The Northwestern *TVD* in Soviet Operational-Strategic Planning

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Perceptions in the Cold War Theater Competition – The Soviet Northwestern *TVD*

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During much of the Cold War the United States saw northern Europe in terms limited to Soviet Submarine Launched Ballistic Missiles (SLBMs) and preventing access by Soviet naval forces to the world's oceans south of the line Greenland-Iceland-United Kingdom (referred to as the GIUK Gap). Only in 1952 was Allied Forces Northern Europe (AFNORTH) established at Kolsås outside Oslo to assume command of forces in Norway, Denmark and Germany north of Elbe/Hamburg and the adjacent sea territory. It was yet almost another 30 years, in 1981, when the United States and Norway reached a framework agreement establishing storage of material for a US Marine Amphibious Brigade (MAB) in central Norway. While this agreement set the stage for an American capability to actively participate in the defense of Norwegian territory, it still took several years of practical exercises for the Americans and the ACE Mobile Force to gain sufficient experience in the unique conditions of conducting combat operations in Scandinavia before the Norwegians could be confident that any American effort to provide assistance would be more successful that that of the British during the early stages of the Second World War. What makes perceptions and misperceptions concerning the strategic context of the GIUK Gap and the Scandinavian High North during the Cold War period 1945 – 1991 so important is that many of the geo-strategic considerations of that period still remain relevant today.

Identifying the Soviet Conceptual Framework for the Development and Application of Military Power

In 1977, I was hired by the United States Government to serve as an analyst of the Soviet military. As I struggled to make sense of my research,

first at the Library of Congress and then at the Defense Intelligence Agency, it slowly dawned upon me that terms translated from Russian to English languages didn't always make sense, even when technically correct. Furthermore, I observed that the Soviets were very consistent in their word choice, when in English multiple word choices might have been equally acceptable to render a literal translation. Beyond this observation, because word choice in the English language had equally unique meanings for the American military, fundamental misunderstandings could result. For example, the difference for a translator between air "action" and air "operations" might well seem insignificant, but missed the point entirely concerning conveying the scale of activity being discussed. I had missed this point myself in my initial work on the *vodushnaya operatsya* (air operation), and understood that the prerequisite to comprehension was an understanding of how the Soviets thought about warfare. Subsequently, I came to understand that the intellectual construct developed in Soviet military theory extended from the application of military power to the development of that power. This realization led me to illuminate the Soviet framework to facilitate my own analysis, and the construct was published in several forms as I more fully fleshed out my own understanding of how the Soviets attempted to provide a rational structure to the process of preparing for and conducting warfare.[1]

The conceptual framework (See Figure 1) allowed the Soviets to be comparatively precise in their discussions of force employment in any conflict and, in fact, had a clarifying cognitive effect upon Soviet decisionmakers. In developing a framework that allowed for the application of a range of means to a range of objectives, the Soviets institutionalized flexibility in force utilization at the operational scale. Regardless of the form (nuclear or nonnuclear) or scale of conflict, the Soviets conceptually structured their military planning is such a way as to better enable the state to seek victory at the lowest possible cost (risk). While the Soviets made no secret of the continuing theoretical elaboration of their military doctrine, there was a clear

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[1] See, for example, Phillip A. Petersen and Bruce A. Wallace, "The Soviet Conceptual Framework for the Application of Military Power," *Contra: An NFAC Journal of Alternative Views*, August 1980, pp. 15-18 [Note that while this journal is classified Secret, the article itself is unclassified.]; Phillip A. Petersen, "The Soviet Conceptual Framework for the Application of Military Power," *Naval War College Review*, May-June 1981, pp. 15-24; Phillip A. Petersen, *The Soviet Conceptual Framework for the Development and Application of Military Power*, DDB-2610-36-81, Washington, DC: Defense Intelligence Agency, June 1981; and Phillip A. Petersen, *Images As Defense Policy Determinants In The Soviet-American Military Relationship Since 1945*, Urbana, Illinois: Thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Political Science in the Graduate College of the University of Illinois at Urbana-Champaign, 1985.

lack of appreciation among most Western strategic theorists concerning the effect of military doctrine and its components upon practical problem solving.

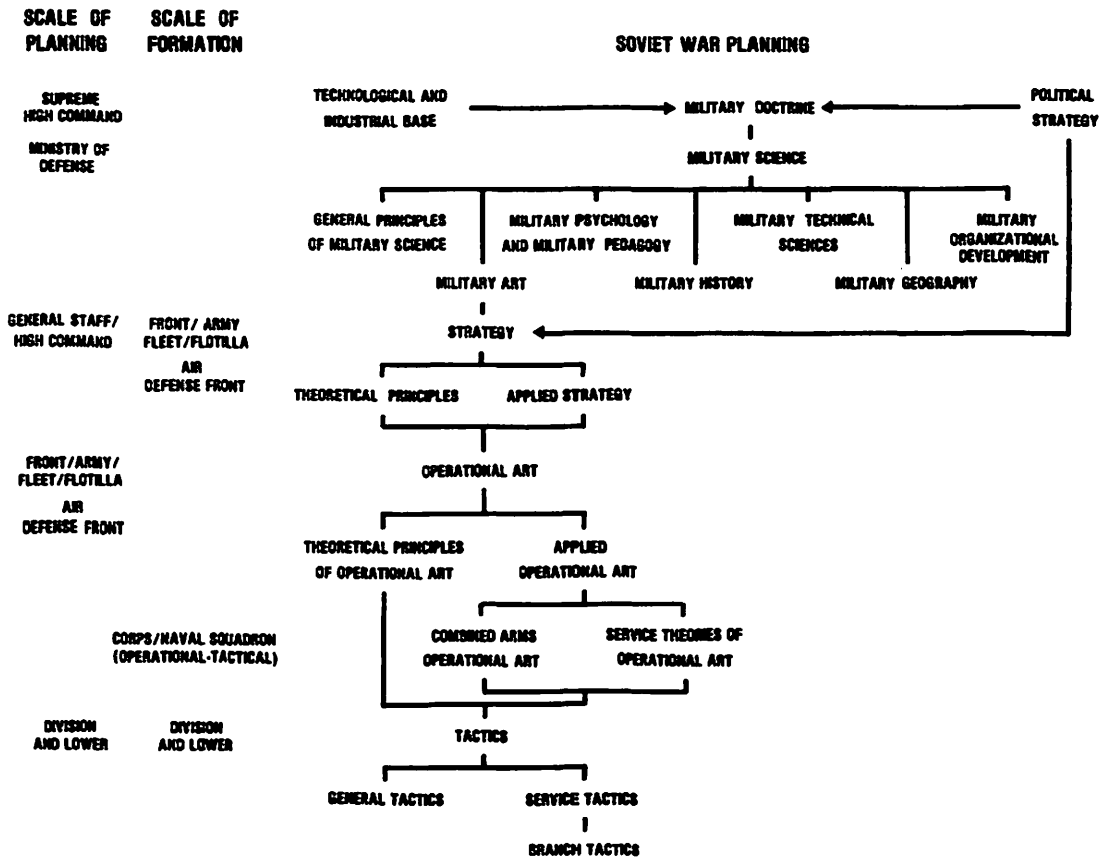

Figure 1

Military Doctrine

Soviet, and now Russian, military doctrine is a highly developed discipline that constitutes a sophisticated framework for the examination of questions concerning military force employment and weapons systems development. It has been, and continues to be, formulated at the highest levels of political and military leadership, constituting that element of political strategy which concerns itself with those specific principles, methods, and forms of prepared for and waging war. Military doctrine provides both the accepted view on the nature of future conflicts, as well as guidance for the military to follow in preparing the armed forces for war. Thus, military doctrine is an expression of the political and military policy of the State, a directive of political strategy. It is distinguished from military

science in that doctrine is a unified system of views and a guide to action elaborated and adopted by the State. By military science, it is meant "the aggregate of diverse materials and psychological phenomena of armed combat being studied and analyzed for the purpose of elaborating practical recommendations for the achievement of victory in war."[2] While military doctrine is based upon military science, there may be numerous hypotheses in the system of theories comprising military science which are not selected as doctrine for practical application and thus do not acquire the character of official State views on military matters.

The general theory of military science defines the interdependence and joint subordination of the relatively independent branches and disciplines within the military field. Classifying military knowledge into various elements of military science, the theory of military art is assessed to be the most important element of military science. Military art is defined as that accepted body of thinking on the actual employment of forces in combat. "The theory of military art consists of strategy, operational art, and tactics, each of which represents a whole field of scientific knowledge."[3] All three are, however, interrelated, interdependent, and supplement each other. Among the three, strategy plays the predominant role.

"Strategy is a division of military art which investigates the principles of preparing for, and waging, war as a whole, and its campaigns."[4] In its applied aspect, it is concerned with the immediate preparation for war of the country's territory and combat theaters, specifically relating to the execution of strategic attack, strategic defense, and other types of military operations on a strategic scale. "Strategic operations are the basic means for achieving the political goals of war."[5] Thus, in "evaluating the strategic content of war, Soviet military strategy believe[d] that war is a complex system of interrelated large simultaneous and successive strategic operations, including operations in a continental theater of military operations."[6] "Soviet military strategy is the same for all force components, and its principles are the general ones for the conduct of war as a whole and for the conduct of strategic operations with consideration of concrete circumstances in various

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[2] S. N. Kozlov, *The Officer's Handbook (Moscow: 1991)*, Washington, DC: U.S. Government Printing Office, p. 48.

[3] *Ibid,,* p. 57.

[4] *Ibid.*

[5] "Strategiya voyennaya [Military Strategy]," *Sovetskaya voyennaya entsiklopediya [Soviet Military Encyclopedia]*, Volume 7, Moscow: Voyenizdat, 1979, p. 556.

[6] *Ibid.*, p. 564.

theaters of military operations."[7] Although each operation has its own characteristic scope, the general goal of each strategic operation will be one of the partial military-political goals of the war.

Within the General Staff's framework for the application of military power, the theory of military art is structured so as to provide an operational guide for conducting those activities that support higher-level requirements. Thus, "stemming from strategic requirements, operational art determines methods of preparing for and conducting operations to achieve strategic goals, and it gives the initial data for tactics."[8] In essence, "operational art is the connecting link between strategy and tactics."[9] It encompasses the problems of preparing and conducting joint and independent operations by operational-strategic, operational, and operational-tactical field forces of the services of the armed forces. As a determinant of the methods of preparing for, and the conduct of, operations to achieve strategic goals by major field forces, operational art is most often reflected in *front* and army operations.

Tactics concerns the refined laws and principles of actual combat, most often used in conjunction with the operations by military forces at the division level and lower. As such, "military tactics occupies a subordinate position with respect to operational art and strategy, acting in their interest, and serving to achieve the goals set for it by operational art."[10]

The conceptual framework developed by the Soviet theory of military art is applicable to the waging of war regardless of whether the weapons of concern are primarily nuclear or nonnuclear (either chemical or conventional). The impact of this framework is evident in the extensive body of written material discussing both weapons systems and force deployment. Thus combat activities are categorized as one or another of the following: 1) tactical; 2) operational; or 3) strategic. These terms, along with the terms operational-tactical and operational-strategic, cover the full spectrum of military objectives or goals as well as the spectrum of weapons systems or means. Their utilization allows military planners to be comparatively precise in their discussions of force employment in any conflict and may, in fact, have a clarifying cognitive effect upon Soviet decisionmakers. Even the concept of

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[7] *Ibid.*, p. 565.

[8] "Opeativnoy iskusstovo [Operational Art]," *Dictionary of Basic Military Terms*, p. 142.

[9] *Ibid.*

[10] "Taktika (voyennaya) [military tactics]," *Dictionary of Basic Military Terms*, p. 218.

surprise, which is considered to be one of the major principles of military art, consists of forms that exemplify the sophistication of this framework.

The Conceptual Framework Applied

In order to understand how the General Staff's conceptual framework for the development and application of military power is applied, it is crucial to note how military geography parallels military art. Military geography is that branch of military science dealing with political, economic, natural, and military conditions in various countries and *teatr voyennykh deystvii* (*TVD*s) from the point of view of their effect on the preparation for, and conduct of, military operations. Although the translation of this concept into English from the Russian has been a matter of debate,[11] I will use Theater of Strategic Military Action (TSMA). Military geography includes naval geography as an independent discipline within its boundaries.

The broadest concept in military geography is that of the theater of war (*Teatr voiny* or *TV*). "A theater of war does not have strictly defined boundaries. Normally, it embraces one continent with its contiguous water areas or one ocean with its coasts, as well as the islands and archipelagoes

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[11] I, myself, have gone through a progress of translations, from "threater of military operations" (TMO) to "theater of Military Actions" (TMA) to finally settle upon "theater of strategic military action" (TSMA). "Western specialists on the Soviet military, in attempting to explain the geographical concept of *TVD* (the Russian acronym for *teatr voyennykh desvtviy*) to non-specialists have offered at least three different translations over the past several years. Theater of military operations (TMO) is one of the most widely used. The John Hines and I have used the expression "theater of military action." Victor Suvorov (see IDR 12/1984) argued that *TVD* means "theatre of actions on a strategic scale," but he also argued for continued use of *TVD* to discourage Western analysts from distorting the concept to fit their own preconceptions. Also see LTC John G. Hines and Dr. Phillip A. Petersen, "The Changing Soviet System of Control for Theater War," in *SIGNAL*, December 1986, pp. 97-110.

"We essentially agree with Suvorov's translation but disagree with his advice. Because *TVD* does not mean anything to most Western readers, they are very likely to make incorrect assumptions about what the concept represents. We believe the most accurate and useful translation of the Soviet military term is, as Suvorov suggested, theatre of strategic military action (TSMA).

"In the 1983 Soviet *Military Encyclopedic Dictionary* and in a 1985 Soviet book devoted to clarifying and updating military terminology, the term military action (although plural in Russian, the English equivalent is singular) as used in *TVD* is defined as military action on a strategic scale. The same sources point out that smaller scale action at the operational and tactical levels is *boyeviye deystviya*, which literally means "combat action." The phrase, "military operations," in the widely used translation "theatre of military operations" (TMO), therefore is a mis-translation. Moreover, TMO fails to communicate to the non-specialist what any Soviet military planner grasps immediately when he hears the expression *TVD* – that is a region identified for military action on a *strategic* scale." John G. Hines and Phillip A. Petersen, "Changing the Soviet System of Control: focus on theatre warfare," *International Defense Review*, No. 3/1986; reprinted in *Current News*, Friday, 20 June 1986.

located within its confines. In connections with this, the concept of a theater of war is sometimes used in the sense of the theater of strategic military operations...."[12] However, "theaters of war can also be subdivided into theaters of strategic military action."[13] (See Figure 2) While General Staff planners recognize the concept of a theater of war and note that it was a concept employed by the army of Tsarist Russia, they limit their own operational considerations to theaters of strategic military action.

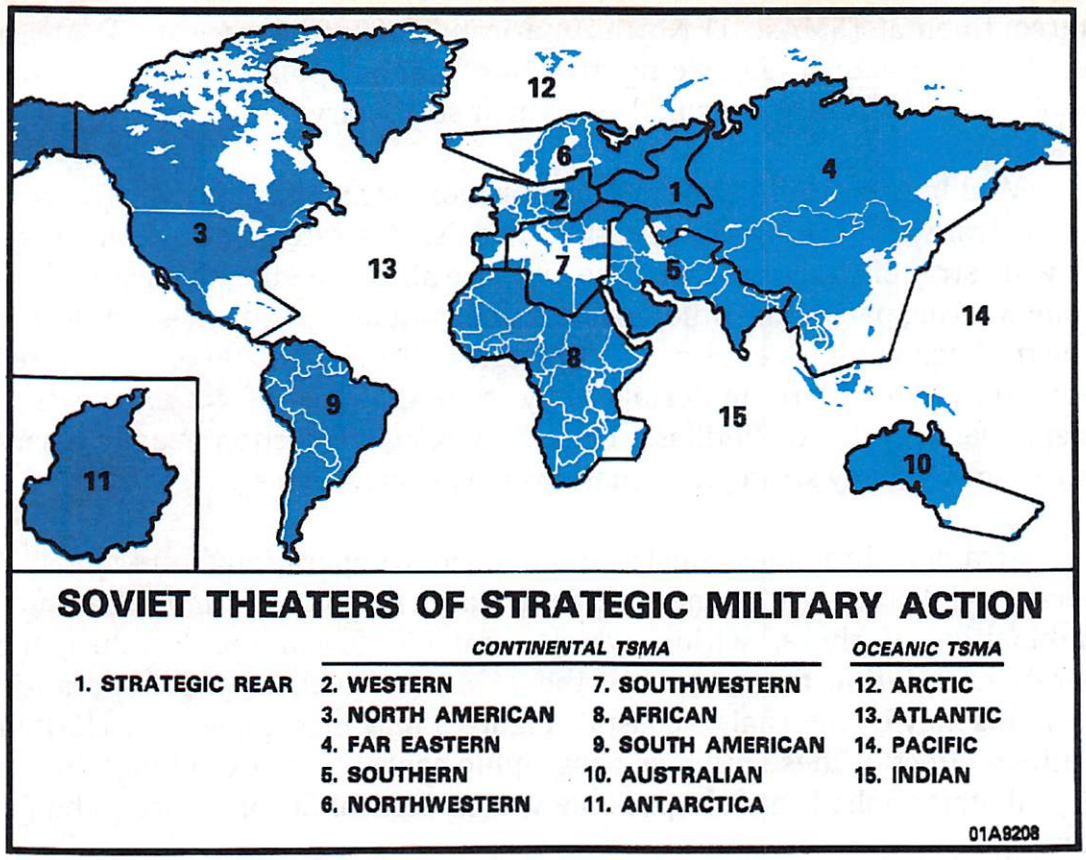

Figure 2: The boundaries of TSMAs can be fixed or variable, and may be adjacent or overlap.

The General Staff has defined the theater of strategic military action (TSMA) simply as that particular territory within whose limits a known part of the armed forces of the country or coalition operations in wartime. Theaters of strategic military action may be continents or oceans (seas).

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[12] "Teatr voiny, [theater of war]," *Sovetskaya voennaya entsiklopedia* [*Soviet Military Encylopedia*], Volume 8, Moscow: Voyenizdat, 1980, p. 9.

[13] *Ibid.*

Although at one point Soviet strategic planners envisioned six continental theaters of strategic military action, the creation of a single command for all of the Soviet forces along the Chinese border marked a merging of what was once the Central Asian and Far Eastern theaters of strategic military action. Thus, by the early 1980s, the General Staff envisioned five continental TSMAs: 1) Northwestern; 2) Western; 3) Southwestern; 4) Near Eastern; and 5) Far Eastern. In terms of maritime TSMAs, four were recognized: 1) Atlantic Ocean; 2) Pacific Ocean; 3) Indian Ocean; and 4) Arctic Ocean.[14] This left four intercontinental TSMAs: 1) North American; 2) South American; 3) African; and 4) Australian. "According to their military-political and economic importance, TSMAs are classified as main or secondary."[15]

Within each TSMA there are one or more strategic *napravleniye*, which may be translated as direction, sector, or axis. A strategic direction consists of a wide strip of land or sea, and the airspace above, leading the armed forces of one warring part to the other's most important administrative-political and industrial-economic centers. Strategic directions involve strategic operations, which are undertaken by combinations of *fronts*, fleets, or independent armies or flotillas. Thus, "a strategic direction usually permits operations by many strategic formations of various services."[16]

Strategic directions consist of one or more operational directions. An operational direction is a zone of terrain, water, or airspace, and sometimes a combination of these, within which strategic formations conduct their operations. Within the context of the TSMA in which they lie, operational directions may be internal or coastal. Figure 3 may help convey the clarifying cognitive effect of these military geographic concepts by examining how the General Staff applied them to possible war in Central Europe during the Cold War.

The System of Strategic Leadership

The General Staff developed a comprehensive theory of strategic leadership that corresponded to their highly structured view of military geography. A Defense Council (*Sovet Oborony*) unified the military and

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[14] "*Teatr voyennykh deystvii* [Theater of Military Action]" *Sovetskaya voennaya entsiklopediya* [*Soviet Military Encuylopedia*], Volume 8, Moscow: Voyenizdat, 1980, pp. 8-9.

[15] "Teatr voyennykh deystviy [theater of strategic military action]," Dictionary of Basic Military Terms, p. 220.

[16] "Strattegicheskoye napravleniye [strategic direction]," *Dictionary of Basic Military Terms*, p. 2 14.

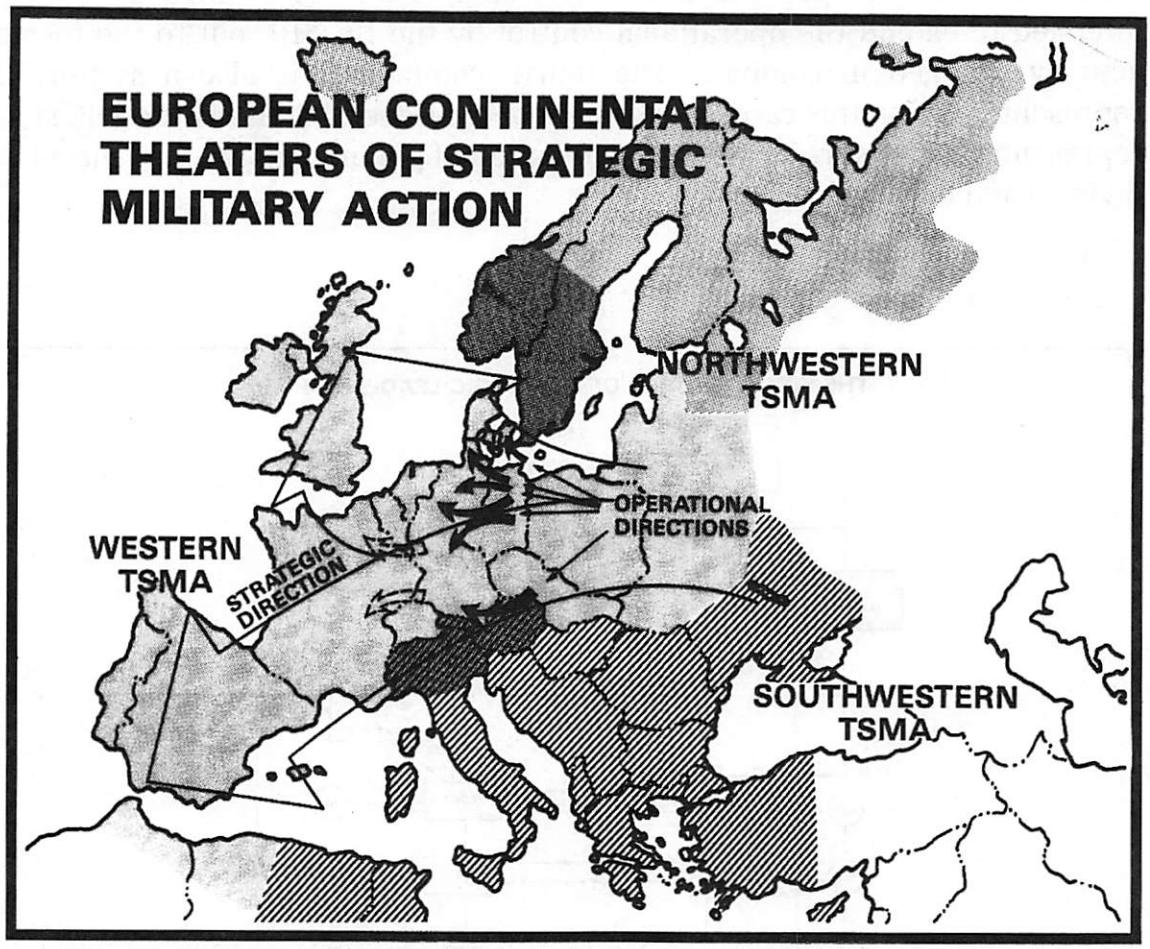

Figure 3: Note the potential overlapping TSMA boundaries in Europe.

civilian leadership to ensure centralized political direction of military efforts. This Defense Council contols the armed forces through the Supreme High Command (SHC) (in Russian, *Verkhovnoye Glavnokommandovaniye* or *VGK*). The SHC is responsible for "direct leadership of the armed forces both in peacetime and in war."[17] It is the heart of what the General Staff considered to be their system of strategic leadership (See Figure 4). The two key components of this system are within the SHC itself. The first and "supreme organ of strategic military leadership" is the Headquarters, SHC (in Russian *Stavka VGK*). The working organ of the SHC, the General Staff, is the second component. The so-called "intermediate organs of strategic leadership," comprising the third element consist either of formal High Commands of

[17] Colonel M. P. Skirdo, *The People, the Army, the Commander*, Moscow: 1970), as translated by U.S. Army Force, Soviet Military Thought Series, No. 14, Washington: GPO, p. 109.

Forces (HCOF) or representatives of Headquarters (HQ) SHC and were intended to extend the operational control by the HQ SHC out to the forces actually engaged in combat. The fourth component is also a system of representatives, in this case an extension of the General Staff. These SHC staff representatives ensure strategic coordination of planning down to the level of division and flotilla.

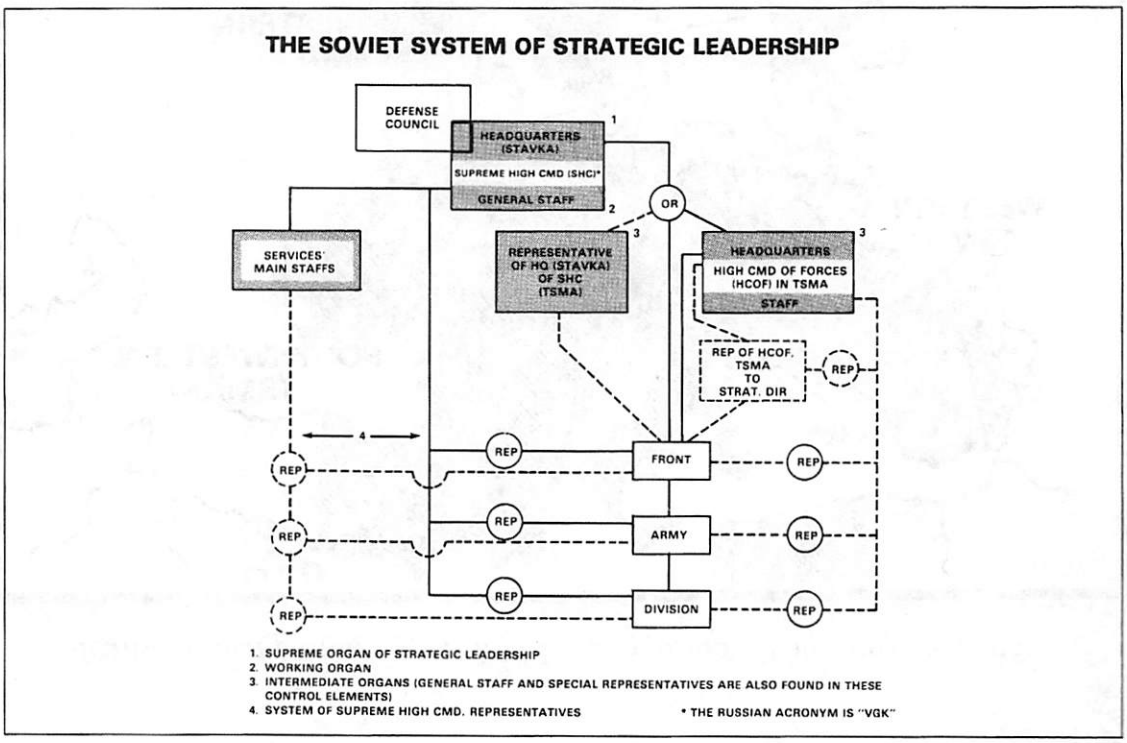

Figure 4: The system of strategic leadership.

The "intermediate organs of strategic leadership" were a source of much confusion and controversy in the West during the last decades before the collapse of the Soviet Union. The major differences between an HCOF and an HQ SHC representative are the degree of their permanence and the size of their staffs. In fact, each High Command, just like the SHC, would be comprised of its own headquarters and staff. The HQ SHC representative, on the other hand, is more of a crisis manager. He would be more likely to have only the staff support of a relatively small operations group that could move quickly to solve immediate but more temporary problems. Such a representative, however, also draw upon the staffs of *fronts* and fleets who temporarily are under his control. HQ SHC representatives could even be dispatched to oversee wars of national liberation. For example, in the early

1980s, First Deputy Ministers of Defense Petrov and Sokolov served as representatives of the HQ SHC to "progressive" forces fighting in Ethiopia and Afghanistan. Both the Commander-in-Chief (CINC) of a HCOF and a representative of HQ SHC would have the full authority of the HQ SHC and would probably themselves be members of the headquarters. During the final decade prior to the collapse of the Soviet Union, CINC's of HCOF were assigned to command forces in four of the five peripheral continental TSMAs.

The fourth component of strategic military leadership is the extensive system of SHC staff representatives. Their primary function is to monitor the operational situation to ensure that the overall plans of the SHC are being respected. They also serve as a direct conduit for communications between lower level units and both the General Staff and the Main Staffs of the five services. This information can form the basis for refining planning and, ultimately, changing support priorities throughout the forces. The staff representatives either are officers of the General Staff with general coordination responsibilities or are officers from the main staff of the services who assist, on behalf of the General Staff, in specialized areas such as air, artillery, engineer and naval support. While neither the General Staff nor the Main Staffs of the services formally command any forces, this entire staff representative system constitutes a shadow control system superimposed by SHC upon the formal organizational structure. The intent is to keep the armed forces focused on the SHC's strategic objectives rather than on more narrowly defined objectives of the services or of lower level commanders.

Discussions in Soviet military literature suggested that, when required, the CIC of an HCOF in a given TSMA would designate his own high level representative to oversee operations by groups of fronts on diverging strategic directions within the TSMA. One Soviet military writer noted with approval that these High Command representatives could be officers from the CINC's own military council, his chief of staff, chiefs of the major directorates within his staff or officers of similar responsibility and position. The use of such High Command representatives was standard practice in World War II, and only rarely were subordinate commanders called to their CINC's headquarters to receive instructions.

Parallel Operational and Support Structures

The relationship in the command structure between operational subordination of forces and the military support infrastructure can be seen in Figure 5. *Front* (or independent armies) and Fleets (or independent flotillas)

constitute the operational components of the system. The Ministry of Defense, services and military districts constitute the support structure. Note that both the operational and support elements are responsive directly to HQ SHC. The HQ SHC allocates strategic reserves (to include air and nuclear reserves) within the strategic leadership system, depending upon planned requirements and contingencies that arise during the course of conflict. Different command structures for conventional and nuclear war do not exist; a single system exists for conflict of any intensity under control of HQ SHC.

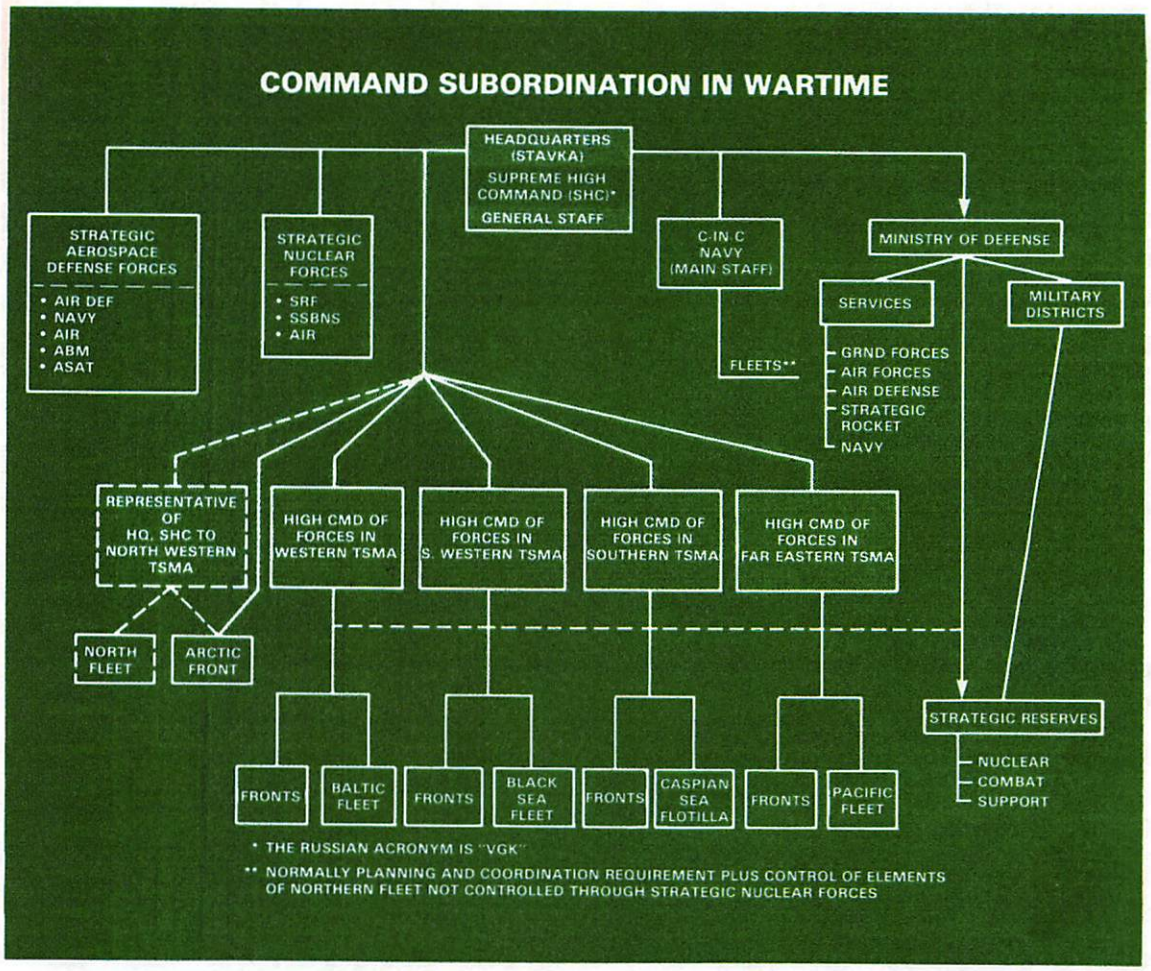

Figure 5: Elements of the wartime system of strategic leadership.

