening Norway's defense if additional defense funding is allocated.⁵⁵ Two of these four paths enhance deterrence by denial in an LSCO scenario by achieving either operational control or operational denial, with a cost estimate for both. Glaerum, Guttelvik, and Hennem, three of the 13 authors of the Skjelland FFI report, wrote an article arguing that Norway should

⁵⁴ Schelling, *Arms and Influence*, 170–76.

⁵⁵ Espen Skjelland et al., *Hvordan styrke forsvaret av Norge? Et innspill til ny langtidsplan (2021–2024)* [How to strengthen the defense of Norway? A proposal to the new long-term plan (2021–2024)], FFI Report no. 19/00328 (Oslo: FFI, February 4, 2019).

aim for operational denial instead of control.⁵⁶ They argued that there is a significant cost difference between designing the Norwegian military to completely deny and stop a Russian invasion (operational control) and to deny Russian operational goals in Norway until NATO reinforcements arrive and a significant counter-attack can be mustered (operational denial).⁵⁷ Glærum, Guttelvik, and Hennum’s definition of operational denial clearly resembles sea denial and operational control resembles sea control but transferred to the land domain.⁵⁸ Therefore, it is no surprise that control is more resource-intensive than denial. Moreover, the aims embedded in operational denial also leverage a dynamic operational environment where maneuverability and the ability to avoid a coup de main prevent a subsequent standstill in the warfighting and maintain Russia as the initiator. Glærum, Guttelvik, and Hennum claim that this is important so that NATO does not have to initiate the warfighting after a *fait accompli* because the threshold for a counter-attack will then be higher than if the warfighting is active. The recommended strategy then favors deterrence by denial by pursuing operational denial that provides a dynamic operational environment where achieving operational effects will maintain the momentum in the warfighting until NATO reinforcements arrive.

The Norwegian deterrence strategy and strategic environment thus support the use of agile units capable of operating over time and inflicting operational effects in the early phases of an LSCO. This strategy ultimately buys Norway time until NATO can reinforce the warfighting effort. The usability of NORSOF in these environments will, therefore, result in NORSOF finding itself amidst an LSCO scenario in the earliest stages of conflict.

B. NATO IN SCANDINAVIA

Scandinavian deterrence and defense are growing stronger because of NATO realignment in the High North, increased defense spending, and the inclusion of Sweden and Finland in NATO. Former Norwegian Chief of Defense (CHOD) General (R) Sverre

⁵⁶ Glærum, Guttelvik, and Hennum, “Kontroll eller nektelse?” [Control or Denial?], 9.

⁵⁷ Glærum, Guttelvik, and Hennum, 7.

⁵⁸ Milan Vego, *Maritime Strategy and Sea Denial: Theory and Practice* (London: Routledge, 2018), 18–19, <https://doi.org/10.4324/9781351047722>.

Diesen, now working for the Norwegian Research Establishment (FFI), conducted a study to identify new operational tasks for the armed forces.⁵⁹ His work harmonized with the FFI study of global trends and their impact on Norwegian defense planning.⁶⁰ Based on the findings, Diesen concluded that there might be future operations within Scandinavia, with the Nordic countries as an institutional context.⁶¹ Marta Kepe, a senior defense analyst at RAND, stated that during the Vilnius summit in 2023, “NATO leaders approved regional deterrence and defense plans for the High North and Atlantic, NATO’s central region and the Baltics, and southeast of NATO.”⁶² This regionalization of the deterrence and defense plans will, according to Kepe, significantly improve NATO’s deterrence and defense capabilities and capacity.⁶³ In addition, the inclusion of Sweden and Finland in NATO further changes security policies and may lead to adjustments to Norwegian defense plans. The change in Scandinavia is further explored by NUPI researchers Karsten Friis and Rolf Tamnes explaining that Scandinavia is now witnessing a change in security cooperation through a changing NATO command structure, increasing regional cooperation, and more robust plans for the North-Western region.⁶⁴ These changes will, according to Kepe, enable NATO to defend against an invasion instead of regaining occupied territory.⁶⁵

⁵⁹ Sverre Diesen, *Forsvarets fremtidige operasjoner: en morfologisk analyse av operasjonsspekteret* [The Norwegian Armed Forces future operations: A morphological analysis of the operational continuum] (Kjeller, Norway: The Norwegian Defense Research Establishment, December 9, 2016), 4.

⁶⁰ Alexander William Beadle et al., *Globale trender mot 2040: et oppdatert fremtidsbilde* [Global trends toward 2040: an updated image of the future] (Kjeller, Norway: Forsvarets Forskningsinstitutt [Norwegian Defense Research Establishment], 2019), 4.

⁶¹ Diesen, *Forsvarets fremtidige operasjoner*, 48, 49.

⁶² Marta Kepe, “From Forward Presence to Forward Defense: NATO’s Defense of the Baltics,” RAND, February 14, 2024, <https://www.rand.org/pubs/commentary/2024/02/from-forward-presence-to-forward-defense-natos-defense.html>.

⁶³ Kepe.

⁶⁴ Karsten Friis and Rolf Tamnes, “The Defence of Northern Europe: New Opportunities, Significant Challenges,” *International Affairs* 100, no. 2 (March 4, 2024): 815, 817–21, <https://doi.org/10.1093/ia/iae019>.

⁶⁵ Kepe, “From Forward Presence to Forward Defense.”

C. RUSSIA IN THE HIGH NORTH

The High North is vital for Russian economic and military strength because it holds the nuclear second-strike capability within the Northern Fleet and significant natural gas and oil resources. According to former Norwegian diplomat Ole Gunnar Skagestad, the term *High North* is a relatively recent expression that originates from the Norwegian term *Nordområdene*, which refers to the Norwegian area of interest in the northern areas surrounding Norway.⁶⁶ The emphasis is on the Norwegian interests, not the geographical aspects of the area. The High North differs from the Arctic region, which typically signifies the geographic area north of the Arctic Circle.⁶⁷ The Northern Sea Route (NSR) is predicted to increase the High North's importance further because it streamlines European and Asian sea transportation and bolsters trade and other profitable activities in the region. Russia will not operate in isolation as we see increasing Chinese interest in the Arctic. If Russia regains great power status and asserts supremacy in the Arctic, China may play a minor role. If Russia becomes a failed state and the NSR traffic increases, China may assert more influence in the region.

1. Russo–Chinese Balance in the Arctic

If Russia regains its military strength and renews its great power status, it is implausible that China will challenge Russian dominance in the Arctic because Russia would likely reject Chinese demands for a governing role. According to the Norwegian Intelligence Service (NIS), the Arctic is strategically important to both Russia and China.⁶⁸ Still, it is especially important to Russia because of the natural resources in the region and its nuclear deterrence capabilities.

Together with twenty-six experts from the United States and northern Europe, David Auerswald participated in a project to explore future scenarios of Arctic security,

⁶⁶ Ole Gunnar Skagestad, *The "High North": An Elastic Concept in Norwegian Arctic Policy* (Lysaker, Norway: Fridtjof Nansen Institute, 2010), 1–3, <https://www.fni.no/getfile.php/131978-1469869945/Filer/Publikasjoner/FNI-R1010.pdf>.

⁶⁷ Skagestad, 3–4.

⁶⁸ Norwegian Intelligence Service, *Focus*, 10–13.

aiming at the year 2035.⁶⁹ This project identified three causal variables driving the possible scenarios: Russia, China, and climate change. Notably, China is considered an integral part of the future of the High North. The project identified four scenarios derived from these variables, explored to the extremes, but bounded within plausibility. Three scenarios envision Russia as a failed state: *Hot Sauce*, *Arctic Middle Kingdom*, and *Empty Freezer*. All three scenarios present significant security dilemmas for the High North but do not show Russian supremacy. However, the *Arctic Tsar* scenario shows a fractured West and a more assertive Russia regaining its military power, including rebuilding its military strength in the High North. Interestingly, the *Arctic Tsar* implies a declining Chinese involvement in the High North because Russia, as a renewed great power, rejects Chinese demands for a governing role in the Arctic. The variables do not allow plausible scenarios with both Chinese dominance and an assertive Russia in the Arctic, independently of climate change. Conversely, the *Empty Freezer* allows Russia to become a failed state because of popular unrest and China to exit from the Arctic because of declining profitable activities in the area due to reversing global climate change and an inaccessible NSR. Of the four scenarios, only the *Arctic Tsar* presents an assertive Russia capable of conducting a strategic assault on Norway, and the research group found it implausible that China would simultaneously also assert dominance in the region.

Even though China plays a vital role in the future of the Arctic, it will have dependencies on whether Russia becomes a failed state to shape its Arctic strategy. The no-limits agreement between Russia and China shows increasing cooperation, arguably aiding Russia in maintaining power, reducing the likelihood of Russia becoming a failed state, and significantly increasing Chinese influence in the Arctic. The NIS also depicts a significant imbalance between China and Russia, where Russia has more dependencies on China than China has on Russia.⁷⁰ The imbalanced relationship and China's incentives for keeping Russia in power might counter China's role in the *Arctic Tsar* scenario, asserting

⁶⁹ David Auerswald is a nonresident senior fellow at the Transatlantic Security Initiative in the Atlantic Council's Scowcroft Center for Strategy and Security. David Auerswald, "Alternative Security Futures in the High North," *Atlantic Council* (blog), September 6, 2023, <https://www.atlanticcouncil.org/in-depth-research-reports/issue-brief/alternative-security-futures-in-the-high-north/>.

⁷⁰ Norwegian Intelligence Service, *Focus*, 50–51.

more influence because of Russian dependency in the form of economic, military, and soft power. Auerswald's project did not evaluate the likelihood of the different scenarios, and this research will not try to predict the future of Russian and Chinese involvement in the Arctic. Regardless of the potential future outcomes, China and Russia will naturally play essential roles in the region, where Russia probably will have a leading role as long as it does not become a failed state.

2. Russian Arctic Strategy

The general Russian Strategy has historically aimed at maintaining low tensions in the Arctic to secure the nuclear capabilities on the Kola peninsula and facilitate investments and development in the region. According to Pär Gustavsson, a senior analyst at the Swedish Defence Research Agency (FOI), the drivers in official strategies for the Russian Arctic toward 2035 are natural resources, the NSR, and socioeconomic development.⁷¹ Moreover, Pavel Devyatkin, a Senior Associate and Leadership Group member at The Arctic Institute, claims that Russian security ambitions in the Arctic are in congruence with these drivers and are an integral part of Russian national security.⁷²

The Russian Bastion defense concept has been, and is still, the governing Western theory of Russian military strategy in the Arctic. However, the war in Ukraine and the subsequent Western response may change the Russian Arctic strategy. According to the NIS, the break with the West after the Ukrainian invasion forced a change in the Russian Arctic policy from maintaining low tensions and facilitating foreign investments to cooperation with non-Western countries, increasing Russian dependency on China.⁷³

Scientist Iver Johansen from FFI states that, due to its proximity, Russia remains the most likely adversary capable of conducting a strategic attack against Norway.⁷⁴ In

⁷¹ Pär Gustafsson, *Russia's Ambitions in the Arctic toward 2035* (Stockholm: Swedish Defence Research Agency, October 2021), 1, 2, 4, 7, <https://www.foi.se/rest-api/report/FOI%20Memo%207624>.

⁷² Pavel Devyatkin, "Russia's Arctic Strategy: Military and Security (Part II)," The Arctic Institute – Center for Circumpolar Security Studies, February 13, 2018, <https://www.thearcticinstitute.org/russias-arctic-military-and-security-part-two/>.

⁷³ Norwegian Intelligence Service, *Focus*, 33.

⁷⁴ Johansen, "Scenarioklasser for Forsvarsplanlegging," 36.

addition, FFI has defined Russia as the only state adversary actor in their scenario classes for defense planning since 2006.⁷⁵ The less likely but still plausible scenario for Russia to launch a strategic attack is its reliance on the nuclear second-strike capability in the Northern Fleet as the center of gravity (COG) in the High North.⁷⁶ To secure its bases and ensure freedom of movement in the northern sea, Russia is expected to launch the Bastion defense in case it is threatened. Another scenario, presented by research fellow Mathieu Boulègue with the Russia and Eurasia Programme at Chatham House, can be coercive military positioning resembling compellence due to events in other regions.⁷⁷ Compellence due to other events might still imply activating parts of the Bastion defense, but the need for a strategic attack is less likely. After the invasion of Ukraine, Putin increased the readiness of the Russian nuclear forces, which bears a resemblance to Boulègue's argument.⁷⁸ The notion of a Russian Bastion defense is nothing new. Dr. James Lacey, a professor of strategic studies at the Marine Corps War College, argues that the Walker spy ring, active from 1967 to 1985, revealed vulnerabilities to the Soviet nuclear submarines and resulted in the subsequent establishment of the Bastion concept.⁷⁹ Protecting and maintaining a credible nuclear retaliation capability is the most vital instrument of the existential insurance for Russia, given that it ensures the Mutually Assured Destruction (MAD) condition by securing its massive retaliation doctrine.⁸⁰ Professor Jan Breemer, a former professor at the Naval Postgraduate School, showed in 1989 how the Bastion defense concept is a Western construct but a helpful way to understand Soviet decision-

⁷⁵ Johansen, 36.

⁷⁶ Ministry of Defence, *Unified Effort – Expert Commission on Norwegian Security and Defence Policy*, Report (Oslo: Government.no, July 16, 2015), 20, <https://www.regjeringen.no/en/dokumenter/et-felles-loft--fra-ekspertgruppen-for-forsvaret-av-norge/id2427726/>.

⁷⁷ Mathieu Boulègue, *Russia's Military Posture in the Arctic: Managing Hard Power in a 'Low Tension' Environment* (London: Chatham House, The Royal Institute of International Affairs, 2019), 29, 35, <https://www.chathamhouse.org/2019/06/russias-military-posture-arctic>.

⁷⁸ Andrew Roth et al., "Putin Signals Escalation as He Puts Russia's Nuclear Force on High Alert," *Guardian*, February 28, 2022, sec. World news, <https://www.theguardian.com/world/2022/feb/27/vladimir-putin-puts-russia-nuclear-deterrence-forces-on-high-alert-ukraine>.

⁷⁹ James Lacey, "Battle of the Bastions," *War on the Rocks*, January 9, 2020, <https://warontherocks.com/2020/01/battle-of-the-bastions/>.

⁸⁰ Schelling, *Arms and Influence*, 190–94.

making.⁸¹ Breemer argued that the first scholar who properly understood the Bastion defense concept was Kenneth R. McGruther in his book *The Evolving Soviet Navy* from 1978.⁸² Breemer, thus, shows that the continued Western understanding of Russian doctrine and decision-making is based on Cold War notions and still carries relevance.

