UNITED STATES GOVERNMENT

memorandum

DATE: 1 OCT 86

REPLY TO ATTN OF: DIC-20

U-2222/DIC-20

H - you might find this of interest as an useful alternative view - for the "gospel" I sell our SLOC IIM of 1979/80. G

SUBJECT: MSSI Thesis Proposal

TO: PGIP Class 1-87

1. Enclosure 1 is being provided as a sample of an accomplished MSSI thesis proposal for those MSSI candidates electing to write a thesis. Complete guidelines for writing a thesis are in the College's THESIS MANUAL FOR GRADUATE STUDENTS available in LT Brannen's office, C3-117. Students should be aware that a revised version of the manual will be published in approximately two months.

Max L Gross

MAX L. GROSS
Associate Dean for Career
Intelligence Studies

1 Enclosure a/s

T - recommend summary p144

Lcdr Ray Brown USCG - G Rep room 3305 USCG HQ 2100 2nd St SW 267-0585

F - file ~~SLOCs~~ SOVNAV Doctrine

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THE DEFENSE INTELLIGENCE COLLEGE

THESIS PROPOSAL

XO Carrier New Bedford

Student's Name: LCDR Michael W. Collier, USCG

Chairman: CDR L. A. Joslin

Date submitted for approval: 20 March 1986

I. TITLE

The Wartime Threat to the Western Atlantic Sea Lanes

II. THE CENTRAL PROBLEM/HYPOTHESIS

A. Introduction

Within the North Atlantic Treaty Organization's (NATO) overall concept of maritime operations, Supreme Allied Commander Atlantic (SACLANT) has been assigned the following tasks:

- To control the Atlantic Ocean sea lines of communication (SLOCs),
- To protect reinforcement and resupply shipping.
- To safeguard the seaborne trade of the Alliance.
- To provide support for Allied Command Europe and the Channel Command.

NATO's concept of operations envisages five campaigns to carry out these tasks. One of these campaigns, the battle for the

Atlantic lifelines, is intended to secure the vital SLOCs as well as protect the economic lifelines of the Alliance.(1)

The success of the whole NATO strategy of forward defense in Europe is heavily dependent on reinforcement and resupply shipping. Without reinforcement and resupply shipping, NATO could not sustain fighting in Western Europe for more than about 10 days. At least 800 shiploads of military cargo and 1,500 shiploads of economic cargos each month would be required to sustain not only a military action in but also the economies of Western Europe.(2) The majority of this shipping would transit directly from U.S. Atlantic and Gulf of Mexico ports to Europe.

The purpose of this effort is to develop an assessment of the wartime threat to this reinforcement and resupply shipping while it transits the Western Atlantic Ocean, including the Gulf of Mexico and Caribbean Sea. The Western Atlantic has several features which make it both vulnerable and difficult to defend. The Atlantic and Gulf of Mexico coasts have broad continental shelves which are susceptible to bottom mining. These shelves also make it difficult to detect and track enemy submarines. Cuba, a strong Soviet ally, sits astride the sea lanes exiting the Gulf of Mexico and Caribbean.

Two general views of the wartime threat to the Western Atlantic sea lanes have emerged. The first view prescribes that because of the Soviet priority on defending the homeland from direct attack and the U.S. Navy's recent declarations of planned offensive actions in the Norwegian Sea, the Soviets would not venture out into the Atlantic SLOCs. This view further maintains that U.S. air power will negate the Cuban threat.

The second view, however, posits a much greater wartime threat. The Soviet Northern fleet's possession of over 140 general purpose submarines, anti-SLOC exercises recently conducted, and Soviet publications recognizing SLOC interdiction as the third Naval mission priority (3), all point to a Western Atlantic threat. This view further includes Cuba as a key factor in a Soviet anti-SLOC campaign.

B. The Research Hypothesis

In the event of a protracted conventional NATO/Warsaw Pact conflict in Europe, Soviet and Cuban forces will pose a significant threat to reinforcement and resupply shipping transiting the Western Atlantic.

C. Subsidiary Questions

1. What is the Soviet wartime strategy for the Western Atlantic?
2. What is the probable threat from Soviet forces?
3. What is Cuba's likely role?

III. REVIEW OF RELATED LITERATURE

The extent and importance of a NATO reinforcement and resupply effort is found in various articles and books. Sherwood Cordier's The Air and Sea Lanes of the North Atlantic: Their Security in the 1980s provides a good general discussion of the NATO sea lift. Paul Nitze and Leonard Sullivan, Jr., in Securing the Seas: The Soviet Naval Challenge and Western Alliance Options, quantify the sheer size of such a sea lift and provide various options for its execution. Admiral Wesley McDonald,

former SACLANT, has also published several articles on the NATO sea lift and its vulnerabilities.

An assessment of the threat to a NATO resupply sea lift must consider the Soviet/Cuban force structures, strategy, and actual capabilities as reflected in exercises. The Office of the Chief of Naval Operations' Understanding_Soviet_Naval_Developments, Defense Intelligence Agency's Handbook_on_the_Cuban_Armed_Forces, and various commercial reference books provide excellent unclassified information on Soviet/Cuban force structures.

In developing Soviet strategy to use these forces, Soviet military strategy in Western Europe must first be studied. Soviet strategy in the Western Atlantic will be directly tied to their European intentions. Richard Simpkin, in Red_Armour:_An Examination_of_the_Soviet_Mobile_Force_Concept, discusses how the Soviets intend to use operational maneuver groups and special forces to penetrate deep into Western Europe and intermingle their forces with NATO's. It appears the Soviet strategy in Western Europe now centers on attempting a quick victory using primarily conventional forces. If this is true, a protracted conventional conflict could result, making the resupply of NATO by sea lift critical. Joseph Douglass' Soviet_Military_Strategy_in_Europe, Harriet and William Scotts' The_Soviet_Art_of_War, and Graham Vernon's Soviet_Perceptions_of_War_and_Peace, will be used to develop insights into Soviet wartime strategy in Europe and their effect on a Soviet anti-SLOC campaign.