On the support side, the Ministry of Defense does not function as an organ of strategic leadership. It does, however, play a central role in the control structure through the services and military districts. Peacetime military districts do not turn into *fronts* and disappear in time of war. The command and staff functions of *fronts* that are generated initially are likely to

be already embedded in the headquarters of the military districts. Military districts exit, however, because they must generate additional forces – perhaps several armies or even another front. Moreover, the military districts are required to support homeland aerospace defense and, in the event of general nuclear war, post-nuclear strike reconstruction.

The five services also continue to function in wartime. While the units of the services are absorbed into the combined-arms command structure of the various *fronts*, fleets and SHC reserves, the services themselves continue to exist to help generate new units and sustain those that already exist. Moreover, the services continue to be indirectly involved in the wartime strategic leadership system. First, the service CINCs are members of HQ SHC. Second, the main staffs of the services participate in the operational planning process in direct support and response to the general staff of the SHC. This is greatly facilitated by the membership of the five service CINCs in the headquarters (*Stavka*) element of the SHC.

The operational side of the command system has considerable structural flexibility (see Figure 5). Variants in the subordination of operational commands can be dictated by HQ SHC in response to planned or unanticipated wartime requirements. It is possible that a ground force division or army might be subordinated to a navy fleet and the fleet itself subordinated, in turn, to a HCOF or a representative of HQ SHC in a continental TSMA. Likewise, a ground forces army under command of a *front* might control a navy flotilla in the conduct of an operation.

Soviet military theoreticians came to believe that this highly centralized system of strategic leadership, responding to developments of military technology, enables commanders to meet the requirements of warfare on a broader scale than previously experienced. They expected that the mobility of modern forces and the ranges of new and projected weapons lead inevitably to warfare on a theater-scale. In such a war, success will require progressively greater centralization of control to enable commanders to make effective use of the full capabilities of the modern means of war. Historical and theoretical discussions in Soviet military literature suggested that a highly centralized structure greatly increased flexibility at the strategic and operational levels where, in the view of the General Staff, the outcome of conflict would be determined. The Soviets understood, however, that to avoid the systemic paralysis such centralization might induce, the entire centralized control process must be fully and effectively automated. Thus, the way the Soviets defined their own control requirements put them under

considerable pressure to stay abreast of advanced technologies in which they were traditionally weak.

The General Staff's estimation of the growing complexity and scale of strategic operations in the far flung theaters around the periphery of the country, each facing different conditions and, in some cases, different enemies, led to the anticipation of the need to bring strategic leadership closer to the forces. In response, the Soviets extended the control by HQ SHC to the forces that would operate in the most important peripheral TSMAs.

The Strategic Operation in the Northwestern TSMA[18]

Consistent with the Soviet General Staff view of the nature and importance of a strategic region, northern Europe can be said to contain four strategic regions (See Figure 6): (1) northern Norway, Sweden, and Finland; (2) southern Norway, Sweden, and Finland; (3) the Baltic Straits; and (4) the Greenland-Iceland-United Kingdom-Norway Gap – the GIUKN Gap (See Figure 7). These four strategic regions drew together the operational objectives four Soviet theaters of strategic military action: Northwestern, Western, Arctic, and Atlantic.

STRATEGIC REGIONS IN NORTHERN EUROPE

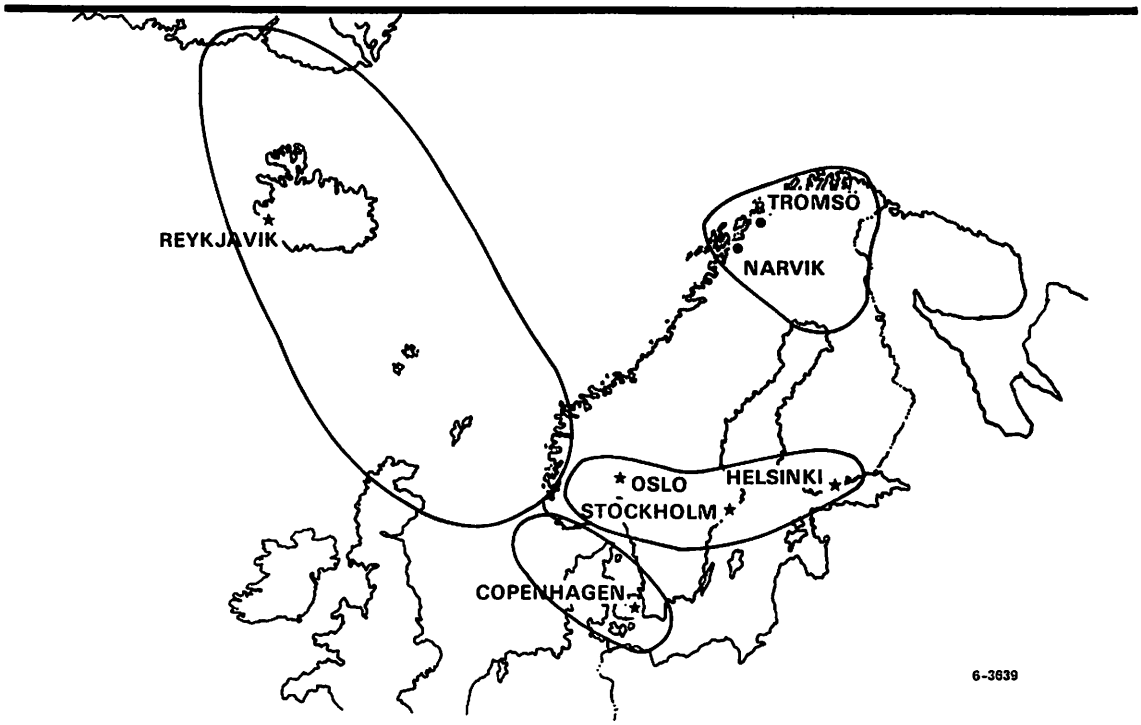

Figure 6: Strategic Regions in the Northwestern TVD

[18] This section is based upon John G. Hines and Phillip A. Petersen, "European Neutrals in Soviet Military Strategy," in Richard E. Bissell and Curt Gasteyger (editors), *The Missing Link: West European Neutrals and Regional Security*, Durham: Duke University Press, 1990, pp. 150-186.

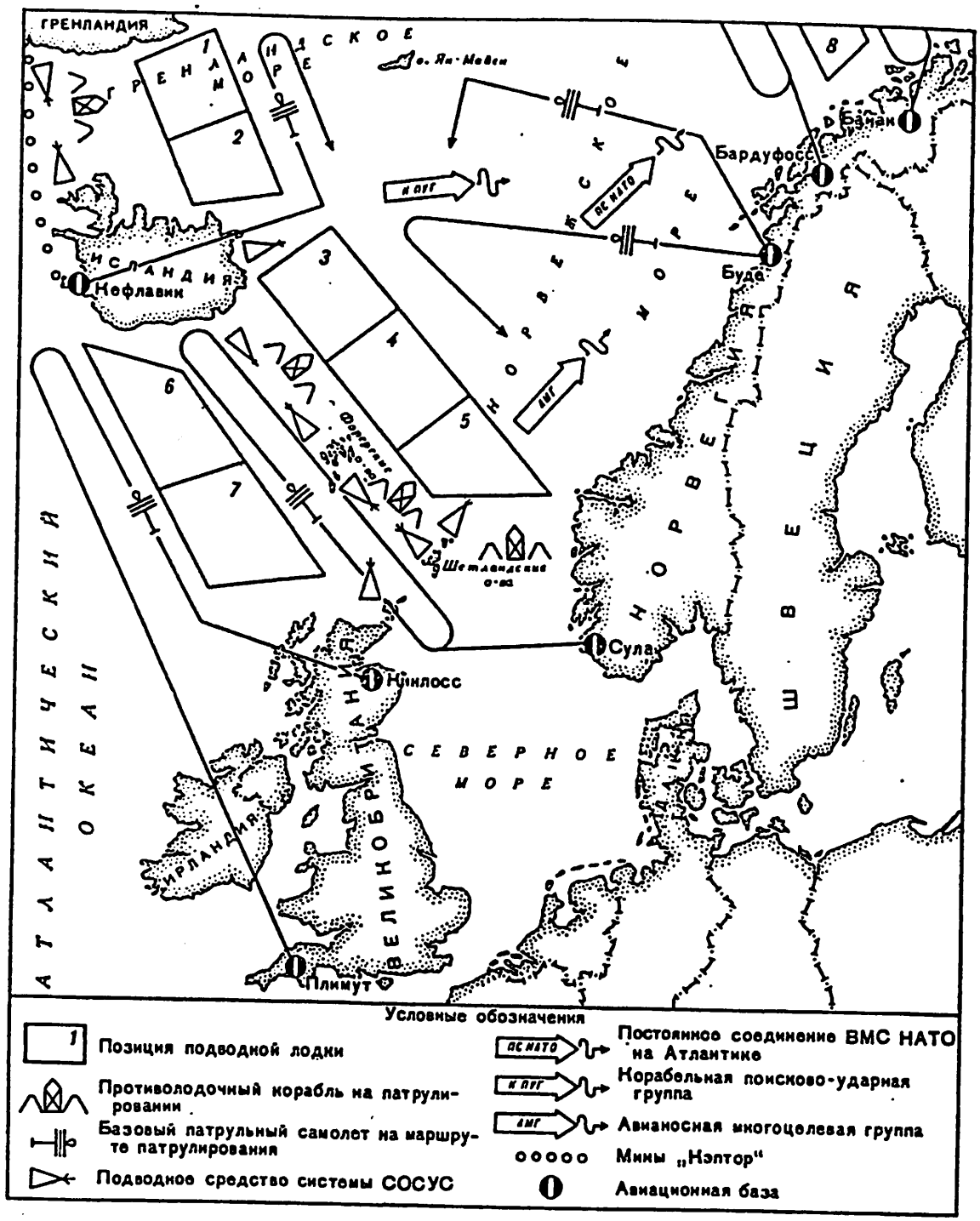

Figure 7: When the Soviet General Staff looked at NATO's efforts to prevent the Soviet Navy from exiting the Arctic Ocean TSMA to conduct operations in the Atlantic Ocean TSMA, they understood how the airfields in Iceland, Norway and the United Kingdom could also be used to defend the SSBN bastion from NATO attrition during a non-nuclear conflict, as well as against aviation strikes against the Soviet Union itself.

During the Cold War, most Western analysts seemed to agree that it was unlikely that northern Europe would become embroiled in a war separate from a war in Central Europe.[19] It was considered to be very likely that a war in the Western TSMA would escalate horizontally into the Arctic Ocean TSMA.[20] Such combat actions in the Arctic Ocean TSMA were expected almost assuredly to include air and missile strikes against its "contiguous coastlines" along Norway as well as against Iceland as an island in this oceanic TSMA.

Soviet combat actions in the Arctic Ocean TSMA would have related to three strategic missions that remain relevant to concerns of the Russian General Staff today. The first is to support and protect the ballistic missile submarine (SSBN) force, and thus insure its viability as a survivable retaliatory component of the Soviet (and now Russian) strategic nuclear forces. The second was to defend the homeland from attack, to include the Inter-Continental Ballistic Missile (ICBM) force and the nuclear capability of Long Range Aviation (LRA). The third was to contribute to the multi-theater wartime objectives of the Soviet Union, focusing on operations in the Western TSMA, but to include aviation. Many of the wartime tasks required by any one of these missions would serve the other two. One example is anti-carrier warfare. The United States carrier battle groups threatened the Soviet (and now Russian) SSBN force by giving support to U.S. anti-submarine warfare operations. The nuclear and conventional strike aircraft onboard the carrier threatened both the Soviet homeland as well as Soviet forces operating in the Western TSMA. By successfully attacking the carrier, all three missions were (and still are) served.

The mission of supporting and protecting the SSBN force is important no matter what the nature of a war might be. The Soviets, and now the Russians, anticipated that even during conventional war both sides would be striving to destroy the other's nuclear capabilities with various non-nuclear

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[19] See, for example, *Finnish National Defense* (Helsinki: General Headquarters' Information Section, 1983); and Lars B. Wallin, *Doctrine, Technology and Future War: A Swedish View* (Stockholm: National Defense Research Institute, 1979), p. 7. This latter book, which is a translation of the main text of the Swedish National Defense Research Institute (*FOA*) report A-10001-M3 (January 1979), represented the views of the seven defense scientists and defense planners asked by the Swedish Ministry of Defense to study the major powers military policies as well as the interaction between them and developments in military technology.

[20] V. Bestuzhev, "Combat Actions on the Sea," *Voyennaya mysl'* (Military Thought), July 1971, Number 7, as translated in *Selected Readings from Military Thought*, Studies in Communist Affairs, Volume III, Washington, DC: GPO, 1982, p. 104.

means.[21] Under such conditions, reliance on the SSBN force as the core of a survivable strategic nuclear capability was threatened by the U.S. advantage in anti-submarine warfare and, during any conventional war lasting several months, such vulnerability would be greatly increased when the submarines attempted to replenish. The deployment of the SS-25 mobile ICBM was intended to provide at least a partial solution to the Soviet problem. Land-mobile missiles operating from pre-surveyed positions potentially could have accuracy approximating that of silo-based ICBMs and be far more survivable over time than Soviet SLMBs.

Northern Norway, Sweden, and Finland Strategic Region

If the Soviets had come to perceive it to be in their interest to initiate combat operations in the Northwestern TSMA, an initial offensive early in a conflict would undoubtedly have focused upon the strategic region that included northern Norway and the territory of Sweden and Finland that would provide ground access to Norwegian airfields in the high north (See Figure 8). This initial strategic direction by the Arctic Front would have probably have consisted of a southern operational direction and a northern operational direction. In southern Finland, the Soviets would probably only have engaged in actual combat action if necessary to prevent Finnish military forces from reinforcing the north. In the north the Soviets would have attempted to move on Finnmark as quickly as possible through the use of forward detachments, air assault units, and airborne forces. Although the Soviets would have preferred to pass through Finnish territory without engaging its armed forces, the Soviets appear to have had accepted such a possibility as a necessary risk.

The North Cape Strategic Direction was comprised of four main axes of advance (See Figure 9) that comprised two Operational Directions. Before discussing the specifics of terrain features on the axes of advance of a Soviet strategic offensive operation in the northern strategic region of the Northwestern TSMA, it is important to stress some of the general characteristics of the region that challenge military operations. I recall a Norwegian flank-rank officer once commenting that, when the United States Marines first began to plan operations in support of Norway, the first lesson they had to learn was not how to fight in the terrain but how to survive in the

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[21] *Ibid.*

NORTHERN STRATEGIC REGION IN NORTHWESTERN TSMA

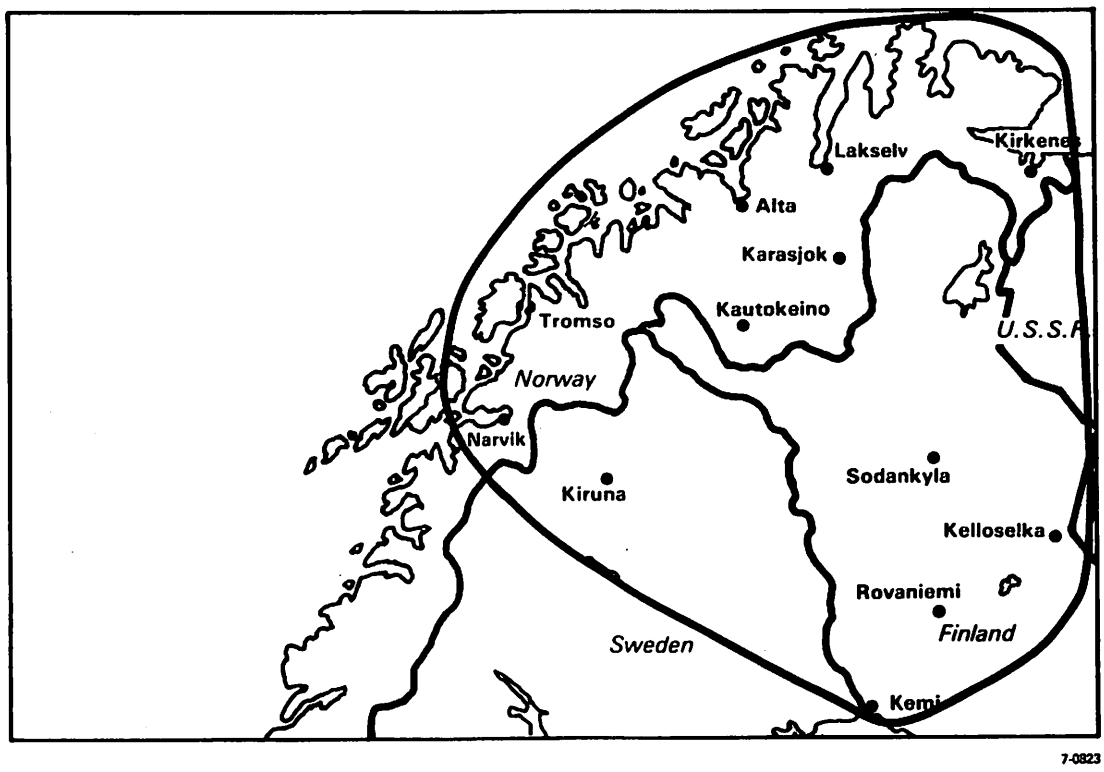


Figure 8

winter. (See Figure 10) Because of the Gulf Stream in the Atlantic Ocean, the winter weather conditions in the Northern Strategic Region can change dramatically from day-to-day, if not from hour-to-hour. During any given twenty-four hour period, the weather can shift from rain to freezing-rain to snow and back to rain. This reality in the high north explains why tens of thousands of Soviet troops froze to death during the Winter War against Finland – having been prepared for snow, the daylight rains and subsequent freezes during the long, dark nights (the winter darkness extends from November 21 to January 21) took a fatally devastating toll on Soviet troops.

The rapid transition between temperatures also has a similarly dramatic effect of off-road trafficability. Much of the terrain in the high north is so low that it might better be visualized as being comprised of "islands" (the towns and villages) connected by causeways (constructed for auto and rail roads). (See Figure 11) Except for the winter months, the water of *Finmark Vida* is constantly flowing, eventually forming streams that flow into rivers that, ultimately gather into larger rivers that make their way to the sea.

And frequently, the terrain can be so rocky (See Figure 12) that, even when the water is frozen, the trafficable terrain terminates in a form of *cul-de-sac* compelling a return to the man-made causeways that make the region trafficable. While night vision technological developments have had a significant impact upon night operations since the 1991 collapse of the Soviet Union, the length of daylight hours in the summer (the midnight sun shines from May 17 to July 21) still has the dramatic impact that occurred during the Cold War (See Figure 13).

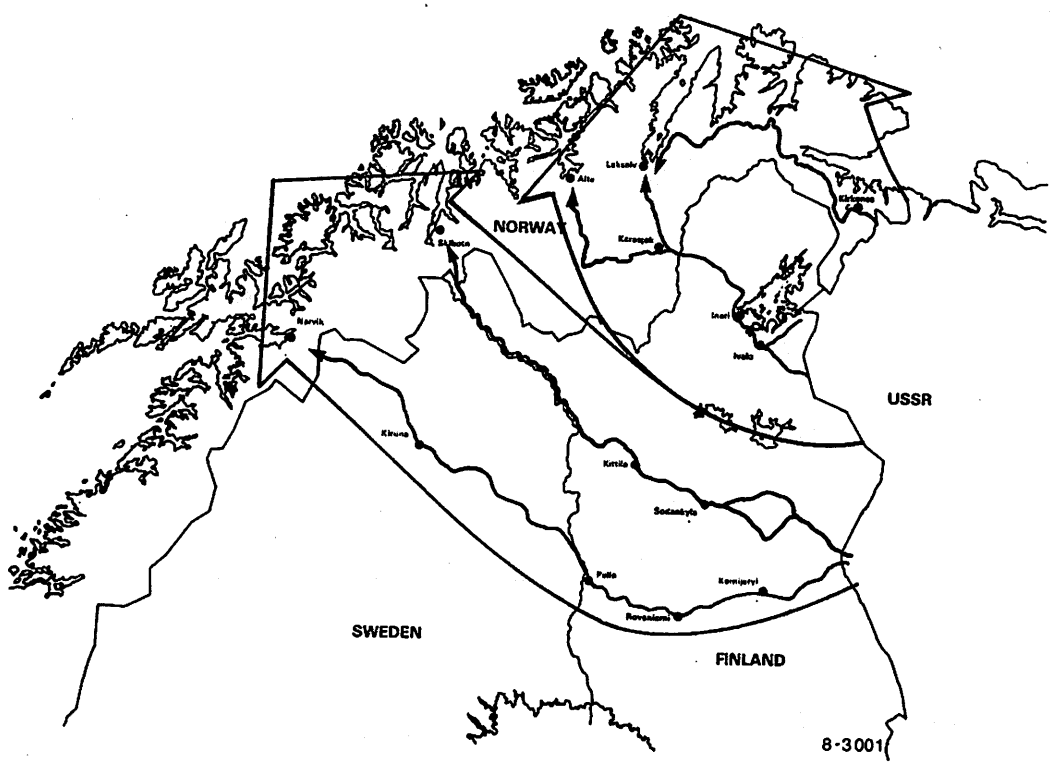


Figure 9: Tactical and Operational Directions comprising the North Cape Strategic Direction.

Moving from north to south across the two operational directions, the first main tactical axis of advance was against Kirkenes (See Figure 14) and along the coastal highway E6 toward Lakselv (See Figure 15) which, along with its airport – Banak – was the objective of this axis (See Figure 16). With a population of less than 3,000 people, Lakselv was and remains far less important than the 2,788 meter (9,147 feet) runway only 1.5 kilometers (0.9

Figure 10: I had the opportunity of observing one of NATO's winter exercises in Norway that ended in the tragedy of eleven soldiers dying in an avalanche on 6 September 1986. The ACE Mobile Force had joined in this particular exercise, and I spent considerable time with the Americans (who came prepared for the conditions) and with an Italian alpini 105mm artillery battery (which did not come to the exercise prepared, but proved to be quite flexible in overcoming its challenges). When I observed the arrival of the alpini at their assigned position at the end of the first day of their deployment, they appeared to be in total chaos – they didn't even have winter camouflage tarps for their gun emplacements and everyone seemed to be talking and nobody listening. The following morning, I began my observations with a visit to an American helicopter transportation unit. The unit was easy to find because their helicopters were not painted white and none of the helicopter positions were camouflaged (See Figures 10A & 10B). When I asked the unit commander why his helicopters were all sitting out exposed to "enemy" reconnaissance, he angrily replied that someone had stolen all the winter camouflage tarps that had been brought on the deployment. Upon leaving the Americans in such a sad state of affairs, my Norwegian escort from the Defense Ministry suggested that we return to see if the alpini from the night before had finally gotten themselves organized. Truth be told, even with the Italians talking us to their position, we simply could not locate them. Finally giving up, we asked that they come out of their position to collect us. It turned out that we were almost next to their position, but they

were so well camouflaged and sound disciplined that we only would have discovered them had they opened fire.

Figure 10A

Figure 10B

Without camouflage tarps or netting, the American transportation helicopters, looking black against the snow-covered terrain, would have been exposed to easy identification from air reconnaissance and attack.

OFF-ROAD TRAFFICABILITY

Figure 11: There are, of course, places where one can maneuver off the road and rail beds, but such trafficable areas often only lead to a situation where the only way to continue is to retrace one's route.

OFF-ROAD TRAFFICABILITY

Figure 12: Not infrequently, even when one attempts to stick to the ridgelines, except in heavy snow cover, the terrain is difficult to transit except on foot.

Figure 13: The photograph below was taken of Kirkenes, Norway at midnight during the summer when the sun never sets low enough to bring total darkness. The photograph to the left, also taken about midnight suggests how "long" Norway is, although at one point it is but four kilometers "wide."

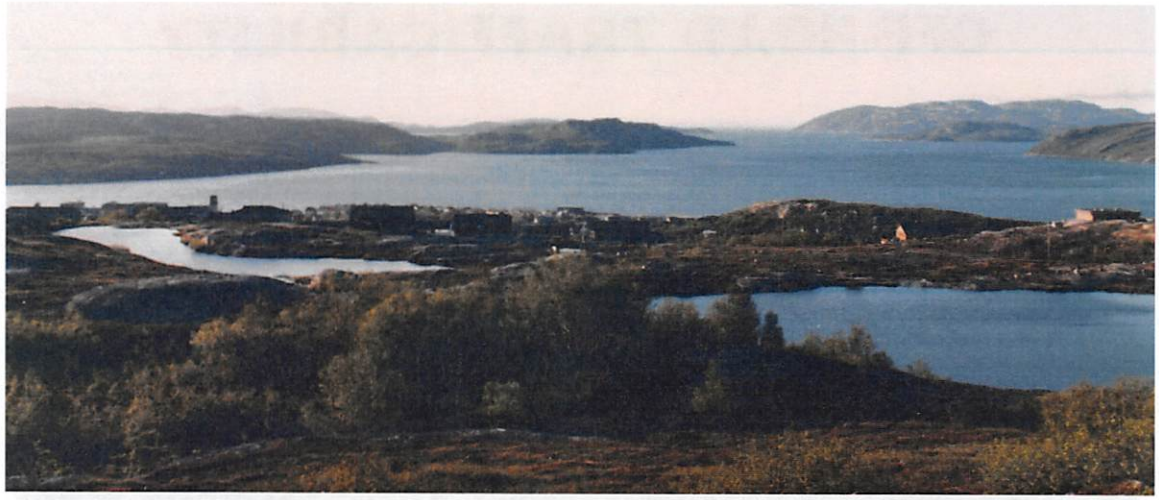


Figure 14: The Norwegian town of Kirkenes lies on a peninsula along the Bokfjorden, and arm of the Varangerfjorden some 400 kilometers (250 miles) north of the Artic Circle. Although Kirkenes only has a population of approximately 4,000 can, with its neighboring villages the regional population figure almost doubles. The town is second only to Malta as Europe's most bombed city, having endured 320 air attacks over the course of the Second World War.

miles) north of Lakselv and whose re-establishment and upgraded condition was largely funded by the North Atlantic Treaty Organization (NATO) because the United States was concerned that the militarization of the Kola Peninsula would become the prime point of a Soviet attack on North America. Although the airfield's military activity is focused upon air rescue missions in the Barents Sea, the airport is regularly visited by F-16 fighter aircraft. The military garrison for Banak is located close to Lakselv.

Movement along this coastal tactical axis would have had to been largely confined to the coastal highway in many places, but the countryside would not have been very different from that of the Petsamo area of the Soviet Union close to the border (Figure 17). Special units such as heliborne and amphibious forces (See Figure 18) would have been utilized to effect early seizure of critical objectives to facilitate movement of the main ground force moving along the coastal route. Undoubtedly, one of the initial assault landing operations would have been directed against the Banak airport. This would have made defense of Norway east of Lakselv pointless, and provided the Soviets with a not significant increase in range for its air defense and naval strike aircraft. Since Norwegian authorities and NATO regarded Finnmark as a tripwire to be sacrificed, Banak provided a forward deployed monitoring station for Soviet preparations to launch military operations that

"forced" the Soviets to "reach" and, thereby, expose themselves to counter-strikes before they could "harden" themselves to such counter-strikes. The NATO strategy was intended to make the Soviets "pay early" for its aggression and, perhaps, disrupt the timing of the Soviet offensive in the north.

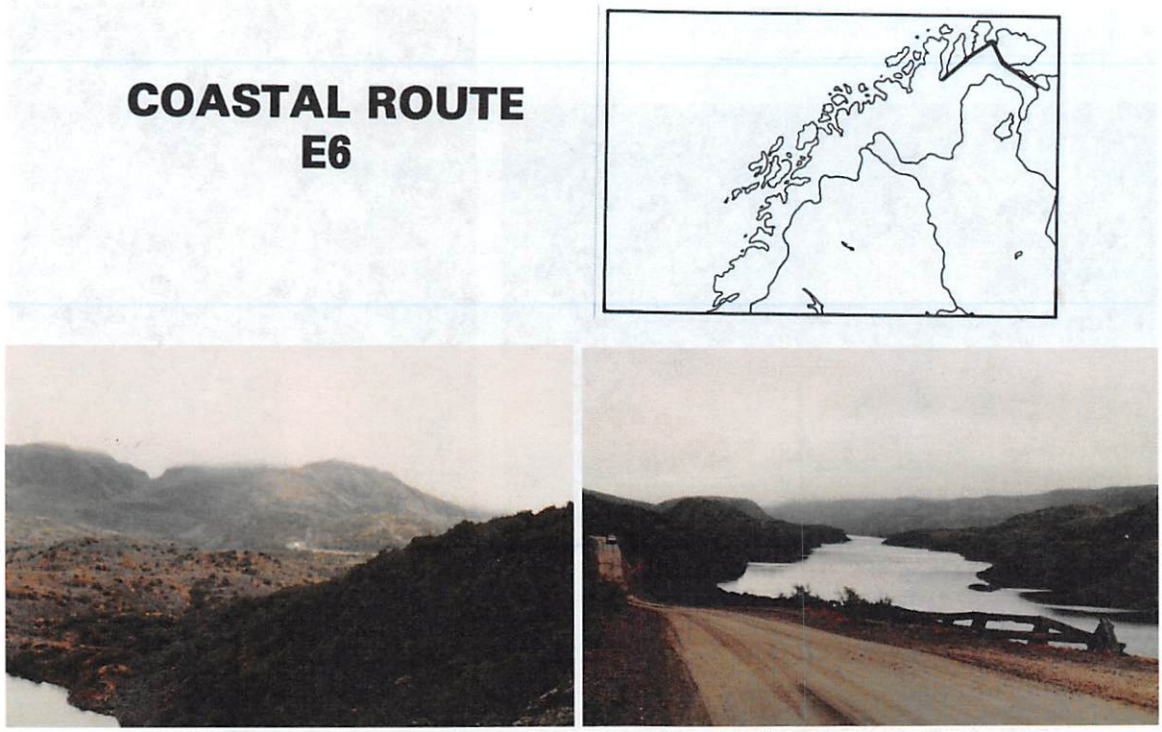
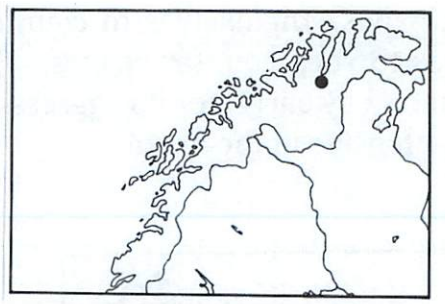


Figure 15: The coastal route west from the Soviet border, while in some ways constricted, also provided ample opportunity for "outflanking" of defenses via tactical amphibious assaults in not less than four locations. Tactical amphibious assault landings along the coastal road from Kirkenes to Lakselv could be employed to outflank defending Norwegian forces, making both withdrawal and reinforcement difficult. This photograph was taken about 76 kilometers north-west of Kirkenes.

The southern tactical axis on the north operational direction (See Figure 9) crossed the Finnish border and proceeded south of Lake Inari through the towns of Ivalo and Inari (See Figure 19). The population of Ivalo numbers only about 4,000 and the village has a small airport that would have undoubtedly been an initial objective for an airmobile assault landing to

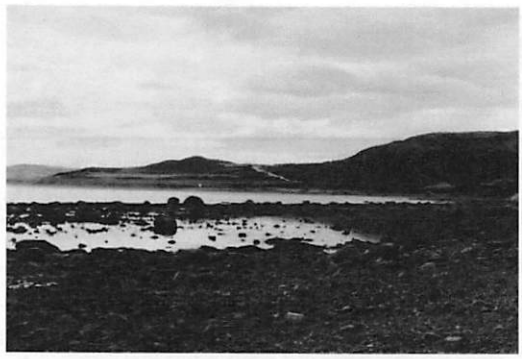


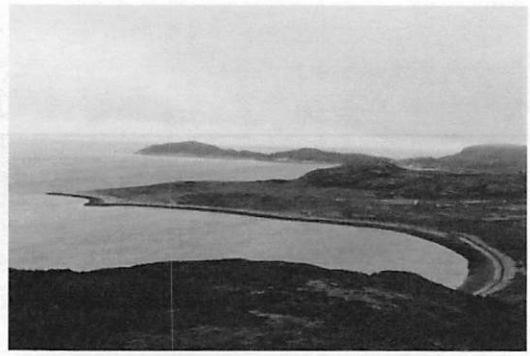
BANAK AIRFIELD

Figure 16: Lakselv's airport, Banak, used by Germany's Lufwaffe during the Second World War, was abandoned in 1952 and reopened in 1963 largely with NATO infrastructure funds. It has an asphalt/concrete surface 2,788 meters (9,147 feet) long.

facilitate a rapid advance of ground forces on the way to seize Inari. Inari – with its airport and the country's key north-south European Route E75 (Finland's National Road 4) - would have been the most important objective in Finland on this tactical axis. After seizing this area south of Lake Inari with a total population of less than 7,000 the Soviet forces would have hoped to make a rapid advance toward the Norwegian border (See Figure 20) and the town of Karasjok. Being the first tactical objective on the Norwegian side of the border (See Figure 21), the village of Karasjok numbers less than 3,000 in population but is only some 80 kilometers (50 miles) from Lakselv and its airport on the Banak Peninsula. This axis would probably have also included following the road south-west from Karasjok to Route 93 (See Figure 22) and then turned north to the coast at Alta, with its population of more than 10,000 and an airfield of 7,392 feet that traces its origins to Luftwaffe military operations dating from 1943. As the axis travels north and approaches the coast, it becomes constricted to roads constructed along river lines (See Figures 23 and 24) through mountainous terrain in which the Norwegians had constructed fortifications.

Figure 17: The terrain in the high north provides for little "cover" from either aerial reconnaissance or attack.