The Russian Bastion defense represents a challenge for Norway because, in an event where it is activated, Russia might need to enhance its anti-access area denial (A2AD) capabilities by seizing Norwegian terrain or territorial waters, as depicted in Figure 1.⁸³

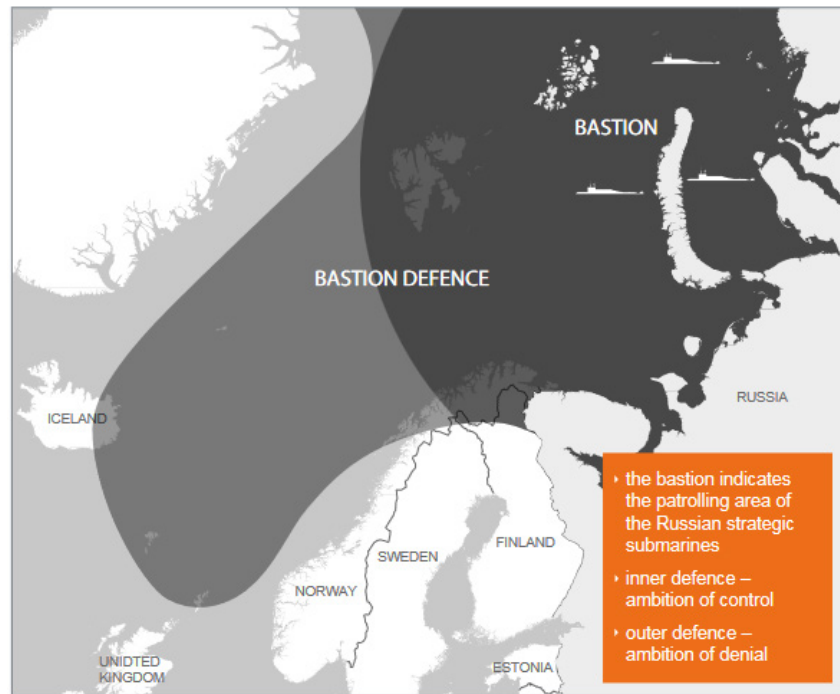


Figure 1. The Russian Bastion and Its Reach⁸⁴

⁸¹ Jan S. Breemer, “The Soviet Navy’s SSBN Bastions: Why Explanations Matter,” *The RUSI Journal* 134, no. 4 (December 1989): 38, <https://doi.org/10.1080/03071848908445400>.

⁸² Breemer, 36.

⁸³ Ministry of Defence, “Unified Effort – Expert Commission on Norwegian Security and Defence Policy,” 21.

⁸⁴ Source: Ministry of Defence, 21.

In the event of Russian aggression in the High North, as shown in Figure 1, the Bastion defense may affect other Scandinavian states and, eventually, how Norwegian forces may be used. Compared to the Russian disposition of forces during the 2023 naval exercise Ocean Shield, shown in Figure 2, the schematic diagram of the Russian Bastion and its reach aligns with the actual activities during Ocean Shield. This indicates that the Bastion concept is still a sound way of thinking about Russian military strategy in the High North.

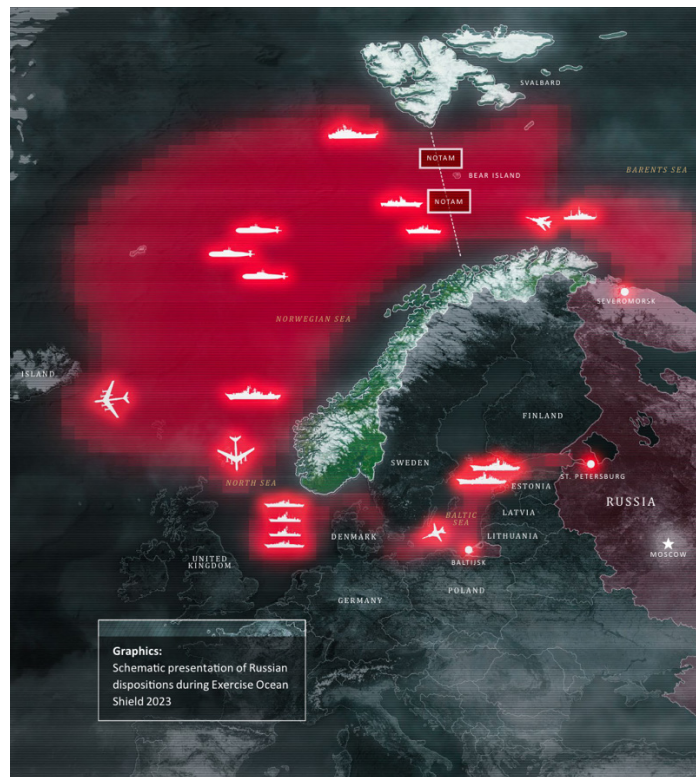


Figure 2. Russian Dispositions during Exercise Ocean Shield, 2023⁸⁵

The Russian military strategy has also changed because of the inclusion of Sweden and Finland in NATO. Russia plans to reestablish the Moscow and Leningrad military districts and form new units in Karelia.⁸⁶ The Russian military posture in the High North

⁸⁵ Source: Norwegian Intelligence Service, *Focus*, 36.

⁸⁶ Norwegian Intelligence Service, 41.

will, therefore, change from what was known in the pre-Ukraine war era, which will have implications for the NATO posture in Scandinavia in the years to come.

D. SOF IN LSCO

The use of SOF in LSCO is often envisioned as shaping the operational environment and supporting offensive maneuvers and is mainly based on historical examples. Due to the emerging great power competition, the U.S. Army has recently produced a book series addressing large-scale combat operations, which includes a volume addressing the SOF role. It claims that the history of special operations (SO), ranging from reconnaissance or sabotages behind the lines to raids and the use of partner forces to fix conventional formations, clearly shows the role of SOF.⁸⁷ Similarly, a 2021–2022 Joint Special Operations University (JSOU) and Canadian SOF (CANSOF) working group looked at SOF in high-intensity conflicts.⁸⁸ The end product resembles the U.S. Army book series, especially its discussion of the use of SOF capabilities in low-intensity or irregular conflicts and SOF’s link to high-intensity conflicts, such as behind-the-line operations and the use of local networks and partners. Examples used are, among others, the 1943 Vemork raid conducted by Norwegian commandos and the U.S. and British SOF’s famous hunt for Iraqi missiles (Russian-produced Scud) during Operation Desert Storm in 1991.⁸⁹

The U.S. Army volume emphasizes synchronization, mainly because the CF and SOF activities in the early stages of a conflict can be synchronized to achieve combined effects. Furthermore, the authors argue that a SOF and CF combined arms approach creates dilemmas challenging an adversary’s decision-making, especially early in a conflict.⁹⁰

⁸⁷ Robert M. Toguchi and Michael E. Krivdo, eds., *The Competitive Advantage: Special Operations Forces in Large-Scale Combat Operations*, vol. 8, U.S. Army Large-Scale Combat Operations Series (Fort Leavenworth, KS: Army University Press, 2019), 6.

⁸⁸ James Kiras et al., “A Perilous Future: High-Intensity Conflict and the Implications for SOF,” in *A Perilous Future: High-Intensity Conflict and the Implications for SOF*, ed. Andrew L. Brown, D2-619/2022E (Ottawa, Ontario: Canadian Special Operations Forces Command, 2022), https://jsouapplicationstorage.blob.core.windows.net/press/424/Perilous%20Future_web.pdf.

⁸⁹ Kiras et al., 38.

⁹⁰ Robert M. Toguchi and Michael E. Krivdo, eds., “Conclusion—Special Operations Forces in Large-Scale Combat,” in *The Competitive Advantage*, 255.

This point is of interest, especially for small states conducting defensive operations. On the other hand, there might be a discrepancy between small states and how major powers such as the United States anticipate future SOF roles.

The U.S. Special Operations Command (USSOCOM) is displaying a renewed interest in SOF in arctic conditions. Joint Special Operations University (JSOU) publishes special operations research topics yearly, and since its 2022 edition, it has also focused on research topics pertaining to SOF in arctic conditions.⁹¹ Notably, before the 2022 edition, most of the focus was on winning the war on violent extremist organizations (VEO).⁹² The research questions regarding the Arctic vary from increasing the knowledge required to operate under arctic conditions to the role of SOF in strategic competition in the Arctic region. However, as the U.S. Army volume, JSOU's targeted audience may not be a small state SOF like NORSOB. Moreover, as the largest military power in NATO, the U.S. perspective on countering Russia in the High North has other implications than if NATO is stretched and Norway is waiting for allied reinforcements.

The great power perception of the military objectives in an early phase of LSCO conflict may differ from a small-state perspective, and so may SOF roles. The U.S. Army and JSOU volumes seem to emphasize the shaping before and during a “theater break-in” that SOF may support during the early phases of a conflict. This makes sense because they are observed through the lens of Western states such as the United States and Canada, usually projecting forces into a theater. James D. Kiras also mentions the issue related to forecasting SOF roles in the eyes of small states. One reason is that the United States tends to have a longer horizon on its forecasting, whereas smaller states may need to adapt to

⁹¹ Patricia J. Blocksome et al., *Special Operations Research Topics 2024*, 1st ed., vol. 24 (MacDill Air Force Base, FL: Joint Special Operations University, 2024), 35, <https://jsou.edu/Press/Publications>; Isaiah Wilson III et al., *Special Operations Research Topics 2023*, 1st ed., vol. 23 (MacDill Air Force Base, FL: United States Special Operations Command, 2022), 9, 10, <https://jsou.edu/Press/Publications>; Isaiah Wilson III et al., *Special Operations Research Topics 2022*, 1st ed., vol. 22 (MacDill Air Force Base, FL: Joint Special Operations University, 2021), 35, 36, <https://jsou.edu/Press/Publications>.

⁹² Isaiah Wilson III et al., *Special Operations Research Topics 2020*, 1st ed., vol. 20 (MacDill Air Force Base, FL: Joint Special Operations University, 2020), ix–xi, <https://jsou.edu/Press/Publications>; Brian A. Maher et al., *Special Operations Research Topics 2018: Revised Edition for Academic Year 2019*, 1st ed., vol. 18 (MacDill Air Force Base, FL: Joint Special Operations University, 2018), ix–x, <https://jsou.edu/Press/Publications>.

short-term regional challenges. Another is the likelihood that small state SOF can be used under various organizations such as NATO, the European Union (EU), or even the United Nations (UN).⁹³ Additionally, small state SOFs, like NORSO, tend to have domestic responsibilities such as counterterrorism (CT) and hostage rescue (HR). These factors impact how small-state SOF can develop its force structure and operational roles. Lastly, it also depends on which part of the U.S. SOF community is leading the forecasting. The delineation of mission sets between U.S. SOF entities, including “legacy roles,” must be considered when looking at future SOF roles. For instance, the U.S. Army SOF is responsible for unconventional warfare (UW) and foreign internal defense (FID). Thus, the U.S. Army and CANSOF/JSOU books create a good backdrop and put the high-intensity conflict on the agenda. However, using SOF to defend territory from the outbreak of hostilities has fewer examples.

The Ukraine war is the most recent example of using SOF to defend its territory, and scholars discuss the utility of SOF and whether the envisioned use of SOF aligns with the actual use of SOF. Jan Kallberg, a Senior Fellow with the Transatlantic Defense and Security program at the Center for European Policy Analysis (CEPA), claims that it has been challenging to use SOF in the open fields of Ukraine and that the costs of SOF are disproportional to its utility.⁹⁴ In contrast, Searle, Marsh, and Petit provide ten lessons learned from Ukraine that show some of the strategic utility of SOF, one of which notably draws from the successes of both Russian and Ukrainian SOF in the initial phase of LSCO.⁹⁵ Moreover, Stavros Atlamazoglou, a defense journalist who specializes in special operations, states that UASOF has shaped the battlefield through direct action, which supported the Ukrainian conventional forces.⁹⁶

⁹³ James D. Kiras, “Future Tasks: Threats and Missions for SOF,” *Special Operations Journal* 5, no. 1 (January 2, 2019): 14, <https://doi.org/10.1080/23296151.2019.1581424>.

⁹⁴ Jan Kallberg, “Time to Radically Downsize the West’s Special Forces,” CEPA, November 29, 2023, <https://cepa.org/article/time-to-radically-downsize-the-wests-special-forces/>.

⁹⁵ Searle, Marsh, and Petit, “Ten Surprising Lessons for Special Operations Forces.”

⁹⁶ Stavros Atlamazoglou, “Ukraine’s Special Operators Have Been ‘Taking It to the Russians,’ the Head of U.S. Special Operations Command Says,” *Business Insider*, May 9, 2023, <https://www.businessinsider.com/socom-commander-ukrainian-sof-have-been-taking-it-to-russia-2023-5>.

E. THE STRATEGIC UTILITY OF SOF

For SOF to be relevant in LSCO, it must provide adequate utility for political and senior military leaders in war. Colin Gray, in his book *Explorations in Strategy*, offers three forms of utility that special operations (SO) may generate: tactical, operational, and strategic.⁹⁷ These utilities are, by nature, disconnected from SOF and relate only to effects in war. Gray states that tactical utility references the specific impact on an engagement or battle; operational utility is gained through direct and indirect effects on operational-level objectives, and strategic utility is achieved through “direct impact on a war as a whole and to the indirect impact via the operational-level military successes which they facilitate.”⁹⁸ Gray’s definition of strategic utility facilitates his groupings of categories, as shown in Table 1.

Table 1. Strategic Utility of Special Operations⁹⁹

Master claims Economy of force	Expansion of choice
Other claims Innovation Morale Showcasing competence Reassurance	Humiliation of the enemy Control of escalation Shaping the future

Gray claims that SOF can provide strategic utility through the strategic utility of SO because “special operations are operations that regular forces cannot perform, and SOF are selected, equipped, and trained to do what regular forces cannot do.”¹⁰⁰ There is, therefore, a symbiosis between SO and SOF where SOF is the provider of SO, and SO provides strategic utility in war and subsequently enables SOF to generate strategic effects for political and military senior leaders. However, Gray’s claim for SOF monopoly on SO

⁹⁷ Gray, *Explorations in Strategy*, 163, 164.

⁹⁸ Gray, 164.

⁹⁹ Adapted from Gray, 169.

¹⁰⁰ Gray, 149.

can be contested in the margins, which he acknowledges, and it might prove more difficult for small-state SOF to provide strategic effects if senior leadership does not understand or tolerate the use of SOF.