Soviet general naval strategy can be viewed from V. D. Sokolovskiy's Soviet_Military_Strategy and Sergei Gorshkov's Sea Power_of_the_State. Sokolovskiy sets the broad framework for

Soviet naval operations. Gorshkov then provides a detailed development of overall Soviet naval strategy. There are also numerous translations in the Soviet Naval Analyst from the Soviet naval journal Morskoy Sbornik which has articles on Soviet naval strategy. B. Makeyev's "SLOC Under Present-Day Conditions" and Y. Bol'shakov's "NATO's Plans for Maritime Transport," are just two Morskoy Sbornik articles which show the Soviets recognize the importance of NATO's resupply efforts and SLOC vulnerabilities. Makeyev states:

> "As we can see, the success of military operations in continental theaters and, under certain conditions, the capacity as well of individual countries for continued resistance will depend, to a great extent, on the outcome of the conflict in the transoceanic SLOC and on their stability during the war."(4)

Milan Vego, in "The Role of the Attack Submarines in Soviet Naval Theory," highlights that since the mid-1970s there have been unmistakable signs of the Soviets upgrading their anti-SLOC mission.(5) Using translations of Soviet naval literature, he concludes Soviet attack submarines will be deployed in anti-SLOC roles. Richard Fisher also concludes, in "Soviet SLOC Interdiction," that the Soviets can be expected to conduct transoceanic SLOC interdiction.(6)

Keith Allen, in "The Northern Fleet and North Atlantic Naval Operations," points out that anti-SLOC warfare receives honorable but hardly enthusiastic mention in Soviet discussion of modern naval missions.(7) He concludes danger to the Atlantic SLOCs is limited by Soviet strategic priorities and weaknesses in Soviet open-ocean capabilities.(8) Robert S. Wood and John T. Hanley,

Jr. believe that U.S. offensive power projection into Northern Europe will negate Soviet anti-SLOC efforts. They conclude in "The Maritime Role in the North Atlantic," that phrases such as "protect the SLOCs" are becoming obsolete in the NATO Atlantic maritime strategy.(9)

One of the major focuses of this effort is to develop which of the above sets of views on Soviet military strategy are correct concerning the Western Atlantic.

Reviewing actual Soviet Naval exercises is another means for determining the Soviet SLOC interdiction intentions. Donald Daniel, in "Trends and Patterns in Major Soviet Naval Exercises," sees a heightened Soviet anti-SLOC priority.(10) Bruce Watson, in Red Navy at Sea: Soviet Naval Operations on the High Seas, 1956-1980, provides discussion which supports Daniel's conclusions. Daniel's article was based on 1975 and earlier Soviet exercises. More recent exercises will be reviewed to see if his conclusions remain valid.

Cuba's role in a Soviet anti-SLOC campaign is uncertain. Cuba is neither a member of the Warsaw Treaty Organization nor does it have a defense treaty with the Soviets. Mark Katz's "The Soviet-Cuban Connection" discusses the intricacies of Soviet/Cuban military relations. Wesley McDonald, in "Atlantic Security - The Cuban Factor," addresses Fidel Castro's options in a NATO/Warsaw Pact conflict. These options range from shifting to the NATO side to overt belligerence. McDonald concludes that the unpredictability of Castro's intentions would severely complicate the SLOC protection problem.(11) Edward Gonzalez, in A Strategy

for Dealing with Cuba in the 1980's, discusses how Cuba may not have a choice on entering a NATO/Warsaw Pact conflict when he states:

> "In the event of a U.S./Soviet confrontation, a hostile Cuba, as an ally of Moscow, could endanger the sealanes in the Caribbean that are vital, not only to the United States and Caribbean Basin states, but to Western Europe as well....To be sure, a rational Cuban leadership would seek to avoid being drawn into a war with the United States because the conflict would result in heavy civilian as well as military casualties on the island. Still there are conditions under which the strategic threat posed by Cuba cannot be ignored without serious peril to U.S. security, and these conditions could turn out to be beyond the control of even the most rational Cuban leaders.(12)

In addition to the above works, there are numerous other articles and book-length unclassified works on Soviet-Cuban relations that will also be reviewed.

IV. THE PROCEDURES

A descriptive research methodology will be used in this project. Interpretation and explanation of information obtained will be used to develop a wartime threat assessment for the Western Atlantic sea lanes. In addition to the resources listed in my bibliography, my major sources will be personal interviews, questionnaires, library searches, and specific periodical searches. As explained below, this research is intended to be kept unclassified.

A. Personal Interviews

In order to further refine the research topic and ensure a meaningful contribution to the intelligence community, I will conduct a series of interviews. These will probably include:

1. Dr. Milan Vego, Adjunct Professor, Defense Intelligence College. Dr. Vego is a noted author on Soviet Naval strategy and operations.
2. Mr. Richard Haver, Deputy Director of Naval Intelligence for Intelligence. Mr. Haver is a leading authority on Soviet naval strategy.
3. Navy Operational Intelligence Center, Suitland, MD. (Personnel in the Soviet Northern Fleet and Latin American sections.)
4. Defense Intelligence Agency, Washington, DC. (Personnel in the Directorates for Research and Estimates.)

B. Questionnaires

Using the Delphi method, I will construct a questionnaire soliciting naval analysts' opinions on the number of Soviet submarines which will be deployed to the Western Atlantic in wartime. This voluntary questionnaire will be sent to selected personnel at the Defense Intelligence Agency and various Navy, Coast Guard, and Canadian Defense Force commands. At least two rounds of questionnaires will be used.

A second questionnaire will be developed soliciting analysts' opinions on the probable Cuban involvement in a SLOC interdiction campaign. This voluntary questionnaire will also be sent to the above commands.

C. Library Searches

I will visit the following libraries to search their card catalogs and computer data bases for additional materials:

1. Defense Intelligence Agency Library.

2. National Defense University Library.

3. Pentagon Library.

4. Naval Academy Library.

5. Navy Department Library.

6. Naval Intelligence Support Center Library.

The Library of Congress or other public or academic libraries in the Washington, DC, area will be used to obtain information uncovered during research but not available in the above libraries.

D. Specific Periodical Searches

Due to their concentration on naval affairs or Soviet military strategy, I will search the indexes and stacks of the following periodicals for background or specific information:

1. Proceedings (Naval Institute).
2. Sea Power.
3. Naval War College Review.
4. International Defense Review.
5. Morskoy Sbornik (Translations in Soviet Naval Analyst).
6. Naval Forces.

Other periodicals will also be searched as appropriate.

E. Research Classification

This effort will be kept unclassified because of its intended audience. I intend to send final copies of the thesis to the commands responding to my questionnaires. I also intend to submit selected portions of the research to the Coast Guard Academy Alumni Bulletin or Naval Institute Proceedings. If kept unclassified, it will receive a much wider reading.