BEACH NEAR LAKSELV

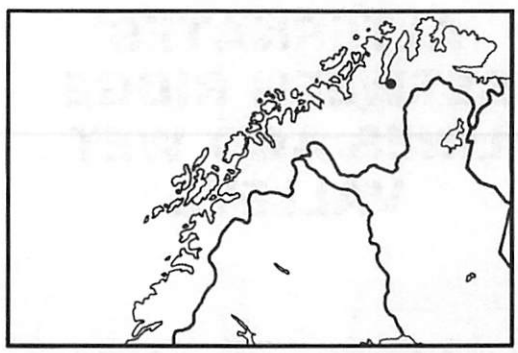
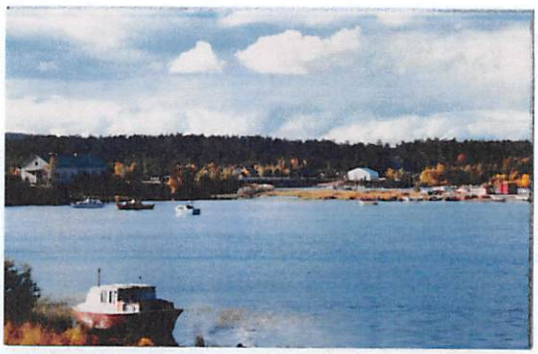


Figure 18: As can be seen from the top two photographs, the terrain near Lakselv provides ample opportunity for amphibious landing craft to allow forces to come ashore. Upper-right photograph is of a beach on Porsangen Fjord about 35 kilometers north of Lakselv; the coastal route can be seen in the center of the photo. The lower-right photograph shows how the mountainous terrain closes in on the coastal road about 12 kilometers south of Lakselv, and gives indication of the difficulty moving forces north in support of forces defending western-most Norway.

TO INARI TERRAIN ALTERNATES BETWEEN RIDGE LINES AND WET VALLEYS

Figure 19: Terrain between Soviet border and Lake Inari (upper right photo).



FROM INARI TERRAIN ALTERNATES BETWEEN RIDGE LINES AND WET VALLEYS

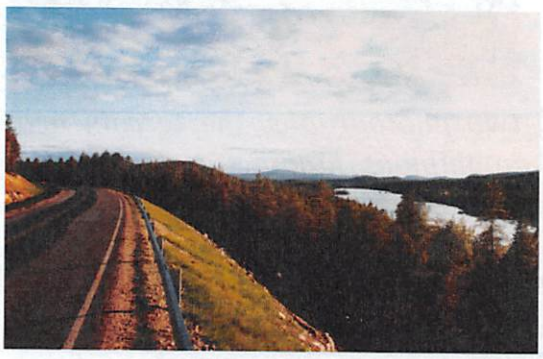


Figure 20: The terrain between Lake Inari (upper right photo) and the Norwegian border provides for little maneuver room off prepared roads, and the Finns exercised road demolition on a regular basis (See Figure 20A).

Figure 20A: The above photograph is from one of the Finnish exercise areas where the country trained its troops in the employment of demolitions.

KARASJOK

Figure 21: From Karasjok the axis would have split, with one axis moving directly north to Lakselv and a second by circuitous route to Alta.

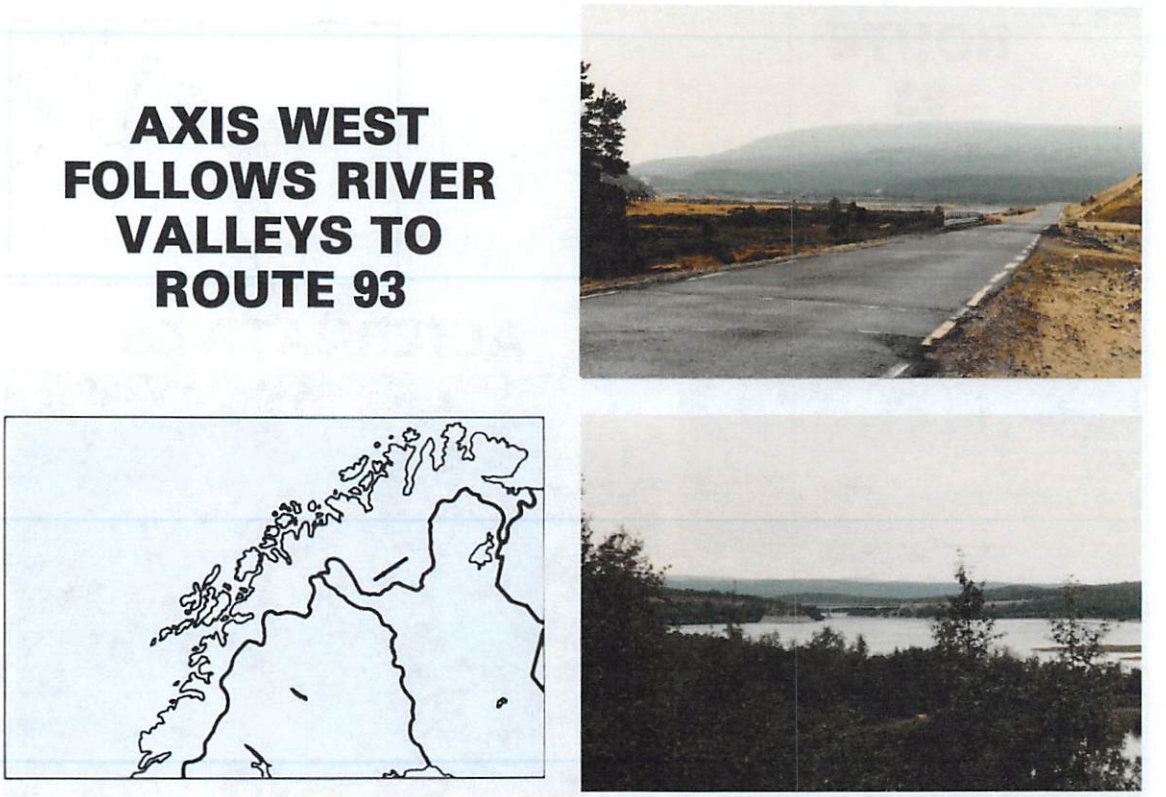


Figure 22: The route from Kajasjok to Alta initially runs through low terrain before turning north on Route 93.

The remaining two axes of advance against northern Norway would have had to pass through the heart of Finnish Defenses in Lapland. The northern tactical axis on the southern operational direction in the North Cape Strategic Direction (See Figure 9) would initially encounter low terrain with numerous water barriers and, probably, defensive lines at Sodankyla (See Figure 25) and Kittila (See Figures 26 and 27). Ultimately, transiting the mountainous terrain of western Finnish Lapland (See Figures 28, 29 and 30), this axis of advance would have been directed toward Tromso though the Skibotn valley (See Figures 31 and 32), which is very difficult terrain. There are routes around the Skibotn valley that appear easier initially, but these subsequently become substantially more difficult (See Figure 33 and 34).

The southern-most of the tactical axes of advance planned by the Soviet General Staff against Norway called for a tactical axis directed through Kiruna, Sweden, toward Narvik, Norway. Immediately crossing the border into Finland, the movement of Soviet forces would have been constrained by low terrain (See Figure 35). This axis would have faced major water barriers at Kemijarvi (See Figure 36) and Rovaniemi, Finland (See Figures 37 and 38),

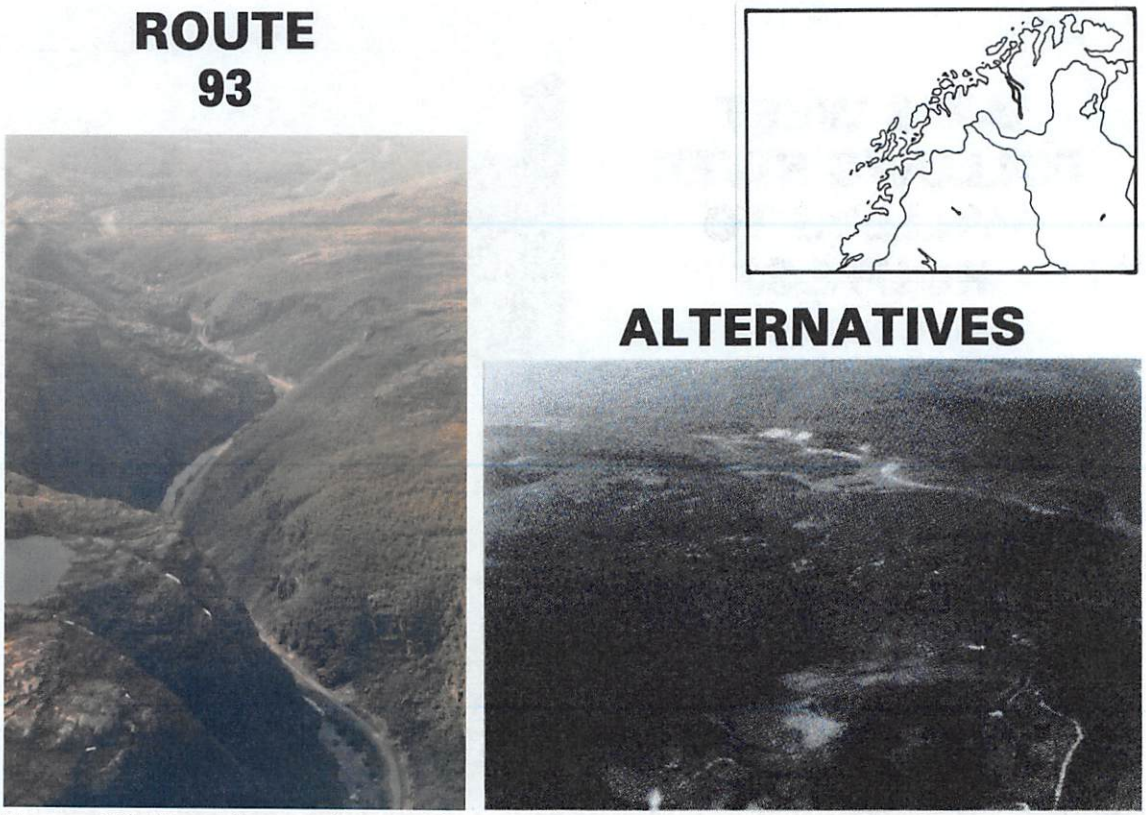
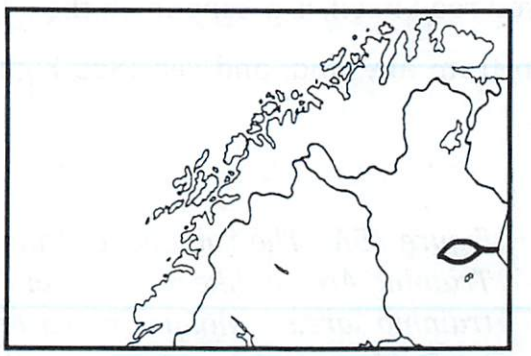


Figure 23: Terrain north-west from Karasjok as seen from the air.

Figure 24: Terrain as seen from the ground to the Alta Airport (lower right.)



TERRAIN TO SODANKYLA IS LOW WITH MANY WATER BARRIERS

Figure 25: Sodankylä, with its population of approximately nine thousand, is where the Jaeger Brigade of the Finnish Army is headquartered (See Figure 25A). Three kilometers (2 miles) south-east of Sodankylä a 1,100-meter (3,609 foot) gravel runway was constructed in 1971, but the runway wasn't paved until 1989.

and lakes also dominated the axis from Rovaniemi (one of main basis for the three Air Defense Wings of the Finnish Air Forces – See Figure 39) to Sweden (See Figure 40), crossing into Sweden at Pello (See Figure 41). As in much of Finnish Lapland, off-road travel in northern Sweden is often poor, and Swedish forces intended to make the most of the terrain (See Figure 42). The roads to Kiruna (Figure 43) cross numerous water barriers, and the Swedes have prepared their bridges and roads for demolition. Such demolition could not only slow a transiting enemy's rate of advance, but also expose its logistical tail to devastating disruptions because of the often swampy character of the off-road terrain. Although an all-weather road had been constructed between Kiruna and Narvik, the terrain on this axis would have remained difficult (See Figure 44). Once in the mountains, the road and rail line can be destroyed at any number of points (See Figure 45). Just coming down to sea level at the Norwegian coast is an inspiring process to be handled

with care during bad weather. The coastal road itself, is a "ribbon on the edge of a precipice" vulnerable to disruption from air, land, and sea (See Figure 46).

Figure 25A: The Sodankyla Brigade Training Area is, like most of Finnish training areas, along the eastern territories of the country so that units train on the territory they would be expected to defend.

APPROACH TO KITTILA (LOOKING EAST)

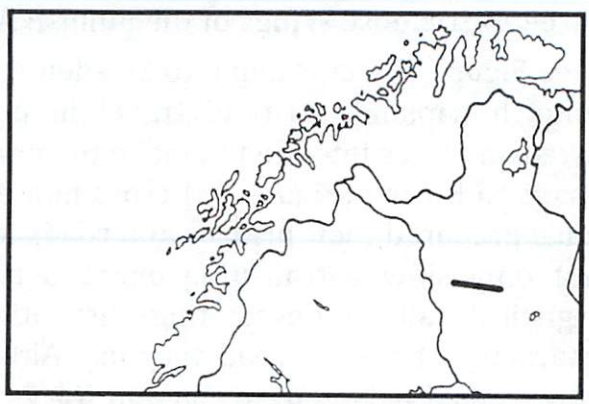
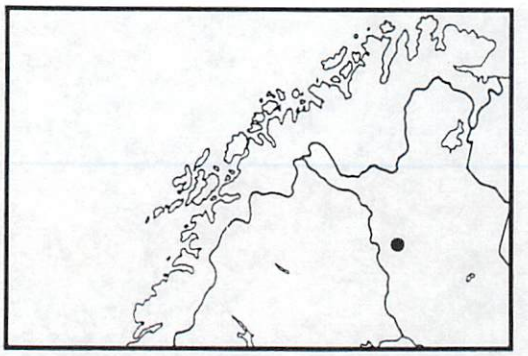
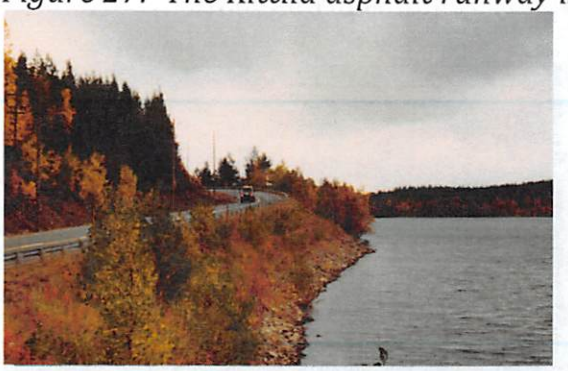


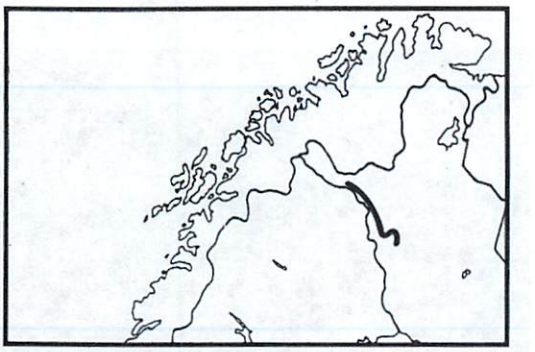
Figure 26: The Kittila municipality of Finland has a population of approximately 6,000 and covers an area of 8,262 square kilometers (3,190 square miles) of which 168 square kilometers (65 square miles) is water. With approximately 2 per cent of local surface area water, transiting forces would



KEY
RIVER LINE
AND AIRFIELD AT
KITTILA

Figure 27: The Kittila asphalt runway is 2,500 meters (8,202 feet) in length.





AXIS FROM KITTILA TO KARESUVANTO

Figure 28: Karesuvanto is a small village (less than 500 people) located on the Muonio River that follows Finland's western border with Sweden.

WEST OF KARESUVANTO TERRAIN BEGINS TO RISE

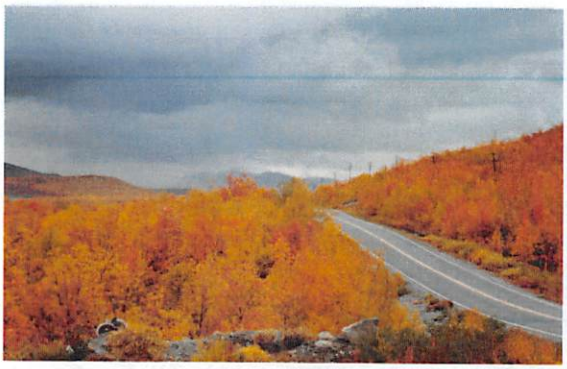


Figure 29: Note that the off-road trafficability remains problematical.

FINNISH APPROACH TO THE SKIBOTN VALLEY

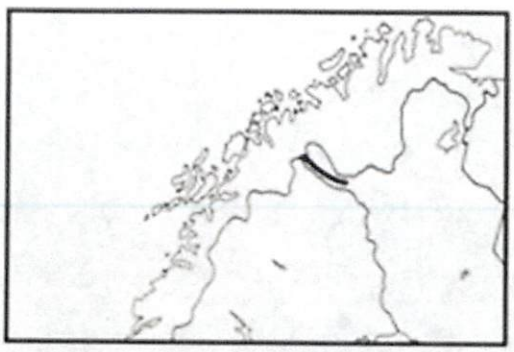


Figure 30: There is little room for maneuver even before entering the valley.

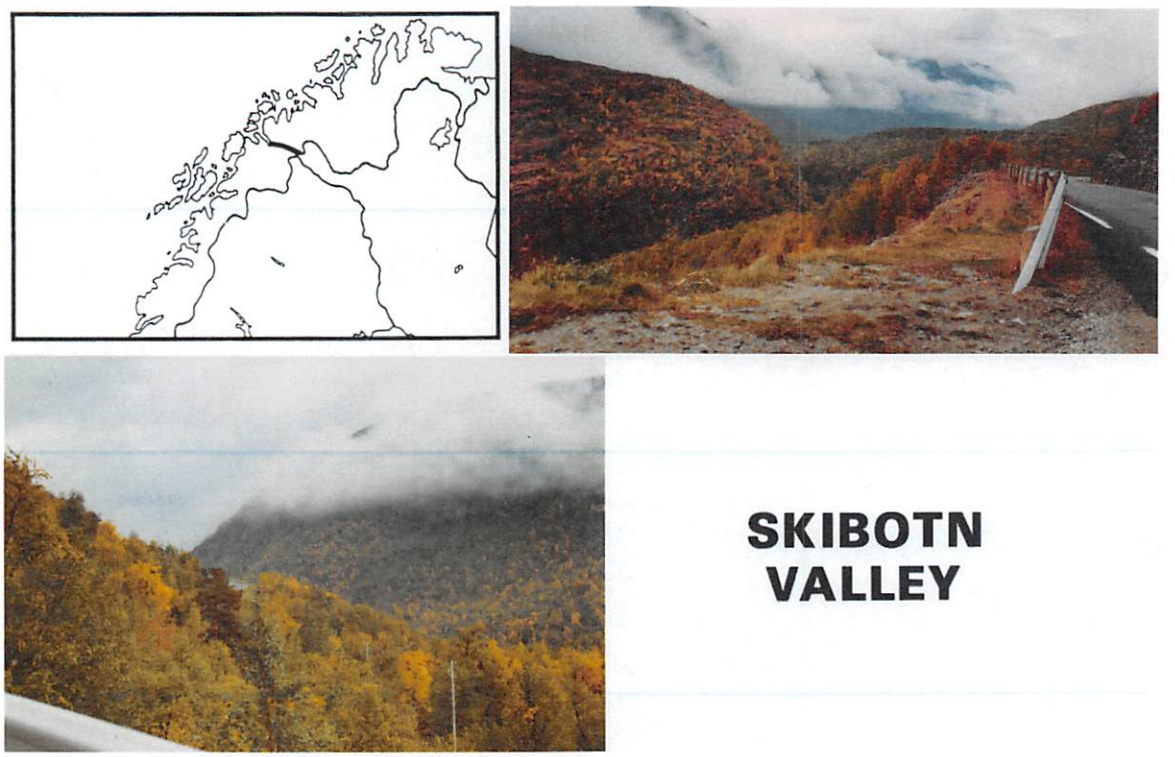


Figure 31: Skibotn Valley as seen from the ground.

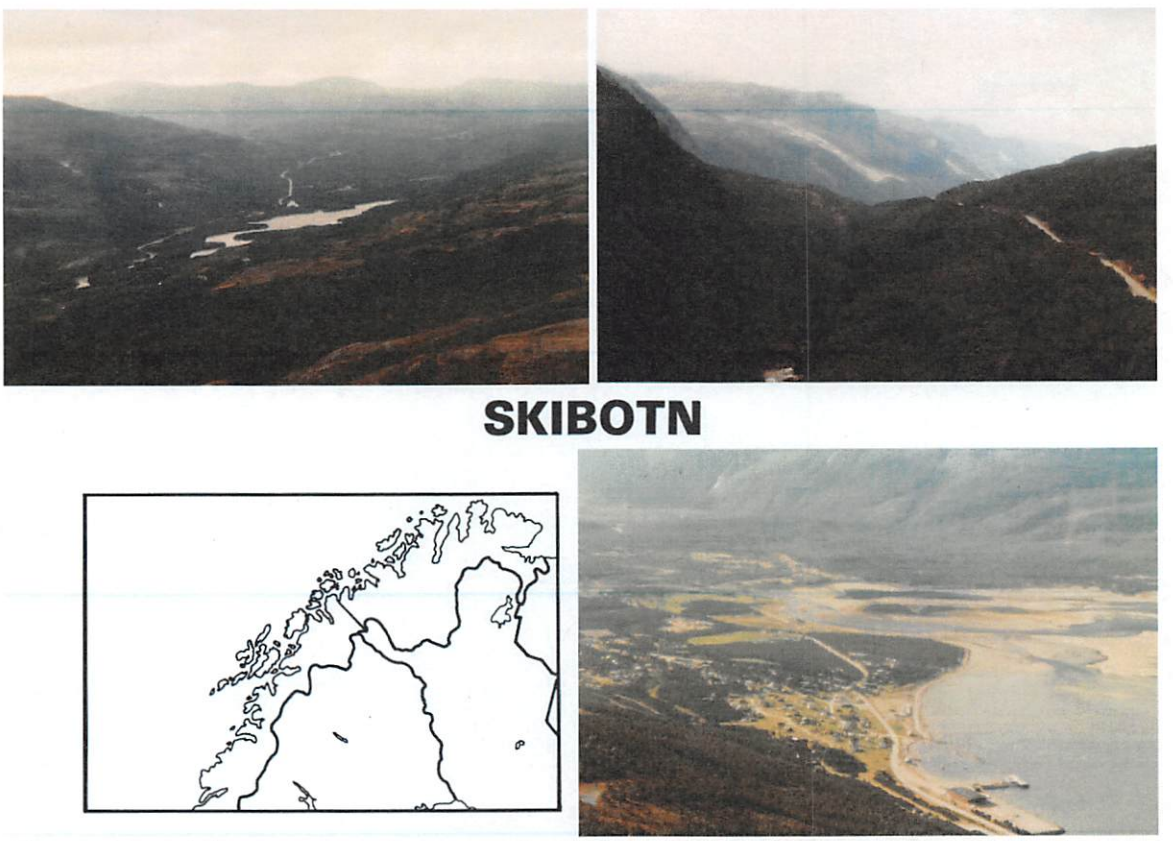


Figure 32: The top two photographs illustrate the terrain as seen from the air

prior *to dropping down to the coastal village of Skibotn with its population of not much more than 500 people. The village, however is located at the crossroads of E6 and E8 only 50 kilometers (31 miles) from Finland. The upper-left photograph is looking south-east toward Finland.*

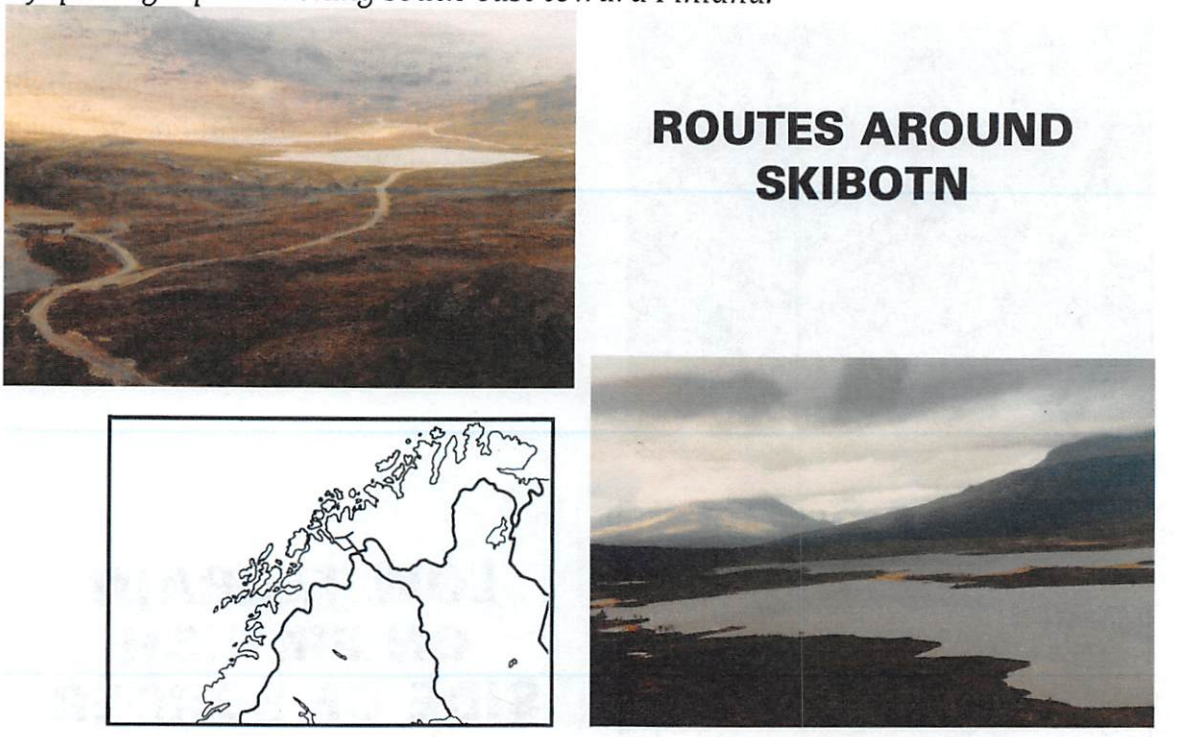


Figure 33: There are several "routes" around the Skibotn Valley that might appear attractive alternatives, but each simply presents new challenges.

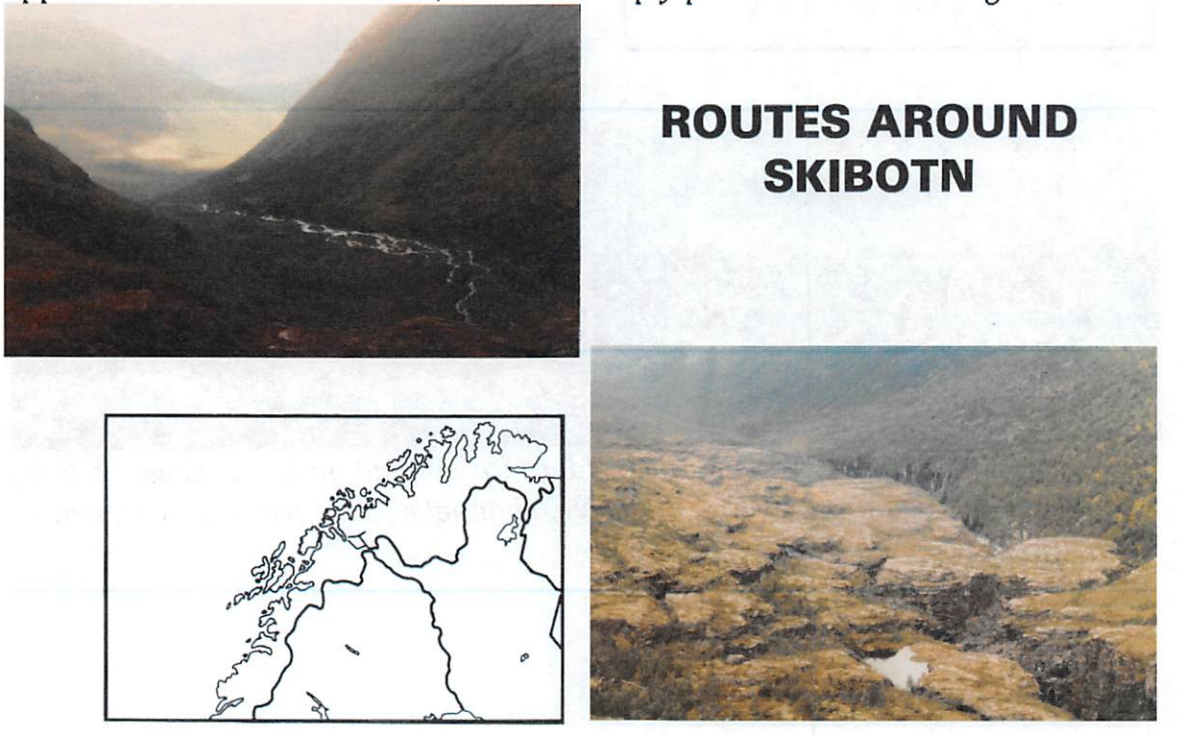
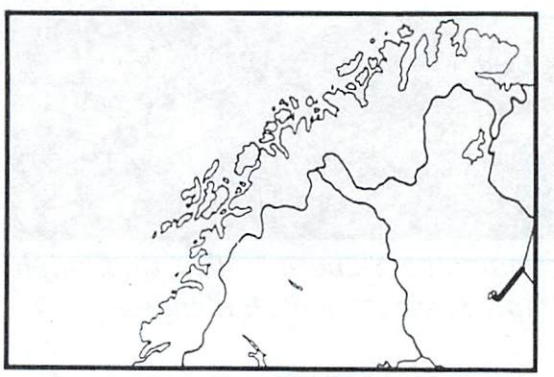


Figure 34: The "inviting" alternative routes around the Skibotn Valley are

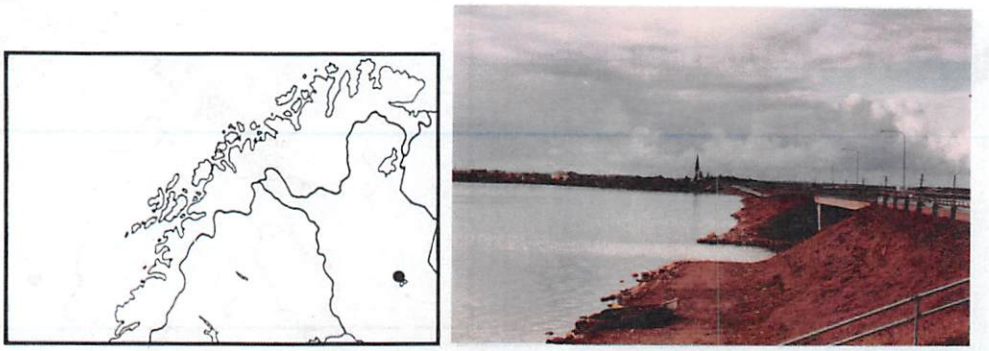
relative and were anticipated by Germans troops occupying Norway during the Second World War and its evidence can still be seen (See Figure 34A).

Figure 34A: German Wehrmacht positions can be found all over northern Norway and Finland from its war against the Soviet Union during the years 1941-1945.



LOW TERRAIN ON FINNISH SIDE OF BORDER

Figure 35: Soviet forces crossing the border into Finland on this axis would have been, from the beginning of the offensive, channeled into areas well-known to the Finnish Armed Forces.



MAJOR WATER BARRIER AT KEMIJARVI

Figure 36: The municipality of Kemijärvi has a population of approximately 8,000 and covers an area of almost 4,000 square kilometers (1,518 square miles) of which of which 425 square kilometers (164 square miles is water), Thus, with more than 38% of the municipality's surface area comprised of water, the entire area can be said to comprise a water barrier to transiting forces. The railway to Kemijärvi was extended north to Salla and what is now Russia during the Second World War. As a result, despite the fact that the line is described as currently moribund beyond Kemijärvi, the rail bed would have undoubtedly been used in the advance upon Kemijärvi town. The Kemijöki River flows south from Lake Kemijärvi to Rovaniemi and further to the Bothnian Bay, the northernmost part of the Gulf of Bothnia, at Kimi, Finland. With its numerous hydropower plants and off-river impoundments, the Kemijöki River also posed a significant resource by which to inundate low-lying terrain as a defensive strategy. Only about 70 kilometers of the river's 220 kilometers in length was unmodified and could be said to have resembled the natural Kemijöki River during the last decade of the Cold War. While the first hydro-electric power plant was constructed on the Kemijöki River in 1949, by 2004 there were eight and by 2014 the number had been doubled to fifteen power plants. The Kemijöki River is one of the most heavily modified water bodies in Europe.

MAJOR WATER BARRIER AT ROVANIEMI

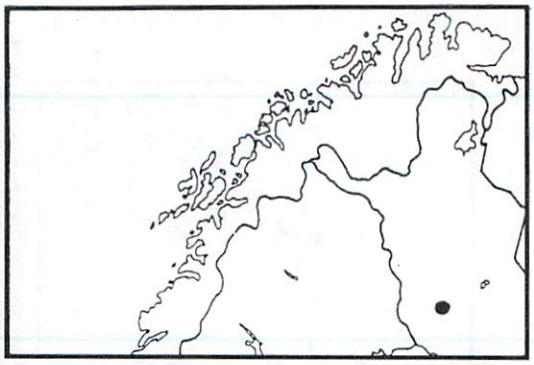


Figure 37: A second major water barrier would have had to be overcome at Rovaniemi, the administrative capital and commercial center of Finland's northernmost province, Lapland. The town lies at the confluence of the Kemijöki River and its tributary, the Ounasjöki. The city and its surrounding rural municipality have a population of approximately 60,000 and a major airport is located about ten kilometers (6 miles) north of the city center. The Arctic Circle crosses the runway of the airport that was constructed in 1940 and, during the Continuation War, served as an airbase and supply center for the German Luftwaffe. The airport's all-weather runway is 3,002 meters (9,849 feet) long.