The role of small-state SOF in the initial phase of LSCO is less explored, but the Ukraine conflict might give insight that both supports and challenges traditional wisdom. So far, the Ukrainian efforts have aligned with some of the abovementioned traditional SOF tasks and methods. For instance, Ukrainian forces have targeted Russian logistics.¹⁰¹ An interesting observation is that CF appears to have undertaken some of these operations, which resemble SO in many cases.¹⁰² This highlights the effect of combined CF and SOF cooperation but simultaneously illustrates that the traditional SOF role might change. Suppose any of these sabotage and defensive operations can be done by CF alone or with SOF as merely a supporting element. In that case, a high-intensity scenario might need further research to understand the role of SOF fully, especially for a small-state SOF, which can be entangled in operations from day one of LSCO.

The changing operating environment and need for competent capabilities below and *over* the threshold of armed conflict will challenge NORSOF. As stated by the former commander of NORSOCOM, Torgeir Gråtrud, NORSOF has three missions: defending Norway, conducting international operations, and supporting other national sectors.¹⁰³ NORSOF's main task is to defend Norway, but they have been used for international operations since the Cold War. NORSOF should now move from a *blue* counterterrorism approach outside Norwegian borders to a *green* approach in defending Norway. NORSOF is thus impelled to identify the opportunities that emerge from the shifting global environment and figure out how to generate strategic effects defending Norway and contributing to deterrence.

¹⁰¹ Per Skoglund, Tore Listou, and Thomas Ekström, "Russian Logistics in the Ukrainian War: Can Operational Failures Be Attributed to Logistics?," *Scandinavian Journal of Military Studies* 5, no. 1 (September 8, 2022): 99–110, <https://doi.org/10.31374/sjms.158>.

¹⁰² Skoglund, Listou, and Ekström, 107–8.

¹⁰³ Gråtrud, "Innovasjon, kreativitet og forskning."

In sum, the Western SOF community has started to address LSCO, but more work is needed. The initial phases of LSCO might be the most demanding, and the SOF role is more uncertain. Additionally, there are fewer historical cases to lean on. For NORSO, this issue may be even more urgent than many other NATO SOF allies due to its proximity to Russia. The JSOU study, in its conclusion, also states that high-intensity operations need further brainstorming and wargames to develop a conceptual picture of the potential roles, tasks, challenges, and requirements SOF may encounter in a high-intensity conflict.¹⁰⁴ Therefore, this thesis is going to make an effort to contribute to the ongoing academic discussion of closing the knowledge gap for the utility of SOF in the early phase of LSCO by looking at NORSO in the High North.

¹⁰⁴ Kiras et al., “A Perilous Future,” 125.

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III. RESEARCH METHOD

A. WARGAMING

This thesis used data from mainly one wargame conducted at the Naval Postgraduate School (NPS) for two days in June 2023 but complemented with data from a second wargame conducted four days in April 2024. The first wargame, named “The Role of SOF In Large-Scale Combat Operations: The High North Dilemma” (The High North Dilemma), was designed, developed, and conducted specifically for this thesis with a student wargaming team from NPS, supported by NPS and FFI, and sponsored by the Norwegian Special Operations Command (NORSOCOM). The second wargame called “Griffin’s Mace: War on NATO’s Northern Flank” (War on NATO’s Northern Flank), was conducted by the Norwegian Defence University College (NDUC), FFI, NPS, and the United States Marine Corps University (MCU) with the cooperation and participation of the author of this thesis. Moreover, the SOF element of Griffin’s Mace was based on the wargame designed by the NPS students in 2023. Because of the involvement in Griffin’s Mace, FFI granted access to analytical data collected through gameplay for analysis in this thesis.

This chapter first explains the mechanisms, goals, and design of the student-led wargame in 2023. Second, the chapter describes the wargame Griffin’s Mace and its relevance to the research question. The third section explains the theoretical framework.

B. CHALLENGES WITH WARGAMING

Several pitfalls and shortcomings of collecting data through wargaming influence the findings. Applegate, Burks, and Cameron state, “Because wargaming is a unique event, there are not multiple samples of a repeatable event that can be statistically characterized by averages, variances, or confidence intervals.”¹⁰⁵ Factors that can affect the results unintentionally are, for example, personal biases, organizational culture, gameplay environment, selection of players, existing relationships between the players, the quality of

¹⁰⁵ Applegate, Burks, and Cameron, *Craft of Wargaming*, 141.

the wargame, the elements not introduced in the wargame, the quality of data collection during gameplay, vectoring effects in the wargame, the learning effect from previous iterations and other wargames, intrinsic motivation to win the wargame, preparations made by the players, and personal experience. This myriad of unintentional effects hinders a wargame from being a repeatable event with statistically significant findings. A wargame cannot produce statistically significant quantitative results in the format used for this research. However, some quantitative aspects help explain the mechanics of the wargame and carry explanatory value for some of the findings. The limitation of the repeatability of the results from a wargame may also affect the validity of the results if players, game mechanics, or other unintended effects sway the gameplay too far off what can be considered plausible. Moreover, Håvard Fridheim, a principal scientist at FFI, reiterates Appleget, Burks, and Cameron’s claims and adds that the results from a single wargame are “not predictive, but, rather, [illustrate] plausible outcomes.”¹⁰⁶ A wargame is at risk of producing results that, in the worst-case scenario, may lead the academic discourse in a different direction than it should. Therefore, the analysis of the results must remove as many of the shortcomings from the data produced. This is done by thoroughly scrutinizing and elevating the overarching findings close to existing knowledge on the topics examined to compare the results.

C. THE STRENGTH OF WARGAMING

There are probably as many nuances when defining a wargame as there exist books, organizations, and scholars claiming to contribute to the debate about wargaming. Still, most scholars today reference Peter Perla’s definition of wargaming as the foundational definition that others compare or contrast their definition.¹⁰⁷ As such, there seems to be a general acceptance of Perla as the authority for a definition of wargaming, stating in 2022 that a wargame is “a model involving people making decisions in a synthetic environment

¹⁰⁶ Håvard Fridheim, “Wargaming Dos and Don’ts – Eight Lessons for Planning and Conducting Wargames” 5, no. 1 (September 19, 2022): 230, <https://doi.org/10.31374/sjms.127>.

¹⁰⁷ Chairman of the Joint Chiefs of Staff, *JP 5-0*, V-31; Appleget, Burks, and Cameron, *The Craft of Wargaming*, 3,4; RAND, “Wargaming,” RAND Corporation, April 11, 2024, <https://www.rand.org/topics/wargaming.html>; U.S. Naval War College, “About Wargaming,” About Wargaming, April 12, 2024, <https://usnwc.edu/Research-and-Wargaming/Wargaming/About-Wargaming>.

of competition or conflict, in which they see the effects of their decisions on that environment and then get to react to those changes.”¹⁰⁸ The primary return from using a wargame is, thus, insight into the human activity of making decisions and responding to the consequences of these decisions, which Perla emphasized already in 1990: “Its forte is the exploration of the role and potential effects on human decision.”¹⁰⁹ These activities are not dependent on real-world environments to carry qualitative value because the validity of the mechanisms of human decision-making is not entirely dependent on being in a real-life situation. That is also why the military uses wargaming as step four in the Joint Planning Process to test, strengthen, and enrich its courses of action analysis when preparing for operations.¹¹⁰ Discovering weaknesses in planning, technology, order of battle, doctrine, equipment, and so forth sheds light on issues that might otherwise not be discovered before it is too late to mitigate.

Appleget, Burks, and Cameron show how wargames can be divided into three distinct categories: educational, experiential, and analytical.¹¹¹ The educational wargame is designed to give the players knowledge on a specific topic, the experiential wargames provide the players with experience that will prepare them for future situations, and the analytical wargames are designed to obtain information to gain insights on an explicit problem. Analytical wargames also provide reporting on the events, actions, and discussions during gameplay, which is directly related to the essential questions that are derived from the research question and its sub- and sub-sub-issues that are stated before the game is played. This reporting bolsters the information obtained from the game. The analytical wargame is, thus, the format best suited for research purposes.

The trouble with researching future military problems is that prediction is the slave of uncertainty. Major General H. R. McMaster was famously quoted stating, “We have a

¹⁰⁸ Peter Perla, “Wargaming and The Cycle of Research and Learning,” *Scandinavian Journal of Military Studies* 5, no. 1 (September 19, 2022): 199, <https://doi.org/10.31374/sjms.124>.

¹⁰⁹ Peter P. Perla, *The Art of Wargaming: A Guide for Professionals and Hobbyists* (Annapolis, MD: Naval Inst. Press, 1990), 164.

¹¹⁰ Chairman of the Joint Chiefs of Staff, *JP 5-0*, J-4.

¹¹¹ Appleget, Burks, and Cameron, *Craft of Wargaming*, 5,6,7.

perfect record in predicting future wars—right? ... And that record is 0 percent.”¹¹² Studies claiming validity about the future are often made with premises and assumptions that are inaccurate at best.¹¹³ Some base their research on historical events and make the basic assumption that history is going to repeat itself in a similar form, which in many cases might be true. However significant the contribution of history, it will only provide lessons learned from others rather than give predictions to prepare current actors for what the future might hold. The degrees of freedom inherent in human decision-making give the social sciences a disadvantage in predicting the results of these decisions.¹¹⁴ This disadvantage is especially important for the military scholar. Others might use technological determinism and the intrinsic traits of technology to predict the future, which reduces the significance of human interactions in shaping future environments.¹¹⁵ Some focus on anthropology, psychology, and other behavioral sciences to predict future decisions, which are intrinsically difficult and often require simplification, sometimes by making binary decisions, to be useful.¹¹⁶ Moreover, and maybe more interestingly, using an interdisciplinary approach such as Andrew Marshall’s *net assessment* may remove the narrowmindedness that might occur when using a single discipline for prediction.¹¹⁷

¹¹² Micah Zenko, “100% Right 0% of the Time,” *Foreign Policy*, May 22, 2024, <https://foreignpolicy.com/2012/10/16/100-right-0-of-the-time/>.

¹¹³ Despite a fairly compelling mathematical model for predicting the eruption of civil unrest in retrospect, Ward et al. failed to predict civil unrest in Syria, Libya, Senegal, and Nigeria in 2011 alone. Moreover, they compare modeling civil unrest with weather forecasting and sports prediction from the movie *Moneyball*. Michael D. Ward et al., “Learning from the Past and Stepping into the Future: Toward a New Generation of Conflict Prediction,” *International Studies Review* 15, no. 4 (December 2013): 485, 487, <https://doi.org/10.1111/misr.12072>.

¹¹⁴ Cecconi et al. state that “when the number of effective degrees of freedom underlying a dynamical process is even moderately large, predictions based solely on observational data soon become problematic.” F. Cecconi et al., “Predicting the Future from the Past: An Old Problem from a Modern Perspective,” *American Journal of Physics* 80, no. 11 (November 1, 2012): 1104, 1005, 1007, <https://doi.org/10.1119/1.4746070>.

¹¹⁵ Technological determinism can be defined several ways but the core is that technology drives social change at the detriment of human agency. Allan Dafoe, “On Technological Determinism: A Typology, Scope Conditions, and a Mechanism,” *Science, Technology, & Human Values* 40, no. 6 (November 2015): 1047, 1052, 1068, 1069, <https://doi.org/10.1177/0162243915579283>.

¹¹⁶ Daniel Buncic, “Superforecasting: The Art and Science of Prediction. By Philip Tetlock and Dan Gardner,” *Risks* 4, no. 3 (2016): 4, <https://doi.org/10.3390/risks4030024>.

¹¹⁷ Mie Augier, “Thinking about War and Peace: Andrew Marshall and the Early Development of the Intellectual Foundations for Net Assessment,” *Comparative Strategy* 32, no. 1 (January 2013): 5–6, 11–12, <https://doi.org/10.1080/01495933.2013.758509>.

However, with no Office of Net Assessment (ONA) at the Naval Postgraduate School, wargaming offers a different approach, which also gives an interdisciplinary approach. It leverages less historical, technological, anthropological, and psychological approaches by putting experts and practitioners in synthetic future scenarios that might resemble common expectations for the future. All these experts and practitioners bring their own knowledge of history, understanding of the use of technology, organizational culture, and personal biases that arguably will influence their decision-making. The focus is to gain insights into potential decision points, dependencies, significant factors, potential centers of gravity, and interaction mechanisms to discover generalizable theories outside the synthetic wargaming environment, not to understand the root cause of human decision-making.

D. THE ROLE OF SOF IN LSCO: THE HIGH NORTH DILEMMA

1. Designing the Analytical Wargame

The thesis project initiated, designed, developed, conducted, and analyzed an analytical wargame to answer this thesis problem statement. A summary of the wargame and its mechanics is in the appendix. The game mechanics, attributes of the pieces, force structure and disposition, map, and adjudication mechanisms were all developed by the wargaming team building on available open sources or existing wargames. The wargame itself was conducted as an unclassified game. The goals given to the Red and Blue sides were based on the research question and designed to incite a large-scale combat operation in a High North environment that might produce dilemmas and decision points favorable for data collection throughout the wargame. Moreover, the white cell retained a set of resource cards to further explore specific dilemmas not inherent in the wargame. The game's duration was fictionally set as three phases of three turns with three days per turn, just three days short of the 2018 NATO Readiness Initiative.¹¹⁸

¹¹⁸ NATO, "Deterrence and Defence," accessed May 14, 2024, https://www.nato.int/cps/en/natohq/topics_133127.htm.

2. Approach

Overall, the analytical wargame aimed to synthesize qualitative observations into insights that increase strategic- and operational-level decision-maker's ability to effectively use NORSOF in the initial phase of a high-intensity conflict in the High North. This area of the conflict continuum is arguably the most demanding for a small state, and the SOF role is more uncertain. Additionally, few historical cases and limited contemporary literature have addressed this issue. The wargame defined the initial phase as the time between the launch of a strategic invasion of Norway and the arrival of allied reinforcements on Norwegian soil. This is when Norway is arguably at its most vulnerable, thus setting high demands for adequately deploying forces to achieve sound military objectives.

The wargaming team consisted of two Norwegian officers and three American officers attending the Naval Postgraduate School as students as a part of their deliverables in the class Wargaming Applications taught by Professor Jeffrey Appleget. Professor Appleget also provided vital guidance throughout the wargaming process.

The wargame produced qualitative data in three stages: through data collection during the actual wargaming, through gathering feedback data after the wargame, and through after-action discussions with the players. In addition, participants were sent the after-action results and were allowed to clarify the results or supplement them with information that was overlooked during gameplay.¹¹⁹ The collected data are based on decisions and results achieved throughout the wargame. The data included which actor made the decision, what the decision was, why, and when the decision was made.¹²⁰ Moreover, the data included results and adjudication from the decisions. The result from the wargame answered all the questions prepared in the data collection management plan. Moreover, the result provided useful data for answering the research question because the data gave insights into decision-making, pitfalls, outcomes, gains, losses, and potential

¹¹⁹ Appleget, Burks, and Cameron, *Craft of Wargaming*, 107–11.