The major thrust of this effort is to develop Soviet and Cuban intentions for wartime deployment of their forces in the Western Atlantic. The primary material for this effort is available from open-sources. Significant effort will not be used for a detailed discussion of Soviet and Cuban SLOC interdiction forces. For readers who may be unfamiliar with these forces, appendixes summarizing them will be included. Remaining unclassified will also make the questionnaire coordination easier and probably more fruitful.

During the research, classified sources will be reviewed to provide additional background and leads for unclassified investigation. If deemed necessary, a classified bibliography and possible classified appendix to the research project will be developed.

ENDNOTES

1. Wesley McDonald, "Mine Warfare: A Pillar of Maritime Strategy," U.S. Naval Institute Proceedings, Oct. 1985, p. 47.

2. Ibid., p. 49.

3. Sergei Gorshkov, "Navy," Great Soviet Encyclopedia, vol. 5 (1970), p. 675: and Soviet Military Encyclopedia, vol. 5 (1976), p. 235.

4. B. Makeyev, "SLOC Under Present-Day Conditions," Morskoy Sbornik, no. 7, 1979, p. 22.

5. Milan Vego, "The Role of the Attack Submarines in Soviet Naval Theory," Naval War College Review, Nov./Dec. 1983, p. 60.

6. Richard Fisher, "Soviet SLOC Interdiction," in The Soviet Navy, Its Strengths and Liabilities, eds. Bruce W. Watson and Susan M. Watson (Boulder: Westview, 1986), p. 267.

7. Keith Allen, "The Northern Fleet and North Atlantic Naval Operations," in The Soviet Navy, Its Strengths and Liabilities, eds. Bruce W. Watson and Susan M. Watson (Boulder: Westview, 1986), p. 312.

8. Ibid., p. 315.

9. Robert S. Wood and John T. Hanley, Jr., "The Maritime Role in the North Atlantic," Naval War College Review, Nov./Dec. 1985, p. 18.

10. Donald C. Daniel, "Trends and Patterns in Major Soviet Naval Exercises," in Naval Power in Soviet Policy, ed. Paul J. Murphy (Washington, DC: GPO, 1978), pp. 227-228.

11. Wesley McDonald, "Atlantic Security - The Cuban Factor," Jane's Defense Weekly, 22 Dec. 1984, p. 1111.

12. Edward Gonzalez, A Strategy for Dealing with Cuba in the 1980s, The Rand Corporation, R-2954-DOS/AF, Sep. 1982, p. 6.

V. THE PROBABLE CONTENTS

Chapter

I. Introduction

II. Soviet Anti-SLOC Strategy in the Western Atlantic

III. The Soviet SLOC Threat

IV. The Cuban Factor

V. Conclusion

APPENDIX

A. Soviet Anti-SLOC Forces in the Western Atlantic

B. Cuban Anti-SLOC Forces

C. Methodology (Delphi Questionnaire Data)

VI. BIBLIOGRAPHY

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VII. APPROVAL

Student's Name: LCDR Michael W. Collier, USCG

Signature of Chairman: _____
CDR L. A. Joslin

Date: _____

Signature of Assistant Dean
for Graduate Programs: _____

Date: _____

Name of Committee Members:

COL(Ret.) G. Vernon, DIC-2D

Dr. H. Ingersoll, DIC-2D

VIII. MILESTONES

January-February	Conduct initial Delphi questionnaire.
March-April	Conduct second Delphi questionnaire.
March-1 July	Complete interviews/research.
1 July-15 July	Write first draft.
30 July	Receive first draft comments.
1 August-5 September	Complete final thesis.

ABSTRACT

Title of Thesis: The Western Atlantic Wartime Threat

Name of Candidate: Michael Wayne Collier
Lieutenant Commander, U.S. Coast Guard
Master of Science of Strategic
Intelligence, August 1986

Thesis Committee Chairman: Leslie A. Joslin
Commander, U.S. Navy

The North Atlantic Treaty Organization's (NATO's) conventional defense strategy is based on a forward defense in Central Europe supported by reinforcement and resupply (Re/Re) from North America. The Re/Re sea lift component consists of thousands of military and civilian ships moving military personnel, equipment, and supplies, plus economic cargoes, to Western Europe across the North Atlantic sea lines of communication (SLOCs). This thesis investigates the Soviet-Cuban threat to the Re/Re sea lift while the ships load in North American ports and transit the SLOCs in the Western Atlantic (Westlant) near the North American eastern seaboard and in the Caribbean.

The Soviet Westlant threat is developed within the context of the Marxist-Leninist approach to military science. Soviet force structures, naval exercises, and military writings are evaluated within this framework to determine Soviet anti-SLOC strategies, capabilities, and limitations.

The Cuban Westlant threat is developed around the extensive Cuban-Soviet military ties. After a review of these ties, the Soviet options for Cuba's wartime employment are examined. The options the Cuban ruling elite may agree to follow are then evaluated in terms of Cuba's internal and external national objectives.

This thesis shows the Soviets have developed both the strategy and capability to conduct a North Atlantic anti-SLOC campaign. In Westlant, their anti-SLOC objectives would take the form of limited interference with the Re/Re in order to divert NATO forces away from the European theater. These objectives could be attained by using only a few submarines to conduct mine laying and shipping attacks, Warsaw Pact merchant and fishing vessels for limited mine laying, and limited port sabotage operations.

Cuba would most likely declare neutrality just prior to a potential NATO-Warsaw Pact conflict. Although a neutral, Cuba could be expected to provide the Soviets a variety of overt political and covert military support.

The overall low to moderate Soviet Westlant threat, combined with potential Cuban covert actions, presents U.S. and NATO defense planners with significant problems. More important, over the next decade, as both the Soviets and Cubans continue to modernize their armed forces, the Westlant threat to the NATO Re/Re will become even greater.

THE WESTERN ATLANTIC WARTIME THREAT

by

Michael Wayne Collier
Lieutenant Commander, U.S. Coast Guard

Graduate Class 1-86

Thesis submitted to the Faculty of the Defense Intelligence College
in partial fulfillment of the requirements for the degree of
Master of Science of Strategic Intelligence
August 1986

Dedication

To my wife, Gloria,
whose support was
crucial to the completion
of this thesis.