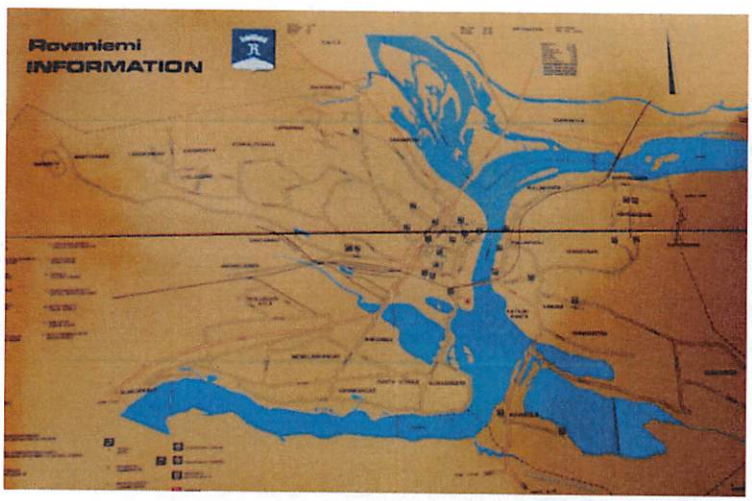


Figure 38: The map to the left, taken from a roadside tourist sign, gives a good indication of the significant role that water barriers could play in the defense of Rovaniemi, Finland.

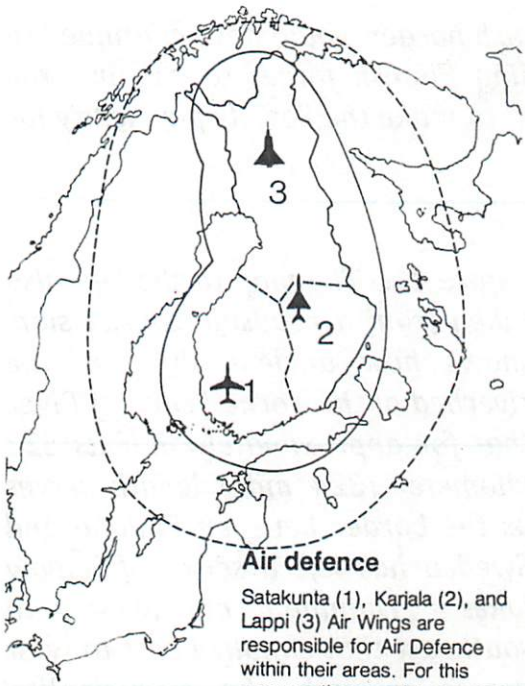


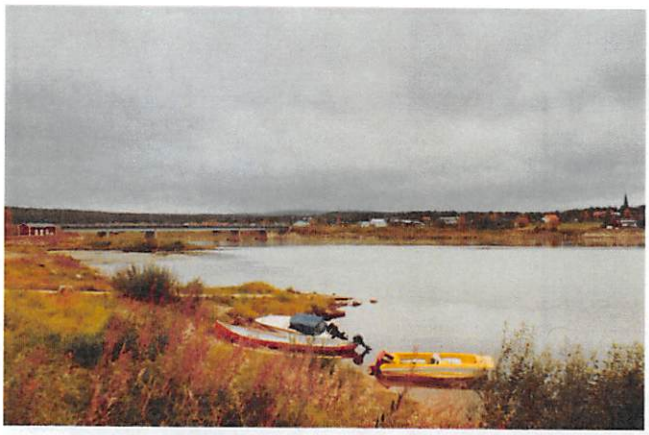
Figure 39: The end of the Continuation War of 1941-1944 brought limitations to the Finnish Air Force, largely because of how well the Finns had done against Soviet aircraft (201 losses vs. 1,621 by the Soviets). One of the limitations was that Finland could have no more than 60 combat aircraft. Swedish-Finnish collaboration during the Cold War circumvented this limitation by storing surplus Saab 35 ***Drakens*** *in Sweden so they could be transferred to Finland in the event of yet another Soviet attack on Finland. Sweden was also willing to provide additional pilots on a voluntary basis.*

LAKES DOMINATE AXIS FROM ROVANIEMI TO SWEDEN

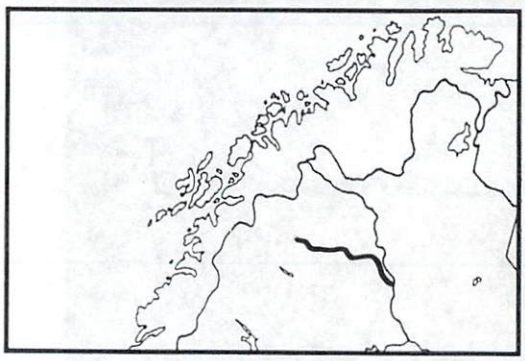
Figure 40: Even if Soviet forces had been able to breech the water barrier and

defenses at Rovaniemi, the route to the Swedish border would have continued to provide ample opportunity for the defending Finnish forces to canalize the attacking troops into preplanned "kill zones" to make the Soviets pay dearly for each kilometer.

Figure 41: The map to the left, also taken from a roadside tourist sign, shows how ancient shifts in the riverbed of the Torne (Tornio) River that for approximately half its 522 kilometer (324 mile) length serves as the border between Finland and Sweden has left a series of "elbow lakes" running northwest to southeast that canalize east to west access through the municipality.



AXIS CROSSES TORNE RIVER AND FOLLOWS RIVER LINES TO KIRUNA



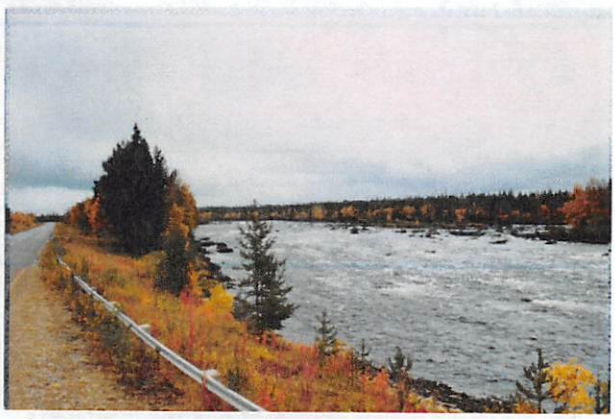


Figure 42: *Crossing the Torne River that denotes the border between Sweden*

and Finland would have would have been a major undertaking while under attack, most likely not only by Swedish forces. Civil and military leaders of Norway, Sweden, and Finland in the north met throughout the 1980s on a monthly basis to coordinate the governance and security policies to ensure harmony and cooperation in times of peace and war. The Swedish Armed Forces carefully analyzed their terrain (See Figure 42A) to exploit its inaccessibility (see Figure 42B) and prepared to turn every river line into a water barrier (see for example, Figures 42C, 42D, and 42E). Each and every time the potential enemy halted at a river line, not only would the forces in contact be brought under attack while prior to taking up their defensive positions, but the entire logistical tail of the operation would have been isolated and attacked as well. "Trapping" ground forces "strung out" long the causeway-like roads with few places to get off and under cover was intended to sew panic in the unprofessional conscript Soviet Army much in the same way the Finns did when the Soviet Union attacked Finland during the Winter War of 1939-1940. The strategy was essentially one of giving ground at the price of causing some casualties and then taking it back while causing massive casualties. The Norwegians, Finns, and Swedes understood well their environment and planned to exploit it to break the morale of terrified young Soviet recruits who came from industrial cities and collective farms without the individual "hunter" mentality comprising the Jäger military units formed by societies of experienced foresters.

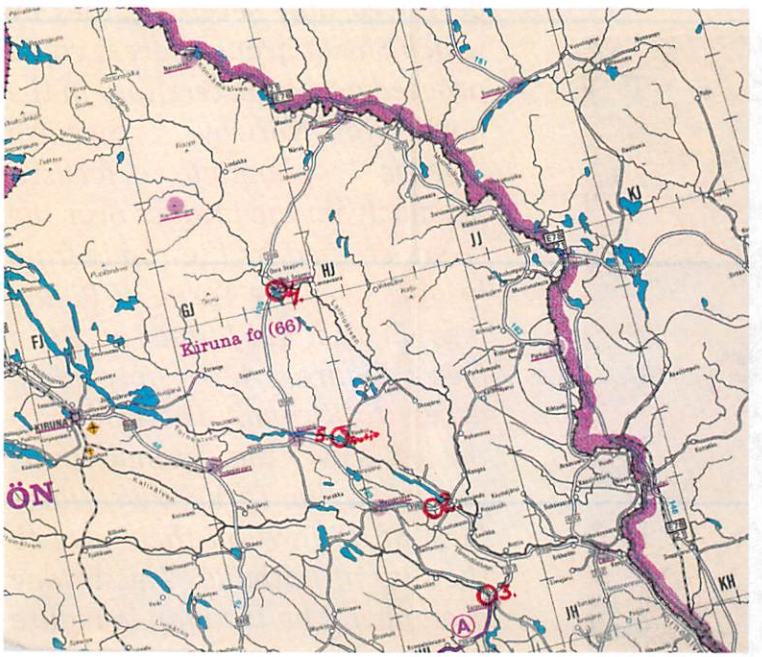


Figure 42A: The Swedish Armed Forces were prepared on each tactical axis to turn segments of the country's laboriously constructed road and rail infrastructure into "killing zones" with little or no room for ground forces to maneuver to avoid aerial attack and destruction by small Jäger units capable of transiting the difficult off-road terrain.

Figure 42B: During the Cold War the Swedish Armed Forces trained their forces to defend every meter of Swedish territory to great effect.

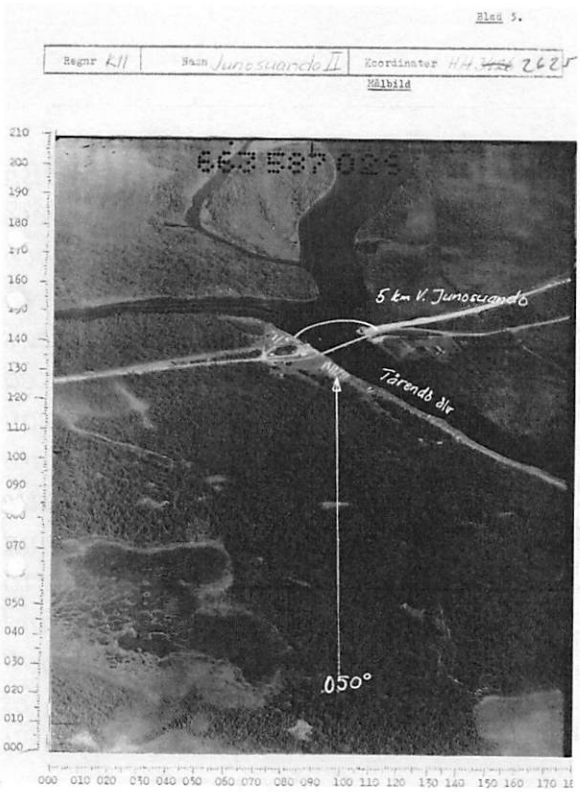


Figure 42C: The Swedes perceived only several routes by which Soviet ground forces could proceed across its territory in the north to Norway. Swedish defense planning focused primarily on the bridges over the rivers crossed by the roads from bridges over the Torne at Pajala (see Figure 42F) and at Pella (see Figure 42G) providing access to Kiruna. The bridge to the left is over the Tärendö River, to which the Torne River loses 56% of its flow on their way to the Gulf of Bothnia. This bridge is number 2 on the map in Figure 42A.

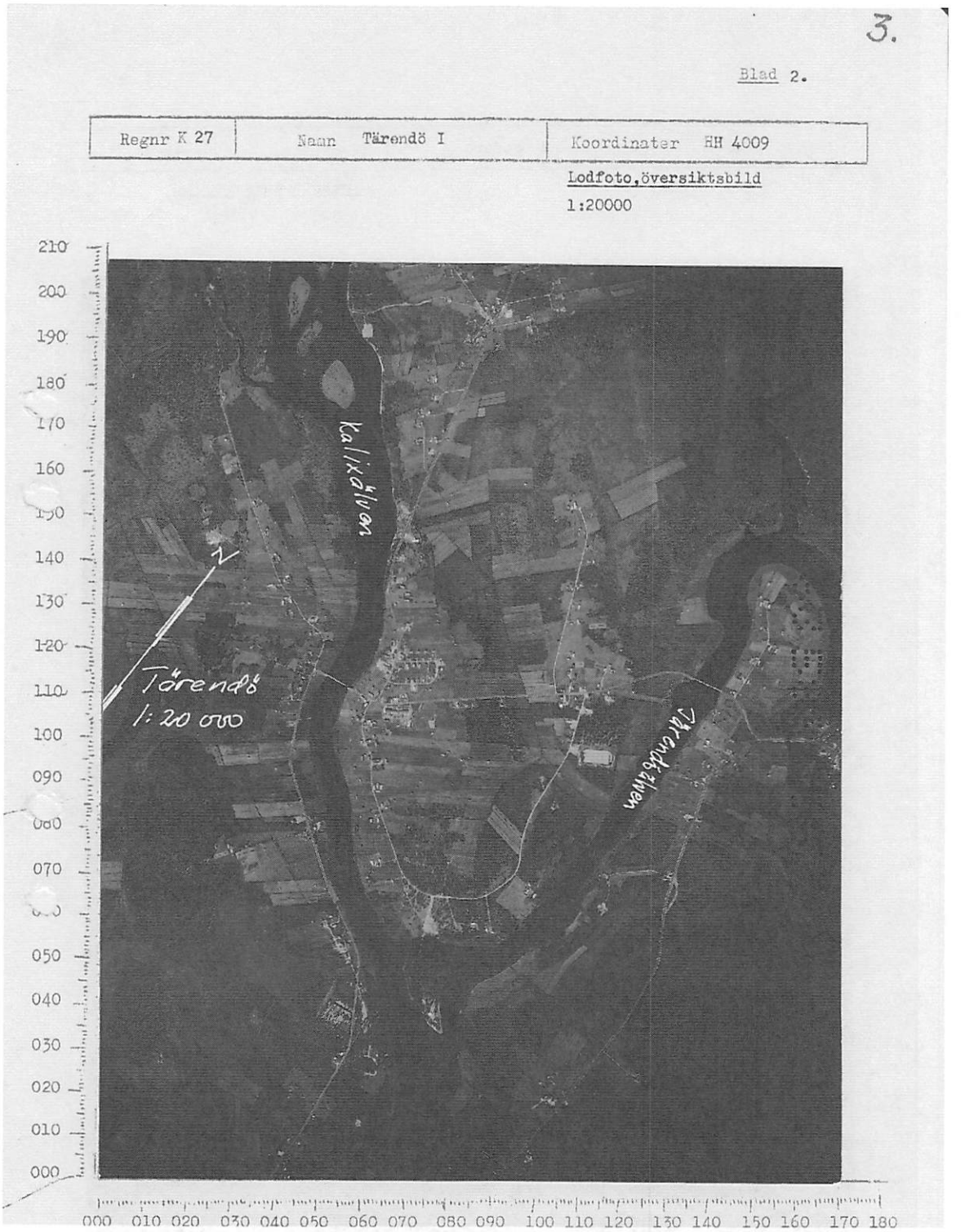


Figure 42D: The bridges above are over the Kalixälvan and Tärendö Rivers at Tärendö (number 3 on the map in Figure 42A), and played an important role in the Swedish Armed Forces plans for defense of the 1,714 meter (5,610 foot) runway at Gällivare Airport near the towns of Gällivare (8,000 population) and Malmberget (5,500 population).

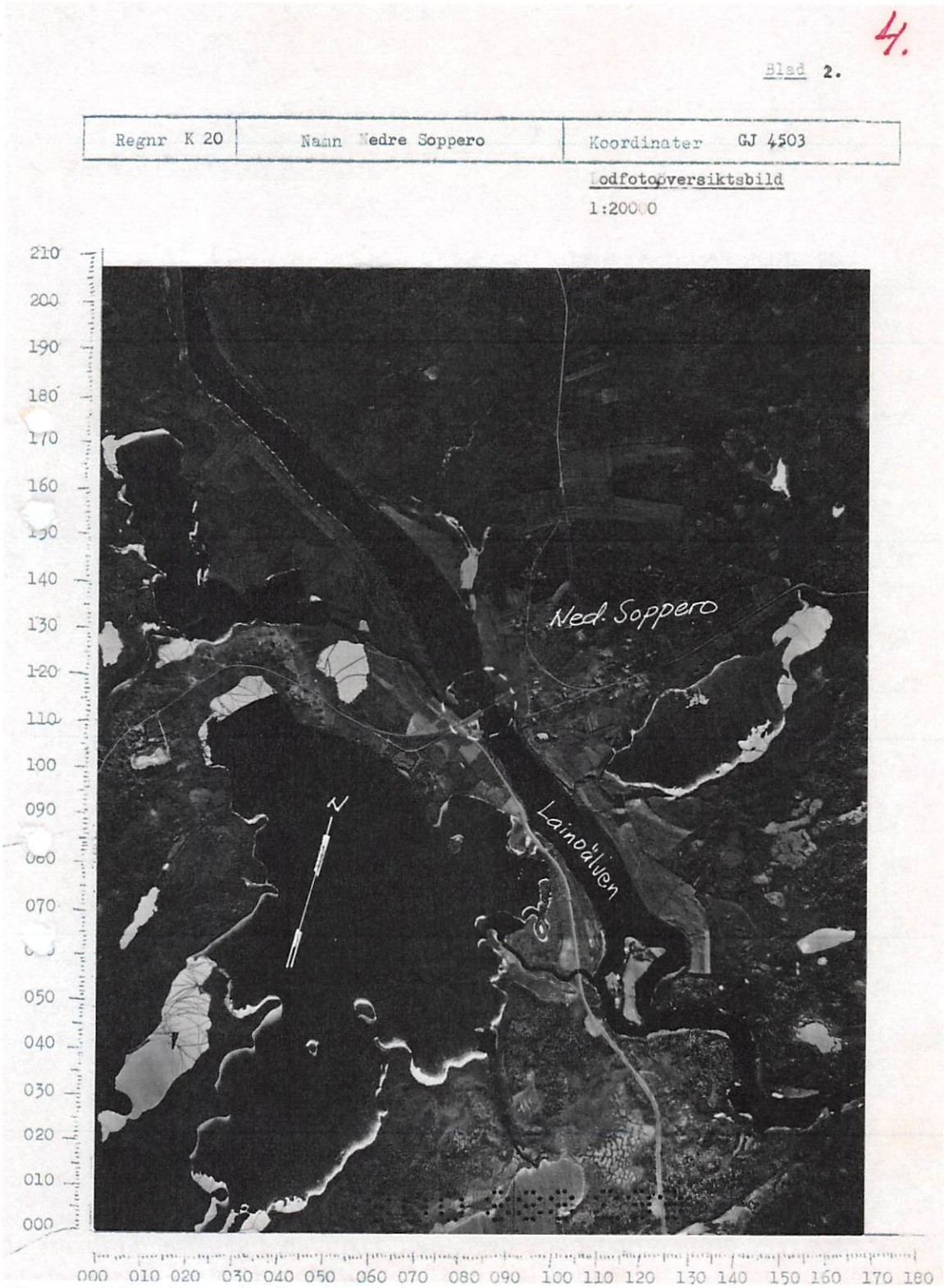


Figure 42E: Concern that Soviet progress along the axis of advance through Finland towards Skibotn, Norway, would leave them vulnerable to being out flanked from the north via Route 45, the Swedes made preparations to destroy bridges such as this one at Nedre Soppero (number 4 on the map in Figure 42A).

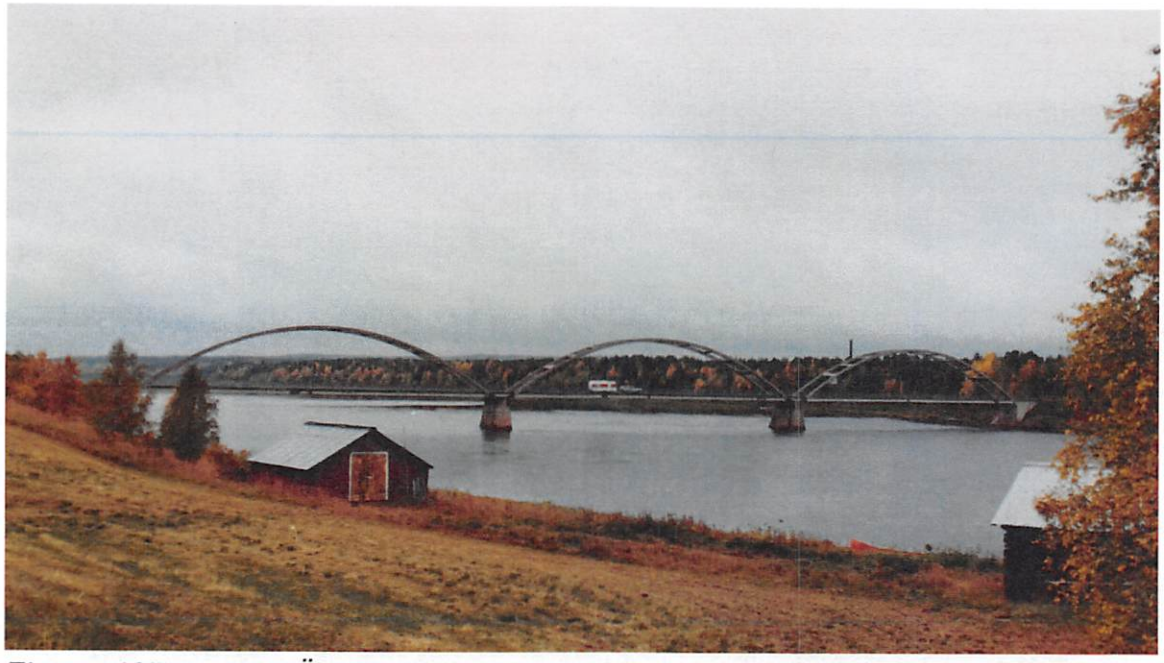


Figure 42F: Torne Älv crossing at Pajala, Sweden. Pajala Municipality covers 8,050 square kilometers (3,108 square miles) of which 210 square kilometers (81 square miles), or more than 2.6 percent, is comprised of water. The population of the municipality is only about 6,000 persons. The airport 15 kilometers (8 miles) west of Pajala village was constructed after the collapse of the Soviet Union in 1999, and its runway extended to 2,302 meters (7,552 feet) in 2007.

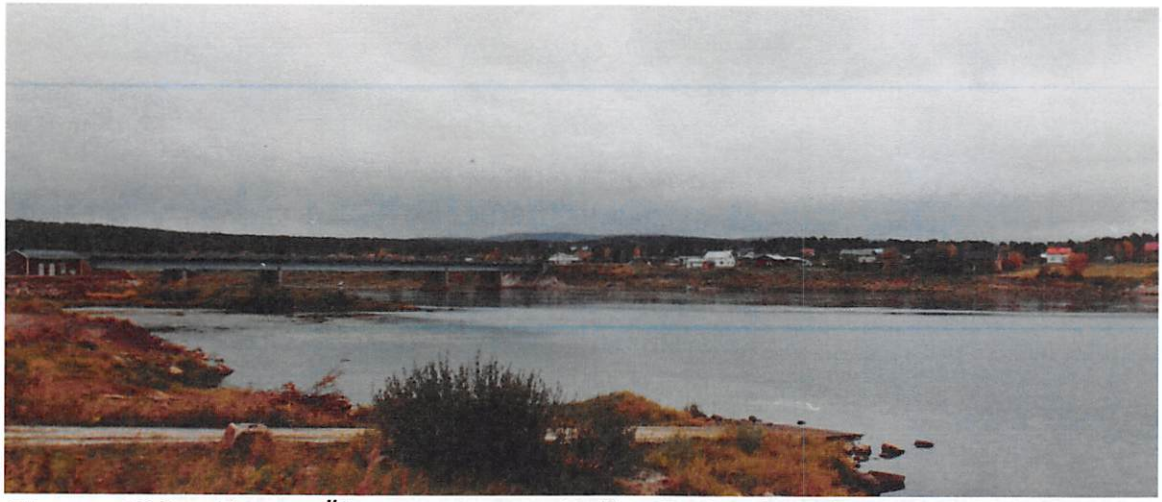


Figure 42G: Torne Älv crossing at Pello, Finland. The municipality has a population of nearly 4,000 and covers an area of 1,863 square kilometers (720 square miles), which 126 square miles (49 square miles) or nearly 7 percent is water.

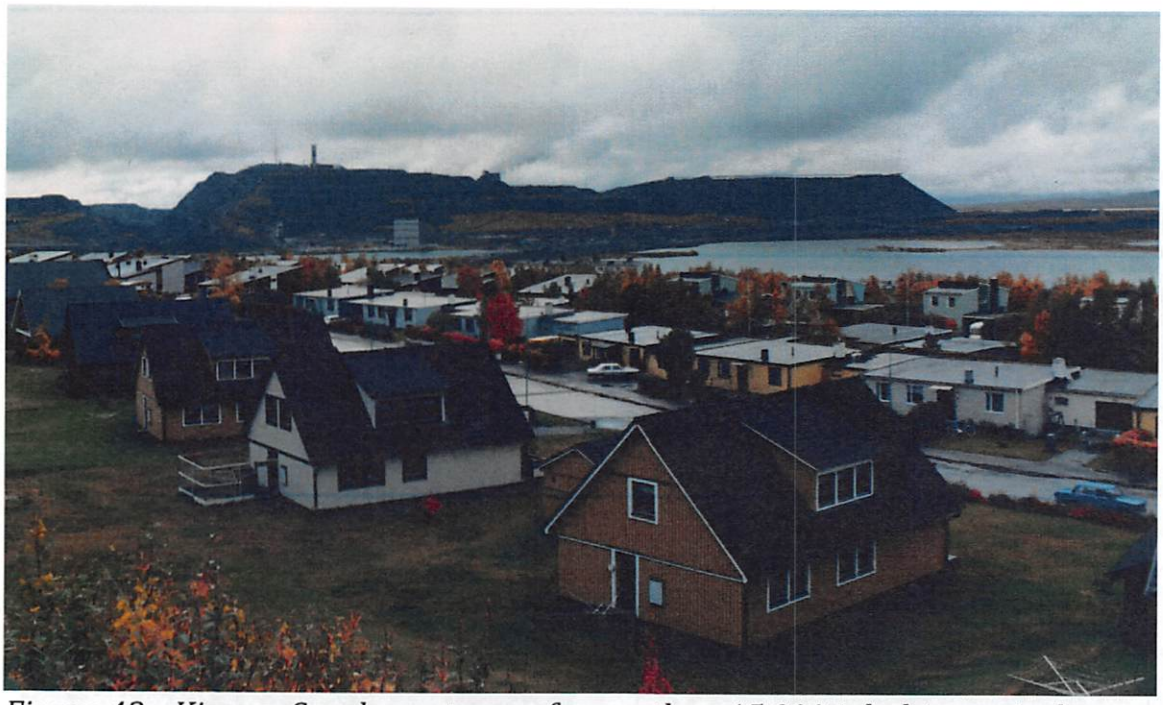


Figure 43: Kiruna, Sweden, a town of more than 15,000 inhabitants is the seat of Kiruna Municipality with a population of some 20,000. Iron ore extraction is the key industry of the area. The Kiruna Airport lies about ten kilometers from the town center and has a paved runway of 2,502 meters (8,208 feet) in length.

FROM KIRUNA AXIS MOVES ACROSS LOW TERRAIN

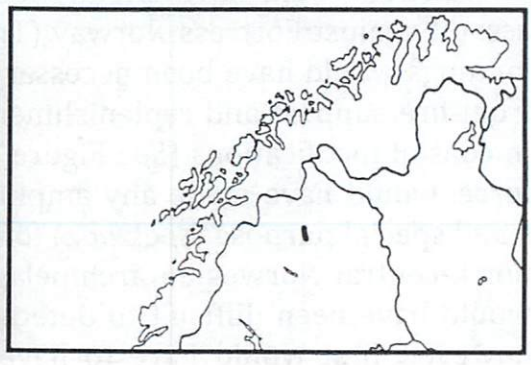


Figure 44: If Soviet Ground Forces were able to seize Kiruna, Sweden, they would still find the axis of advance toward Narvik, Norway, with limited room for maneuver off the newly constructed all-weather highway.

ROAD & RAIL ROUTE FROM KIRUNA TO NARVIK

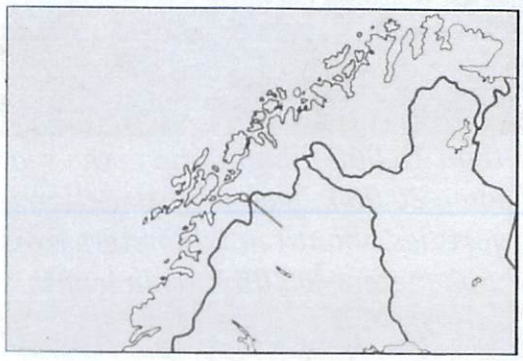


Figure 45: The road and rail line between Kiruna, Sweden toward the Norwegian coast is replete with places where the axis could be brought to a complete halt by destroying the road and rail bed squeezed between mountain and water.

Degraded reliability of combat vehicles, crew exhaustion, and shortage of logistics would have already left Soviet forces ill prepared for a frontal assault against Fortress Norway (Troms). Clearly, Soviet amphibious assault landings would have been necessary to cut off prepared Norwegian defenses from fire support and replenishment. The Norwegians had invested heavily in coastal fortifications (See Figure 47) that, together with their navy and air force, would have made any amphibious assault landing difficult at best. A small special purpose (*spetznaz*) force might have been delivered through the north-central Norwegian archipelago to the mainland by submarine, which would have been difficult to detect in coastal waters. Any large-scale force, however, first would have to have avoided detection by the air force and navy, and then would have had to fight its way past one or more coastal forts. Once engaged and fixed by the fort's long-range weapons, the amphibious assault force would have been attacked by Norwegian air and naval forces.

Even if Norwegian airfields had been suppressed, Norwegian navy fast patrol boats hiding in the archipelago would have been difficult for the Soviet attackers to detect and engage with missiles before being brought under attack by the Norwegian boats' on-board guns and missiles.

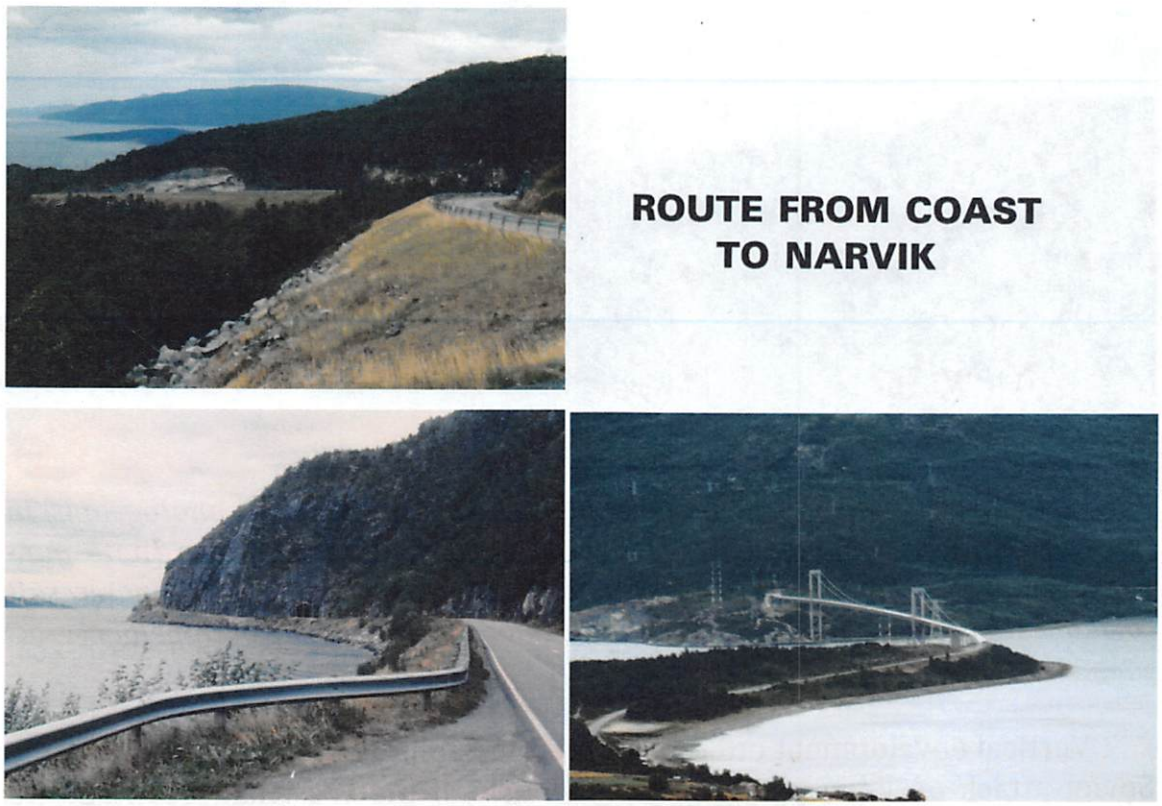


Figure 46: The road down to the Norwegian coast could easily by brought down as well, along with any Soviet armored columns that might have been on the road at the time. Even being able to get to the coast wouldn't have meant that Soviet ground forces would have had an easy time of moving along the coastal highway to Narvik and its all-year ice free port. Because of the extreme terrain in the area, there were are no railways northwards from Narvik or south to Bodo, Norway, which is at the northern end of the rest of Norway's rail network. The coastal route, European route E6, crosses through the municipality using three bridges: Skjomen Bridge, Beisfjord Bridge, and Rombak Bridge (lower right). Apart from the short runway located just outside the city center, Harstad/Narvik Airport is located 80 kilometers (50 miles) to the west in Evenes. The airport in Evenes has a 2,808-meter (9,213 foot) runway with parallel taxiway where the infrastructure is shared with the Evenes Air Station of the Royal Norwegian Air Force.