¹²⁰ Appleget, Burks, and Cameron, 153.

consequences for NORSOFF in the given scenario that can be extrapolated into other similar scenarios.

The wargame was built on the principles and fundamentals described Appleget, Burks, and Cameron in their book *The Craft of Wargaming: A Detailed Planning Guide for Defense Planners and Analysts*.¹²¹ They also provide a five-step guide to initiate, design, develop, conduct, and analyze an analytical wargame.¹²²

Within the five phases, there are some key factors that were leveraged to ensure the success of the wargame. First, the wargame was conducted by players with adequate experience, knowledge, and insight into NORSOFF and the High North. In addition, the wargame had players with expert knowledge of the opposing side of the wargame. Players were recruited from the Naval Postgraduate School, the Norwegian Special Operations Command, the Norwegian Defense Research Establishment, the Swedish Defense Research Agency, and other subject matter experts who were relevant to the wargame.

Second, designing the wargame required an in-depth understanding of the actors, problem set, tools, and environment that is characterized in the game. Appleget, Burks, and Cameron claim that the design phase is one of the most difficult parts of a wargaming process.¹²³ Therefore, the wargaming team visited the Joint Force Command Norfolk (JFC-NF) prior to the completion of the wargame's design. This visit increased the validity of some of the factors that drove the design and increased the understanding of the gaps addressed in the wargame. The wargame design was thus based on the wargaming framework provided by Appleget, Burks, and Cameron, the experience from the visit at JFC-NF, and the scenario-based framework written by Norwegian Defense Research Establishment scientist Iver Johansen.¹²⁴ The gameplay structure, which resulted in qualitative data, was a semi-closed hybrid wargame combining system and seminar aspects

¹²¹ Appleget, Burks, and Cameron, *Craft of Wargaming*.

¹²² Appleget, Burks, and Cameron, 63.

¹²³ Appleget, Burks, and Cameron, 102.

¹²⁴ Johansen, "Scenarioklasser for Forsvarsplanlegging."

with a high degree of freedom in the gameplay structure.¹²⁵ The environment of the wargame was a littoral scenario in the High North with a significant land and maritime component. Moreover, the wargame had two opposing teams, and Russia was chosen to represent the opposing side. As described by Johansen, Russia is assessed as the only actor to conduct a strategic assault on Norway.¹²⁶ Therefore, the wargame used experts on the Russian Federation and the Russian military as the opposing team, hereby referenced as the Red team. NORSOF was represented by the Blue team, which contributed to the defense against the Red team. Both teams also played with conventional forces (CF) and operational and strategic-level decision-making. The starting point of the wargame was formed by several injects that encompassed Norwegian and Russian force postures.

Third, the wargame was developed through game testing across several iterations during the development phase. The wargaming team tested all the components of the wargame twice. Moreover, the wargame was tested through a blind test with voluntary students at NPS. These tests ensured that the game mechanics enabled adequate data collection, the integrity of the game, and the playability and natural flow of the game, as well as ensuring that players were given enough time per turn to make all the necessary moves.

Fourth, the wargame was conducted with all ten players present for two days in June 2023. The two Norwegian officers directed the wargame in the role of wargame directors. The three U.S. officers collected data as wargame data collection managers. This setup ensured that the wargame was played according to the intentions for the wargame, that contingencies were handled correctly, that there was robust data collection, and that unforeseen events were handled throughout the wargame. The wargame was concluded with a quick-look report that was presented to all participants before the conclusion of the wargame.

Fifth, the post-wargame analysis consolidated and synthesized all observations, insights, and results from the wargame to produce the analysis. The expected wargame

¹²⁵ Appleget, Burks, and Cameron, *Craft of Wargaming*, 45–48.

¹²⁶ Johansen, “Scenarioklasser for Forsvarsplanlegging,” 36.

results aimed to identify gaps and guide further research, which can support NORSOCOM planning efforts and help future NPS students explore the topic.

3. The Operational Environment

The wargame was designed to resemble the High North pertaining to the operational environment but was limited because of the scope of the wargame. The design limited the magnitude and number of operational environment factors that influenced the wargame due to complexity, time available, and game mechanics. JP 5-0 gives a holistic view of the operational environment used as a base to prioritize factors used in the wargame.¹²⁷ The three most essential factors leveraged were the force structure of the Red and Blue teams, environmental conditions, and physical areas and factors. Other factors such as space, air, cyber, political, economic, social, infrastructure, and information played minor roles. These factors were either introduced and discussed through inject cards or resource cards or adjudicated by the white cell if actions were taken outside of the designed game mechanics of the game.

The force structure of the Red and Blue teams was derived from open-source information on Norwegian and Russian force posture before the invasion of Ukraine in 2022. The Russian force structure and disposition were derived from several sources and were not exhaustive.¹²⁸ In the same vein, the Norwegian force structure was also derived from several sources and did not result in an exhaustive force posture in the game.¹²⁹

¹²⁷ Chairman of the Joint Chiefs of Staff, *JP 5-0*, IV-8, IV-9, IV-10.

¹²⁸ Boulègue, *Russia's Military Posture in the Arctic*; Astri Edvardson and Birgitte Annie Molid Martinussen, "Russia's Forces in the High North: Weakened by the War, Yet Still A Multidomain Threat," accessed March 27, 2024, <https://www.highnorthnews.com/en/russias-forces-high-north-weakened-war-yet-still-multidomain-threat>; Matthew Melino and Heather A. Conley, "The Ice Curtain: Russia's Arctic Military Presence," CSIS, September 17, 2022, <https://www.csis.org/features/ice-curtain-russias-arctic-military-presence>; Colin Wall and Njord Wegge, "The Russian Arctic Threat: Consequences of the Ukraine War," CSIS, January 25, 2023, <https://www.csis.org/analysis/russian-arctic-threat-consequences-ukraine-war>; Jonas Kjellén, "The Russian Northern Fleet and the (Re) Militarisation of the Arctic," *Arctic Review on Law and Politics* 13 (March 9, 2022): 34–52, <https://doi.org/10.23865/arctic.v13.3338>; Wikipedia, s.v. "Northern Fleet Joint Strategic Command," accessed April 3, 2023, https://en.wikipedia.org/wiki/Northern_Fleet_Joint_Strategic_Command.

¹²⁹ Also drawing from the author's knowledge of the Norwegian Armed Forces. "Organisasjon [Organization]," April 3, 2023, <https://www.forsvaret.no/om-forsvaret/organisasjon>; Jakob Gustafsson and Mike Winnerstig, *Norway's Military Capability 2020*, A122112 (Stockholm: Swedish Defence Research Agency, September 2021).

According to the Norwegian School of Winter Warfare, the environmental impact on military operations in the High North requires significant leadership, training, and planning experience.¹³⁰ Some aspects of winter conditions were introduced through injects during gameplay to explore the reactions from the players when environmental factors affect the area of operations. During winter, temperatures are steadily below freezing, and winter storms are relatively frequent. The impact of these winter conditions makes it more demanding to maintain combat readiness and operate efficiently in the operational environment. Moreover, there is a high risk of increasing combat ineffectiveness for personnel that are not trained to operate in such environments.

E. GRIFFIN’S MACE: WAR ON NATO’S NORTHERN FLANK

The second wargame had a significantly wider scope than the High North Dilemma but maintained important similarities. Griffin’s Mace: War on NATO’s Northern Flank had three times as many players and spanned over more than a year of gameplay. Moreover, the operational environment extended over a geographically larger area with significantly more actors in play, such as other European countries and the United States, and comprised competition and cooperation phases before the conflict erupted. The adversarial actor was portrayed as Russia. SOF was the second largest cell, after the NATO policy cell, and an integral part of the wargame that was leveraged throughout all phases. The SOF portion of War on NATO’s Northern Flank was a continuation of the work done at the High North Dilemma, which primarily focused on SOF. Moreover, the game leveraged the Operational Wargame System’s Griffin’s Mace existing scenario and framework developed by the United States Marine Corps.¹³¹ The goals for the game were, in prioritized order, to explore NATO-allied strategic political decision dynamics, study the employment of NATO-allied SOF and naval forces, and inform NATO-allied command structures and relationships.

¹³⁰ Norwegian Armed Forces, *Instruction in Winter Service – Winter Conditions, Leadership and Training, UD6-81-1E* (Rena Military Camp, Norway: Norwegian School of Winter Warfare, 2013), 9–31.

¹³¹ Timothy Barrick, “Griffin’s Mace: War on NATO’s Northern Flank Game Book” (unpublished presentation, March 20, 2024).

Data was collected through designated data collectors in each cell, individual self-reporting for players, group reporting, situational snapshots of the operational environment, developed strategies, submitted concept of operations, and adjudication. The order of battle was based on the existing framework inherent in Griffin’s Mace. The data from the game used for this thesis comprise the individual and group threat assessment during gameplay and a comparison and validation of the findings from the High North Dilemma.

F. THEORETICAL FRAMEWORK

1. Grounded Theory

In addition to the theoretical foundation for wargaming analysis, this thesis will more or less use grounded theory to support wargaming analysis. Barney Glaser and Anselm Strauss’s “general method of comparative analysis” in their book *The Discovery of Grounded Theory* elevates data obtained through wargaming into useful insights and theory.¹³²

Wargaming as a method for qualitative studies does not perfectly align with the open-minded research approach suggested by Glaser and Strauss because a wargame is restricted by the game rules, design, and scope. Moreover, a wargame seeks to use experts, follow sets of rules, and use existing categories, which grounded theory does not favor. It is, therefore, by design, not possible to follow the grounded theory approach to the letter. The discovery of using this approach will, however, shed light on categories in novel contexts because of changing decision-making due to developments in technology, geopolitical environments, doctrine, organizations, and so on. However, Glaser and Strauss provide a useful framework for constant comparative analysis to compare the two wargames in this thesis and a structured four-step inductive method for a theory to emerge from collected data.¹³³ This method is designed to provide a substantive theory that “can be achieved by a comparative analysis between or among groups within the same

¹³² Glaser and Strauss, *Discovery of Grounded Theory*, 1.

¹³³ Glaser and Strauss, 100–117.

substantive area.”¹³⁴ The substantive area for this research can be limited to strategic and operational level decision-making in large-scale combat operations for SOF in the High North.

The first step of the analysis is based on Strauss and Glaser’s suggestion that data from an incident is coded into as many categories as possible and compared with previous incidents to develop collected data.¹³⁵ For the wargame data, each decision during gameplay has been coded using relevant categories from the notional factors for operational design in JP 5-0.¹³⁶ Moreover, recorded discussions and reflections during wargaming are collected to support the analysis of the players’ perceived significance of their decisions. This was a continuous process, completed in several iterations for the High North Dilemma.

The second step integrates categories and their properties, using knowledge from the first step to extract the most prevalent categories and integrate the less dominant categories with the relevant prevalent ones.

The third step is delimiting the theory by clarifying logic and the reduction of categories that are superfluous to formulating the theory.¹³⁷ Delimitation also increases the generalizability of the theory and enables a new level of comparison with categories that previously might not have been comparable. The scope of the research question also guides which categories get priority and which are reduced out of the overall theory. Moreover, after coding the wargaming results, the categories become theoretically saturated, adding numbers to a category and not novel properties of a category. In contrast with grounded theory, which disregards coding incidents that do not add anything new to a category, the saturation of categories indicated the frequency of a category was useful in the wargame analysis, thus indicating the category’s significance. The third step is also where the data

¹³⁴ Glaser and Strauss, 33.

¹³⁵ Glaser and Strauss, 105, 106.

¹³⁶ Chairman of the Joint Chiefs of Staff, *JP 5-0*, IV–20.

¹³⁷ Glaser and Strauss, *Discovery of Grounded Theory*, 109–11.

from War on NATO's Northern Flank was compared to validate the existing theoretical framework that emerged from The High North Dilemma.

The fourth step is writing the theory using the previous steps' coded data, memos, categories, and theory. Glaser and Strauss explain that using memos, notes taken during analysis by the analyst, provides content to support the categories.¹³⁸ The fourth step can thus yield a propositional theory based on theories, categories, memos, and data.

2. Challenges with the Constant Comparative Method

During data coding, the introduction of categories, integration of categories, and delimitation, an inherent level of abstraction is needed to proceed in the process. This means that the quality of the analysis is dependent on the ability of the author of this thesis to understand the importance of the data collected in the game. Data triangulation is required to limit the impact of personal biases from the author that potentially influence the analytical finding. To reduce the potential contamination of data, the importance of objective data collection, feedback data, after-action discussions, quick look report, and the final report conducted by the wargaming team in The High North Dilemma increases.

Even if a theory develops through wargaming, the activity of wargaming is difficult to reproduce on a general basis because of the abovementioned challenges with wargaming. The challenge of reproduction limits the study's ability to provide accurate evidence in the research. The goal is not to deduce a theory from logical assumptions; the goal is to explain or, in the best case, predict the importance of specific *aspects* of warfighting important for NORSO in the High North.

¹³⁸ Glaser and Strauss, 113.

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IV. RESEARCH FINDINGS

A. INTRODUCTION

The findings from the wargame and implications are analyzed through the notional factors and elements of operational design from JP 5-0.¹³⁹ The respective teams' objectives provided the premise for which operational design elements were most prevalent during gameplay and subsequently provided the structure for this chapter. The information used for this chapter is the analytical data that emerged from the constant comparative analysis of the wargame, "The Role of SOF in Large-Scale Combat Operations: The High North Dilemma."¹⁴⁰ During gameplay, the most essential elements of operational design were anticipation, objectives, centers of gravity, approach, operational reach, and effects.

This chapter provides an overview of the planning and preparation elements of operational design, the effects derived through gameplay, and the decisions made during the wargames. The chapter will consolidate the findings from the game in operational design categories and subsequently analyze the categories and their properties to arrive at propositions for each category. Finally, the chapter gives an overview of the wargame decisions that were conducted throughout the two iterations of the wargame.

B. OPERATIONAL DESIGN ELEMENTS

During the High North Dilemma, the following elements of operational design contributed to NORSOF's effectiveness: objectives, indirect approach, operational reach, and effects. Conversely, the element of anticipation, particularly during the early phases of the war, contributed to NORSOF's ineffectiveness.

¹³⁹ Chairman of the Joint Chiefs of Staff, JP 5-0, III-75, IV-1, IV-20; Gray, *Explorations in Strategy*, 168-74, 186.

¹⁴⁰ Benjamin S. Sverdrup, "Wargaming Data Analysis: The Role of SOF in Large-Scale Combat Operations: The High North Dilemma" (unpublished data, April 2024).

1. Anticipation

The lack of anticipation inherent in Blue's force disposition prevented its forces from responding effectively and promptly to Red's surprise invasion. JP 5-0 defines *anticipation* as expecting future events based on indicators and being prepared to meet these events and exploit emerging opportunities.¹⁴¹ JP 5-0 thus puts an indirect emphasis on intelligence to detect events that provide a foundation for friendly forces to adequately prepare and adjust their force disposition for the oncoming events. These preparations and adjustments are crucial for countering a surprise attack.