Acknowledgements

I wish to express my appreciation to organizations and individuals who made important contributions to this thesis project. The librarians in the Defense Intelligence Agency Library were most helpful and patient throughout this research project. The Navy Department Library staff was also very helpful and saved me many hours of research by publishing their bibliographies on the Soviet Navy.

I would like to thank those individuals who took time from their busy schedules for interviews and to fill out the many questionnaires I mailed. The interviews were most valuable for the focus they provided to my research findings. I would like to single out Dr. Milan Vego, Center for Naval Analysis, for the research papers he provided, his many periodical articles cited herein, and his interview time which all made significant contributions to this thesis.

Special thanks also goes to my thesis committee chairman, Commander Leslie Joslin, U.S. Navy, and committee members, Colonel Graham Vernon, U.S. Army (Retired), and Dr. Hazel Ingersoll for their direction and comments on this project.

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Tables

Figures

CHAPTER 1

Introduction

The North Atlantic Treaty Organization's (NATO's) conventional defense strategy is based on a forward defense in Central Europe supported by a massive reinforcement and resupply (Re/Re) effort from North America. The NATO conventional forward defense is aimed at containing a Warsaw Pact conventional offensive. Without the Re/Re, however, NATO conventional forces could sustain a European conflict for only about 10 days.(1) Admiral Isaac Kidd, a former Supreme Allied Commander Atlantic (SACLANT), referred to the Re/Re as "the fire hose upon which NATO firemen will be relying when confronted with the flames of continental conflict."(2)

A Warsaw Pact offensive must be directed at breaking the NATO forward defense, seizing the NATO flanks, and choking off the Re/Re from North America. If the Re/Re is not stopped, the Warsaw Pact could be faced with a long war against an economically superior NATO.(3) This could force the Warsaw Pact to either escalate the conflict to nuclear war or capitulate, both unacceptable alternatives in their view.

Warsaw Pact interdiction of the Re/Re sea lift component could occur while the cargoes were either at sea or being loaded or unloaded in NATO ports. The at sea

interdiction would be carried out along the North Atlantic sea lines of communication (SLOCs) shown in Figure 1. The North Atlantic SLOCs can be broken into two main areas, the Eastern Atlantic (Eastlant) SLOC approaches to the British Isles and Western Europe and the Western Atlantic (Westlant) SLOCs along the North American eastern seaboard and in the Caribbean. During World Wars I and II, German U-boats operating at various times in each of these areas destroyed hundreds of Allied merchant ships. In World War II German U-boat operations almost brought the Allied powers to their knees and were reported to be "the only thing that ever frightened" Prime Minister Winston Churchill during the war.(4)

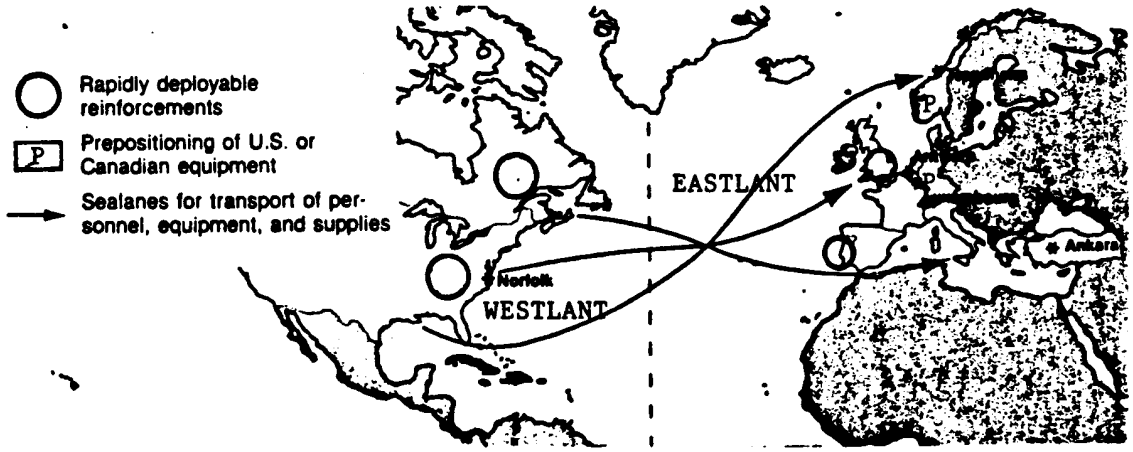

Figure 1

North Atlantic Sea Lanes

Note: Exact boundaries of NATO Westlant and Eastlant military commands are not shown.

Source: Adapted from U.S. Department of State, Atlas of NATO (Washington: GPO, 1985), p. 9.

Hypothesis

The focus of this work is to evaluate the Westlant threat during a future NATO-Warsaw Pact conflict. In Westlant, Soviet and Cuban forces present at least a moderate threat to the NATO Re/Re. Thus, some of the Re/Re shipping might not survive to later transit the higher threat areas in Eastlant.

NATO Reinforcement and Resupply

To understand the Westlant threat it helps first to know the magnitude of the Re/Re effort. Within the first 30-90 days of a NATO-Warsaw Pact crisis or conflict in Europe, an initial reinforcement must be dispatched from North America by both air and sea lift. The initial reinforcement includes:

- one to one and one-half million troops, sent mostly by air;
- eight and one-half to 12 million tons of their equipment, about 10 percent sent by air and the remainder by sea;
- fifteen to 17 million tons of oil and lubricants, all sent by sea.(5)

The NATO reinforcement alone is expected to take about 1,000 shiploads and, under the best of circumstances, would be completed during a crisis period before actual conflict. Additionally, naval reinforcements consisting of aircraft carrier and amphibious battle groups, nuclear attack submarines, and ballistic missile submarines would also have to transit through Westlant to their wartime stations.

After initial reinforcement, the resupply effort would take on even greater dimensions.

The NATO resupply includes the fuel, ammunition, food, spare parts, replacement equipment, and other supplies for both the NATO forces originally in place and their reinforcements. It also includes the transport of food, fuel, raw materials, and manufactured goods in order to help sustain a NATO European civilian population of over 300 million people.(6) The resupply could take as many as 800 shiploads of military cargoes and 1,500 shiploads of economic cargoes each month.

The total Re/Re effort equates to 30-75 merchant ships per day departing North America. There could be as many as 250-400 Re/Re ships in transit at once in Westlant both en route and returning from Europe, with a similar number simultaneously loading in North American ports.