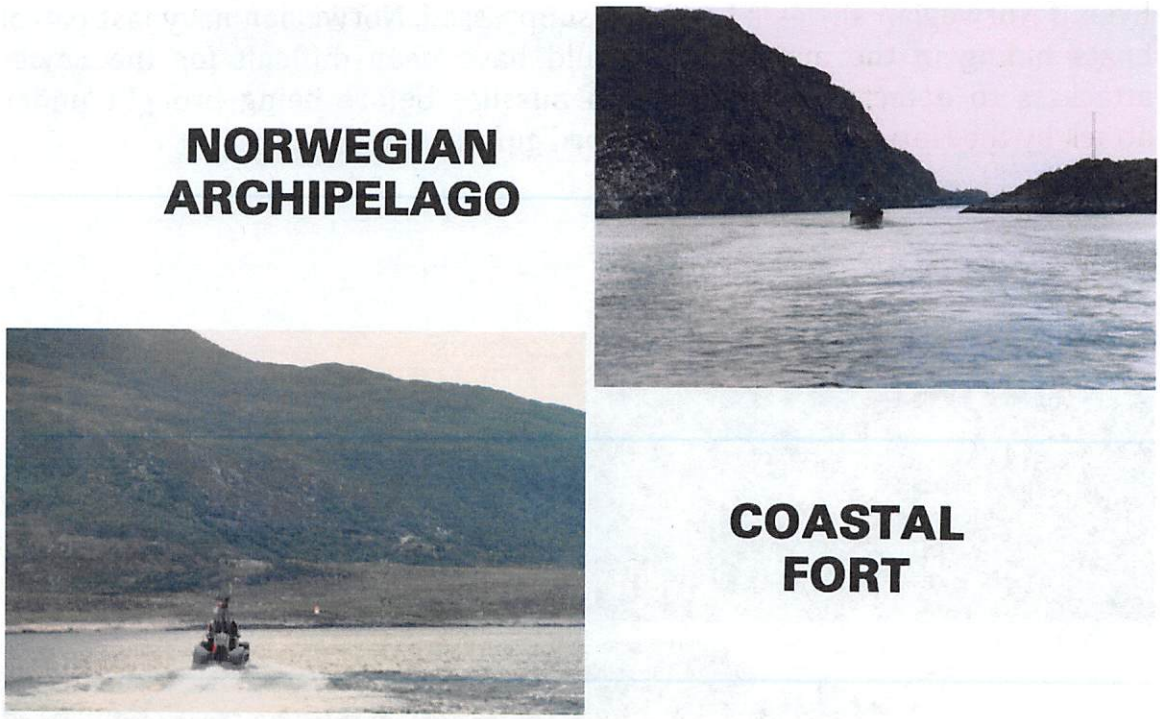


Figure 47: Nearly all, if not all "choke points" (note upper right photograph) in the Norwegian Archipelago were covered by direct-fire weapons (note gun-ports in lower left photograph). Also, note how easily the military watercraft "blend" into the background of the mountainous terrain of the archipelago.

Vertical envelopment offered another possibility for adding weight to the Soviet attack on Fortress Norway. Obviously, if the West had been able to maintain even local air superiority, the Soviets would have had great difficulty with the insertion of a ground force large enough to make any substantial contribution to the ground offensive. If the West had failed to attain air superiority, however, deficiencies in Nordic ground-based air defenses could have allowed the Soviets to use air mobile operations to out maneuver the defenders. Widespread deployment of man-portable air defense weapons in Finland, Sweden, and Norway might have, however, to a large extent resolved this contemporary vulnerability. The same would have been true for the Soviet forces, except that it would have been the Soviet forces that needed to move, and much of Finnmark consists of wide-open conditions in which cover is sparse. Concealment of static forces is possible, but moving formations are easily spotted. Any Soviet attempt to seize northern Norway thus depended on a non-hostile air environment.

As noted earlier, provisions of the Paris Peace Treaty of 1947 restricted the Finnish Air Force to only sixty combat aircraft. Because only about one-

third of this force (the Lappi Air Wing) was allocated to protect the northern part of the country, the Soviets might have perceived that they would not be taking that great a risk by not striking Finnish airfields with the initiation of hostilities. If the Soviets concluded that they must suppress Finnish air activity in the north, such a requirement might have been limited to the operational zone of the Lappi Air Wing. Aircraft in the Finnish northern air defense area were sheltered and widened parts of highways had been prepared for use as backup runways.

Sweden had a well-trained and modern air force of some five hundred combat aircraft. It is probable, therefore, that the Soviets would have gone to great lengths to avoid drawing Sweden into any war, at least early in the conflict. There was a penalty, however, for not attacking the Swedish air force preemptively. Once alerted in a crisis, Swedish aircraft could have been dispersed to numerous wartime bases and present the Soviets with a formidable targeting problem. Many of these bases had been integrated into the highway system to enhance aircraft dispersal and to provide a larger number of runways that would have had to be neutralized in order to shut down operations at any single base. At some of the bases the Swedes even constructed underground aircraft shelters.

NATO reinforcement would also have been a pressing question for Soviet planners seeking to neutralize the air threat to their forces operating in the far north. The Soviets noted that Norway had a far greater airfield capacity than required by the Norwegian air force, enabling large numbers of aircraft to be relocated to the region in the event of crisis. The appear to have been convinced that, as a minimum, Soviet forces must be prepared to neutralize the airfields at Banak, Bardufoss, and Boda. This task had been made significantly more difficult by the underground shelters (See Figures 48 and 49) and aircraft bunkers (See Figure 50) constructed at Norwegian airfields. As a result, mining of the airfields (which the Soviets developed the capacity to accomplish) would appear to been the most effective near-term Soviet solution to the requirement to suppress aviation activities at Norwegian bases.

All concerned at the time seemed to be persuaded that the Northwestern TSMA was not where general war between the two main military blocs (NATO and the Warsaw Pact) would be decided. Each side might have hoped, nonetheless, that its actions might cause the opposing coalition to divert sufficient resources to the Northwestern TSMA to greatly decrease its chances for victory in central Europe. If NATO could be persuaded that its scarce reserves must be deployed in north-central Norway, they would not be

available for the battle for Denmark. Thus, Soviet planners had to calculate that a favorable change in the correlation of forces in the Western TSMA might be precipitated by their initiating action in the Northwestern TSMA. On the other hand, the more Soviet resources that were drawn away from central Europe, the greater the chance that the Soviets might be denied a quick victory at the conventional level.

Figure 48: Note from the photograph at the left how the Norwegians managed to "mask" the entrances to the aircraft shelters and maintenance areas constructed into the mountains. Taxiways went behind "cover" before entering into the mountain so that the tunnel entrances themselves would be difficult to target.

Figure 49: The entrance to this under-mountain shelter area begins with the tunnel parallel to the external "cover" then turns left into the depth of the mountain so as to insure that a direct strike at the entrance does not impact negatively upon interior operations.

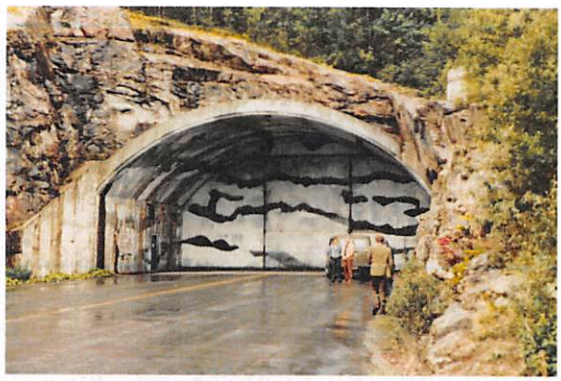


Figure 50: Not only did the Norwegians build aircraft shelters into the mountains, but they also constructed shelters for alert aircraft to both insure protection for the aircraft and their availability at a moments notice.

The Swedes required special consideration by Soviet planners. If Sweden's stated policy of neutrality becoming one of armed opposition, it could significantly alter the correlation of forces in the Northwestern TSMA as well as in the Baltic Straits strategic region of the Western TSMA. Thus, Soviet action against northern Norway across Sweden could have had a severely negative effect on operations in the Western TSMA. In this regard, the Swedish Air Force, in general, posed a pricklishly difficult decision for the Soviet General Staff

Southern Norway, Sweden, and Finland Strategic Region

The most important administrative-political and industrial-economic centers in the Northwestern TSMA are in the southern region of the Northwestern TSMA. Yet none of the three capitals were of particular importance in Soviet General Staff operational planning. The Soviets had already fought the Finns three times (Civil War, Winter War, and Continuation War) and never captured Helsinki. This fact did not leave the Finns over-confident, and they planned to evacuate the entire population of Helsinki into the forests of central Finland if necessary to meet their three security objectives: preserve their independence, maintain their institutions, and save their people. Those in the United States who talked about *Finlandization* as somehow a form of pre-emptive surrender simply didn't understand the determination of the peoples of Finland to persevere in the face of the limitations imposed upon their military. Through a mixture of political accommodation and what has been called "cold will," Finland transformed itself into a "hedgehog" (porcupine). Drawing upon Finland's military experiences fighting on its own territory against overwhelming Soviet numbers, Finland organized and trained its forces to exploit its lake-dominated terrain and its inhospitable weather (See Figure 51) to preserve the perception by Moscow of a low return on investment as concerned occupying Finland. The "staying-power" of Finnish resistance depended upon the support of its neighbors to the West, so Helsinki understood the necessity of defending all its territory in any attack upon Norway.

Norway, itself, could be thought of as two distinct military regions: 1) a "front-line state" in the north, and 2) a relatively secure "rear area" in the south (See Figure 52). NATO Member Norway was, in the south, largely "shielded" by first Finland, and then Sweden. The three states, in effect, posed a complex planning problem for the Soviet General Staff. Sweden could, and in fact planned to serve as a logistical rear for the

WINTER WARFARE IN FINLAND

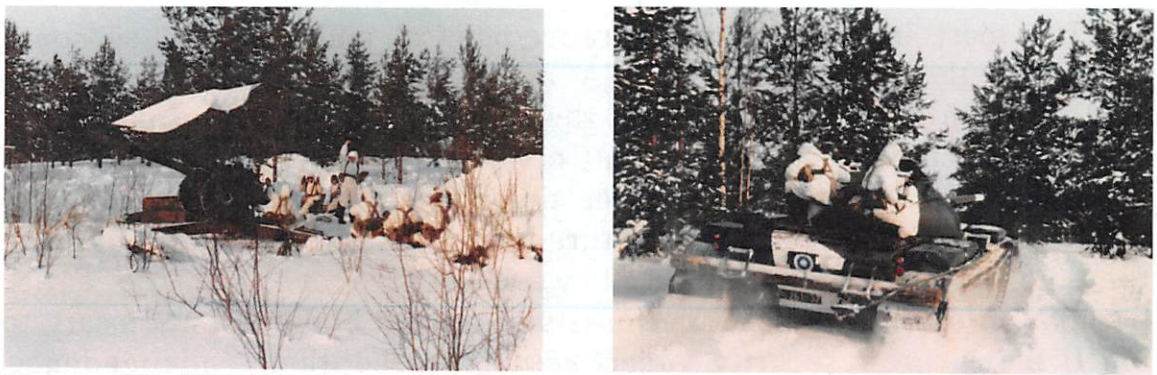


Figure 51: The Finnish Army trains its troops to conduct small-unit strike-and-move operations in all seasons. In less than three minutes from its arrival, the artillery piece in the lower left corner was set up, conducted its fire mission, and was departing the site so as to avoid counter-battery fire.

Finns. In turn, Norway served as a logistical rear for the Swedes. Just as Sweden took special efforts to insure that the Finnish Air Forces had "staying power," the Norwegians played a similar role for the Swedes by offering airfields at which Swedish combat aircraft could recover for fuel and rearming. In effect, the air forces of the three states operated as a single force.

Airfields in southern Norway and southern Sweden could also have made a considerable contribution to the defense of Denmark. As a result, Soviet combat actions against this strategic region would probably have been tied to the scenario in the Western TSMA. Soviet combat actions against the region could also have been directed north to south, down the Scandinavian Peninsula. The Soviets might also have struck against southern Norway by means of a joint amphibious and airborne assault landing operation initially directed against southern Sweden. Apparently, Soviet World War II General

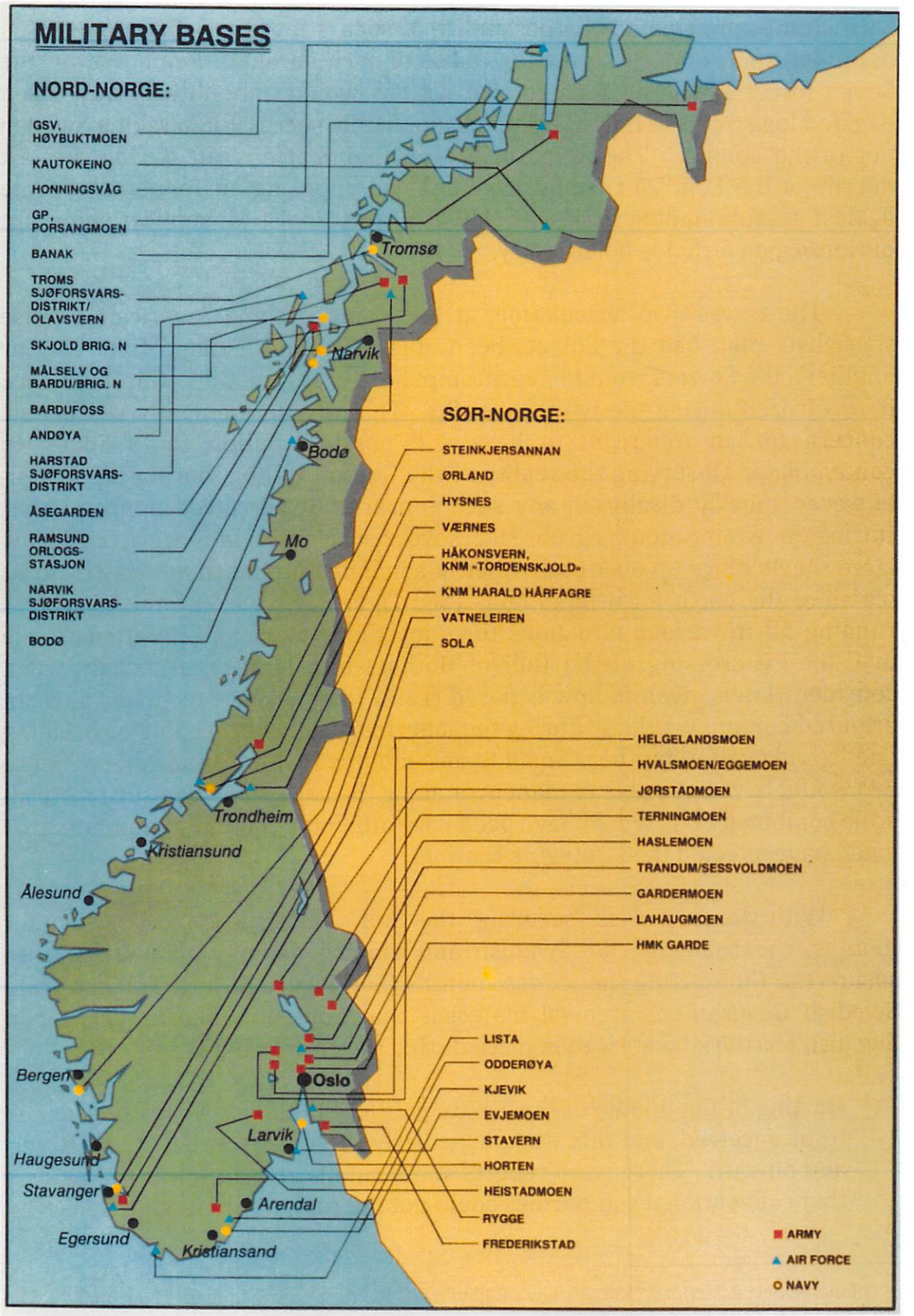


Figure 52: Cold War military infrastructure of Norway.

Staff studies anticipated the possibility of such a maritime direction.[22] Even assuming success of the insertion phase of such an operation, however, the Soviet forces executing such combat actions would undoubtedly have been isolated logistically if they were not immediately successful in taking Sweden out of the conflict. The range of Western combat aircraft during the last decade of the Cold War would have enabled opposing air forces to operate against assault landing forces, as well as against logistical support ships, out of Norwegian airfields if necessary.

There was also speculation, at least among some American defense specialists that, had the Soviets been able to subdue Finland (one way or another), the Soviets would have attempted to cross the Gulf of Bothnia once it was frozen during the winter months. This was an eminently reasonable concern for an American to have and possible option for a Soviet to contemplate. Observing the reality of the Gulf of Bothnia during the winter, however, quickly disabused any such concerns or perceived opportunities. During the winter months, icebreakers work such that winds are able to blow large sheets of ice up over each other in a manner similar to the way tectonic plates of the earth form mountains (See Figure 53). Seeing the ice ridges running off in various directions turn any thoughts of an operational-scale over-the-ice crossing of the Gulf of Bothnia into fantasy, especially when consideration is given to how exposed (i.e., a total absence of cover) such an armored column would be during the laborious task of breeching or bridging one ice ridge after another. Small teams equipped with ice-boats (See Figure 54) would have been able to maneuver along the coast, but even such tactical-scale combat actions would have been very difficult to mount in numbers that could have affected the strategic situation.

With the ice ridges "securing" the Gulf of Bothnia during the winter months, the challenge for Swedish and Finnish defense planners was to secure the Gulf during the ice-fee months (See Figure 55). It appears from Swedish Government archival materials that Soviet submarine activity in Swedish territorial waters took place during the entire Cold War.[23] But

> starting in the middle of the 1970s, a different kind of report began to be received, and this was particularly the case from 1977/1978 and onward. There were reports about submarines in water so low that conventional submarines could not operate in submerged

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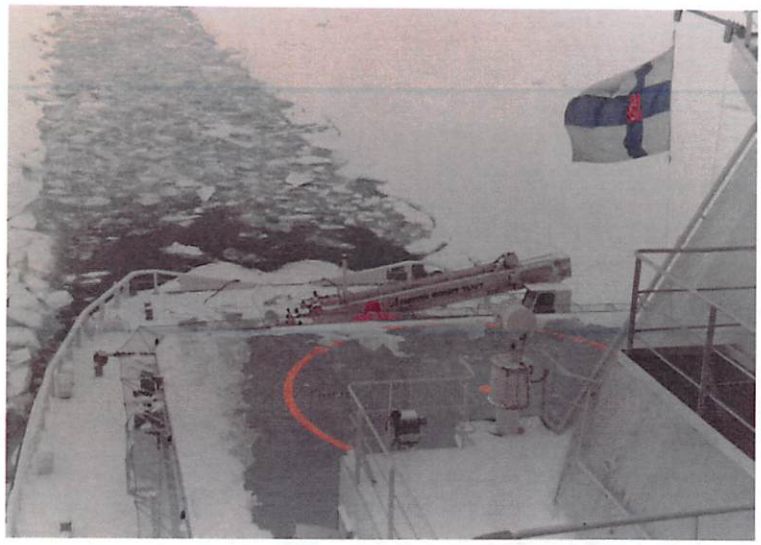
[22] Colonel Robert P. McQuail, "Khrushchev's Right Flank," *Military Review*, January 1964, pp. 7-16.

[23] See Wilhelm Agrell, *Hvorfor ubadskraenkelserne?* [*Why the Submarine Violations*], Kobenhaven, Denmark: The Committee for Security and Disarmament Policy, 1987, p. 21.



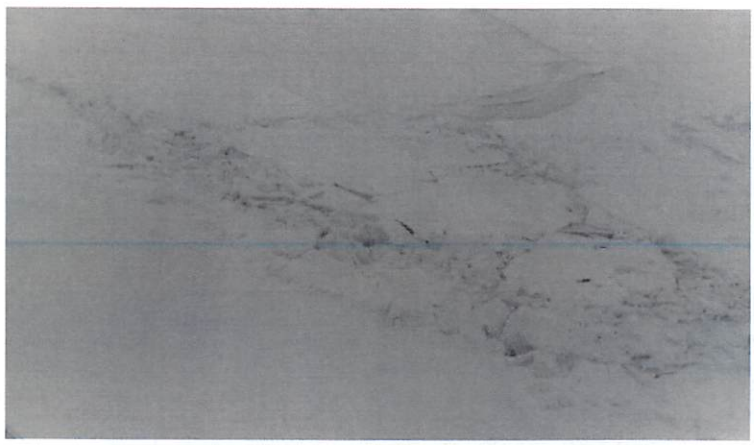


Figure 53: Given the environment in which the Finns have to be prepared to fight, Finnish naval vessels are constructed with the intent that they operate throughout the year. This coastal patrol vessel, equipped with helipad, was easily breaking through early-season ice. The process that forms the "ice-ridges" can be observed in the bottom photograph.

Figure 54: The ice-boat provide a flexible way to get around the Finnish coast during the winter. Note that in addition to being a boat, the vehicle has skis for the ice and wheels for land surfaces.

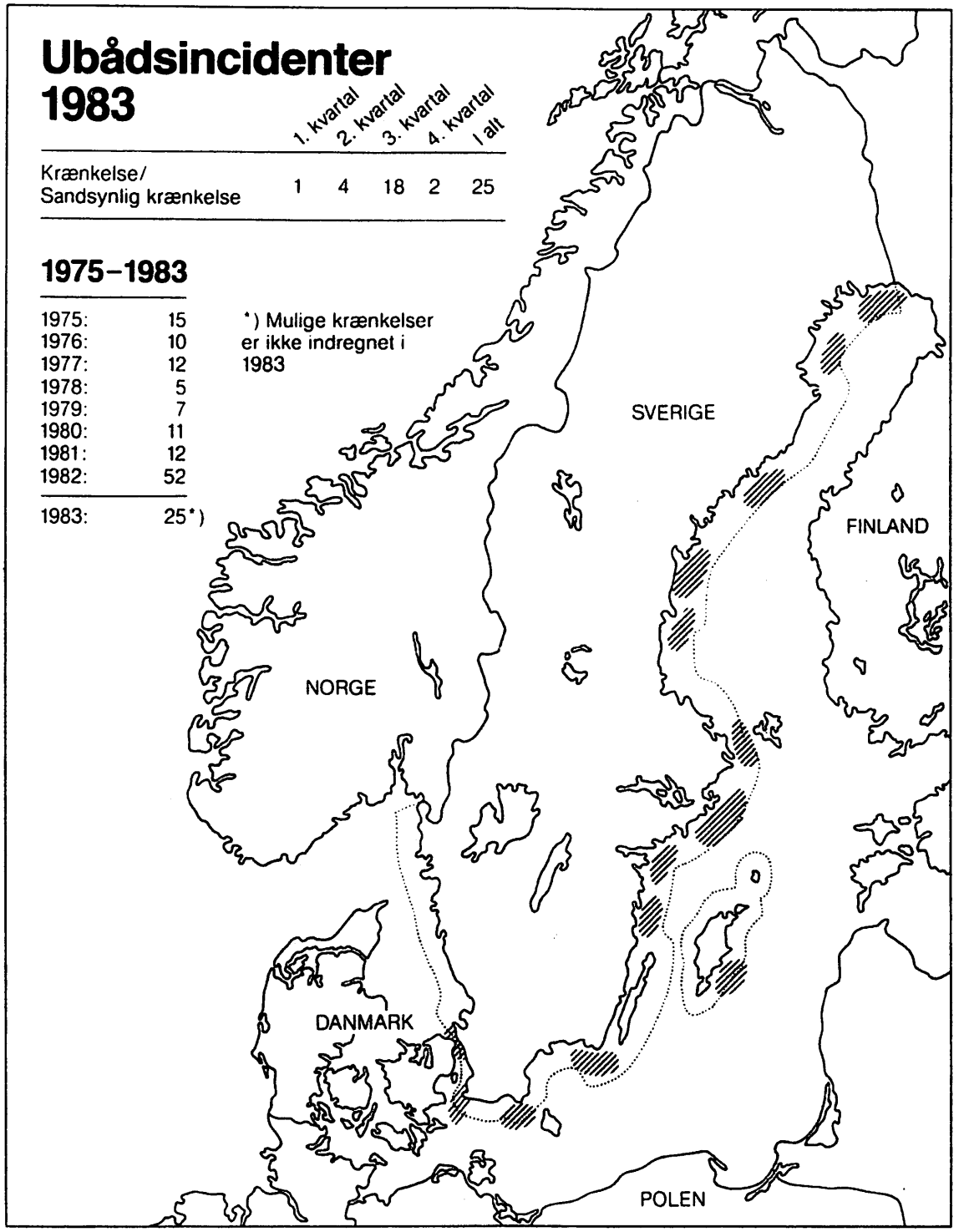


Figure 55: The summary of underwater violations of Swedish territorial waters for the years 1975-1983 issued by the Information Department of the Swedish Defense Staff in 1984 indicated a pattern of activity greatest during the Third Quarter of 1983 (i.e., July, August, and September) and the lowest activity during the First and Fourth Quarters (i.e., the winter).

> condition, and in certain cases close to military installations. ...The pattern in the violations themselves...is successive, continuous operations in succession during the ice-free part of the year, and which each spanned several weeks.... The underwater operations...not only included conventional submarines, but also mini-submarines, diving vessels, and divers, which have operated in inner waters and on the beachline.[24] (See Figure 56)

That such military activities were not some fantasy, it should be noted that during the 2008 Russian invasion of the Republic of Georgia, combat swimmers from the Russian Black Sea Fleet successfully destroyed Georgian torpedo and missile boats inside Poti harbor.

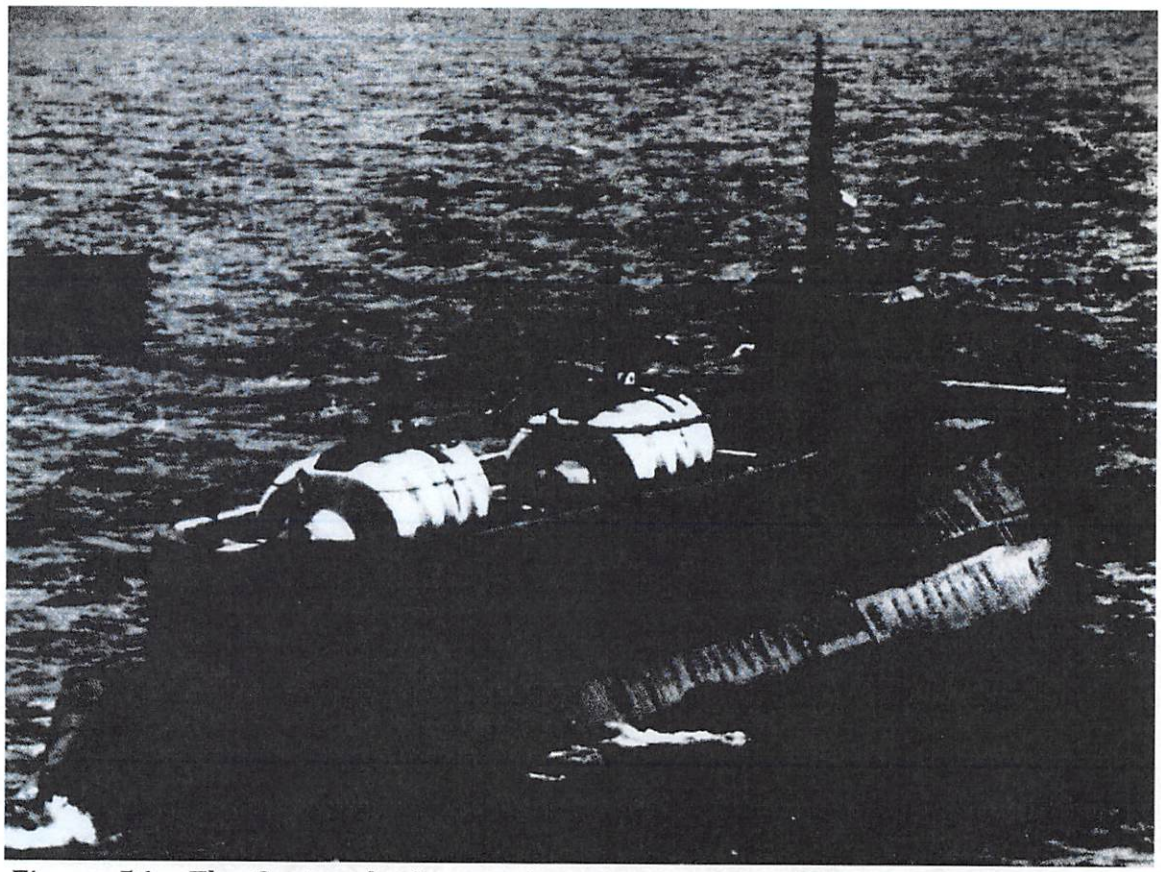


Figure 56: The Soviets had extensive experience in the use of submarines as mother vessels for mini-submarines.

This Soviet challenge once again threatened to turn the Åland Archipelago (See Figure 57 and Figure 58) into the "Gibraltar of the North."

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[24] Wilhelm Agrell, *Hvorfor ubadskraenkelserne?* [*Why the Submarine Violations*], Kobenhaven, Denmark: 1987, pp. 23-24.

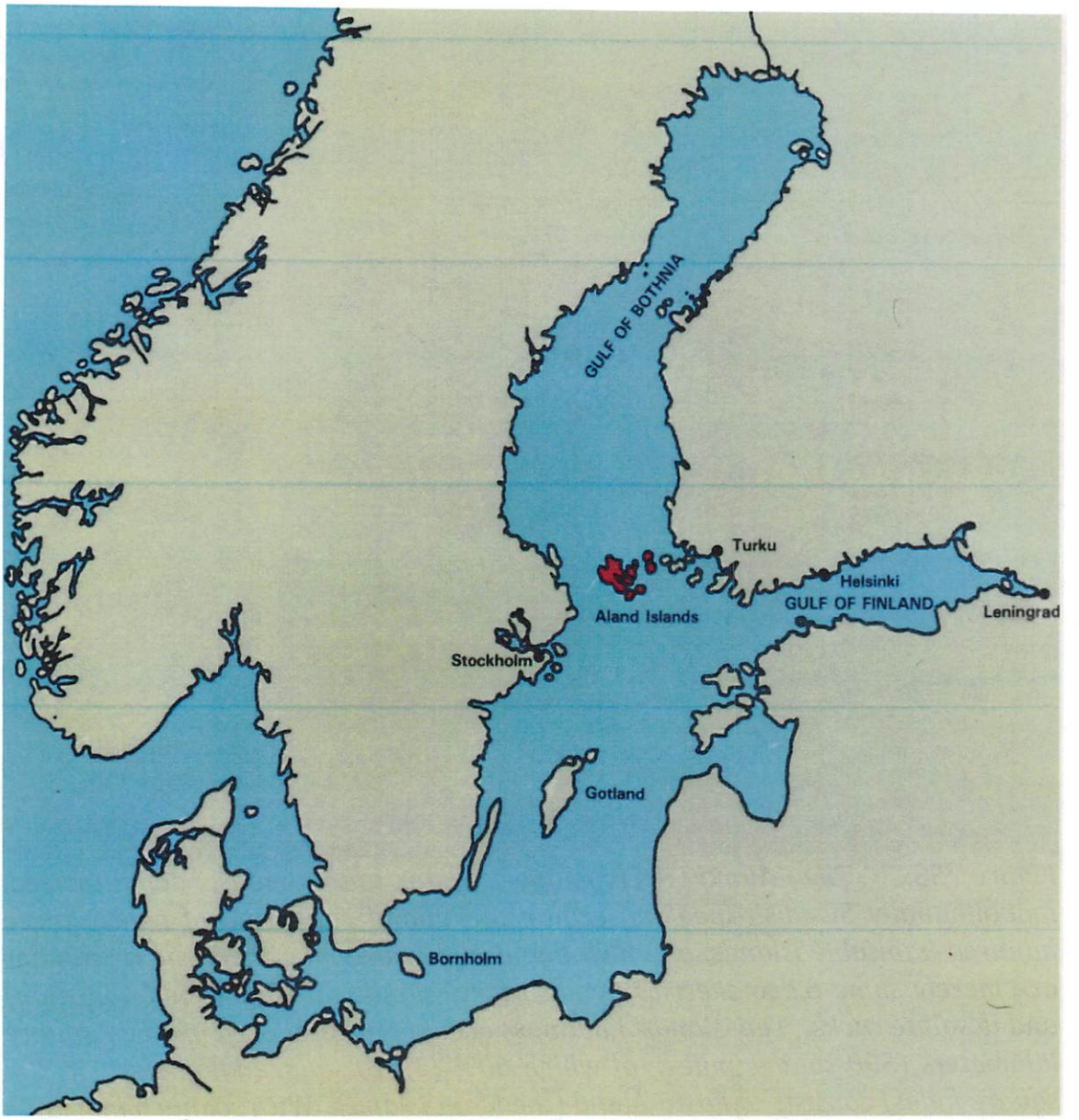

Figure 57: Åland Archipelago (marked in red) is populated by Swedes but became part of Finnish territory that was transferred to Russia when the Swedish king lost the Great Northern War (1700-1721). As can be seen from the map above, the Åland Islands occuy a position of strategic importance, as they command one of the entrances to the port of Stokholm, as well as the approaches to the Gulf of Bothnia, in addition to being situated near the Gulf of Finland – all strategic positions in the region.