Red was able to create a strategic surprise by not conducting all necessary preparatory actions before the invasion, preventing Blue from anticipating the invasion. Moreover, Blue lacked adequate intelligence to forecast the unfolding events. Red conducted the invasion by using its existing force structure in the region and initiating supporting functions after the invasion started. Because of the wargame design and lack of indicators presented in the wargame, Blue was not able to initiate operations before the invasion. Moreover, since Blue did not have ongoing operations that could drive intelligence, Blue was not able to collect information to detect vital indicators to predict the invasion. To some degree, this factor was scripted into the scenario to test Blue's ability to exploit opportunities with the existing force structure and operational reach. There was limited interaction between Blue and the unfolding events, which ultimately prevented Blue from recognizing indicators to forecast the invasion.

In game one, phase one of the High North Dilemma, all Blue forces were in their normal training cycle, and most were situated south in Blue territory, far away from the invasion. Because of distance, Blue had to start moving all its forces and could not, therefore, effectively engage any of the invading Red forces. The geographic factors forced the Blue team to use movement and maneuver moves more frequently in the first phase of the game than the Red team. When combining data from games one and two, 59 percent (64 out of 108) of all movement and maneuver moves were conducted in phase one, and

¹⁴¹ Chairman of the Joint Chiefs of Staff, JP 5-0, IV-40.

Blue made 60 percent (39 out of 64) of the phase one movement and maneuver moves.¹⁴² It was clear that Blue experienced more dependency on moving its forces to the fight because of dispersed forces in Blue's territory at the start of the game. Blue's dependency on movement and maneuver shows a lack of anticipation regarding force disposition. All Blue forces had to be moved to the fight, significantly delaying a proper response to the invasion. The failure to effectively deploy Blue forces in time and space demonstrates a lack of operational reach in the initial phase for Blue (as will be presented below).

The lack of anticipation with the Blue organization and force disposition was clear, partly showing Blue's inability to conduct deterrence by denial. SOF must, therefore, enhance its ability to achieve what SOF scholar Robert Spulak calls *certain access* to create a *strategic initiative* by targeting Red's weaknesses in the initial phase of LSCO.¹⁴³ However, enhancing certain access does not fix the ingrained lack of anticipation that both SOF and the conventional force (CF) must have. Focusing on properties like organization and combat readiness would better organize and position forces before the outbreak of LSCO, and keeping bases, personnel, and equipment in suitable areas would increase anticipation for the general force and *certain access* for SOF. These properties have gained increasing focus in the future plans for the Norwegian military, as shown in the 2024 Norwegian Defence Pledge.¹⁴⁴ In addition, by increasing anticipation through pre-planned and pre-approved tasks based on a proper understanding of the battlefield through intelligence, SOF is better positioned to create and maintain a *strategic initiative* because training and planning for countering a strategic assault could already be in place before the outbreak of LSCO.

Political and military top-cover is instrumental in increasing anticipation for SOF because of the sensitivity of some of the objectives that SOF might pursue. By attacking

¹⁴² Sverdrup, "Wargaming Data Analysis."

¹⁴³ According to Spulak, "certain access is the ability to rapidly and securely transport, insert, and extract SOF." Moreover, "strategic initiative is the ability to create and maintain initiative against an enemy at the strategic level by an orchestrated campaign of engaging carefully selected objectives unavailable to conventional forces." Robert G. Spulak, *A Theory of Special Operations: The Origin, Qualities, and Use of SOF* (Hurlburt Field, FL: JSOU Press, 2007), 23.

¹⁴⁴ Norwegian Ministry of Defence, "The Norwegian Defence Pledge," 6, 8, 10, 15.

Red rear areas, targeting critical vulnerabilities, and targeting strategic level objectives, SOF depends on clear guidelines from political and military leadership to effectively achieve the desired effects. Therefore, an adequate C2 structure that enables rapid communication at the right level is instrumental for achieving the necessary strategic political and military effects.

Propositions:

1. SOF could improve anticipation by cooperating with intelligence, positioning, preparing, planning, and training for LSCO.
2. SOF could improve anticipation by receiving timely tasking from political and strategic-level decision-makers.

2. Objectives

The objectives of the Blue armed forces were to defend Blue territory by degrading the Red team's ability to set their Bastion defense, secure sea lines of communications (SLOCs) to ensure allied reception, and set the conditions for regaining territorial control with allied support. JP 5-0 explains that military objectives describe what must be achieved and give the premise for outlining desired effects.¹⁴⁵ Moreover, objectives provide clear and measurable steps that need to be completed in order to achieve the desired end state.¹⁴⁶

Initially, Blue SOF's objectives were to support the defense of Blue territory by reducing Red's critical capabilities, contributing with situational awareness, maintaining crisis response, and preparing for allied reception. However, during gameplay, Blue SOF was given additional objectives that expanded Blue's operational reach. SOF was to change the balance of force by degrading Red's sustainment, which was intended to degrade Red's ability to maintain its warfighting over time. Moreover, SOF was given the objective to destroy or degrade Red A2AD to reduce Red's ability to fight on land and at sea effectively. Furthermore, Blue SOF was given the objective of providing situational awareness for

¹⁴⁵ Chairman of the Joint Chiefs of Staff, JP 5-0, IV-20.

¹⁴⁶ Chairman of the Joint Chiefs of Staff, IV-21.

decision-makers in key areas in the AO, such as islands and Red rear areas. Blue SOF thus had to operate in Red rear areas more than initially intended.

Blue SOF adapted to the changing situation and maintained focus on its objectives because of a clear understanding when the operational COG shifted from A2AD to a Red aircraft carrier. The introduction of the carrier created a new operational COG that the Blue team decided to attack directly. Blue SOF was on board one of the submarines that received the objective of destroying the carrier. The SOF team consequently disembarked in Red's rear areas before the submarine continued toward the carrier, continuing targeting Red's A2AD. This disembarkation can be seen as a necessary move that SOF had little control over and alludes to the limitations SOF has in contributing to conventional blue water operations. However, SOF managed to reorient its efforts quickly to continue to target A2AD capabilities in the Red rear area from their disembarkation location instead of their intended insertion area, displaying flexibility in achieving their objectives. Moreover, the Blue risk assessment was that SOF was less at risk of continuing to target A2AD than of being a passenger on a submarine fighting a carrier.

Blue SOF successfully supported the CF by imposing costs and holding vital targets at risk. During gameplay, Blue SOF unconventionally supported the Blue CF's objectives and pursued them through all game phases. This directly impacted the Blue armed forces' objectives and opened up new approaches to degrade the Red team's efforts.

Propositions:

3. SOF could contribute disproportionately to the war effort by setting clear and concise objectives, pursued either autonomously or integrated with conventional forces.
4. SOF could seamlessly adapt to the changing environment by providing SOF leaders the authority to pursue their objectives as approved in an enduring CONOP.

3. Centers of Gravity

The Blue force was directed to attack several operational Centers of Gravity (COGs) to degrade the Red team's ability to fight. The strategic COG was identified so as to influence Red decision-makers to remove its forces from Blue territory. The operational COG was identified as the invading force, Bastion defense forces, with supporting critical capabilities such as A2AD capabilities and logistical support. JP 5-0 defines the strategic and operational COGs as the core strength that allows a military to achieve its goals. Forces can focus their actions against a COG to defeat an enemy. A COG on a strategic level can, for example, be an adversary's entire army, alliances, leaders, critical capabilities, or even the public's support for the war. In addition, COGs on the operational level are often the stronger military units but could also be other crucial resources.¹⁴⁷

The Blue force attacked Red's naval fleet, Red conventional invasion force, and Red aircraft carrier. Blue SOF attacked Red A2AD capabilities, Red critical infrastructure, and Red main supply route (MSR) to support the Blue CF's effort to attack Red naval and land forces. SOF provided expansion of choice by attacking these operational COGs with a different approach than the CF could by inserting a small team covertly to either attack or sabotage these assets. Moreover, SOF influenced Red decision-makers by attacking Red in areas they were believed to have control of. This created uncertainty with Red senior decision-makers and made them absorb cost in areas that they did not expect to absorb cost. Furthermore, SOF displayed an operational reach that Red did not expect Blue to have in the early stages of the conflict, influencing Red political and military decision-makers. Therefore, small SOF teams affecting several COGs through an indirect approach provided strategic utility through economy of force and expansion of choice for Blue decision-makers.

Proposition:

5. SOF could provide strategic utility by indirectly influencing the adversarial strategic and operational COG.

¹⁴⁷ Chairman of the Joint Chiefs of Staff, IV-22.

4. Approach

Blue used SOF to successfully affect Red's COG by an indirect approach because SOF was able to exploit several critical vulnerabilities in Red's rear area and avoiding Red's principal strengths. According to JP 5-0, combat power can be applied to the COG through two primary approaches. The direct approach concentrates combat power directly against the enemy's COG, often their most formidable strength. Conversely, the indirect approach aims to exploit critical vulnerabilities within the enemy system, bypassing their principal strength to defeat the enemy's COG.¹⁴⁸

To respond to Red's aggression, Blue could either use a direct or indirect approach. The response meant that Blue had to focus more on compellence than graduated deterrence to make Red stop its invasion. The direct approach meant that Blue had to destroy Red forces or degrade their will to fight, which was inherently difficult because of the difference in combat power favoring Red. The indirect approach meant that Blue had to attack Red's rear area to impose cost, degrade principal strength, create fear in Red's population, and humiliate its leadership.

Blue SOF used mostly an indirect approach to impose cost, degrade warfighting capabilities and capacity, and hold vital assets at risk after being inserted in their intended AO. Blue SOF was able to bypass the principal strengths of the COG that it influenced, which was a premise for a small team to influence the COG weakness. Blue SOF covertly conducted Special Reconnaissance (SR) on Red critical infrastructure, Red MSR, and A2AD capabilities in the Red rear area to be able to target these later. Blue SOF also contributed with targeting, enabling joint fires, conducting sabotage, and conducting intelligence, surveillance, and reconnaissance (ISR) in phase three, reducing the Red force's ability to advance and degrading Red A2AD. Blue SOF degraded Red's logistical functions, communication, and ability to maneuver, which gave Blue CFs more time to defend Blue territory without the arrival of Red reinforcements. Blue SOF thus provided significant indirect support to the conventional warfighting defending Blue territory.

¹⁴⁸ Chairman of the Joint Chiefs of Staff, IV-33.

Blue SOF generally chose a similar indirect approach in the High North Dilemma game two as in game one, but Blue forces were deployed earlier and with more precise tasking, which allowed them to produce effects earlier than in game one. Before the conflict, Blue SOF discussed using organic assets and airlifts to move rapidly and have an earlier insertion into the AO in the initial stages of the war. Blue SOF also used covert assets with high operational reach but at the detriment of speed. By deploying SOF earlier, they showed the ability to produce effects such as degrading Red's ability to conduct future operations, disrupting Red's advance, dislocating parts of Red's forces, and isolating Red by taking out critical capabilities such as A2AD early in the invasion. This supported conventional warfighting earlier than in game one, which degraded Red's advance and reduced risk for Blue CF.

The indirect approach also carries some historical leverage, exemplified by the indirect approach used by the Special Air Service (SAS) during the North African campaign in WWII. The SAS destruction of fighters in Nazi rear areas demonstrates how small teams can play a pivotal role in degrading an adversary's combat power, imposing costs, and humiliating its military leadership.¹⁴⁹

By taking a direct approach and slowing the adversary's approach, the CF allowed SOF to operate more effectively. The Blue CF took a direct approach to defending against Red's principal strength either on land or at sea. The immediate proximity of Red military forces to the border with a 3:1 ratio enabled a direct strategic surprise by reducing time for preparation, mobilization, and anticipation. The Red team attacked the Blue team by crossing the border and engaging Blue forces directly with a 3:1 ratio, effectively forcing the Blue forces to retreat immediately after the engagement. The maneuverability in the region rapidly decreased because of the increased risk during maneuver following the warfighting on both sides. The Blue strategy was to slow down Red CF by directly engaging the invading force. This approach aligns with Glaerum, Guttelvik, and Hennem's *operational denial*.¹⁵⁰ The operational denial strategy slowed Red forces and created a

¹⁴⁹ National Army Museum, "Origins of the Special Forces," accessed May 9, 2024, <https://www.nam.ac.uk/explore/special-forcesWW2>.

¹⁵⁰ Glærum, Guttelvik, and Hennem, "Kontroll eller nektelse?," 8, 9.

more comprehensible operational environment that enabled covert movement and maneuver for SOF. Moreover, operational denial created a saturation of the Red decision-cycle, and the limited resources did not allow for allocation of forces to detect Blue SOF.

Blue directed its SOF to disrupt Red MSR by exploiting the weak defenses in Red's rear area while remaining undetected. The successful exploitation of these vulnerabilities took Red entirely by surprise and enabled Blue to achieve its objectives while avoiding a direct physical confrontation. These approaches are essential for CF and SOF because special operations must be conducted at the right time, and SOF depends on early access and placement to increase effectiveness.¹⁵¹ Therefore, SOF can create favorable conditions for the CF by an indirect approach to the same operational COG the CF is directly approaching.

Proposition:

6. SOF could influence the adversarial COG directly or indirectly, and by maintaining the appropriate level of secrecy (i.e., overt, covert, clandestine). The selected approach is ideally mutually supportive to the one employed by conventional forces and in support of operational denial.

5. Operational Reach

SOF significantly expanded Blue's operational reach through continuous ISR on Red airborne assault forces at a remote island, joint targeting in Red rear areas, and sabotage of critical infrastructure in Red rear areas. Operational reach is defined by JP 5-0 as the timeframe and distance within which the joint force can effectively use its military power.¹⁵² The dominant factors of operational reach that emerged during gameplay were the distance and speed of deployment of military forces, not duration, because the wargame lasted for under 30 days. JP 5-0 further states that operational reach is tied to lines of operations (LOOs), which means that an external orientation focusing on an enemy COG

¹⁵¹ Colin Gray states that SO need to be conducted at the right time for SO to succeed. Colin S. Gray, "Handfuls of Heroes on Desperate Ventures: When Do Special Operations Succeed?" *The U.S. Army War College Quarterly: Parameters* 29, no. 1 (March 10, 1999): 9, <https://doi.org/10.55540/0031-1723.1916>.