Western Atlantic Defense Responsibilities

The responsibility for protecting the Re/Re shipping in Westlant falls to a combination of NATO, U.S., and Canadian military commands shown in Figure 2. It is at these commands this research effort is directed.

NATO's SACLANT, who has responsibility for both Westlant and Eastlant defense, is given a primary task:

> To provide for the security of the Atlantic area by guarding the sea lanes and denying their use to an enemy in order to safeguard them for the reinforcement and resupply of NATO Europe with men and material.(7)

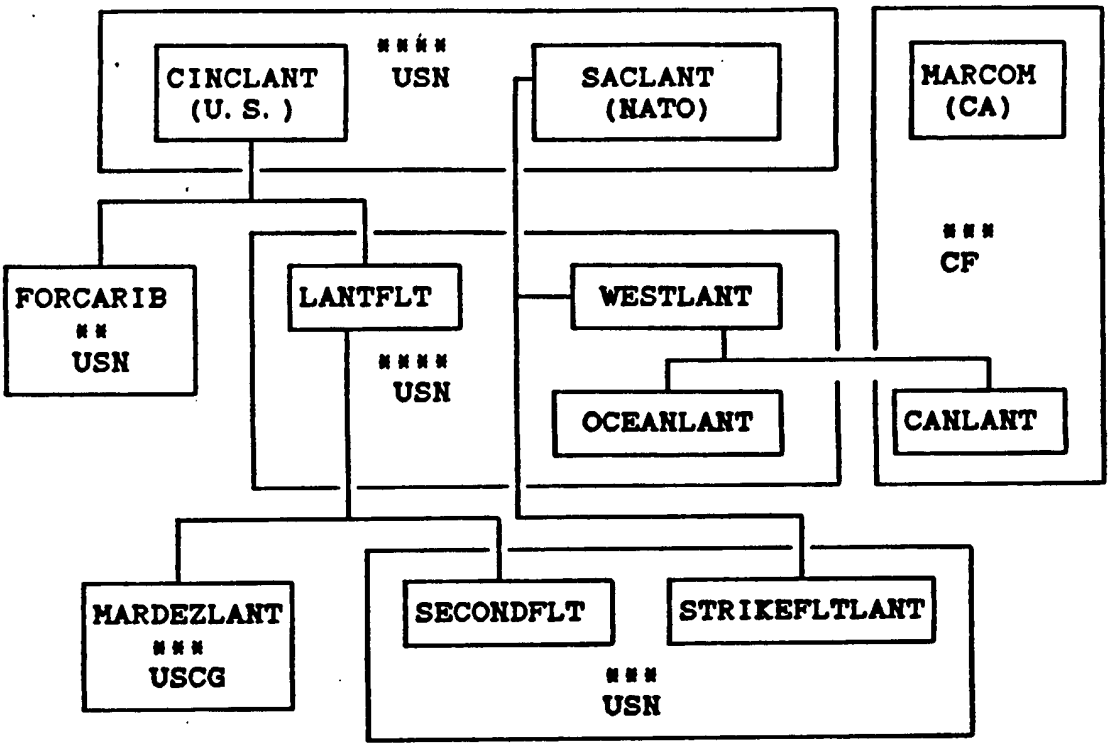

Figure 2

Western Atlantic Defense Organization

Source: U.S. Department of Defense

SACLANT is assigned forces primarily from the U.S., Canada, United Kingdom, Norway, and Portugal to execute this task.(8) Those forces in Westlant would be organized under SACLANT's subordinate commands of Commander-in-Chief Western Atlantic (CINCWESTLANT) and Commander, Striking Fleet Atlantic (COMSTRIKEFLTLANT). The principal forces to protect the Re/Re shipping in Westlant would come from the U.S. Commander-in-Chief Atlantic (CINCLANT) and Canadian Atlantic Maritime Command (MARCOM). A single U.S. Navy Admiral is "dual-hatted" as CINCLANT and SACLANT.

CINCLANT would draw his primary shipping defense forces from Commander-in-Chief U.S. Atlantic Fleet (CINCLANTFLT). CINCLANTFLT is assigned NATO responsibilities as CINCWESTLANT and its subordinate, Commander, Ocean Atlantic Sub-Area (COMOCEANLANT). CINCLANTFLT also has the U.S. national responsibilities for the protection of U.S. coastal sea lanes and ports. These national responsibilities would be carried out by CINCLANTFLT's subordinates: Commander, U.S. Second Fleet (COMSECONDFLT), and Commander, U.S. Maritime Defense Zone Atlantic (COMMARDEZLANT).

COMSECONDFLT provides forces and operational direction for anti-submarine warfare (ASW) and anti-surface warfare (ASUW) along the U.S. coastal and Westlant SLOCs. COMSECONDFLT is also "dual-hatted" as NATO's COMSTRIKEFLTLANT.

MARDEZLANT is a joint U.S. Navy-U.S. Coast Guard command formed in 1984. It is commanded by a U.S. Coast Guard Vice Admiral (Commander, Coast Guard Atlantic Area). Among other assignments, COMMARDEZLANT is responsible for U.S. port defense, mine-countermeasures, and naval control of shipping. COMMARDEZLANT also provides support to COMSECONDFLT for ASW and ASUW operations.(9)

Canadian national port and coastal SLOC defense is the responsibility of MARCOM. MARCOM is also assigned NATO responsibilities as Commander, Canadian Atlantic Sub-Area (COMCANLANT), who would control NATO SLOC defense forces in Westlant adjacent to the Canadian coast.

Between 60 and 65 percent of the Re/Re shipping, including 95 percent of the oil and lubricants, would come from the U.S. Gulf Coast. Additional Re/Re shipping would transit the Panama Canal from the U.S. West Coast en route Western Europe. Other wartime shipping would also bring vital raw materials from South America and the Caribbean to the U.S. All of this shipping would transit SLOCs in either the Caribbean Sea or Straits of Florida near Cuba as shown in Figure 3.