The autonomous demilitarized region comprised of the Åland Islands, having once loomed large in Russian Imperial military ambitions, better served Soviet military ambitions as a demilitarized-neutral zone by which the Soviet General Staff could exploit the Scandinavian's inability to adequately defend

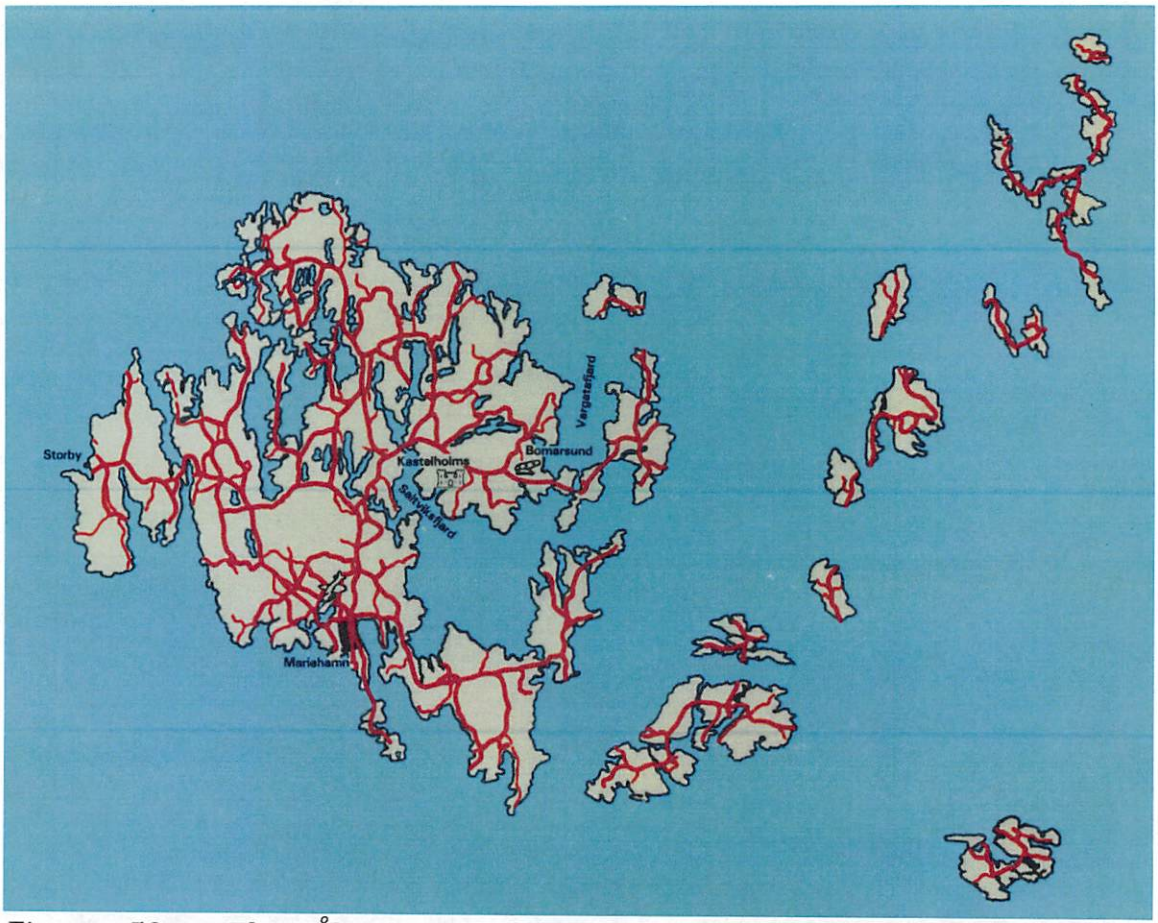

Figure 58: The Åland Archipelago is an autonomous, demilitarized, monolingually Swedish-speaking region of Finland consisting of nearly three hundred habitable islands, of which about eighty are inhabited; the remainder are merely some 6,000 skerries (small rocky islands too small for habitation) and desolate rocks. The islands' landmass occupies a total area of 1,527 square kilometers (590 square miles), of which 60% (1,010 square kilometers or 390 square miles) consists of Fasta Åland (the Main Island). With so much maritime area to hide in and so few inhabited areas, the Soviet found this archipelago a convenient "demilitarized" location from which to launch its operations, which were actually based in Estonia, against Sweden.

and Soviet submarine forces could use to facilitate their operations along the Swedish coast (only 38 kilometers or 24 miles west of Åland). The Finns did their best to patrol the archipelago with small Coast Guard vessels (See Figure 59), but the Soviets also did their best to promote a demilitarization that could be exploited under the *maskirovka* of respect for neutrality. The Soviets maintained a political and intelligence contingent in the capital of Mariehamn via a consulate (See Figure 60), enabling Moscow to prepare the Ålanders psychologically for submission during crisis and vulnerable to

Figure 59: Finish Coast Guard vessels in Mariehamn harbor.

Figure 60: The Soviet Consulate in Mariehamn, Åland.

preemptive *spetsnaz* action against the local government building (See Figure 61) should a crisis turn to conflict. Ålanders, being ethnically Swedes, received significant attention from the Swedish Government, especially its 1,903 meter (6,243 foot) runway at Mariehamn Airport (See Figure 62).

Figure 61: Government Building in Mariehamn.

Figure 62: Were the Finns to have been invaded by the Soviets during the Cold War, the Swedish Defense Ministry was prepared to "occupy" the Åland Archipelago and operate its fighter aircraft from Mariehamn Airport.

Assuming that "the main goal of which would be to forestall that American and other allied forces have time to establish themselves in Scandinavia and from there threaten the 'submarine bastion' as well as the Northwestern part of the Soviet Union,"[26] Scandinavians were persuaded that "if the central target was the Norwegian Atlantic coast it is not probable that it was expected to achieve this without attacking Sweden."[27] Throughout the Cold War Swedish defense was focused on opposing an invasion of the country, either in the north across the Finnish border (war scenario 2N) or via the Baltic Sea/Denmark and from the air (war scenarios 2C and 2S).[28] In response, Swedish

> attack planes, surface units, and submarine weapons have been shaped in deployment against an amphibious operation, the coastal defense has been shaped to defend harbors and coastal areas suitable for landing, and the battle units of the army have been shaped with a view to attacking a hostile bridgehead and large number of troops from the air.[29]

The impressive effort made by the Swedes to be a security contributor in Europe, and the fact that only limited numbers of Soviet troops would have been available for employment in Northwestern TSMA during a general war in which military operations were also being conducted in the Western TSMA, suggested that Swedish security preparations were adequate. Unfortunately, the Soviet General Staff had operational challenges that required operational solutions. The Atlantic Coast of Scandinavia needed to be secured as a means of preventing NATO use of its airfields to attack the SSBN bastion, and at the same time prevent the Swedish Air Force from assisting in the defense of Denmark and the Skagerrak (that strait running between the southeast coast of Norway, the southwest coast of Sweden, and the Jutland Peninsula of Denmark). Scandinavia and the Baltic Sea presented a grave threat to the flank of any Warsaw Pact offensive against Western Europe and, therefore, the Soviet General Staff was compelled to develop plans to neutralize this threat.

The evidence suggests that the Soviet General Staff hoped to neutralize the Swedish Air Force by landing *spetsnaz* teams via submarines in Sweden with the intent of assassinating Swedish pilots at their homes in southern

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[26] Agrell, p. 54.

[27] Agrell, p. 47.

[28] Agrell, p. 38.

[29] Agrell, *ibid.*

Sweden prior to the outbreak of hostilities.[30] In addition to sowing panic among the Swedish public that might persuade the government to accommodate Soviet transit requirements, with any luck the operation would have neutralized Sweden's most potent deterrent – its airpower.

[30] At the end of the 1970s Polish so-called "painting salesmen" were identifying fighter pilots that "may have been part of the very extensive preparation to 'decapitate' the parts of the Swedish defense which could have ben most dangerous for an attacker during a surprise attack." See Wilhelm Agrell, *Hvorfor ubadskraenkelserne?* [*Why the Submarine Violations*], Kobenhaven, Denmark: 1987, pp. 40-41.

The Baltic Straits Strategic Region[31]

In Soviet planning the Baltic Straits could be a strategic region of either the Northwestern or the Western TSMA. In the Soviet view, however, seizure of the straits would normally be a strategic objective in the Western TSMA. Any Soviet assault landing operation against Zeeland would be very vulnerable to air strikes flown from airfields in southern Norway and Sweden. Neutralizing these airfields would prove very costly in aircraft if air strikes were conducted up the Kattegat and across the Skagerrak Straits against Norwegian airfields.

Air attacks across southern Sweden could prove equally costly and would probably require the Soviets to make at least limited air strikes against Swedish airfields. Even a single successful mass strike that succeeded in dropping mines on the airfields of southern Scandinavia, however, might provide suppression of Norwegian and Swedish airfields sufficient to allow the Warsaw Pact to land assault forces on Zeeland with enough air defense capability to repulse subsequent air attacks. As noted earlier, however, the costs of bringing Sweden into the war as a cobelligerent with NATO could be very high in the long term.

Success in taking Denmark out of the war would not necessarily insure the Warsaw Pact naval forces passage in or out of the Baltic Sea. Airfields in the United Kingdom, Norway, and, if it becomes a cobelligerent, Sweden would still have to be suppressed or Warsaw Pact ships attempting to enter or exit would have to run a formidable gauntlet. The seizure of the Baltic Straits, however, would insure that NATO could not use Danish territory and airspace to strike deep into the Warsaw Pact operational flank in the Western TSMA. The gains could be offset, however, if in the process of achieving them the Swedes were pushed into joining Finland as a cobelligerent with NATO against the Soviets.

Denmark was perceived by the Soviet General Staff as occupying critical political and military positions in the NATO coalition. Politically, as one of the smaller members of the coalition and a "front-line" state, it constituted the principal focus for Soviet hopes to unravel the NATO coalition quickly. If Denmark could have been convinced to opt out of a NATO/Warsaw Pact, other smaller states in the coalition might have been persuaded to follow suit. Militarily, Denmark stands at the crossroads of navel and air communication

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[31] This section is based upon work done jointly with Christopher N. Donnelly: see Christopher N. Donnelly and Phillip A. Petersen, "Soviet strategists target Denmark," *International Defense Review*, 8/1986.

links between central and northern Europe, and between the Baltic Sea and the North Sea and the Atlantic. Consequently, Denmark became the "keystone" to a successful and short Soviet conventional war in Europe and, thereby, perhaps the fulcrum of peace and security in Europe.

The Danes were credited by the Soviets have having a highly developed infrastructure (See Figure 63), to include a modern maritime capacity and critical airfields. Denmark was said to have 20 major ports handling more than 100,000 tons of cargo each year. Of particular strategic importance, in Soviet eyes, was the impressive ferry fleet with its many links to the other Scandinavian countries. The Danish rail and road networks were also, by Soviet standards, important strategic assets, making possible the rapid relocations of forces across the country, even though several of the main lines of communication were understood to depend upon bridges. The Soviets considered Danish territory to be fairly well equipped to support military operations, and they noted that the strategic infrastructure continued to be developed. Particular emphasis was given to planned improvement of bases to receive contingents of foreign troops in time of crisis.

In the Soviet view, the main functions of the Danish armed forces in NATO plans were, in conjunction with the West German Navy, to block the exits from the Baltic by Soviet and other Warsaw Pact fleets and to prevent any successful amphibious or air landings on the Danish islands until reinforcements arrive from other NATO Member states. Because of its proximity to the Warsaw Pact countries, Denmark was seen as providing excellent facilities for delivering strikes on vital targets in the Soviet Union and its allies.

For the Operations Directorate of the Soviet General Staff, NATO's success in a European war would have been dependent to a large extent on maintaining control over the western part of the Baltic and the Danish Straits. In line with this key objective, the Soviets believed that the main task of Demark, since NATO had been created in 1949, was to work with the governments of Norway and the Federal Republic of Germany to close the straits zone whenever necessary. The organizational structure for this strategy was traced to the creation on 8 January 1962 of the NATO command for Allied Forces Baltic Approaches (BALTAP). The area of responsibility of BALTAP comprised the territory of Denmark (without Greenland and the Faroe Islands), the Geman states of Hamburg and Schleswig-Holstein and the eastern North Sea, the Baltic approaches with Skagerrak, Kattegat, the Danish straits, and the Baltic Sea. From its creation through the end of the Cold War, the Danish officer serving as Commander Allied Forces Baltic Approaches

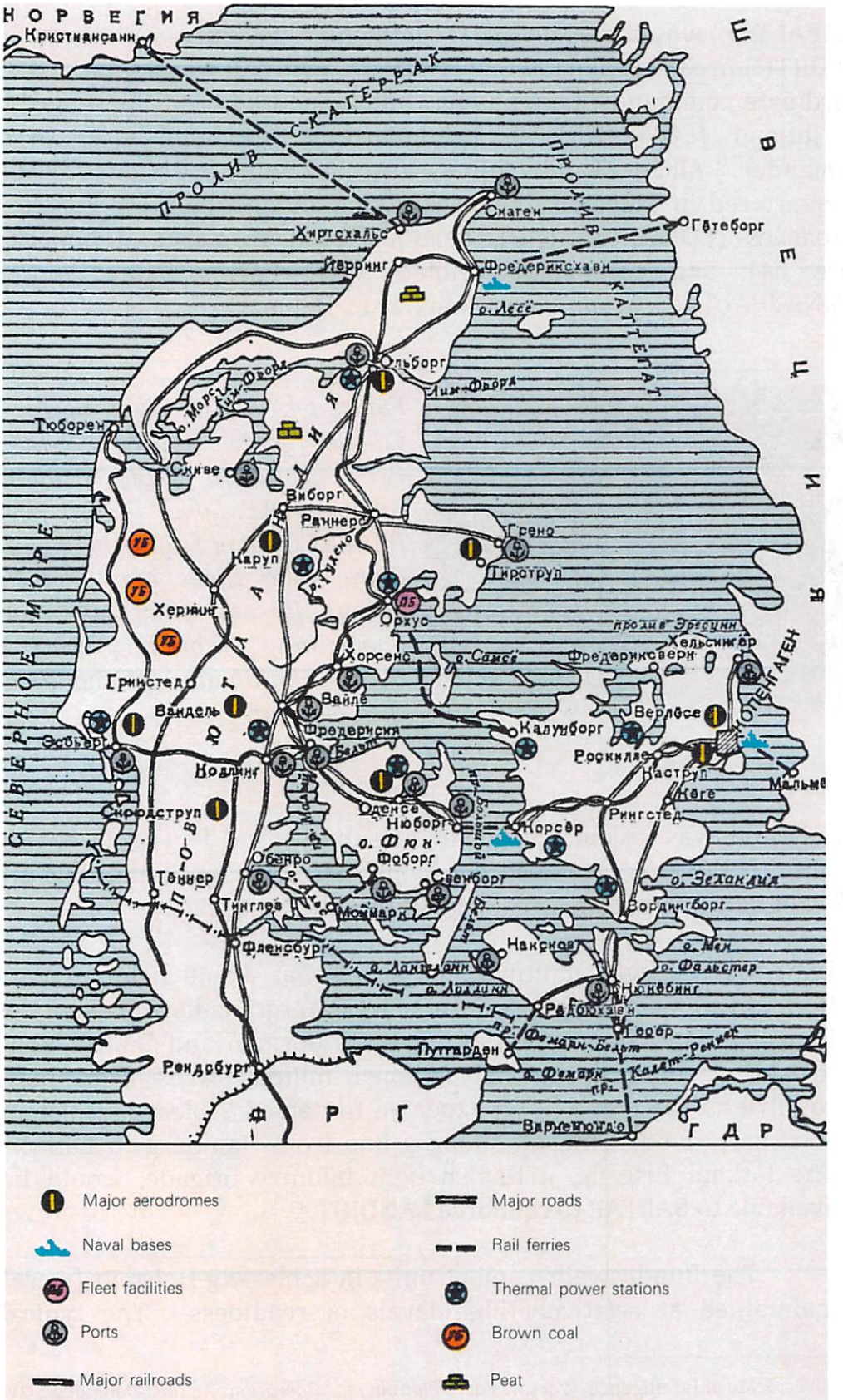

Figure 63: Soviet Identified Strategic Infrastructure of Demark.

(COMBALTAP) was under the NATO command Allied Forces Northern Europe (AFNORTH) in Kolsås outside Oslo, Norway. BALTAP was comprised of four subordinate commands: Commander, Allied Land Forces Schleswig-Holstein and Jutland (COMLANDJUT), headquartered in Rendsburg, Germany; Commander, Allied Land Forces in Zealand (COMLANDZEALAND), headquartered in Ringsted, Denmark; Commander, Allied Air Forces Baltic Approaches (COMAIRBALTAP), headquartered in Karup, Denmark (See Figure 64); and Commander, Allied Navel Forces Baltic Approaches (COMNAVBALTAP), headquartered in Karup, Denmark.

Figure 64: Left to right, US Air Force Colonel Jerry Bouchoux, Dr. Phil Petersen, Notra Trulock, and Rear Admiral S.P.E. Gobel, Danish Navy and BALTAP Chief of Staff. Along with John Clark, John Hines and Trulock, the author (second from left) had the opportunity of briefing every major NATO-subordinate command during the Cold War.

LANDJUT was tasked with defending the Jutland Peninsula, which was crucial for NAVBALTAP to keep the Danish Straits blocked and thus prevent the Soviet Baltic Fleet from breaking out into the North Sea.

> LANDJUT, the only multinational corps that would fight in West Germany, consist[ed] of the German 6th Pazergrenadier Division, the Danish Jutland Division, assorted West German and Danish non-divisional corps units, and national militia forces from both countries. The corps [was] expected to defend Schleswig-Holstein and the Jutland Peninsula along a line from Hamburg to Lubeck. The Jutland Brigade, a Danish light infantry brigade, would be available to BALTAP to reinforce LANDJUT.[32]

> The Bundeswehr combat units in Schleswig-Holstein [were] maintained at relatively high levels of readiness. The typical

[32] CIA Directorate of Intelligence, *Warsaw Pact: Planning for Operations Against Denmark*, SOV 98-10030CX, April 1989, Top Secret, Approved for Release – Historical Collection Division, HR70-14 Date: 07-18-2012, p. 7.

> combat unit [was] manned in peacetime at 80 percent of wartime authorized strength. The units [were] generally well equipped but not to the extent that units elsewhere in West Germany [were]. Although nominally light infantry units, the West German Territorial Forces in the area [had] been equipped with heavier weapons, including Leopard I tanks in recent years. These units would provide rear-area security between the corps' main defense positions and the Danish border.
>
> The Danish units committed to LANDJUT [were] nominally the largest and best equipped units in the Royal Danish Army; however, these units [were] manned in peacetime at less than 25 percent of their wartime strength, [were] armed with 1960's vintage weapons, and [were] poorly trained. Unlike the West German Territorial Forces, the Danish Home Guard units in the area [were] poorly equipped solely with small arms.[33]

In case the Jutland peninsula would fall into Soviet hands, the LANDZEALAND units defending the Danish Isles would have been dangerously flanked. Therefore LANDJUT was to be reinforced at the earliest opportunity with British and American troops to ensure that advancing Soviet forces should be prevented from crossing the Kiel Canal and Eider River (See Figure 65). British and American maneuver units earmarked for reinforcing LANDJUT included the British 1st Infantry Brigade and the American 9th Infantry Division. Warsaw "Pact plans appear[ed] to envisage initiating the operation through Jutland into Denmark prior to NATO reinforcement."[34]

The northern or coastal *front* on the north German strategic direction in the Western TSMA would have had two initial operational directions, one of which would have been directed against Schleswig-Holstein and Jutland in AFNORTH (See Figure 66).

> The 1st Polish Army, supported by airborne and amphibious forces, would conduct the operation. Along this axis, four divisions of the 1st Army – the 8th and 12th Mechanized Divisions and the 16th and 20th Armored Divisions – would [have been] responsible for seizing the Jutland Peninsula and Fyn Island.[35]

The first-echelon divisions of the 1st Army, that is, the 8th and 12th

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[33] Directorate of Intelligence, *Warsaw Pact: Planning for Operations Against Denmark, p. 7.*

[34] *Ibid.*, p iii.

[35] *Ibid.*, p 2.

> Mechanized Divisions, would [have been] committed at a point near the inner-German border and attack[ed] on the Schwerin-Rendsburg-Frederikshavn axis. The 8th Mechanized Division would [have] advance[d] on a line north of Hamburg to secure positions on the north bank of the Elbe River to block river access to Hamburg.[36]

The operational axis directed against Schleswig-Holstein would have had as its mission getting across the tactical barrier of the Lübeck canal (See Figure 66), and seizing the immediate army objective, the Kiel Canal and Eider River (See Figure 67). Tactical amphibious landings, likely to occur at Eckernförder Bay (See Figure 68), would have been attempted to outflank LANDJUT forces defending along the Eider River-Kiel Canal line. Attacking Rendsburg, less than 20 kilometers from Eckernförder Bay, from the rear

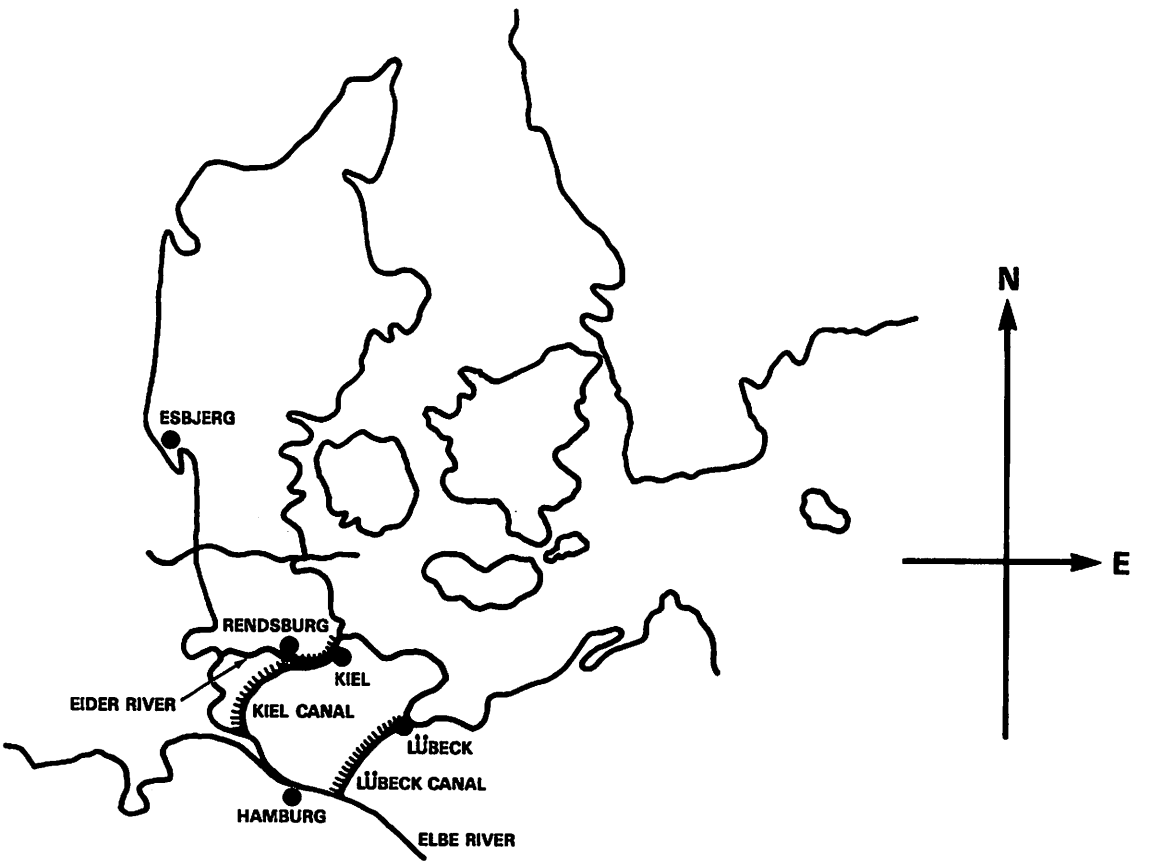
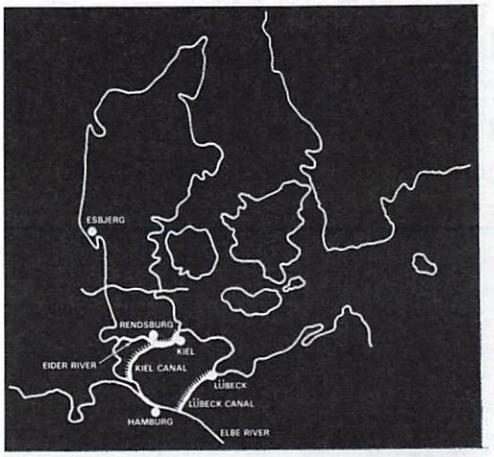


Figure 65: The barriers constituted by the canals on the Schleswig-Holstein operational direction were a clear invitation to tactical-scale amphibious assault combat actions to force the defenders away from positions covering these water barriers so that they might more easily have been breeched.

[36] *Ibid.*, p. 2.

would have avoided having to cross two water barriers – as west of Rendsburg the Eidar River flows separately from the Kiel/North Sea Canal. While numerous natural and man-made tactical would have existed, the terrain in general was perceived by the Soviet General Staff to pose no barriers equal in significance to those of the two canal lines. For the most part, the terrain on this axis is flat. Tactical scale amphibious assault combat action would undoubtedly have been attempted in an effort to assist the ground advance on this operational direction.



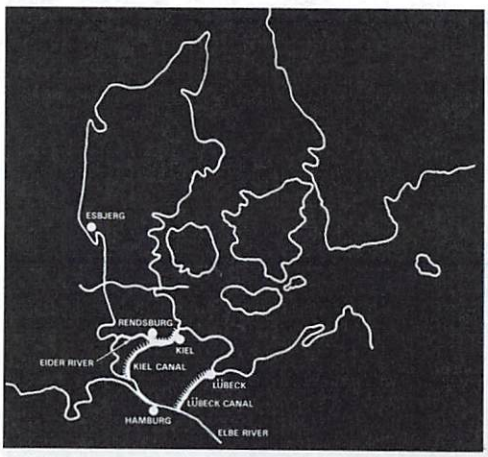
LÜBECK CANAL SOUTH OF LÜBECK

Figure 66: Lübeck (upper right), "capital" or "Queen of the Hanseatic League" as the largest and most powerful member of this mediaeval trade organization, is still a major German port. Situated on the river Trave, the Elbe-Lübeck Canal (lower right) connects the Trave with the Elbe River.

While operational-strategic planners conducting map exercises might well have considered the Lübeck and Kiel Canals the only barriers of consequence on the coastal *front* axis, "walking the terrain" quickly disabuses the observer of this idea. The terrain is flat, but it is frequently broken up by what are locally referred to as "knicks" not dissimilar in their tactical impact

to what the "hedgerows" had been to Allied forces attempting to break out of Normandy in 1944. These "knicks" can be too thick to break through and, in places, too high for tracked vehicles to simply climb over (See Figure 69). They would have slowed the advance of armor, thereby making the vehicles more vulnerable to attack, including to disciplined and well-trained infantry. Time on this axis was critical, as NATO planned on reinforcing LANDJUT through Esbjerg and over the beaches nearby (See Figure 70).

> The 12th Mechanized Division would [have] attack[ed] north through Schleswig-Holstein and into Denmark to the Kolding-Vamdrop-Bramming line – the immediate [*frontal*] objective on this axis – by about day 7 of the war. On day 8, the 16th and 20th Armored Divisions would [have been] committed from the 1st Army's second echelon and would [have] continue[d] the attack north to Frederkshavn – the subsequent [*frontal*] objective. As the two armored divisions started this advance to the north, the 12th Mechanized Division would [have swung] to the east to secure Fyn



KIEL CANAL BETWEEN RENDSBURG AND KIEL

Figure 67: Rendsburg, situated on the River Eider and the Kiel Canal became a major inland seaport when joined by the Canal to Kiel, the traditional home port of the German Fleet.

Island.[37]

LANDZEALAND was tasked with defending the Danish Isles and preventing Warsaw Pact troops from conducting successful amphibious landings against Denmark. According to a 1989 top secret Central Intelligence Agency research paper,

> the Danish forces in COMZEALAND [were] less capable than the Danish units in LANDJUT. These forces [were] manned at low levels, equipped with 1950s vintage weapons, and [were] even more poorly trained than the units in Jutland. More important, in comparison with the Polish, Easter German, and (especially) Soviet assault forces they are likely to face on the battlefield, the Danish troops generally are equipped with old, less capable weapons and do not appear to be as well trained.[38] (See Figure 71)

Figure 68: Eckernförder Bay is a 16 kilometer förde in Scheswig-Holstein, Germany that would have allowed amphibious forces to land to the north-west of the Eider-Kiel Canal defensive line. Highways run from the end of the Bay in every direction.

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[37] *Ibid.*, p. 2.

[38] *Ibid., p. 7.*

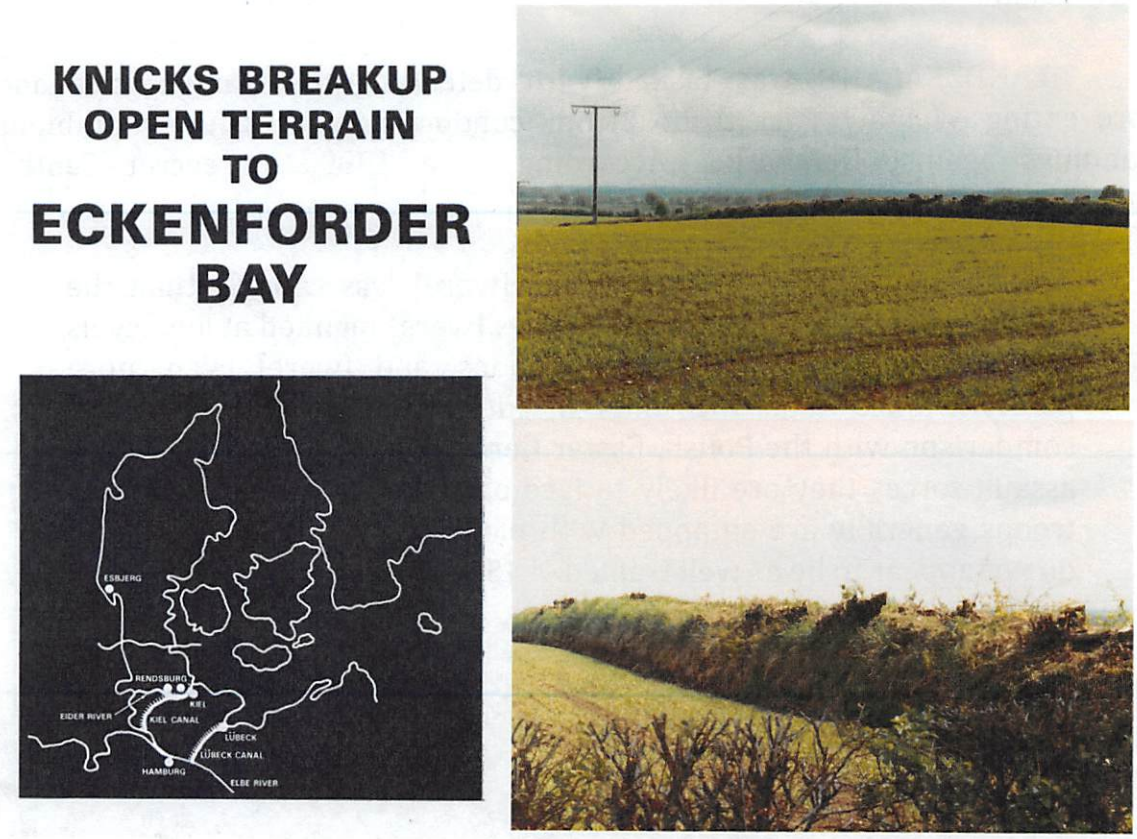

Figure 69: Fields are separated by a mound of dirt abruptly several feet about the surface and securely held together by tree roots.

The same CIA report disclosed that

> a joint airborne and amphibious operation against Sjaelland [Zealand] would involve the Polish 6th Airborne and 7th Sea-Landing Divisions (these small divisions were both designated brigades in 1986), as well as Poland's 15th Mechanized Division. This force would operate in conjunction with the Baltic Fleet's 336th Naval Infantry Regiment and units of the 3rd Guards Motorized Rife Division (Klaipeda, USSR). In addition, units of the East German 8th Motorized Rifle Division might [have been] involved.[39]

NAVBALTAP, the command of which was located at Kiel-Holtenau, Germany, until 1976 and thereafter at Karup, Denmark, commanded the entire Danish and German Navies, and was tasked to keep the Soviet Baltic Fleet bottled up in the Baltic Sea for the purpose of ensuring NATO's

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[39] *Ibid.*, p. 2.

ESBJERG AND NORTH SEA BEACHES

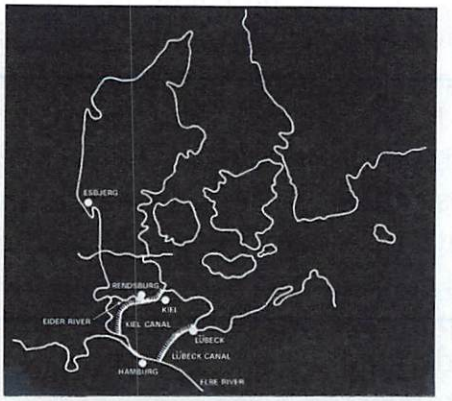

Figure 70: Esbjerg, seen in the photograph on the left, is a transport hub for rail and road, as well as an important North Sea port. As can be seen in the photograph on the right, good beaches for placing combat forces directly ashore lie just north of the port itself.

Figure 71: A Warsaw Pact Attaché assigned to Copenhagen was photographed taking photos of the antiquated equipment with which Danish troops were expected to oppose the well-equipped elite troops the Soviet General Staff intended to employ against them.

unchallenged-control of the North Sea. The importance NATO attached to the region was emphasized, the Soviets argued, by the number and scale of excises conducted in the area. Control of this region was said to be important for NATO not only because of its contribution to the security of the North Atlantic theater, but also because the absence of control by NATO would constitute a serious vulnerability for the Alliance's main area of interest, Central Europe. Grouped together, the tasks f NATO forces were said to be: first, to establish a blockage of the straits; second, to ensure a defense against amphibious assaults; third, to destroy enemy sea-communications in the Baltic; and fourth, to protect NATO routes into the Baltic and the eastern sectors of the North Sea.