¹⁵² Chairman of the Joint Chiefs of Staff, JP 5-0, IV-34.

is directly linked to the ability to have operational reach to be able to achieve objectives through decisive points in time and space.¹⁵³

The operational reach of Red airborne assault forces created a significant dilemma for Blue decision-makers because Red was able to occupy a Blue island with this force without any significant resistance. In game one, phase one of the High North Dilemma, Red deployed airborne forces to capture an airfield on a remote island to bolster its Bastion defense early in the game and succeeded in controlling the island. Blue did not have a suitable amphibious force available for a landing operation on the island and had very limited options for retaking the island. SOF utilized its relatively high operational reach and provided expansion of choice and economy of force by infiltrating the island with covert assets to provide situational awareness and targeting data for fires from CFs.¹⁵⁴ In addition, by conducting this operation, SOF conducted a mission that CFs could not perform, which aligns with Grays's claim of a special operation being an operation that regular forces cannot perform, or perform at acceptable costs.¹⁵⁵

Because of covert maneuver, Blue SOF enabled joint fires on Red A2AD capabilities in Blue territory that degraded Red A2AD capabilities and consequently degraded Red Bastion defense. In game one, phase two of the High North Dilemma, SOF provided targeting data for joint fires at Red A2AD capabilities by inserting into the Blue territory occupied by Red using its operational reach. At the same time, Blue SOF were covertly inserted onto a remote Blue island with Red airborne forces, and covertly inserted into the Red rear area to target the remaining A2AD capabilities. By providing a small footprint, capable of imposing cost and threatening vital assets for maintaining the Bastion defense, SOF was able to impose cost, utilize its operational reach, and provide options that CFs could not execute.

¹⁵³ Chairman of the Joint Chiefs of Staff, IV–35.

¹⁵⁴ SOF, thus, provided both of Gray's master claims: expansion of choice and economy of force. Gray, *Explorations in Strategy*, 169.

¹⁵⁵ Gray, 149.

In game two of the High North Dilemma, Red's strategy changed. Red was not aiming for a large land grab but a limited one to prevent overreaching their forces and increase the capability to secure occupied land that could be used to bargain with the Blue Alliance over third-party territories. This reduced the necessary distance Red forces could advance and reduced Red's vulnerabilities in occupied territory. Blue SOF, therefore, faced a denser battlespace with a higher risk of detection when operating covertly in the vicinity of Red forces.

Like the first game, Blue SOF was tasked with movement and maneuver to position for an indirect approach later in the game after the initial invasion by Red. The Red and Blue team significantly increased the number of movement and maneuver moves in phase one, resulting in 89 percent transportation moves for Blue and 76 percent for Red. Only 10 percent were attacking moves, 3 percent resource cards, and 5 percent miscellaneous.¹⁵⁶ Because of Red's operational reach, some Blue SOF were tasked to operate in Blue territory, which Blue anticipated would be occupied by Red later in the game.

Proposition:

7. SOF could extend the general force's operational reach by employing capabilities in denied areas inaccessible to the conventional force to generate strategic and operational effects.

6. Effects

SOF delivered effects at the operational and strategic levels for Blue by creating the proper conditions and achieving objectives through tactical activities. JP 5-0 describes effects as the physical or behavioral change that occurs in a system because of something being done, either a single action, a series of actions, or even another effect.¹⁵⁷ These effects can happen in the physical, informational, and cognitive dimensions.¹⁵⁸ Moreover,

¹⁵⁶ Sverdrup, "Wargaming Data Analysis."

¹⁵⁷ Chairman of the Joint Chiefs of Staff, JP 5-0, IV-27.

¹⁵⁸ Chairman of the Joint Chiefs of Staff, IV-8.

these effects can have second-and third-order effects in all three dimensions that cascade indirectly or over time due to the first-order effect.¹⁵⁹

SOF created conditions for degrading the Red Bastion defense by degrading key A2AD capabilities five times during the game, successfully reducing Red's ability to maintain operational denial in Blue areas. The second-order effects were that SOF reduced Red's ability to fight the conventional war, the threat against allied reception was lowered, and cognitive effects were recorded through Red players' discussions in that they now had to counter threats or absorb cost in their rear areas. The Red players showed concern because they feared losing some of their critical capabilities, which slightly changed their decision-making.

SOF supported the defense of Blue territory by destroying critical infrastructure along Red's MSR through sabotage, which significantly degraded Red's logistical capability and capacity. The second-order effect was that Red's ability to fight a prolonged war was significantly reduced, and Red decision-makers had to reorganize forces to counter the threat in their rear areas. The third-order effect pushed the balance in favor of the allied forces, which would later reinforce Blue because they were now fighting a less supported force. Arguably, another third-order effect would be degrading Red's will to fight because if Red's forces did not receive sufficient logistical support, their morale would quickly degrade because of the rough winter conditions in the High North. Moreover, the informational environment could leverage the lack of support to degrade morale, discipline, and potentially public support.

Even though sabotaging critical infrastructure on an MSR and targeting A2AD are tactical actions, they created significant effects for Blue by supporting strategic and operational objectives. Therefore, SOF created operational and strategic effects through tactical actions.

¹⁵⁹ Chairman of the Joint Chiefs of Staff, IV-26, J-4.

Proposition:

8. SOF could create operational and strategic effects by influencing high-value targets and infrastructure with first-, second-, and third-order effects generated in the physical, cognitive, and informational dimensions.

C. OVERVIEW OF WARGAME DECISIONS

The Red and Blue team had approximately the same number of moves during the game, which was dominated by movement and maneuver. Despite the wargame being designed for recording qualitative data, some quantitative data points also emerged during analysis. The wargames collected information on 204 recorded game decisions in total. Red was recorded as making 49 percent (99 out of 204) of the decisions, and Blue was recorded as making 51 percent (105 out of 204). 53 percent of the recorded moves (108) were movement and maneuver decisions to position forces in the area of operations, 29 percent (59) were attacking moves, 8 percent (16) were the use of resource cards, and 10 percent (21) were miscellaneous moves that did not fall in any of the other categories. Notably, the total number of decisions on either side was balanced. However, the decision type differed between the teams on several matters.

The Blue team used movement and maneuver moves more frequently in the first phase of the game than the Red team. When combining data from games one and two, 59 percent (64 out of 108) of all movement and maneuver moves were conducted in phase one, and Blue made 60 percent (39 out of 64) of the phase one movement and maneuver moves.

The second phase (75 moves) of the game had the most attacking moves. Phase two in game two had 63 percent (22 of 35) of the moves as attacking, while phase two of game one had a mere 25 percent (10 of 40) as attacking. Combined, phase two was the most kinetic in the game, with 43 percent (32 of 75) moves as attacking. This is arguably because both the Red and Blue forces were positioned, from phase one, to engage the opposing side with enough combat power to achieve their respective goals. In comparison, only 40 percent (30 of 75) were movement and maneuver in phase two, which shows that attack was the dominant move of phase two.

Phase three had a lower intensity than phases one and two but targeted some key questions in the data collection management plan (DCMP) that were not answered through phases one and two. Phase three of games one and two totaled 29 moves, with 14 movement and maneuver moves, nine attack moves, five resource cards used, and one miscellaneous move. The fewer moves are because only one turn of game two, phase three, was played, and the last turn for Blue was not played in game one. However, because of the loss of forces, fewer playable pieces were on the board, and resource cards were introduced more rapidly by the white cell to target some of the key questions in the DCMP by the white cell.

The Blue team leveraged covert moves more frequently than the Red team throughout both games. Of the 204 recorded moves, 44 percent (89) were made covertly, and 56 percent (115) were overtly. Blue made 64 percent (57) of all the covert moves, while Red made 36 percent (32). Red made 58 percent (67) of all the overt moves, and Blue made 42 percent (48).

D. THE THREAT PERCEPTION OF NATO'S NORTHERN FLANK

The difference between the threat perception at the policy level and SOF's threat perception was apparent throughout the second wargame, as shown in Figure 3. This could create differences in preferred actions and effects that SOF should pursue during the initial phase of LSCO. The collected data did not explain the cause for the difference but showed that the political level had a lower threat perception than Blue SOF, Blue Naval, and Red. SOF might, thus, find itself at a point where decision-makers might choose a more restrained posture than SOF would like. Therefore, SOF must align with political decision-makers to harmonize SOF's efforts with political goals. Communication between SOF and political leaders is key when managing these expectations, both during and before the outbreak of LSCO.

Figure 3 shows all answers from all players within a group and the combined group answer for all five turns in the respective team rows. The top row shows the combined group answer for all groups for that particular turn, excluding the individual answers. The players assessed their perceived level of warfare, labeled "threat assessment," after each turn.



Figure 3. Threat Perception during War on NATO’s Northern Flank¹⁶⁰

E. SUMMARY

This chapter analyzed the wargame findings through the relevant operational design categories from JP 5-0. Anticipation, objective, COG, approach, operational reach, and effects have all provided propositions for the potential use of SOF in the initial phase of LSCO. The findings, analysis, and propositions presented in this chapter provide the foundation for the concluding chapter.

¹⁶⁰ Adapted from Frank B. Steder, “Wargaming Data Final: Griffin’s Mace: War on NATO’s Northern Flank” (unpublished data, April 2024).

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V. DISCUSSION

A. UNPACKING THE UTILITY OF SOF IN LSCO

SOF displayed tactical, operational, and strategic utility in the initial phase of LSCO in the wargame. Colin Gray states that the strategic utility of SOF refers “to the consequences to their direct impact upon a war as a whole, and to their indirect impact via the operational-level military successes which they facilitate (or accomplish unaided).”¹⁶¹ Gray’s use of the words *direct impact* can be understood in line with the combination of what JP 5-0 refers to as a direct approach and strategic effects. The indirect impact aligns with JP 5-0 reference to an indirect approach that entails operational and strategic effects.

Blue SOF demonstrated Gray’s two master claims, as shown in Table 1: *economy of force* and *expansion of choice*.¹⁶² SOF provided *economy of force* by creating disproportional effects compared to the size of the units. By reducing Red’s A2AD, degrading Red’s critical MSR infrastructure, and conducting ISR on an air assault force, SOF conducted missions that would otherwise require significant resources or would be unfeasible for a conventional force (CF). The accomplishment of these objectives echoes Gray’s claim that *economy of force* is given through disproportionate results that could support regular warfare.

Additionally, SOF provided exclusive *expansion of choice* for decision-makers by conducting ISR on a remote island that the CF was unable to access, degrading critical MSR, and finding, fixing, and finishing A2AD systems either through sabotage or terminal guidance. Most, if not all, military units arguably strive to provide expansion of choice for decision-makers. However, SOF provided a unique *expansion of choice* that other conventional units could not provide through the low visibility, operational endurance, and operational reach demonstrated in the game.

¹⁶¹ Gray, *Explorations in Strategy*, 164.

¹⁶² Gray, 168–74.

Moreover, Blue SOF also displayed strategic utility through Gray's *other claims*.¹⁶³ SOF influenced Red's *morale*, boosted Blue's *morale*, *showcased competence*, and *humiliated* Red decision-makers by successfully sabotaging Red's critical MSR infrastructure and targeting A2AD in their rear area. By successfully operating in Red's rear area and creating operational and strategic effects, Blue's *morale* and Red's fear were raised. Especially prevalent was *showcasing competency* by these rear area operations, which, over time, could alter the decision calculus for Red by dissuading Red from further escalation because of the potential cost that SOF could impose. Red's overconfidence during the game was shattered when Blue SOF was able to destroy vital A2AD systems and degrade the credibility of their Bastion defense simultaneously as Blue's submarines destroyed Red's aircraft carrier. Even though some of the humiliation was created by Red players openly stating, "We are in control," and losing the carrier the following round, the additional degradation of Red's Bastion defense by taking out their A2AD system made the humiliation complete. Red not only lost two critical components, but they also lost face.

Reassurance, *innovation*, *controlled escalation*, and *shaping the future* were not specifically demonstrated during gameplay. However, by at least attempting to create the desired strategic and operational effects, Blue showcased actions that, arguably, will have a positive reassurance effect on Blue's allies and domestic population, regardless of the outcome. In addition, all available Blue forces were fighting or preparing simultaneously, which does not make the reassurance contribution of SOF unique in this game. On the other hand, *innovation* had limited visibility in the game, which probably can be attributed to the game mechanics. Even though SOF provided options that *controlled escalation* by taking out A2AD with a very small footprint, avoiding a full conventional confrontation to destroy A2AD capabilities, it was irrelevant in the initial phase of LSCO because the goal was to defend Blue territory, not control escalation. The short duration of the game did not reveal long-term shaping effects. While some of Blue SOF's actions could shape people's view of the occupying force, and facilitate shaping people's view of the conflict long-term, none of these factors came into play.

¹⁶³ Gray, 174–81.

Although SOF mostly undertook tactical actions during the wargame, nearly all actions produced operational and strategic effects through *indirect impact*. The wargame design did not highlight strategic objectives suitable for direct SOF action, such as eliminating leadership or destroying critical targets with dire consequences. However, Red assassinated the Blue commander of the Joint Headquarters, which had limited effect because the deputy commander assumed the position. Moreover, Red tried to assassinate the Blue prime minister, which failed because Blue's special police foiled the attempt. These two events did not create any observable strategic effects besides creating a *fallen hero* and potentially instigating some fear in Blue and humiliation for Red because of the failed attempt.

When comparing targeting high-value individuals in the game to Operation Neptune Spear, the raid to get Osama bin Laden, it is obvious that the potential strategic utility of such operations was not achieved in the game. According to James Wertz and Nicholas Schmidle, the intense hunt for bin Laden took almost ten years, and the preparatory phase before the raid was extensive.¹⁶⁴ The significance of the targets presented in the wargame was not at the level of importance as bin Laden, and the necessity to conduct such a mission was not prioritized in the initial phase. This can result from the lack of a targeting process before the outbreak of LSCO in the wargame. Moreover, it is not certain that eliminating high-level officials during LSCO will have the intended strategic effect; sometimes, it might be counterproductive because of the uncertainty that arises out of the vacuum created.

Moreover, avoiding confrontation can increase the effectiveness of SOF. During the game, SOF avoided defending directly against a larger attacking enemy, which was reserved for the CF. Instead, SOF sought missions where they achieved an advantage crucial for mission success, such as maintaining cover. Therefore, SOF did not always

¹⁶⁴ James J. Wertz, "The Abbottabad Raid and the Theory of Special Operations," *Journal of Strategic Studies* 45, no. 6–7 (November 10, 2022): 982, 983, <https://doi.org/10.1080/01402390.2021.1933953>; Nicholas Schmidle, "Getting Bin Laden: What Happened that Night in Abbottabad," *The New Yorker*, August 8, 2011, <https://www.newyorker.com/magazine/2011/08/08/getting-bin-laden>.

depend on its firepower because it was sufficient to maintain cover during SR and some sabotage missions.