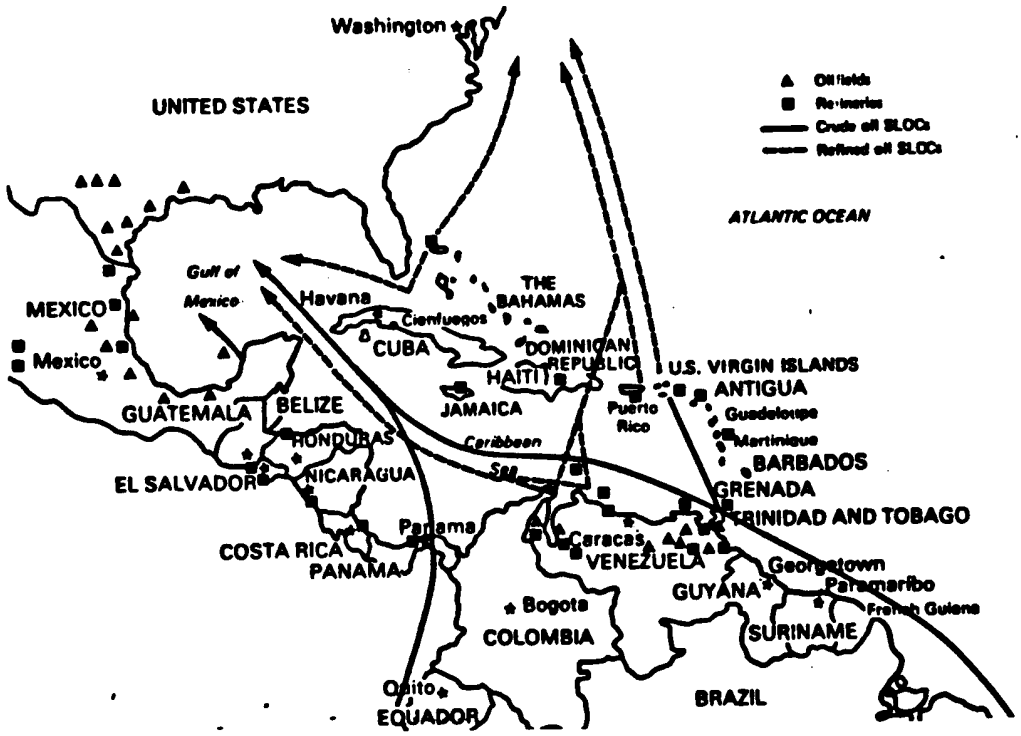

Figure 3

Caribbean Sea Lanes

Source: Adapted from Richard Sim and James Anderson, "The Caribbean Strategic Vacuum," Conflict Studies, The Institute for the Study of Conflict, No. 121 (Aug. 1980), p. 13.

Those shipping lanes south of the Tropic of Cancer, or roughly south of Florida, are outside the NATO geographic boundaries. Responsibility for countering Soviet or Cuban attempts to interdict these SLOCs falls to CINCLANT's subordinate, Commander, U.S. Forces Caribbean (COMFORCARIB), supported by forces from CINCLANTFLT and assisted by COMSECONDFLT and COMMARDEZLANT.

Method and Procedures

Without possession of the Soviet and Cuban war plans, it is impossible to know the true wartime threat to the Westlant SLOCs. This work attempts to develop the probable Soviet and Cuban threat to the Westlant SLOCs by viewing it through the prism they use to prepare and plan for war.

For the Soviets this prism is the Marxist-Leninist scientific methodology related to the development of military science. The Soviets define military science as "a system of knowledge on the nature of war, the training of the armed forces and the preparation of the country for war, and the methods for conducting it."(10) The structure of Soviet military science is shown in Figure 4.

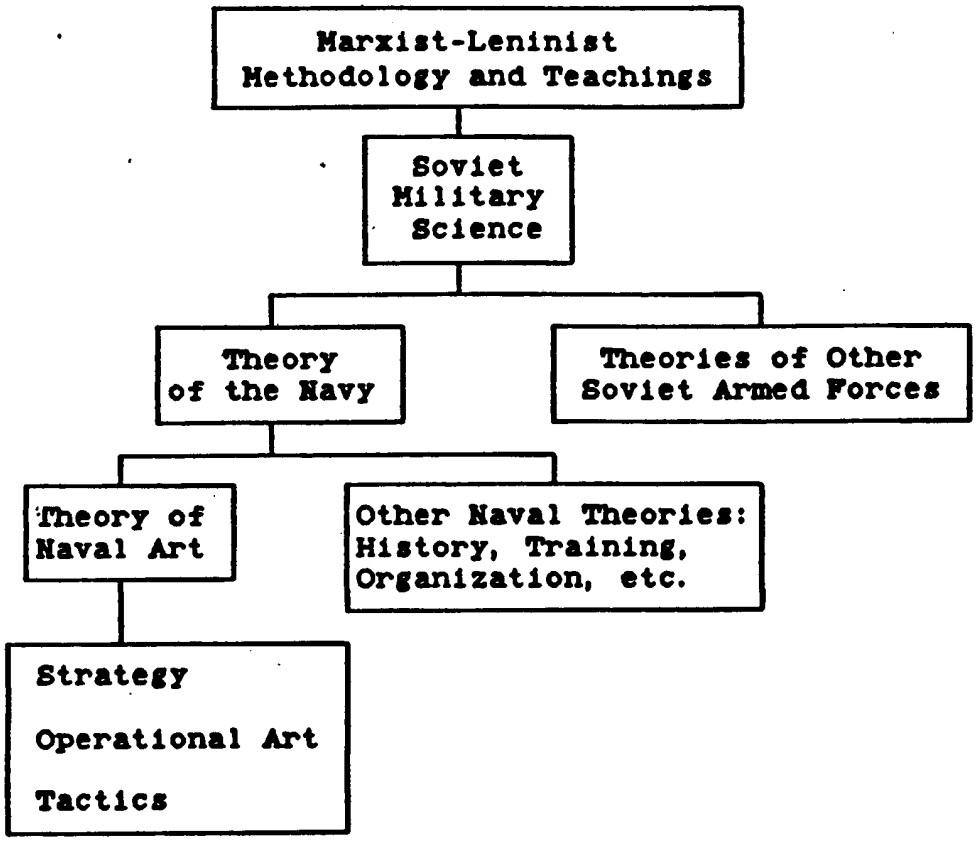

Figure 4

Structure of Soviet Military Science

Sources: Adapted from G. Kostev, "On the Fundamentals of Theories of the Navy," Morskoy Sbornik, no. 11, 1981, p. 26; and S. Gorshkov, "Questions of the Theory of the Navy," Morskoy Sbornik, no. 7, 1983, pp. 27-38.