A great deal of attention was paid at the time in the Soviet military press to the NATO exercise *Botany Bay-81.* Figure 72 shows Soviet illustration of that exercise, the aim of which was seen as blockading the Baltic Straits.[40] The combined naval and air exercise, and the NATO forces involved, were reported in very great detail. Special attention was paid to the organization of cooperation between the various naval forces and shore-based tactical aviation and how these engaged enemy task groups. The three amphibious assaults put in by the British marines and the mine warfare measures taken also merited lengthy analysis. It was most interesting to note the Soviet conclusion that the successful blockade of the Baltic zone by NATO required timely reinforcement of the Danish islands and the Jutland peninsula.

NATO military specialists, according to the Soviets, considered that the natural characteristics of the Baltic seriously limit the opportunities for using large surface ships, but are very suitable for small submarine and fast patrol boat operations, for naval aviation, and for mine warfare. The latter was said to be considered by these specialists as one of NATO's most effective, reliable and cheapest means of warfare at sea. Mines, Soviet sources pointed out in this context, can be laid quickly and secretly across sea lines of communications, at the entrances of ports and naval bases, and also in the depths of the enemy defenses. Both before and during a conflict, mines can cause serious attrition to enemy forces and, by presenting a permanent threat, could have an adverse effect on the moral of naval crews.

> Analysis of the Soviet's actual minesweeping effort – for example, against their own mines in the Gulf of Suez in 1974 – suggest[ed] that their mine countermeasures (MCM) forces [might have had]

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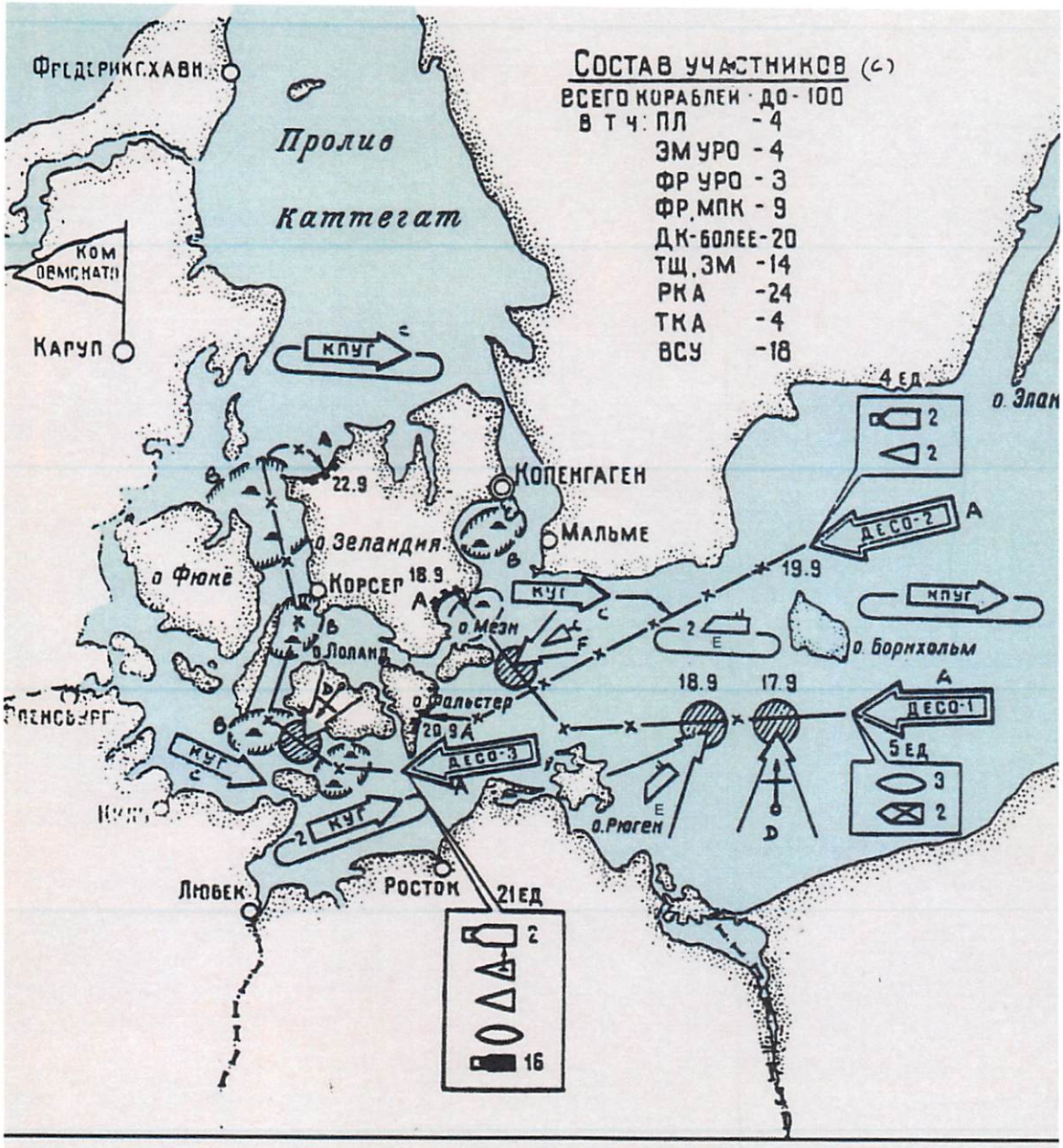
[40] Rear Admiral of the Researve B. Yashin, "The Straits Zone of the Baltic Sea in NATO Plans," *Morskoy sobornik* [*Naval Digest*], June 1983, p. 82.

great difficulties in clearing NATO minefields under wartime conditions, especially when faced with complex Western mines



A Soviet map of exercise activity during NATO's *Botany Bay-81*, showing the routes and landing zones of the three amphibious assaults (A). The map also gives details of the strengths and composition of the NATO forces (G)

Figure 72: Soviet Assessment of NATO Planning as Reflected in NATO Exercises.

activated by various combinations of magnetic, acoustic, and pressure triggers.[41]

Soviet assessments of Denmark were not unrelated to their view of NATO's concepts for anti-submarine warfare in the North Atlantic. Figure 7 indicates what the Soviets believe to be one of NATO's options for establish anti-submarine defenses in the Atlantic.[42] As with many other Soviet studies of NATO plans, the discussion was conducted without significant criticism. It was clearly perceived as a formidable obstacle to the Soviet submariner's escape from the confines of the northern seas. While details of this anti-submarine defense are not the concern of this study, the map shows what a critical role the Norwegian air forces would play in this kind of warfare, and also the importance of Soviet control of Danish territory in neutralizing the airfield of Southern Norway.

As part of its plan to unravel the NATO coalition with early operational success in the central region, the Soviets would call upon the Danes, Dutch, and Belgian governments to capitulate and spare their countries from inevitable ruin.[43] The Soviets were convinced that the psychological and political impact of the loss of these countries would be as significant as the military effect of destroying them. If the alliance held firm, the Warsaw Pact would have attempted to seize Zeeland if it had not already been an immediate objective with the initiation of hostilities. While the Central Intelligence Agency "believed that Pact commanders would *prefer* to seize objectives in Denmark in the first days of a NATO-Pact are to facilitate the success of their theater strategic offensive,"[44] but also believed that the assault against Zealand might not occur until the second week of a conflict.[45] The CIA did, however, concede "the potential damage to NATO's political structure if a member country were defeated at a critical point early in the war."[46] To understand what the CIA apparently meant by "early in the war," in this 1989 assessment (less than two years before the collapse of the Soviet Union in December 1991) the Directorate of Intelligence concluded that "if resistance were strong on Fyn and Sjaelland [Zealand] Islands, the operation to seize Denmark probably would not [have been] completed until day 13 of

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[41] *Ibid.*, p. 5.

[42] V. Khomenskiy, "Anti-Submarine Warfare (According to the Views of the NATO Command," *Zarubezhnoye voyennoye obozreniye [Foreign Military Review]*, January 1984, p. 79.

[43] John J. Yurechko, "Command and Control for Coalitional Warfare: The Soviet Approach," *Signal*, December 1985.

[44] Directorate of Intelligence, *Warsaw Pact: Planning for Operations Against Denmark, p. 5.*

[45] *Ibid.*, p. 2.

[46] *Ibid.*, p. 1.

the war."[47] This conclusion was, of course, dependent upon the success of Warsaw Pact plans to initiate combat operations against Denmark prior to NATO reinforcement.[48]

The operational-strategic scale assault landing to seize Zeeland would have involved amphibious and airborne forces, along with one or more motorized-rifle divisions, supported by navel surface combatants as well as aircraft of the navy and the air forces. The Soviets would have wanted to occupy Zeeland, but forces defending some of the other islands would likely have been isolated by destroying Danish ferry ports and bridges. The operational objective would be to seize control of the Baltic Straits, but the political objective would have been to force Denmark to withdraw from the war in the hope that the Netherlands and Belgium would follow Denmark's example.[49] The Polish 6th Airborne Division/Brigade would have initiated the operation by conducting an airborne insertion in the vicinity of Haslev early in the morning.[50] Based upon a number of sources, it appears that the Soviet General Staff intended to give the Danes what they expected by having the Polish 7th Sea-Landing Division/Brigade attack south of Copenhagen in Koge Bay. (See Figures 73 and 74) While this operation would have fixed Danish defenses along the beaches some 30 miles south of the capital, the decisive attack was intended to have taken place in Fakse Bay. The Soviet Baltic Fleet's 336th Naval Infantry Regiment would have seized the facilities at Faxse Ladeplads to receive the Polish 15th Mechanized Division transported by roll-on-roll-off ships. The 15th Mechanized Division would have advanced north to Helsingor, bypassing Copenhagen. (See Figures 75 and 76). The 6th Airborne force would have moved to secure the Roskilde Airport behind the Koge Bay beach to facilitate the destruction of Danish forces defending Koge Bay and encircle Copenhagen, as well as the flying club airfield at Kalundburg (See Figure 77) to secure the beach on Sefero Bay (See Figure 78) to north of the airfield where NATO reinforcements could have come over the beach in a counteroffensive. The CIA expected that "reinforced battalion-size forces would carry the offensive into the Falster and Lolland Islands,"[51] although it's difficult to imagine that being necessary once Zealand was occupied.

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[47] *Ibid.*, p. 2.

[48] *Ibid.*, p. iii.

[49] See Christopher N. Donnelly and Phillip A. Petersen, "Soviet Strategists Target Denmark," *International Defense Review*, 1986, No. 8.

[50] Directorate of Intelligence, *Warsaw Pact: Planning for Operations Against Denmark, p. 2.*

[51] *Ibid.*, p. 2. The CIA left out Mons, which together with the Falster and Lolland form a "string" of islands off the south-east coast of Zealand.

KØGE BAY SHORELINE

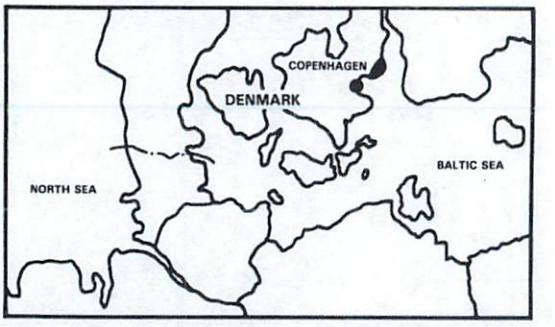

Figure 73: *The Danes planned to turn the structures along the coast of Koge Bay into positions from which to defend against amphibious assault. Photo on left is looking south with the structures on the beachfront in photo on right.*

Figure 74: The amphibious assault landing was demonstrated in Zapad-81 (West-81) exercise by a naval brigade-size force as was planned for Koge Bay. Photograph taken from the exercise presentation book.

Figure 75: *The chalk mined in southern Zealand is shipped from the loadingplace on Faxse Bay, and constituted an ideal port facility to off-load armored vehicles that would have only had to traverse a short distance to reach a high-speed road north behind the main Danish defenses on Koge Bay. The photograph is dated March 1988.*

Figure 76: During Zapad-81 (West-81) there was a sea landing of an entire mechanized division just as was planned for Fakse Bay. Photograph taken from exercise presentation book.

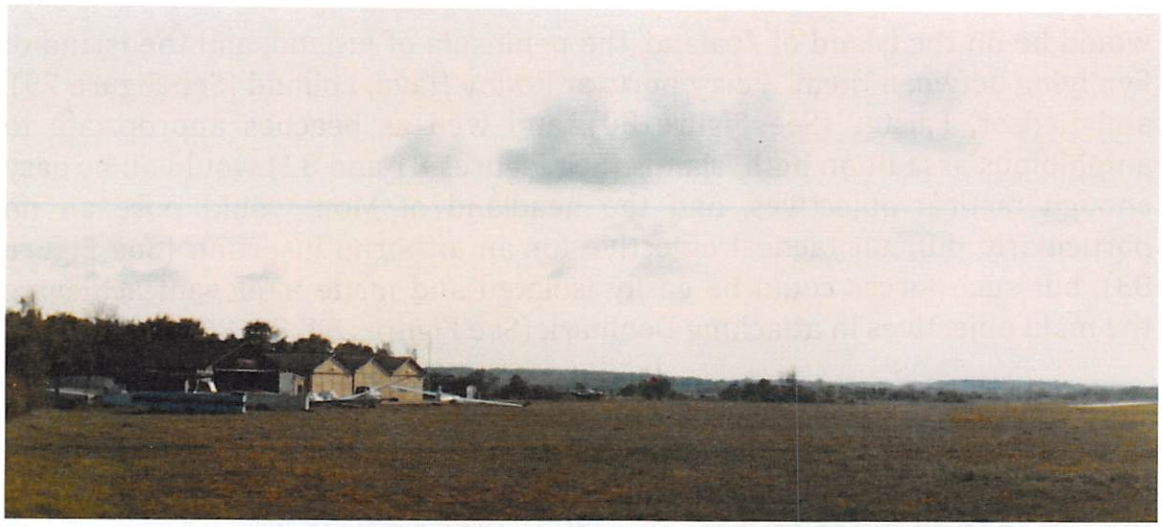

Figure 77: The airfield of the Kalundburg flying club lies but five kilometers south of the beaches on Sefero Buy where NATO reinforcements were expected to be delivered over the beach. The end of the runway can be observed at the far right in the above photograph.

Figure 78: The above photograph of the beaches on Sefero Bay was taken looking east.

The islands of Lolland and Falster, as well as the peninsula of Mon, form a barrier running from west to east to north-east shielding Zealand from amphibious assault from the south, forcing any major attack approach onto a south-east to north-west axis. The Danes wouldn't have to defend these three barriers with substantial forces because the strategic objective of an attack

would lie on the island of Zealand, the peninsula of Jutland, and the island of Fyn lying between them. Ferry ports at Rodby Havn, Lolland (See Figure 79), and Gedser, Falster (See Figure 80), and well as beaches appropriate to amphibious assault on both islands (See Figures 81 and 82) would all be easy enough tactical objectives, and the headland of Mon would pose an no particularly difficult tactical objective for an airborne insertion (See Figure 83), but such forces could be easily isolated and made irrelevant achieving the main objectives in attacking Denmark (See Figures 84, 85, 86, and 87).

COMAIRBALTAP was tasked to provide air support to the three other BALTAP commands with the nearly three hundred combat aircraft under its immediate disposal. It controlled all flying units based within and flying into the BALTAP sector, as well as ground based radar assets, air defense units and the airfield in the BALTAP sector. The commander of COMAIRBALTAP was the commander in chief of the Royal Danish Air Fore. If needed, COMAIRBALTAP would have been reinforced with units from the U.S. Third (based in the United Kingdom), Eighth (reconnaissance and bombing), Ninth (immediate reinforcements), and Twelfth Air Force (follow-on reinforcements), as well as a number of units from the British Royal Air Force.

The most important element of the Soviet integrated fire destruction plan at the TSMA level to "destroy or weaken the enemy air force groupings" was the air operation, and the destruction of the combat assets of COMAIRBALTAP would have constituted a critical target set within the strike plan. Students and the Voroshilov General Staff Academy were taught that "success in air operations is ensured by delivering initial surprise mass strikes" which would neutralize the enemy air forces" and deprive them the initiative and the capability to support ground forces." While the initial air operation would have had as its principal goal the attainment of overall fire superiority, an antiair operation would also have been focused on defending

Figure 79: Ferry port of Rodey Havn, Lolland. (Photograph taken in March 1988).

Figure 80: Ferry port of Gedser, Falster, Denmark.

Figure 81: Shoreline west of Nysted, Lolland, Denmark.

Figure 82: Shoreline near Gedser, Falster, Denmark.

Figure 83: Mon is a headland whose coast sometimes consists of high cliffs, but the flat rolling fields that overlook Hjelm Bay (seen in the center left of the photograph) would make fan appropriate location for an air insertion.

friendly forces and contributing to achieving air superiority. However, although the air and antiair operations had different objectives, they had an overlapping target set (i.e., aircraft and associated C^3 facilities), which both made the two operations mutually supportive.

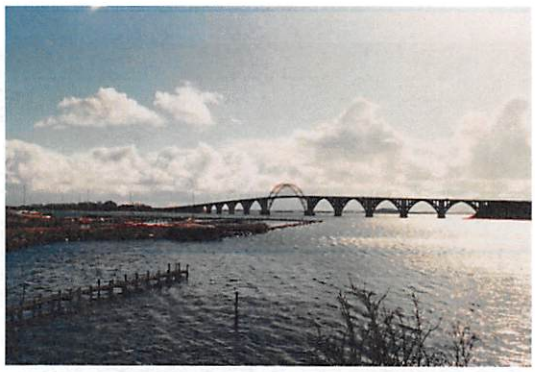

Figure 84: The bridge between Mon and Kalvehave, Zealand (photo to left), is quite another matter. Photograph taken in March 1988.

Figure 85: The bridge to Falster at Vordingborg, Zealand (photo to right), makes for an even more greater potential transit challenge should the Danes decide that the bridge must "come down."

Figure 86: The new bridge from Falster to Faro.

Figure 87: The new bridge connecting Faro to Zealand.

In developing their specific plans for air operations, Soviet planners used a model of the NATO air defense system that resembled a pyramid: surveillance radars at the top, initial and final acquisition radars below, and finally air defense weapons radars at the bottom. The Soviets planned toattack the NATO air defense system from the top down. The air operation component of the strategic operation would have focused electronic countermeasures initially at the air defense radars. Time delays induced at the top would have been passed on down through the pyramid. Additional delays would have been accomplished by physically attacking key nodes in the air defense structure. Countermeasures introduced at other levels in the pyramid would have added to the overall delay. With sufficient degradation at the top of the pyramid, fewer countermeasures would have been required at the bottom.

As the first massed strike of the air operation began, Warsaw Pact electronic jamming systems would have been used to "blind" NATO air defense radars and associated communications to facilitate the subsequent destruction of air defense systems by missiles and aircraft. Specific targets would be designated for jamming or for destruction, based upon the priority or the characteristics of the target. Targets that could not be accurately located because of their mobility (i.e., tactical air communications between aircraft and controller), would have been jammed (See Figure 88). Other targets, because of their priority, would be assigned both jamming and destruction – examples being the Hawk and other air defense batteries, which would be attacked by massive jamming and firepower simultaneously.

Missiles armed with improved conventional munitions would have initiated the air operation against targets in Denmark with strikes to suppress time-critical air and air defense activities. It is important to recognize that to the extent that weapons inventories would have allowed, the Soviets would have struck NATO's air defenses and airfields with means other than aircraft. For example, it was understood in the mid-1980s that the SS-21 with conventional warheads incorporating submunitions would have been capable of effectively attacking Hawk batteries (See Figure 89).

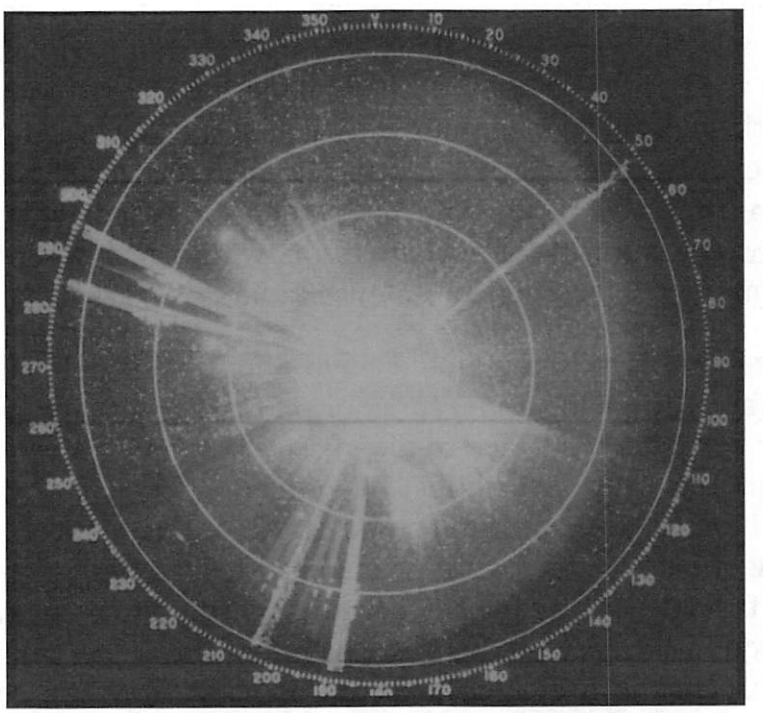

Figure 88: *The effect of jamming on Czechoslovakian air defense radars during the 1968 invasion by Warsaw Pact forces.*

Figure 89: The photo to the left is of a Belgian Army I-Hawk site in the Federal Republic of Germany. (Date of photograph is April 1988)

Standoff jamming to suppress NATO's air defense radars! by An-12 *Cub* C/D aircraft would have begun before the first wave of strike aircraft penetrated Danish airspace. The *Cubs* would have primarily jammed early warning/ground-control intercept (EW/GCI) radars and would have laid chaff corridors. By overlapping chaff corridors to form a blanket, the Soviets would have hoped to mask attack formations from early detection (See Figure 90). Initially, standoff jamming aircraft would have been in positions behind the forward edge of the battle area (FEBA), and their jamming would have helped screen the penetration corridor as aircraft attacked defenses within the corridor which, in the case of strikes against Denmark, may have been shipborne in the Baltic Sea itself. Escort jamming aircraft would have been stationed initially near the beginning of! the penetration corridor in a standoff jamming role outside the lethal range of air defenses. In addition, each aircraft in an attack element could have been equipped with an electronic countermeasures pod if it did not already have internal equipment for self-protection jamming of terminal air defense radars.

Fighter-bomber aircraft would have undertaken defense-suppression missions within the penetration corridor. Primary targets for destruction would be air defenses – surface-to-air missile systems, antiaircraft artillery, and command and control facilities. Fighter aircraft, too, would have been assigned to the first wave of the massed strike and committed to help clear the corridors. These fighters would have been tasked with preventing NATO interceptors from operating in the corridors to substitute for the loss of the destroyed ground-based air defenses. Fighters and fighter-bombers would have been directed also against selected airfields and key command-and-control points throughout the depth of frontal aviation activity (about 300 kilometers). This frontal aviation activity would have been supported by Yak-

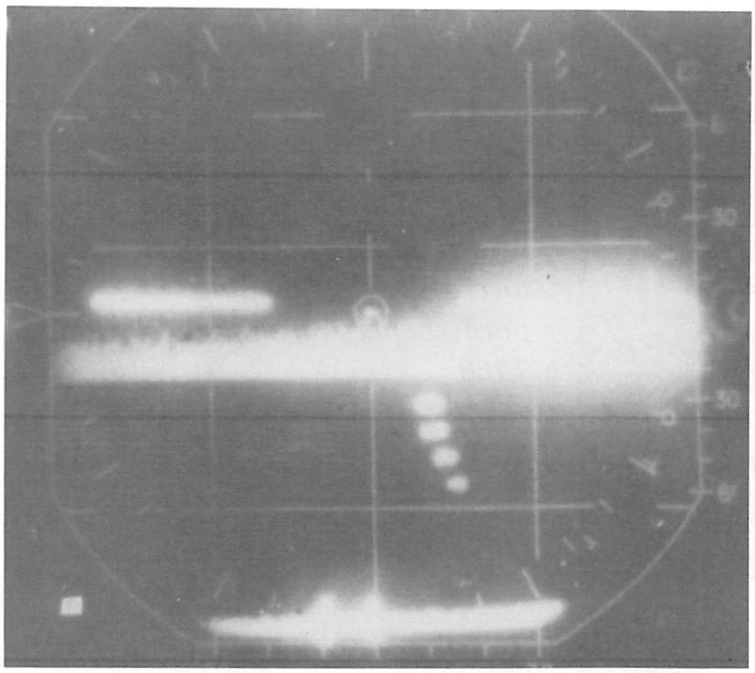

Figure 90: The radar photograph on the left is an example of a chaff blanket. In this case, it was shielding the Soviet massing of aviation forces during the 1968 Warsaw Pact invasion of Czechoslovakia.

28/*Brewer* Es moving into the penetration corridor to provide escort jamming and to extend the chaff corridor. Simultaneously, reconnaissance aircraft would have accompanied the attack force to provide continuous reconnaissance and near real-time damage assessment for follow-on attacks.

Badger H aircraft following the deeper-penetrating aircraft in the first wave of the first massed strike would have extended the chaff corridor as air defenses with neutralized (See Figure 91). Standoff jamming would have been continued by Cubs and, as the air penetration corridor became more secure, Cubs would have moved into the corridor to resow chaff. As strike aircraft in the chaff corridor approached their targets, they would have exited, struck their targets, and subsequently egressed from NATO airspace via the chaff corridor. During the 1968 invasion of Czechoslovakia, for example, a 200-nm chaff corridor and electronic jamming were used for more than six hours against Czechoslovakian ground radars. In the years after the invasion of Czechoslovakia, the Soviet demonstrated repeatedly their capacity to reseed chaff corridors used to screen penetrating aircraft. This reseeding capability attested to the priority the Soviets placed on chaff application as a penetration aid. Not only did the corridor screen the strike aircraft, but it massed the standoff jamming platforms as well. In addition, the Soviets equipped many of their aircraft with self-protection chaff capability.

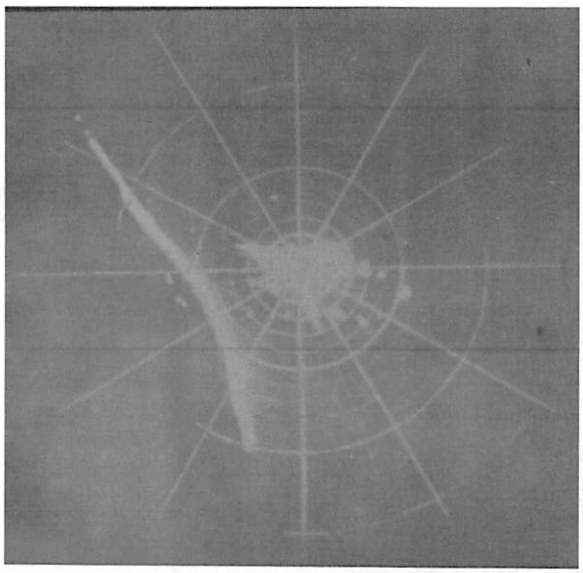

Figure 91: The photograph to the left is of a chaff corridor used to screen Military Transport Aviation aircraft bringing Soviet paratroopers into Czechoslovakia in 1968.

The final wave of the first massed strike would have followed the previous wave by minutes and have consisted largely of aviation reserves of the Supreme High Command. The mission of this main strike force would have been to deny NATO the ability to restore the combat power of its air forces through reconstitution at rear airfields out of range of frontal aviation. Thus, penetration by the final wave of strike aircraft might well have been 300 kilometers or more. *Badger* Js would have provided escort jamming support for these strike aircraft. *Brewer* E and *Cub* C/D standoff jamming probably would have been moved over NATO territory to support the strike aircraft of this final wave of the first massed strike.

Sensitive Warsaw Pact documents indicated intent to conduct subsequent mass strikes to deny NATO the chance of restoring its airfields and regrouping its air forces. Between massed strikes, frontal aviation would have concentrated its efforts on newly detected and reconstituted targets to a depth of 300 kilometers (See Figure 92). Soviet and Warsaw Pact documents made clear that the struggle for air supremacy included the actions undertaken by the ground and, especially in the case of Denmark, naval forces. "There [were] 54 NATO airfields that would [have] support[ed] combat aircraft in Central Europe in the event of hostilities. All [were] likely to [have been] attacked at least once during the initial air operation. Of the 54 airfields, six [were] located in Denmark."[52] While the Central Intelligence Agency believed that "the air operation [was] designed to achieve air supremacy – reducing NATO's inventory of combat aircraft on the Continent

[52] Directorate of Intelligence, *Warsaw Pact: Planning for Operations Against Denmark*, p. 11.

by 40 to 50 percent,"[53] this objective was not the main objective. Since the General Staff assessed that fifty percent of NATO's firepower was air delivered, the main contribution of the air operation was simply to substantially shift the correlation of forces in Warsaw Pact favor by preventing NATO's combat aviation from contributing to the ground battle. The Soviet General Staff understood that it could not win a protracted war with NATO, and therefore set out to increase the tempo of offensive operations in the hope of taking NATO beyond the point where introducing the employment of nuclear weapons to reestablish stability of the operational situation no longer would accomplish that goal. This is why the CIA's analysis, in the face of its own bias, supports that the Warsaw Pact would have launched an assault landing operation against Denmark on the first or second day of a conventional war between itself and NATO. Once the conflict had begun, there would have been no means of preventing the Danes from mining the approaches to the Straits and, once the minefields had been emplaced and covered by airpower, it would have been too late to

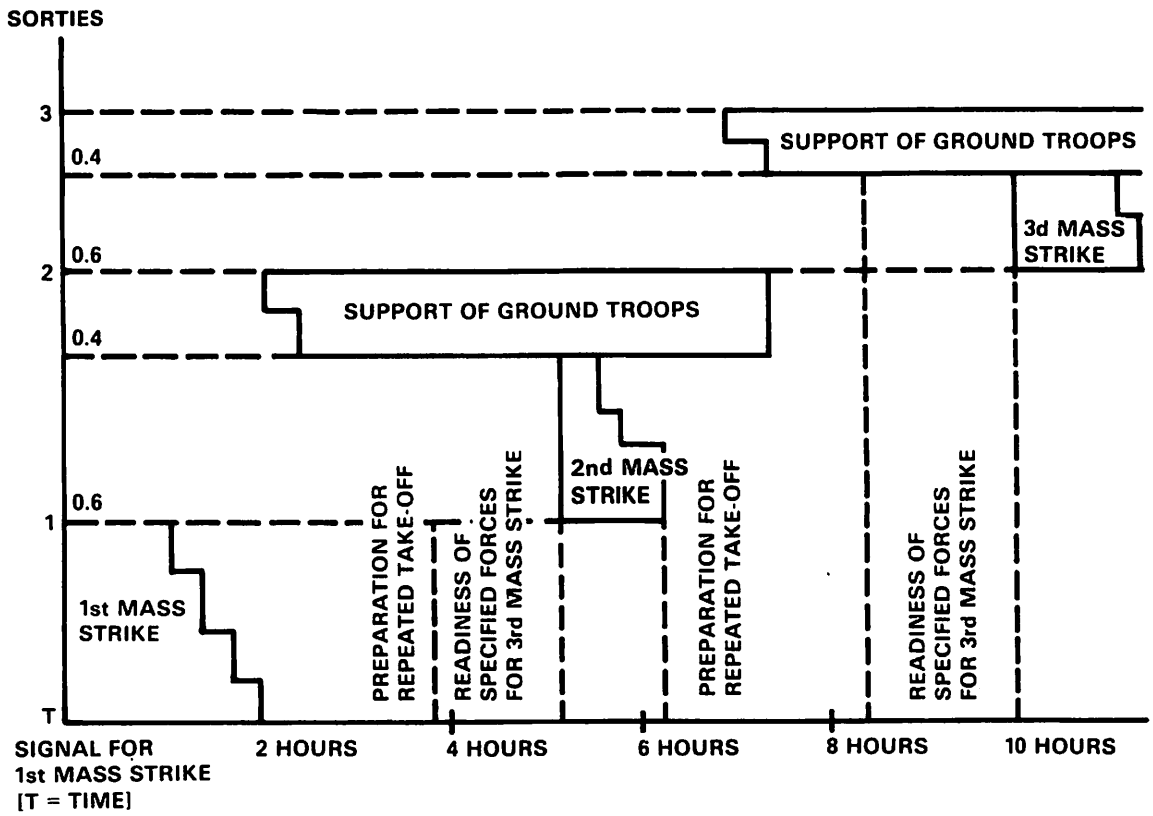

Figure 92: The First Day of an Air Operation as envisioned in classified Warsaw Pact documents.

[53] *Ibid.*, p. 11.

successfully seize Zealand. Only by inhibiting preventive action until the assault landing was initiated could the Warsaw Pact have prevailed in capturing the Danish Straits. The observation by the United States Central Intelligence Agency that it took seven weeks to assemble a large task force sufficient to seize Zealand[54] only spoke to the need for the Soviet General Staff to manage the crisis period before war occurred.

[54] CIA Office of Soviet Analysis, *Recent Developments in Soviet Amphibious Forces*, SOV85-10158, Secret, Approved for Release 2010/08/17, September 1985, p. 14.

Greenland-Iceland-United Kingdom-Norway Gap Strategic Region[55]

Although all four of the geographical locations of the G-I-UK-N Gap played critical roles within this Strategic Region in the Soviet General Staff's operational-strategic planning for war against NATO, Iceland was the keystone without which this region could not function sufficient that NATO could win a war with the Warsaw Pact. Iceland, a founding member of the NATO Alliance, was assigned an important role in Soviet military strategy because of its geographical location and the possibilities contemporary military technology offered to exploit this fact. The island, which straddles the exit from the Arctic Ocean to the Atlantic, as well as the air route between North America and Europe, would have constituted a Soviet wartime objective even if the NATO forces stationed there were withdrawn.[56] How and when Iceland would become a military target would depend on the length of the war and the weapons employed in it. To understand the range of scenarios envisioned by Soviet military theorists, it is necessary first to examine Iceland's place in Soviet military geography. Only when seen in the context of the Soviet geographical approach to strategic planning is it possible to appreciate fully Iceland's pivotal role for Western security.