Comparing SR and sabotage missions during the game with Operation Gunnerside shows that a confrontation with the adversary is not always necessary for successful special operations. During WWII, the heavy water operations to prevent Hitler from creating the atomic bomb, from October 18, 1942, to February 20, 1944, in Rjukan, Norway, illustrates, like Operation Neptune Spear, that these operations are intelligence-dependent and time-consuming in planning and execution.¹⁶⁵ Operation Gunnerside, the heavy water sabotage conducted by the SOE, shows the meticulous planning, training, and skill required to achieve direct strategic effects by sabotaging high-value targets without losing cover. The operators conducted the sabotage by staying covert without engaging the enemy or firing a single shot.¹⁶⁶ Avoiding confrontation with the opposing force can, thus, be the decisive condition for SOF to be successful.

Avoiding confrontation is also a key element of SOF operations in the littorals. Both the wargame and the Norwegian geography have a significant littoral component. The littorals can be expected to be a crucial region for military operations during LSCO in the High North because of the Russian Northern fleet's Bastion defense concept and the importance of containing the Northern Fleet. Torgeir Grimeland and Oscar van der Veen, former master's students at the Naval Postgraduate School, concluded that cover and concealment were the key principles for special operations in the littorals.¹⁶⁷ Grimeland and van der Veen's assertion was supported by the wargame findings. Additionally, some missions unintentionally blew cover when sabotaging, resulting in a temporary need for warfighting before cover and concealment were regained. The non-kinetic decisive

¹⁶⁵ Ivar Kraglund et al., "Tungtvannssaksjonene [The Heavy Water Operations]," Store Norske Leksikon, 2023, <https://snl.no/tungtvannssaksjonene>; Gordon Corera, "Last Hero of Telemark: The Man Who Helped Stop Hitler's A-Bomb," BBC News, April 25, 2013, <https://www.bbc.com/news/uk-22298739>; Top Secret, "Operation Gunnerside – Norwegian SOE Commandos Sabotage Hitler's Atomic Bomb Project at Norsk Hydro," video, 43:43, YouTube, January 23, 2021, https://www.youtube.com/watch?v=_OVXaBJTfZE.

¹⁶⁶ Kraglund et al., "Tungtvannssaksjonene."

¹⁶⁷ Torbjorn Grimeland and Oscar van der Veen, "Maritime SOF in the Littorals: Theoretical Principles for Successful Littoral Special Operations" (master's thesis, Monterey, CA, Naval Postgraduate School, 2016), 26, 37–39, 102, 115, 116, <http://hdl.handle.net/10945/49475>.

advantages of staying concealed can be especially important when, for example, conducting sabotage or targeting and staying covert trumps the ability to defeat the enemy in a firefight.

Blue SOF did not plan for any operations with a direct approach, which may be sound in the initial phase for a defending force because of the preparations and anticipation needed to be successful.

B. DELIBERATING NORSOF

The existing discussion about NORSOF is, for the most part, on the right path. Iver Johansen and Henrik Gråtrud doubled down on the classical SOF tasks SR, MA, and DA for NORSOF in LSCO, which carry historical weight.¹⁶⁸ However, Johansen and Gråtrud claimed that SOF should initially conduct SR to build situational awareness (SA) for the latter phases and to provide decision-makers with accurate information in the opening gambit.¹⁶⁹ This contrasts the findings in this thesis insofar as SOF were tasked to deliver kinetic effects as early as possible to degrade Red's advance in Blue territory instead of providing decision-makers with SA. This effort was prioritized more in the second game, which reflects an adaptation in decision-making with the players. The game witnessed a transition to sabotage, targeting, and direct actions with limited SR. However, SOF still conducted some SR in remote areas inaccessible to CFs to provide SA.

Johansen and Gråtrud also stated that SOF has limitations in its ability to conduct direct operations against an adversary and should, therefore, work together with CFs, primarily the Home Guard, to conduct targeting, rescue operations, sabotage, assault, and ambushes.¹⁷⁰ The findings from the thesis differ from this assessment in that the Home Guard was used to a very limited extent together with SOF, and the sabotage and targeting missions were conducted by SOF, without the Home Guard, in Red's rear areas. According to Oleksandr Danylyuk, former chief advisor to the Ukrainian minister of defense, UASOF

¹⁶⁸ Johansen and Gråtrud, "Fra Taktisk Elite Til Strategisk Tilrettelegger," 48, 49, 55.

¹⁶⁹ Johansen and Gråtrud, 48.

¹⁷⁰ Johansen and Gråtrud, 48.

received limited support from the Ukrainian resistance network for sabotage operations, not mentioning using conventional reserve forces for such operations.¹⁷¹ Moreover, Searle, Marsh, and Petit referenced only resistance forces as viable, to a limited degree, for enabling Ukrainian SOF to conduct sabotage missions against Russian forces, not conventional reserve forces.¹⁷² However, SOF needed to work together with CFs, given the limited strike capability that SOF has. Because of Red's relatively large military formations invading Blue, SOF did not set up ambushes or assaults to confront Red directly or symmetrically. Still, the Home Guard worked with other conventional formations to directly confront Red. However, the lack of cooperation between the Home Guard and SOF in the initial phase does not exclude cooperation later in LSCO.

The findings support Johansen and Gråtrud's claim that targeting A2AD systems and critical command and control infrastructure would suit SOF in LSCO.¹⁷³ Blue SOF initiated and conducted DA operations focusing on A2AD systems and other critical infrastructure from the outset of the invasion, highlighting the need to degrade these capabilities early on. However, SOF is here tasked to target the capabilities that are designed to deny access to an area, which paradoxically requires SOF to keep detectability below the threshold of the A2AD systems. Searle, Marsh, and Petit stated that the Ukraine-Russia war shows that traditional SOF raids that, for example, target A2AD systems are still a feasible task for SOF.¹⁷⁴ The dependency on covert moves conducted by SOF in the wargame also reflects the need for NORSOFF to avoid detection. Grimeland and van der Veen's assertion thus gains increased relevance, and the ability to stay covert and concealed emerges as the key premise for NORSOFF in LSCO in the High North.

¹⁷¹ Oleksandr Danylyuk, "Lessons from the Ukrainian Resistance Movement," presented at Lærdommer fra Ukraine [Lessons from Ukraine], Deichman Bjørvika, January 23, 2024, <https://www.ffi.no/aktuelt/arrangementer/ffi-seminar-laerdommer-fra-ukraina>.

¹⁷² Searle, Marsh, and Petit, "Ten Surprising Lessons for Special Operations Forces."

¹⁷³ Johansen and Gråtrud, "Fra Taktisk Elite Til Strategisk Tilrettelegger," 49.

¹⁷⁴ Searle, Marsh, and Petit, "Ten Surprising Lessons for Special Operations Forces."

C. PROPOSITIONS

Both the Blue and Red teams made significant progress in achieving their wargame objectives in both games of the High North Dilemma. Red managed to control territory and partly establish their Bastion defense, while Blue managed to degrade, disrupt, dislocate, and partly limit Red's ability to maintain the Bastion defense. Moreover, Blue managed to maintain the momentum in the warfighting, thus denying Red's objective of establishing A2AD and controlling channeling sea areas by holding A2AD capabilities at risk.

SOF supported the CF's objectives throughout the game and created favorable conditions for Blue by influencing Red's COG using an indirect approach, increasing operational reach, and creating strategic and operational effects in the physical, cognitive, and informational domains. SOF created these conditions by cooperating with the CF, maneuvering in denied areas, conducting SR, sabotage, and joint targeting.

The findings led to eight propositions explicating how a small-state SOF can effectively contribute to LSCO in the High North, shown in Table 2. These propositions are deduced from the qualitative analysis of the wargame "The Role of SOF in Large-Scale Combat Operations: The High North Dilemma," supported by additional data from the wargame "Griffin's Mace: War on NATO's Northern Flank," and through the four steps of the constant comparative analysis of *Grounded Theory*.

Table 2. Propositions for Small-State SOF in the Initial Phase of LSCO

	Proposition	Properties	Categories
1a	SOF could improve anticipation by cooperating with intelligence, positioning, preparing, planning, and training for LSCO.	<ul style="list-style-type: none"> • Planning • Intelligence • Readiness • Disposition 	Anticipation
1b	SOF could improve anticipation by receiving timely tasking from political and strategic-level decision-makers.		
2a	SOF could contribute disproportionately to the war effort by setting clear and concise objectives, pursued either autonomously or integrated with conventional forces.	<ul style="list-style-type: none"> • Unity of effort • C2 	Objectives
2b	SOF could seamlessly adapt to the changing environment by providing SOF leaders the authority to pursue their objectives as approved in an enduring CONOP.		
3	SOF could provide strategic utility by indirectly influencing the adversarial strategic and operational COG.	<ul style="list-style-type: none"> • Strategic • Operational • Changeable • Time and space 	COG
4	SOF could influence the adversarial COG directly or indirectly by maintaining the appropriate level of secrecy (i.e., overt, covert, clandestine). The selected approach is ideally mutually supportive of the one employed by conventional forces and in support of operational denial.	<ul style="list-style-type: none"> • Direct • Indirect • Relates to COG 	Approach
5	SOF could extend the general force’s operational reach by employing capabilities in denied areas inaccessible to the conventional force to generate strategic and operational effects.	<ul style="list-style-type: none"> • Covert/Overt • Distance • Time and space 	Operational Reach
6	SOF could create operational and strategic effects by influencing high-value targets and infrastructure with first-second- and third-order effects generated in the physical, cognitive, and informational dimensions.	<ul style="list-style-type: none"> • Strategic • Operational 	Effects

D. CONCLUSION

The research in this thesis shows that NORSOF can provide significant contributions in the initial phase of LSCO in the High North by creating operational and strategic effects through its operational and strategic utility. The key takeaways from this research are that SOF provides strategic utility through its indirect approach, operational reach, and interaction with decision-makers at the operational, strategic, and political levels. Moreover, SOF can contribute to LSCO by cooperating with the CF and benefit from being tasked with suitable objectives, whereas completing these objectives creates effects that support the political, strategic, and operational objectives. Two core requirements for SOF were identified through wargaming: the ability to maneuver covertly over great distances and the need to be given the necessary authority to conduct operations in a timely manner.

The deduction points to NORSOF contributing early in LSCO to influence an adversary's decision-making through special reconnaissance, strikes in adversary rear areas, and strikes against critical capabilities. By doing so, SOF creates favorable conditions and shapes the battlefield for CFs. Access to strategic mobility and precision fires are essential to support the CF effectively. As discovered, SOF generated dilemmas by creating effects in multiple dimensions, and a delicate balance between the support of joint assets and organic capabilities created those dilemmas. Additionally, getting into favorable positions early in the conflict was imperative.

To sum up, one of the SOF truths states that many SOF operations need non-SOF support, which, in this case, holds true.¹⁷⁵ Simultaneously, it is also clear that in LSCO, many non-SOF operations benefit from SOF support.

E. LIMITATIONS

This thesis's research design aims to explore SOF contributions to LSCO through wargaming. The wargaming format aims not to produce quantifiable data points for

¹⁷⁵ United States Special Operations Command, "SOF Truths," accessed September 18, 2022, <https://www.socom.mil>.

predicting events but to explore situations and qualitatively contribute to the ongoing discussion regarding SOF in LSCO. Yet, there are challenges in the research that must be addressed. The wargames are singular events and inherently nonreplicable. Using rigorous wargaming methodology, structured analytical tools for analysis, existing research, and some historical examples for comparing the findings strengthen the reliability of this thesis. However, the constant comparative method of Grounded Theory depends, to some degree, on the analytical ability of the author and the process of abstracting findings and integrating categories. All these processes entail some form of adjustment of data that generates limitations that weaken the reliability of the findings.

Researching situational human decision-making in a game weakens the validity and generalizability of predicting future events. However, the research is not designed to predict future events but to identify situations where NORSOF could contribute effectively to LSCO. The specific scenario, geography, forces, and decision-makers involved limited external validity. Still, using expert players with extensive knowledge and experience on the topic increases the internal validity of identifying potential NORSOF contributions.

Despite challenges with analyzing campaign effectiveness, the research identified that the unfavorable force disposition of Blue, limitations in the accuracy of the order of battle, and game mechanics make adjudicating the campaign intrinsically difficult, and the outcomes may be too dependent on game mechanisms. However, there are clear indications that both teams, to a considerable degree, considered the scenario, players, and game mechanics adequate to research the subject. Moreover, the wargame was used to further examine SOF in LSCO at another wargame less than a year after the “High North Dilemma.” Additionally, the collected data was directly tied to the research question and the topic of small-state SOF in LSCO through the data collection management plan. All these factors promote the validity of the research.

F. RECOMMENDATIONS FOR NORSOF

If preparations are not properly executed, potential misuse of SOF looms over urgent decision-making in the initial phase of LSCO. To avoid the potential misuse of NORSOF, the findings and conclusions offer four recommendations to increase the utility

of NORSOFF in LSCO. This thesis offers eight propositions for NORSOFF in LSCO based on six operational design elements. The remedy for several of these propositions lies within the recommendations for NORSOFF:

1. Continue to explore the utility of NORSOFF in LSCO in the High North through wargaming at the unclassified and classified level for educational, experiential, and analytical purposes.
2. Develop the ability to maneuver effectively over great distances in the High North in a denied environment. NORSOFF's ability to maneuver covertly in LSCO is a vital premise for mission success.
3. Increase integration with the conventional force to hone the potential synergies, focusing especially on harmonizing effects in time and space in LSCO. SOF should be able to harmonize with all warfighting units from the Army, Navy, Air Force, and Home Guard, in addition to the Norwegian Intelligence Service, the Norwegian Police Security Service (PST), and other relevant national actors.
4. If war comes to Norwegian territory, avoid the misuse of SOF, which necessitates political and strategic leadership to deploy NORSOFF for suitable tasking.
 - Enable immediate communication solutions for NORSOFF with senior political and strategic leadership suitable for LSCO.
 - Establish enduring concepts of operations pre-approved at the political and strategic levels, explicitly tasking NORSOFF in LSCO in the High North within the national and NATO framework.
 - Inform and collaborate regularly with relevant decision-makers and partners about using capabilities that exist and are developed within NORSOFF for LSCO.

G. RECOMMENDATIONS FOR FUTURE RESEARCH

The existing research on NORSOFF in LSCO is on the right path but still needs further study. First and foremost, more research and exploration are required with classified information to verify or falsify the propositions in this research. This exploration should also examine the use of a direct approach for NORSOFF.

During the post-game discussions and quick-look session following the wargame, it was apparent that future games and research should include the full range of military means. Additionally, three topics were addressed post-game that had potential for future research in wargaming NORSOFF.