One aspect of Soviet military science is their "theory of the Navy." The Soviets describe this theory as:

> A system of scientific knowledge revealing the laws and regularities of naval warfare and the principles of the Navy's organizational development and of its preparation and employment in the Armed Forces system during a war and in peacetime. It defines the prospects and directions of the Navy's development on a scientific basis.(11)

The most important part of the theory of the Navy is the theory of naval art which "represents a system of scientific knowledge about the laws and regularities of naval warfare."(12) Structurally, Soviet naval art contains three interconnected components; strategy, operational art, and tactics. Strategy examines the Navy's employment in order to attain primary strategic objectives in coordination with other branches of the Soviet armed forces. Operational art builds on strategy by studying the general organization, preparation, and conduct of naval operations to attain these strategic objectives. Tactics then takes the operational art and focuses on the planning and execution of the actual naval engagement.(13)

Soviet naval strategy, operational art, and tactics are based on the Soviet principles of naval art, often called the principles of armed combat or war. These principles of naval art, shown in Table 1, apply in varying degrees to each of the components of naval art.

Chapters 2 and 3 utilize the components and principles of Soviet naval art in Table 1 and develop the Westlant SLOC threat within that context. Emphasis is placed on the strategy and operational art components of naval art, of which Soviet open-source military literature provides an abundance of material on their intentions for anti-SLOC operations.(14) It is from these writings, combined with estimates of Soviet force capabilities and observation of Soviet naval exercises, that the probable Soviet North

Atlantic anti-SLOC threat is developed in Chapter 2. Chapter 3 takes this North Atlantic anti-SLOC strategy and develops its probable operational art component for Westlant.

Table 1

Principles of Soviet Naval Art

Combat-Readiness
Coordination of Forces
Concentration of Effort
Surprise
Seizing and Holding the Initiative
Aggressiveness and Decisiveness in Combat Operations
Striking the Enemy to the Full Depth of His Deployment
Continuity of Combat Operations
Maintenance of Maximal Intensity
Firm, Uninterrupted Control and Direction of Forces
Thoroughgoing Support of Combat Operations
Full Exploitation of All Means and Methods of Warfare
Full and Skillful Utilization of the Moral-Political Factor

Source: K. Stalbo, "Some Issues of the Theory of the Development and Employment of the Navy," Morskoy Sbornik, no. 5, 1981, p. 17.

The Cuban threat to the Westlant Re/Re is more difficult to develop. There are no significant open-source writings on Cuban wartime military strategy or Soviet wartime intentions for Cuba. It can be assumed the framework of Cuban military science follows closely the Marxist-Leninist model described [illegible] Cuba's decision to join in a Soviet Westlant anti-SLOC operation, however, would probably be based more on Cuba's internal and external national objectives than on military science issues.

Chapter 4 looks first at the extensive Soviet-Cuban military ties. It then develops the Soviet advantages for Cuba either becoming belligerent at the outset of a NATO-Warsaw Pact conflict or remaining neutral.

If the Soviets should pressure the Cubans into joining the conflict on the Warsaw Pact side, Fidel Castro, the Cuban leader, would still have several decision options. Admiral Wesley McDonald, a former SACLANT, has summarized Castro's wartime options as shown in Table 2. Chapter 4 examines each of these options, attempting to develop which ones Castro is most likely to adopt based on the Cuban internal and external objectives.

Table 2

Cuba's Options in a European War Scenario

Switch Sides
Open Belligerence
True Neutrality
Overt Neutrality/Covert Belligerence
Overt Neutrality/Deferred Belligerence

Source: Wesley McDonald, "Atlantic Security - the Cuban Factor," Jane's Defence Weekly, 22 Dec. 1984, p. 1109.

As part of this work's research, several U.S. and Canadian organizations responsible for the contingency planning, intelligence support, operational direction, and training of forces involved in Westlant defense were polled in order to develop their overall estimate of the wartime Westlant threat. The results of these polls are provided in

Appendix A and are analyzed and compared with other research findings in the conclusion.

There are several things the reader should not look for in this work. Space prohibits a full discussion of the vast political and economic ties between the Soviets and Cubans. Chapter 4 focuses primarily on the Soviet-Cuban military issues which pertain to a NATO-Warsaw Pact conflict. The Soviet-Cuban political and economic relations are only briefly mentioned in their relation to the military issues and Cuba's internal and external objectives. A lengthy assessment of U.S.-Cuban political relations is also not included.

There will also be no detailed appraisal of possible NATO counters to the Westlant SLOC threat. SACLANT reports studies have shown his command is about 50 percent short of convoy escorts and even shorter of mine-countermeasures vessels.(15) Other studies have shown that NATO has marginally enough escorts for the military Re/Re, but would probably never build enough escorts to protect the 1,500 shiploads of wartime economic cargoes required each month by Western Europe.(16) The threat assessments used by these studies are not known.

The final goal of this work is to provide the military commands in Figure 2 with a reasonable wartime threat assessment in Westlant. From this threat assessment, these

commands can then survey their force and contingency planning efforts. This should help strengthen the overall NATO conventional defense posture.

Notes

(Note: Morskoy Sbornik translations are provided by the Naval Intelligence Support Center, Suitland, MD. They may be found in various library periodical files under either Morskoy Sbornik or Soviet Naval Analyst, both using the edition numbers shown.)

1. Wesley McDonald, "Mine Warfare: A Pillar of Maritime Strategy," U.S. Naval Institute Proceedings, Oct. 1985, p. 49.

2. Isaac Kidd, "For Want of a Nail: The Logistics of the Alliance," in NATO: The Next Thirty Years, ed. Kenneth A. Myers (Boulder: Westview, 1980), p. 203.

3. F. J. West, Jr., "Maritime Strategy and NATO Deterrence," Naval War College Review, Sep.-Oct. 1985, p. 11.

4. Winston S. Churchill, Second World War, Vol. V, Closing the Ring (Boston: Houghton Mifflin, 1951), p. 6.

5. From several sources including: McDonald, p. 49; Kidd, pp. 196-198; E. J. Grove, "The Convoy Debate," Naval Forces, 6, no. 3 (1985), 41; and Sayre A. Swarztrauber, "The Potential Battle of the Atlantic," U.S. Naval Institute Proceedings, May 1979, p. 115.