The Soviets believed that Iceland could be part of two different continental and two different oceanic TSMAs (See Figure 2). Normally, Iceland was considered by the Operations Directorate of the Soviet General Staff to be part of the Northwestern TSMA along with the Leningrad Military District (MD), Norway, Denmark. Finland, Sweden, and the White, Barents, Norwegian, Baltic and North Seas. The Northwestern TSMA, in turn, was considered by the Soviets to constitute "the northern flank [of] the Western and Atlantic Ocean TSMAs."

According to lecture material from the Soviet Voroshilov General Staff Academy, the Soviet Northern Fleet was to "isolate Norway and Denmark and ... provide suitable opportunities for the Northern and Baltic Fleets of the Soviet Navy, as well as for the Polish and East German navies, to accomplish missions for the purpose of destroying the main grouping of NATO forces operating in the Western TSMA." Further, from the perspective of the Soviet

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[55] The discussion in this section is based upon Phillip A. Petersen, "Iceland – is a red storm rising? *International Defense Review*, Volume 20, Number 8, 1987, pp. 1007-1011.

[56] It was this strategic reality that helped the Government of Iceland make its historic · decision to enter NATO in 1949. Gunner Gunnersson. "Icelandic Security Policy: Context and Trends." *Cooperation and Conflict.* XVII, 1982, p. 257.

General Staff, military operations conducted in the Atlantic Ocean, particularly in its northeastern parts, would have a close connection with operations carried out in the Northwestern TSMA and would have a great impact on the general strategic situation on the European continent." As a result, the lecture material noted, "military operations in the Northwestern TSMA will have to be coordinated with operations in the Western TSMA in terms of unified concepts and strategic and political aims."

Although the Atlantic Ocean TSMA is normally considered to extend longitudinally from the Arctic Circle to the Antarctic Circle, the General Staff Academy lecture material does not exclude the possibility of the Atlantic TSMA including the Greenland and Barents Seas. The geographic position of the Atlantic TSMA is particularly significant because it contains the sea and air routes connecting the United States and Canada with their NATO allies in Europe. Despite the expectation that NATO will attempt to prevent access to the Atlantic Ocean by Soviet submarines based in the Barents Sea (See Figure 93), the General Staff Academy lecture material assumes that the Northwestern TSMA "will provide favorable conditions for Warsaw Pact forces to get access to the northern and central Atlantic Ocean which is under NATO control and influence." As a result. they note the important strategic significance of the "Greenland Archipelago, the Iceland, Faeroe, and Shetland Islands, as well as the straits between them...."

Should a military confrontation between NATO and the Warsaw Pact escalate to a global conflict involving conventional or nuclear attacks against the North American TSMA, the military significance of Iceland would be based upon its contribution to the air and missile defense of the United States. The General Staff Academy lecture material argued that "the North American TSMA includes the entire area of North and Central America, the West Indies, as well as Greenland and Iceland areas." This Soviet assessment is consistent with the military-geographic position of Iceland, but it also has a historical precedent.[57]

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[57] During the early 1941 negotiations between the United States. Iceland and the United Kingdom "the Icelanders presented the view that the US should declare Iceland a part of the Western Hemisphere. in order to take such protective steps as it was taking in Greenland.. On 27 May 1941. President Roosevelt stated that 'control or occupation by Nazi forces of any of the islands of the Atlantic would jeopardize the immediate safety of portions of North and South America and the island possessions of the US. and of the ultimate safety of the continental US itself." Taken from H.H. Dunham. *Transportation of the US Forces in the Occupation of Iceland 1947-7944.* monograph of the Historical Unit, Office of the Chief of Transportation, Army Service Forces. April 1945 (Declassified May 1986), p. 8.

Figure 93: The Netherlands contributed a P-3 Orion maritime patrol aircraft to the NATO forces operating from Keflavik Air Base.

Once the Soviet Union deployed submarine launched ballistic missiles (SLBMs) of sufficient range to strike targets in the United States without deploying south of the Arctic circle, the importance of the Arctic Ocean as an independent TSMA has given it equal status with the Atlantic, Pacific and Indian Ocean TSMAs. The Soviets always assumed that the United States would attempt to destroy Soviet sea-based nuclear assets from the beginning of any conflict. Holding longer-range SLBM assets closer to Soviet territory was simply aimed at facilitating their protection and making the American task of locating and destroying these assets more difficult.

The Soviet General Staff concluded that successful accomplishment of missions in the Western TSMA would have a decisive impact on a war between NATO and the Warsaw Pact. Most Western analysts agreed with the Soviet assessment that Northern Europe was unlikely to become embroiled in a war separate from a war in the Western TSMA. Given the Soviet appreciation for the "close connection" between the Atlantic, Arctic and Northwestern TSMAs, and the "strategic situation" in Central Europe, the most likely route for a war in the Western TSMA to escalate horizontally would have been via the Atlantic or Arctic Ocean TSMAs. Thus Soviet combat actions in the Arctic Ocean TSMA would undoubtedly include air strikes

against Norwegian "contiguous coastlines" as well as against Iceland as an island in this oceanic TSMA.

In addition to the utility of Norwegian airfields for the conduct of NATO combat actions in the Arctic Ocean TSMA, the Soviets saw northern Norway as a possible axis for American cruise missile strikes. Integration of Soviet naval air defense into the homeland air defense system to push the national air defense envelope further out from Soviet territory was a possible solution to this problem, but this too would have probably involved Soviet combat actions against the "contiguous coastlines" of the Arctic Ocean TSMA. The Soviets would have expected these combat actions to draw counter-attacks against Soviet contiguous coastlines.

In any general war, the bomber aircraft of Soviet Naval Aviation and the Soviet Air Forces, together with naval surface combatants and submarines, would have attempted to destroy enemy submarine and surface groupings. The *"destruction of hostile naval forces at sea* aims at destroying, or at least substantially reducing, at the beginning of a war, the nuclear delivery potential not only of submarines, but also of surface units, and attack carriers in particular."[58]

Soviet combat actions in the Arctic Ocean TSMA, and actions against contiguous coastlines, would have related to three strategic missions. The first would have been to support and protect the ballistic missile submarine (SSBN) force, and thus insure the survival of this component of the Soviet strategic nuclear triad.[59] The second would have been to defend the homeland from attack. The third would have been to contribute to the multi-theatre wartime Soviet objectives, focusing on operations in the Western TSMA. Many of the wartime tasks required by any one of these missions would have served the other two. An example of this was anti-carrier warfare. The American carrier battle groups threatened the Soviet SSBN force by giving support to American anti-submarine warfare operations. The nuclear and conventional strike aircraft onboard the carriers threatened both the Soviet homeland as well as Soviet forces operating in either the Northwestern

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[58] V. Bestuzhev, "Combat Actions on the Sea," *Military Thought.* No 7. July 1971, as translated in *Selected Readings From Military Thought 1963-1973,* Volume 5, Part II, Washington: GPO, 1982, p. 104.

[59] The Soviets only begun to describe their own global nuclear forces as a "triad" in the mid-1980s. See Army General V. Shabanov, "Combat Potential: Technical Equipment: The Material Basis of Defense Might," *Red Star,* 15 August 1986.

or the Western TSMA. By successfully attacking the carriers, all three missions would have been served.

Some Western strategic theorists maintained that "intense conventional operations might *cause* nuclear escalation by threatening or destroying strategic nuclear forces." They saw a "risk...that Soviet ballistic submarines [would] inadvertently be sunk in the conventional phase of an East-West war," and believed the Soviets might "see such sinkings as a deliberate attempt to degrade the Soviet Union's *nuclear* retaliatory capabilitv."[60] The fact is, however, that the Soviets expected *both* sides to be striving to destroy each others' nuclear capabilities over the course of protracted conventional conflict. Thus, while certain Western theorists argued that "it would be the height of irresponsibility for NATO to begin purposely manipulating the risk of nuclear escalation *before* determining the fate of NATO's conventional forces on the Central Front,"[61] the Soviets planned to attack NATO's nuclear assets from the beginning of any conflict.[62] In predicting an escalatory Soviet reaction to an anti-SSBN campaign, such Western writers failed to understand that Soviet nuclear weapons would not be used or withheld depending on the attrition rate of nuclear stockpiles, but rather on the basis of whether their use would provide an operational advantage without an unacceptable risk of escalation to nuclear strikes against Soviet territory.

Under most circumstances, the Soviets would have viewed oceanic TSMAs as secondary to whatever continental TSMAs constituted the core of military operations. It has long been recognized, however, that combat actions to destroy air and sea lines of communication would have had a very important place in Soviet efforts to combat NATO's strategic reserves.[63]

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[60] Barry R. Posen. "Inadvertent Nuclear War? Escalation and NATO's Northern Flank," *International Security,* Fall 1982, Volume 7, No 2, pp. 28 and 41.

[61] John J. Mearsheimer, "A Strategic Misstep: The Maritime Strategy and Security in Europe," *International Security,* Fall 1986, p. 54.

[62] See, for example, Major General S. V. Shtrik, "The Encirclement and Destruction of Enemy During Combat Operations Not Involving the Use of Nuclear Weapons," *Military Thought,* No.1, January 1968, as translated in *Selected Readings From Military Thought 1963-1973,* Volume 5, Part I, Washington: GPO, 1982, p. 187; and Colonel Stepan Andreyevich Tyushkevich, "The Methodology for the Correlation of Forces in War," *Military Thought,* No.6, June 1969, as translated in *Selected Readings From Military Thought 1963-1973,* Volume 5, Part II, Washington: GPO, 1982. p. 68.

[63] Major General Kh. Dzhelavkhov, "Combating Strategic Reserves in a Theater of Military Operations," *Military Thought,* No. 11, November 1964, as translated in *Selected Readings From Military Thought 1963-1973,* Volume 5, Part I, Washington: GPO, 1982, pp. 92- 93.

Although sea and air transport is most vulnerable during unloading, disruption of maritime shipping in transit was still considered a vital task if a conventional conflict proved to be protracted. In a non-nuclear war, Iceland's contribution to securing NATO's sea lines of communication (SLOC), obviously, figured prominently in Soviet military strategy.[64] Constituting the fulcrum of the strategic region stretching from Greenland to the western coast of Norway, Iceland controlled what Soviet General Staff Academy lecture material referred to as "the Arctic gates to the Atlantic." Depending upon the scenario of the crisis leading up to the war, the actions of NATO forces and Soviet expectations for a quick victory, the Soviets could have been faced with difficult force allocation decisions regarding the defense of the SLBM bastions and the conduct of anti-SLOC operations.

Faced with a predominantly sea-oriented NATO coalition dependent on control of the SLOCs, there can be no question but that the Soviets would have liked to capture or at least neutralize Iceland. Soviet operations against Iceland could have theoretically covered a wide spectrum of means, ranging from air and missile attacks to troop assaults. A "best-selling" American work of fiction - *Red Storm Rising* by Tom Clancy - interestingly enough, postulated a conventional war between NATO and the Warsaw Pact in which the Soviet capture of Iceland was a key element of the plot.[65] The novel raised the critical question of whether or not the Soviets could seize the island.

During Second World War, Iceland was, in fact, pre-emptively occupied by the British in seizing the island. The German plan - code named *Icarus* - called for the employment of an army division embarked in two large merchant ships. Eventually, British occupation forces on Iceland totaled some 25,000 troops. Given the physical isolation of the island, as well as the British air and naval superiority in the area, the Germans were never able to mount an assault landing against Iceland. The situation during the Cold War was little different for the Soviets than it was for the Germans.

The distance to Iceland from any Soviet staging area made a classical Soviet assault landing operation most improbable. Furthermore, Iceland was not an easy target for either airborne or amphibious landings. The two

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[64] Captain 2d Rank V Khomenskiy, "Anti- submarine Warfare Tactics, Command Structure," *Zetubezhnove Voyennove Obozreniye* [Foreign Military Review], No.1. 1984, pp. 73-81.

[65] Tom Clancy, *Red Storm Rising,* New York: G.P. Putnam's Sons, 1986.

principal military objectives on the island - the capital and major port at Reykjavik (See Figure 94 and 95) and the NATO Naval Air Station at Keflavik (See Figure 96) - are situated on a relatively low-lying peninsula. The lava flows that created the peninsula, however. have left such an uneven surface that it is difficult to walk on, let alone jump onto without breaking a leg (See Figure 97). Furthermore, strong winds on the island would make it difficult to parachute onto the relatively small areas that are suitable.

Figure 94: Reykjavik, with a population of over 100,000 (and nearly 200,000 in the Capital Region – which is two-thirds of the country's population) is the heart of Icelandic economic and governmental activity.

Figure 95: Reykjavik City Airport, two kilometers (1.25 miles) from the city center, has three asphalt runways, the longest of which is 1,567 meters (5,141 feet). The British Army constructed the airport on the south coast of Reykjavik peninsula during the Second World War. The airport accepts aircraft weather diverted from Keflavik

Seaborne landings would also have been difficult. The northwestern, northern, and eastern areas of the island are accessible from the sea only by narrow fjords (See Figure 98). Reefs, sandbars, rocks, and island archipelagos make local navigation contingent on expert pilotage. If landings proved possible in these isolated areas, a ground advance on the principal objectives would remain difficult. The southern coast from Stokkseyri to Vik (See Figure 99) has no ports because of an extended shelf that prevents larger ships from approaching the shore. This area also features strong currents and tides that could make landings with the use of small boats difficult. Moreover, unless cover were provided by bad weather, a ground force landing anywhere on the island would have found itself very vulnerable to air attack if the NATO air base and any aircraft carriers in local waters had not been neutralized (See Figure 100).

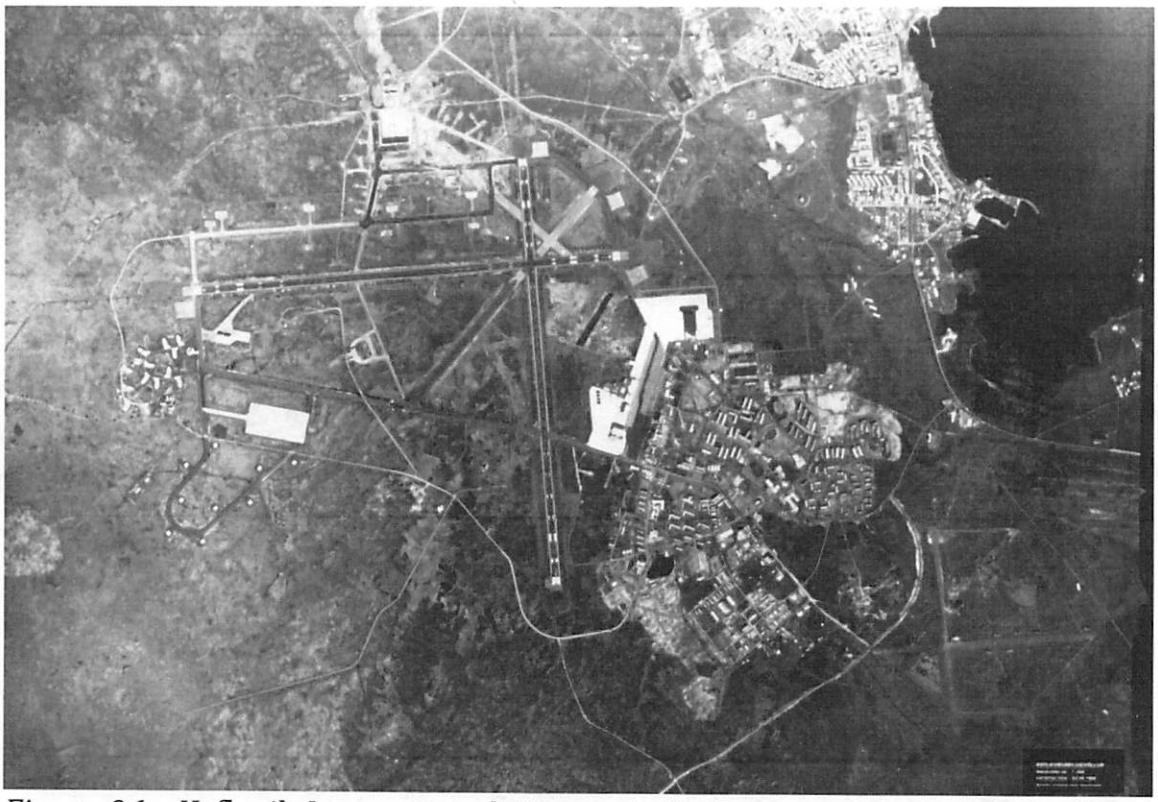

Figure 96: Keflavik International Airport is the largest airport in Iceland and the country's main hub for international flights. The airport has three asphalt runways, of which two are open to commercial traffic, and the longest of which is 3,065 meters (10,056 feet). The airport was constructed by the United States military during the Second World War because of a desire to be able to operate heavy bombers from it, but with the end of the war the airport quickly became a refueling stop for international civil aviation crossing the Atlantic. Although American military forces withdrew from Keflavik Airport in 1947, they returned in 1951 and remained throughout the Cold War under the auspices of the NATO Naval Air Station Keflavik.

In Clancy's novel, the Soviets executed the initial covert assault landing by means of a regiment embarked on a Soviet merchant barge-carrying ship (See Figure 101). While Soviet missile-equipped strike aircraft destroyed the defending fighter force (See Figure 102), two Soviet airborne battalions, landed by hovercraft, mopped up the single company of US Marines in Iceland's Defense Force (See Figure 103). The Soviets did, in fact, have barge-carrying ships that could have, as in the novel, taken advantage of the normally low profile of Icelandic defenses before NATO reinforcement. The Soviets did stress the building of high-speed roll-on/roll-off (ro-ro) combination vehicle and container ships that can easily transport most forms of military hardware (including tanks) without ship modifications. "The ro-ro ship is basically a

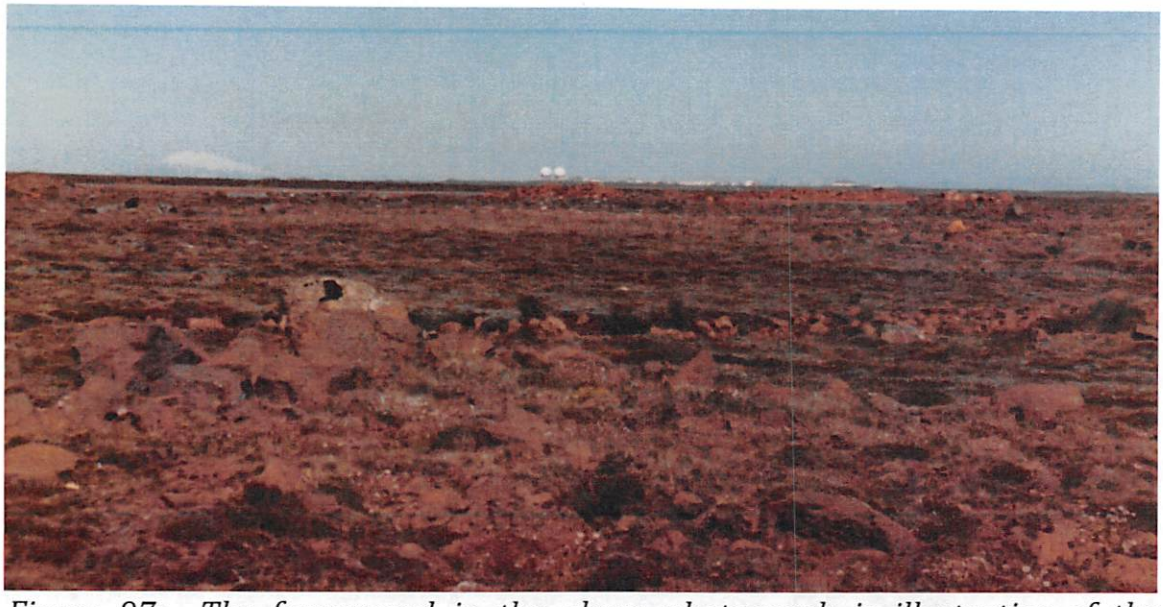

Figure 97: The foreground in the above photograph is illustrative of the difficulty of the terrain around Keflavik. In the center background are the radar at Keflavik; in the left background is Snaeflellsjokull, from here Jules Verne set the starting point for Journey to the Center of the Earth.

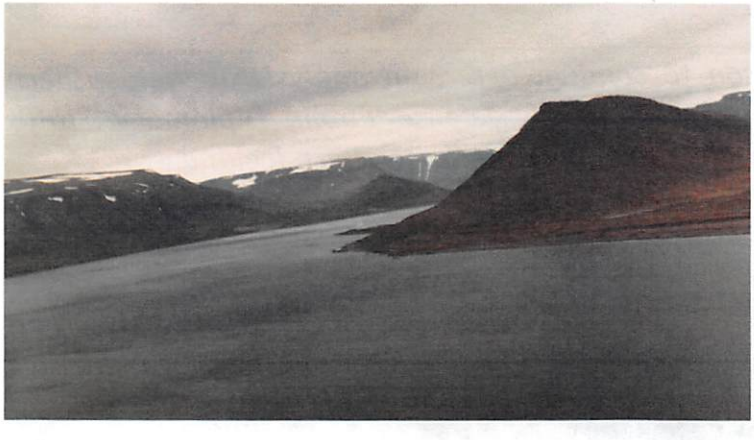

Figure 98: The photo to the right is Dyrafjordur near Thingeyri Airfield in northwestern Iceland, and illustrates the narrowness of the fjords.

floating garage that loads and unloads cargo via a large stern and/or bow ramp."[66] Ships of this type do not require sophisticated port facilities.

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[66] *Understanding Soviet Naval Developments,* NAVSO-P-3560 (REV 4/85), Fifth Edition, Washington: GPO, April 1985, p. 74.

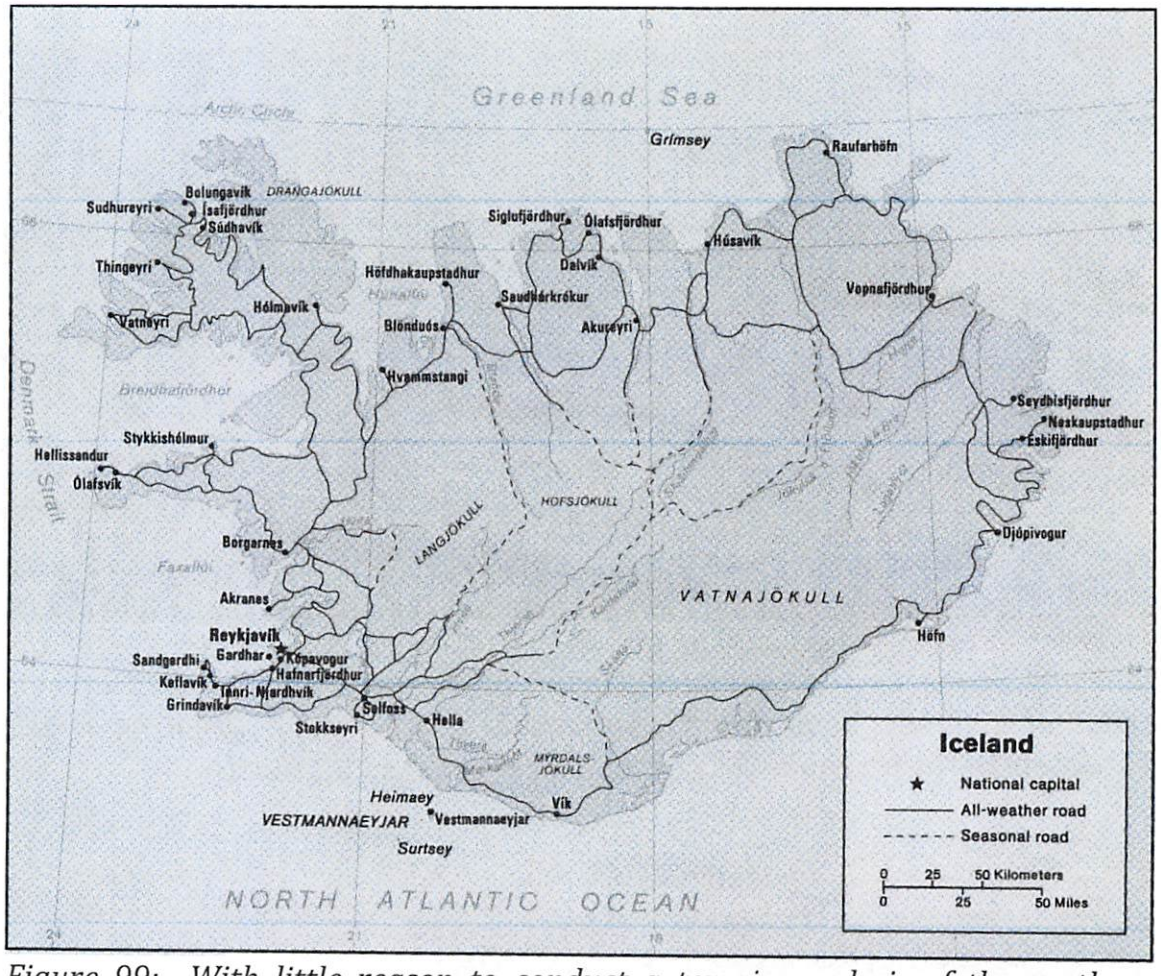

Figure 99: With little reason to conduct a terrain analysis of the southern shoreline, the Office of the Secretary of Defense Public Diplomacy Staff's interagency Soviet team concentrated on west and northern Iceland.

Figure 100: The road to Vatneyri is indicative of the total lack of cover from air interdiction for forces attempting to redeploy from one part of Iceland to another with out complete air superiority.

Figure 101: The Soviet merchant barge carrier Yulius Fuchik used by the General Staff to land an infantry regiment in Iceland in the Clancy novel, Red Storm Rising, was a real ship. Such relatively high-speed (20 knots) vessels were increasingly employed in Soviet military exercises to transport combat vehicles, to include tanks, during amphibious assault landings.

Figure 102: As part of the American effort to modernize its forces in the mid-1980s, eighteen F-15 Eagle interceptors replaced twelve F-4 Phantoms. In the above photograph, and F-15 sits in front of a third-generation Norwegian-designed aircraft shelter built to provide protection against surprise attack.

Figure 103: The vehicle in the above photograph was the most heavily armored vehicle at Keflavik Air Base to defend the dual-use airport (See Figure 88) from ground attack.

Figure 104: NATO forces shared Keflavik Naval Air Stations with civilian aircraft, leading to the peculiar situation shown above. A Soviet Aeroflot airliner is parked alongside a US F-15 and a US P-3 Orion. A new civilian international terminal separating civil and military aircraft was under construction as part of the general effort to upgrade Iceland's defenses.

Even if the Soviets had attempted a lower-risk effort such as inserting a naval infantry company by submarine, such a force might have been sufficient to attack the Keflavik airbase, while special-purpose (*spetsnaz*) forces, in teams of five to twelve men each, attacked outlying facilities like that at Hofn. Soviet interest in delivering naval *spetsnaz* or small tactical naval infantry units dates from World War II (See Figure 105). As early as September 1941, a Soviet Northern Fleet submarine delivered a fleet "reconnaissance detachment" to northern Norway to reconnoiter German forces deployed there. Similar missions were carried out during 1942 and 1943. In the Black Sea, Soviet submarines delivered small commando-type units for preliminary reconnaissance in the Crimea prior to its re-occupation by the Soviet Army. In August 1945, during the brief Soviet war against Japan, the Soviet Navy planned a submarine-delivered diversionary landing on Hokkaido. Two submarines were fitted out to carry two 60-man mixed army and naval infantry detachments, a 45mm gun and rations for ten days of independent operations.[67] The mission was cancelled, but interest in transporter submarines was reflected in numerous Soviet writings on the subject.

Figure 105: This Soviet "photograph" – almost assuredly a "composite" – purports to illustrate naval infantry being delivered by submarine.

Early reinforcement of Iceland by NATO ground forces could have contributed to crisis stability by neutralizing the Soviet assault landing and *spetsnaz* threats. Then, had war nevertheless broke out, Soviet denial operations directed against Iceland would most likely have involved air and

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[67] Admiral of the Soviet Navy I. S. Isakov and Captain First Rank (Ret) L. M. Eremeev, *Transportnaia deitate'nost' podvodnykh lodok,* Moscow: Voenizdat, 1957, pp. 275-279.

submarine launched cruise missile attacks against NATO radar sites and the air base at Keflavik. Such attacks could have been carried out with the AS-15 (Soviet designation Kh-55) - the small, air-launched, subsonic, low-attitude cruise missile that became operational in 1984 (See Figure 106). A sea-launched version of the AS-15, the SS-NX-21 (Russian designation RK-55 or S-10), small enough to be fired from standard Soviet torpedo tubes, was eventually fitted with a conventional a submunition warhead that would have had an enhanced effectiveness against airfields and air defense sites.

Along with NATO P-3 *Orion* anti-submarine aircraft stationed at Keflavik for intelligence gathering, eighteen F-15 *Eagle* fighter-interceptor aircraft were assigned to the airbase as part of a general effort to upgrade the island's defenses. The F-15s routinely intercepted Soviet aircraft attempting to violate Icelandic airspace and would have, in wartime, along with the P-3s. attempted to prevent hostile combat action by intercepting any air or naval attacks.

Figure 106: The Soviet AS-15 air-launched cruise missile, similar to the American Tomahawk is carried on the Bear H bomber, shown in the photograph above being intercepted by a Canadian CF-18.

Iceland's NATO allies made every attempt to avoid being intrusive and maintained only an absolute minimum military presence on the island in an effort to avoid generating any public opposition to the country's membership in the Alliance. The presence of foreign military forces in Iceland under the NATO-sponsored United States-Iceland Defense Agreement of 1951 was a

controversial issue in Iceland, which had no indigenous military forces. Therefore, it would have been crucial for the Government of Iceland to request NATO reinforcement very early in any European crisis. The Soviets, who employed diplomatic cover through its Embassy in Reykjavik both to exploit Icelandic openness and naiveté during the preparatory phase of conflict to undermine Icelandic support of NATO and to be pre-positioned for the unconventional warfare of the crisis phase of war with NATO (See Figure 107), maintained an extraordinarily large staff in Iceland. While some might have considered pre-emptive action by NATO to reinforce Iceland's security as destabilizing, it would, in fact, have had just the opposite effect. NATO reinforcement of Iceland would have helped prevent the Soviets from interfering with Europe's reinforcement and resupply from the United States and Canada. It also would have preempted any Soviet thoughts about attempting to seize the island.

Figure 108: The Soviet embassy in Reykjavik is but four blocks from Iceland's Althing (parliament) Building (pictured to the left), and history provides ample evidence of how the Soviet threat of execution persuaded parliamentarians in the Baltic States to reject their independence and vote to join the Union of Soviet Socialist Republics.

Soviet naval exercises conducted in Nordic waters over the last decade of the Cold War provided some insight into Soviet strategic planning for the region and how it had shifted, partly as a result of NATO's firmer maritime policy. In general, Soviet plans could best be summarized in terms of "sea control" and "sea denial." Simply put, "sea control" meant that the Soviet Union could in wartime operate its surface fleet and merchant vessels with relative impunity. This required both maritime and air superiority over the relevant area. "Sea denial" was achieved by preventing NATO from attaining sea control. In areas of sea denial the Soviets would have primarily operated with their strike aviation and subsurface forces.

The scope and depth of the areas of sea control and sea denial have

varied considerably in the major exercises observed by Western analysts over the last decade of the Cold War. In a major 1984 Northern Fleet exercise, the Soviets established an area of sea control in the Norwegian Sea that reached to the Lofoten Archipelago. This was probably in response to the expectation that the United States Navy was interested in operating an aircraft carrier in the West Fjord. During the exercise, sea denial operations were conducted to the Greenland – Iceland – United Kingdom – Norway (G-I-UK-N) gap. This effort was expanded in a July 1985 exercise to emphasize coordinated strike operations by submarines and long-range bomber aircraft south of the G-I-UK-N gap. The wartime conduct of strike operations by Soviet bombers and submarines reaching to and past the G-I-UK-N gap as exercised in 1984 and 1985 would demand, at the very least that the air defense capabilities of Iceland be suppressed by force of arms for the period of the strike operations.

In a series of smaller exercises taking place over the course of 1986, operations focusing on the Barents Sea and the North Cape region, showed a significant contraction of the sea control and sea denial areas. If these exercises reflected a shift in Soviet operational planning, they also reflected a Soviet re-assessment of the "correlation of forces and means." The Soviet decision-maker builds a mathematical model reflecting his assessment of the situation, and then determines what forces are required. Forces are assigned values based on their qualitative characteristics (combat potential) and their quantity, and are then factored into the models. This estimative process led Soviet planners to prepare exercises reflecting a "scientific" net assessment of the "correlation of forces and means." Thus, the shift further north of the Soviet operational focus was probably caused in part by the increased presence of NATO naval forces in the Norwegian Sea (and probably caused as well partially by NATO exercises involving the forward deployment of equipment and reinforcement by ground forces).

The presence of NATO surface ships in the Norwegian Sea had been reduced regularly from the mid-1960s until 1985. Despite the "hand-wringing" over the new American "maritime strategy" and the recent exercise of aircraft carrier operations in Norway's *Vestfjorden*, American carriers had only logged 41 days in the Norwegian Sea over the decade prior to 1987. NATO's Concept of Maritime Operations, approved by the Defense Planning Committee in 1981, called for the same forward defense of Nordic members of the alliance as was assured the Federal Republic of Germany. Readiness to engage Soviet naval forces from NATO's sea lines of communication all the way back to Soviet home ports constituted a critical element of the risk-sharing involved in the coalitional commitments that insured peace and security for Western

Europe throughout the Cold War.