1. Explore the implications of technological advances. The advent of more intelligence platforms, artificial intelligence, terminal-guided long-range fires, cyber, space, drone warfare, and other tools may change the use of SOF.
2. Assess whether the implications of logistical support on both sides during winter in the High North over a longer time span make forces more vulnerable because of their dependency on logistical support than was examined in the game.
3. Evaluate the implications of the NATO alliance and the inclusion of Sweden and Finland in NATO. How will these inclusions and the subsequent Russian response to the inclusion alter the dynamics of LSCO in the region, and how will future cooperation between the Nordic countries affect the role of SOF?

Three additional potential future research questions emerged during the research and analysis conducted after the wargame.

1. How can NORSOFF contribute to anticipation of a conflict in the High North? Should NORSOFF conduct SR operations to identify indicators for LSCO? Should the SOF effort in LSCO be divided into phases?

2. More extensive research is required on the cooperation between the Home Guard and SOF. The most pressing issue is to identify how, if SOF is to integrate with the Home Guard, it can optimize the effects of this cooperation.
3. How will a difference in threat perception between SOF and political leadership affect SOF operations in the initial phase of LSCO?

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APPENDIX. WARGAME SPONSOR BRIEF FOR NORSOCOM

**Wargaming
Final Sponsor Brief
“THE ROLE OF SOF IN LARGE-SCALE
COMBAT OPERATIONS: THE HIGH-NORTH
DILEMMA”**



OA 4604



Problem statement and Key issues

Problem Statement.

- **Objective as agreed to with the sponsor**

The main wargame objective is to identify how NORSOF can contribute to defeating an adversary in the initial phase of a high-intensity conflict in the High North in the near future (2-5 years).

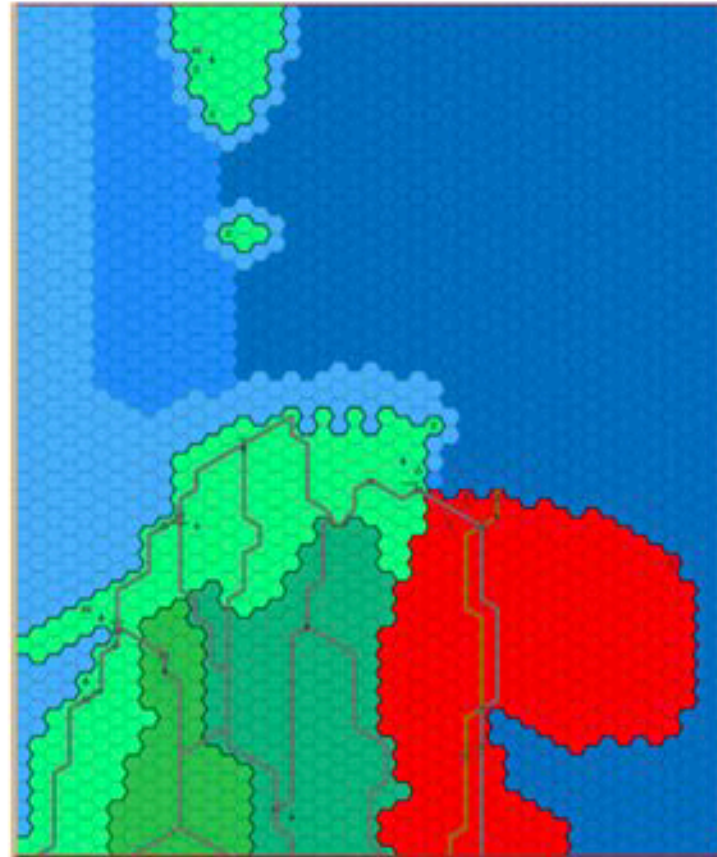
Key issues that the wargame examined as agreed to with the sponsor.

1. How can NORSOF influence an adversary's decision-making?
 1. How can operational-level decisions influence an adversary's behavior?
 2. What conditions influence an adversary's behavior?
2. What conditions will impact the effectiveness of NORSOF?
3. What operational-level decisions will impact the effectiveness of NORSOF?
4. How will the initial absence of NATO forces impact NORSOF decision-making?
5. What impact will the inclusion of Sweden and Finland into NATO shape the conflict?
 1. How will the inclusion of Finland and Sweden in NATO affect NORSOF decision-making?
6. Under what conditions does NORSOCOM support Norwegian conventional forces?
7. What key decision points are NORSOF faced with in the event of a strategic attack on Norway?
8. Under what conditions does NORSOF operational-level decision-making space deteriorate?



Scenario

1. On the morning of 1st February 2027, Russia launched a strategic attack on Norway, catching Norwegian forces off guard, as the maneuvers were disguised as an announced military exercise.
 - a. Geographic region
 - a. The wargame aimed at the High North, represented by the northern parts of Scandinavia and Russia.
 - b. Time
 - a. Gameplay was set for February 1st to 28th, 2027.
 - c. Road to war
 - a. Russia is conducting a significant force build-up at the Baltic borders and plans to move against NATO. Before doing so, Russia must secure and position its second-strike capability to ensure its existential insurance. Therefore, Russia must control the Bear Gap from mainland Norway to Svalbard to bolster its A2AD reach and layered defense. NATO forces will be tied to the expected invasion in the Baltics; thus, attacking Northern Norway will induce a strategic dilemma for NATO.





Player roles

Blue team

- Blue player 1: MoD representing the military/political strategic level
- Blue player 2: NORSOCOM representing the operational level.
- Blue player 3: NORSOF tactical level

Red team

- Red player 1: Head of state
- Red player 2: Strategic level
- Red player 3: Operational level
- Red player 4: Tactical level
- Red player 5: Started as a white cell player for the first phases in game 1 but ended up as a red team player focusing on the operational level after two phases.

Player Role Objectives:

Blue team

- Delay adversary advance in blue territory
- Secure SLOCs IOT ensure allied reception
- Degrade adversary A2AD capabilities in maritime chokepoints

Red team

- Establish the Bastion defense IOT secure nuclear second-strike capabilities and threaten NATO Sea Lines of Communications.



Available resources

Blue team:

Starting resources:

- 6 X Bn pieces (Army and Home Guard)
- 8 X SOF pieces (each piece representing one Task Unit, 4 Task Groups in total)
- 2 X Attack Sub pieces
- 2 X Frigate pieces
- 2 X Civilian Merchant vessel pieces
- 1 X C-130 (not playable unless given resource card)

Introduced later in the game:

- 1 X Bn (Army, introduced approx. phase 2 representing reinforcement)
- 2 X Frigates (introduced turn 2, phase 1)
- 2 X Attack Subs (Introduced turn 2, phase 1)

Inject cards

Red team:

Starting resources:

- 9 X Bn pieces
- 2 X SOF pieces
- 2 X Nuclear Sub pieces
- 2 X Attack Sub pieces
- 2 X Frigate pieces
- 2 X Destroyer pieces
- 2 X Corvette pieces
- 2 X Civilian Merchant vessel pieces
- 4 X AZAD system pieces
- 1 X Strategic bombers (not playable)

Introduced later in the game:

- 1 X Airborne infantry piece (introduced turn 1, phase 1)
- 1 X Private Military Company piece (introduced turn 1, phase 2)
- 1 X Carrier piece (introduced turn 1, phase 2)
- 1 X Tactical nuclear weapon piece (Introduced turn 1, phase 3, game 2)
- 3 X Intelligence organization pieces (introduced intermittently throughout the game)

Inject cards



Player relationships

The relationships within the teams were aimed at representing the military and political hierarchy. Thus, the roles were directed to represent political, strategic, operational, and tactical decision-making.

The teams fused their roles when playing the game; no mitigating actions were taken to enforce the roles. However, the teams were presented with questions on all levels during the planning phase of their respective turns.

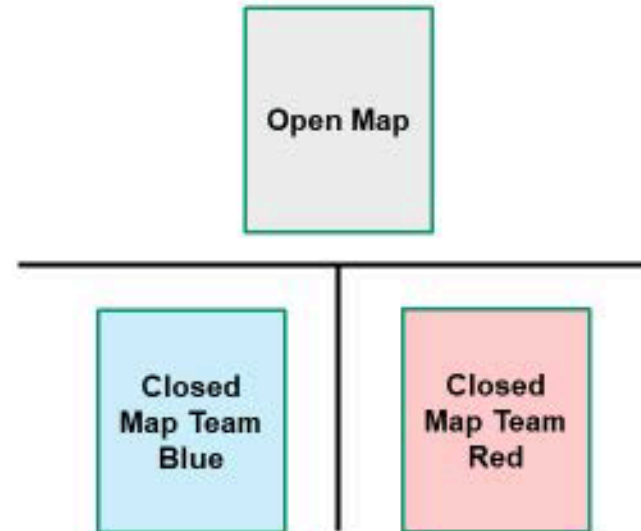
The relationship between the red and blue teams was scripted and played as participating in a high-intensity conflict between the two teams.



Wargame Description

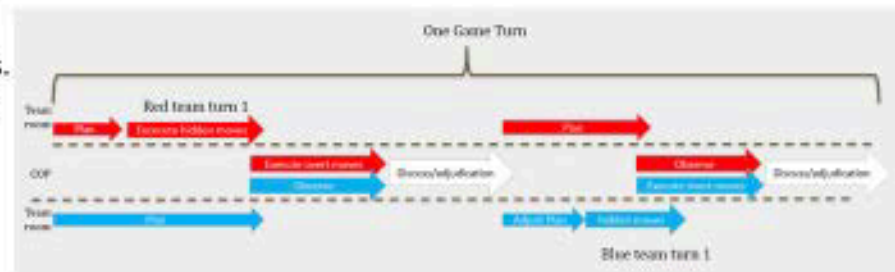
Wargame Design

The game was a strategic-operational level military hybrid wargame for two teams, consisting of a combination of closed and open maps with a mix of system and seminar-style private planning sessions. The overarching design was a game room consisting of three identical maps, with one as a “common operating picture” (COP) for overt pieces and moves and the other two private maps for each team’s “covert” moves (mainly for SOF and submarines).



Wargame Execution:

The course of play is divided into a single game consisting of 28 days divided into three phases; each phase has three turns. Each turn represented three days; three turns constituted a single phase (nine days).





Constraints, Limitations, and Assumptions

Constraints:

- Wargame and analysis will remain unclassified.
- Wargame initiation, development, gameplay, and final report must be concluded within the time frame of one academic quarter at NPS.

Limitations.

- Students will only use open-source data to support the wargame and analysis.

Assumptions.

- Open-source data will be sufficient to support the wargame and analysis.
- A limited number of iterations possible will provide adequate support for analysis.
- The students' experience will allow them to determine a reasonable range of capabilities for SOF.



Findings: BLUF

Top-level takeaways for the sponsor:

- The observed impacts on the adversary are:
 - SOF created uncertainty
 - Imposed cost
 - Held vital assets at risk
 - Created favorable conditions for conventional forces
- The observed requirements for SOF are:
 - Strategic assets should support SOF
 - Clear and timely decisions on utilizing SOF
 - A robust ability to stay hidden
 - Agile mobility

The data collection was done by three data collectors that recorded movement on the boards, discussions, reasoning, and reactions with the players.

Data was also collected by the white cell, asking follow-on questions to the players in all game phases.



Findings Key Question 1 & 2

1. How can NORSOFF influence an adversary's decision-making?

a) How can operational-level decisions influence an adversary's behavior?

- Blue SOF influences Red decision-making through their ability to strike in support areas and calling joint fires on A2AD components/assets.
- SOF's ability to impose cost on adversary rear areas significantly influenced red's decision making process.
- Blue SOF's ability to maneuver quickly through multiple domains also presented the red team with many dilemmas and left them unsure of blue SOF's location and intentions.
- The threat of SWE, FIN, NATO, and USSOF was a long-term dilemma that Red team was required to manage and drove their overall strategy.

b) What conditions influence an adversary's behavior?

- Covert blue SOF units in red rear areas created concerns above the operational level, as the red team felt their strategic assets were threatened.
- A concern for the red team was the uncertainty of presence by NATO or US troops.
- Red perceived that Blue moved with their hidden units in multiple domains, creating multiple dilemmas.

2. What conditions will impact the effectiveness of NORSOFF?

- Strategic mobility offered by joint platforms significantly affected SOF effectiveness, mainly to get early access into favorable positions
- Significant events in the conventional fight or introduction of adversary strategic assets (for example, aircraft carriers) affected the amount/prioritization of joint assets available for SOF missions.



Findings Key Question 3 & 4

4. How will the initial absence of NATO forces impact NORSOB decision-making?

- NATO forces and/or logistical support are critical factors shaping SOF's operational and strategic deployment.
- If NATO reinforcement is delayed, SOF employment risk tolerance rises accordingly.

3. What operational-level decisions will impact the effectiveness of NORSOB?

- Clear and timely decisions on utilizing SOF are imperative in the early phases of a conflict. If there is uncertainty about how to employ SOF, critical time to get into favorable positions may be lost.
- Red elements operating in the friendly rear can create dilemmas regarding whether to employ SOF to address them.



Findings Key Question 5 & 6

5. What impact will the inclusion of Sweden and Finland into NATO shape the conflict?

a) How will the inclusion of Finland and Sweden in NATO affect NORSOF decision-making?

- With the utilization of more land mass would increase maneuver space for SOF and provide decision-makers with more options.
- NATO membership is not critical, provided regional cooperation exists between defending states.

6. Under what conditions does NORSOCOM support Norwegian conventional forces?

- The blue team considered direct/partnered SOF support to conventional units but determined that the tactical gain did not outweigh the strategic loss of covert maneuver that would be sacrificed by entangling SOF elements in the contested area near the FLOT.
- The best way for SOF was to support conventional operations by targeting critical adversary capabilities that would enable conventional maneuvers and operations.



Findings Key Question 1 & 2

How can NORSOFF influence an adversary's decision-making?

7. What key decision points are NORSOFF faced with in the event of a strategic attack on Norway?

- Initial prioritizing of force deployment and missions is essential.
- Types of missions expected or decided upon determine force posture.
- How to achieve sufficient Situational Awareness is identified as a key decision point.

8. Under what conditions does NORSOFF operational-level decision-making space deteriorate?

- If SOF's ability to move quickly in all domains is hampered, the operational-level decision space deteriorates.
- SOF depends on national or allied assets to maintain and increase its decision space.
- The ability to stay hidden increases the effectiveness of SOF actions.



Conclusion

SOF demonstrated the ability to create uncertainty with the adversary, impose cost, hold vital targets at risk, and create favorable conditions for conventional forces. However, SOF depends on strategic assets, clear and timely decisions, robust and agile mobility to achieve these effects successfully.



Road ahead/recommendations

Plan going forward:

The wargame team will:

- Continue to refine the findings from the wargame.
- Conduct post-wargame discussions with the players.
- Present the findings as the data collection of a thesis.

Recommendations:

- Continue to develop the wargame.
 - Player feedback revealed that the game had educational value.
 - Play the game at a classified level and with new players.

**Wargaming
Final Sponsor Brief
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Questions?

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