6. Swarztrauber, pp. 115-116.

7. NATO Information Services, NATO Handbook (Brussels: NATO, 1985), p. 38.

8. U.S. Department of State, Atlas of NATO (Washington: GPO, 1985), p. 12.

9. See John D. Costello and Daniel N. Wood, "Guarding the Coast," U.S. Naval Institute Proceedings, Aug. 1985, pp. 66-71; and Edward A. Moritz, "Coastal Defense," U.S. Naval Institute Proceedings, Jun. 1985, pp. 44-48.

10. V. Shlomin, "Military Science and the Navy," Morskoy Sbornik, no. 4, 1983, p. 23.

11. S. Gorshkov, "Questions of the Theory of the Navy," Morskoy Sbornik, no. 7, 1983, p. 29.

12. Ibid., p. 33.

13. K. Stalbo, "Some Issues of the Theory of the Development and Employment of the Navy," Morskoy Sbornik, no. 4, 1981, pp. 23-27.

14. When using Soviet open-source military writings, as in Chapters 2 and 3 of this work, a word of caution must be noted. All material sent to the Soviet open press, especially material which will reach the West, undergoes strict review by editorial boards of senior Soviet officers. Only writings agreeing with the general Soviet view will be approved. Additionally, the more senior the Soviet author the closer to official Soviet views the work will be. Sensitive details of Soviet military forces and strategy will not be found in Soviet open-source material. To circumvent some censor limitations, Soviet authors appear to use phrases such as "according to NATO experts." These phrases are often interpreted in the West as the Soviet author having the same opinions about the matter under analysis. Caution must also be used in light of Soviet disinformation. Soviet military authors know their writings are read in the West and may use, or be directed to use, disinformation. Thus warned, Soviet military writings are still considered a good general description of their overall military strategy. Through the years, Soviet force compositions and exercises have usually followed the trends established earlier in their open-source literature. In many cases, however, the equipment capabilities to execute their strategies lag several years behind the concepts established in their military writings.

15. McDonald, pp. 48-53.

16. Paul H. Nitze et al., Securing the Seas: The Soviet Naval Challenge and Western Alliance Options (Boulder: Westview, 1979), p. 381.

CHAPTER 2

The Soviet North Atlantic Threat

The true nature of the Soviet Navy's anti-SLOC strategy in the North Atlantic is a matter of considerable controversy among Western experts. Many believe anti-SLOC to be a major mission of the Soviet Navy. Others, however, believe that missions such as strategic attack and defense of the homeland would be given higher priority, making Soviet forces for SLOC interdiction unavailable.(1)

Except for some minor anti-SLOC missions in coastal waters surrounding the Soviet European homeland, the Soviet Navy emerged from World War II with neither the experience nor a workable concept for conducting an oceanic anti-SLOC campaign.(2) During the late-1950s, Soviet naval literature and force compositions showed no significant interest in anti-SLOC operations. This began to change in the early-1960s as Soviet literature, force structures, and exercises began to point to an emerging anti-SLOC role for the Soviet Navy.

Anti-SLOC Strategy

Current Soviet interest in anti-SLOC operations dates back to 1963, when several leading Soviet military theoreticians under editor-in-chief Marshal V. D. Sokolovskiy, a former Chief of the Soviet General Staff, published the first book in over 36 years on the Soviet

views of war.(3) This book, Military Strategy, was about nuclear war and the Soviet strategy for its conduct. Military Strategy's major themes stressed that a future war would be conducted on "an enormous spatial scope" and would inevitably assume "the character of a nuclear war with rockets." But even though these authors foresaw a short, nuclear war, they also acknowledged the Soviets must be prepared for a possible protracted conflict.(4)

In this framework of Soviet nuclear strategy, the Soviet Navy was given missions of delivering nuclear rocket strikes, defeating the enemy fleet, and conducting anti-SLOC operations. Military Strategy proclaimed the operations against the SLOCs would "be developed on a large scale at the very beginning of war" and, in addition to attacks on convoys and transports at sea, would also include strikes against sea bases and ports, channels and narrow inlets, and shipbuilding and ship-repair industries. These attacks were to be carried out primarily by aircraft and submarines using both nuclear and conventional weapons.(5)

Even with Military Strategy providing the Soviet military leadership's view of future war, Soviet naval theoreticians were slow in embracing the anti-SLOC mission. In 1965 one Soviet naval writer explained: "ocean communications in the initial period will not play any vital role, especially as the major ports and naval bases will most probably have been destroyed by nuclear missile strikes."(6) By 1970, Admiral Sergei Gorshkov, then

Commander-in-Chief of the Soviet Navy, still listed anti-SLOC as fifth of five Soviet Navy missions, behind destroying enemy ground targets, destroying enemy naval forces and their bases, supporting Soviet ground forces, and conducting amphibious operations.(7)

In the late-1960s and early-1970s a profound shift in Soviet military strategy was observed. It was during this period, as the Soviets reached nuclear parity with the U.S. and began to modernize their conventional forces, that the Soviets began acceptance of a conventional phase at the beginning of a future war.(8) This new conventional phase gave new importance to the Soviet Navy's anti-SLOC mission. By 1976, Gorshkov had changed the anti-SLOC mission to third priority of seven Soviet Navy missions, behind only strategic strikes on enemy ground targets and destroying enemy forces at sea.(9)

In 1976 Gorshkov also published the first edition of his book The Sea Power of the State, which even today is considered the primary theoretical reference for Soviet naval employment. In The Sea Power of the State, Gorshkov advocated that in today's naval missions "the dominant role has been assumed by the operations of the fleet against the shore [emphasis added]."(10) His concept of the fleet against the shore includes strategic nuclear strikes from ships, amphibious landings, conventional shore bombardment, shore strikes by carrier-based aircraft, and disruption of SLOCs.(11) He further announced the anti-SLOC component of

this concept was "now the most important constituent part of the efforts of the fleet, aimed at undermining the military-economic potential of the enemy."(12) He claimed the anti-SLOC mission had assumed new importance because of "the ability to fulfill strategic tasks of an offensive character by directly acting on the sources of the enemy's military power."(13) In 1979 Gorshkov published a second edition of The Sea Power of the State which retained the first edition's anti-SLOC concepts and emphasis.

With Gorshkov's acceptance of anti-SLOC as a primary Soviet Navy mission, anti-SLOC has become an often discussed subject in the pages of Morskoy Sbornik, the Soviet naval journal. Since 1976, Soviet naval authors in Morskoy Sbornik have spent considerable effort explaining the importance of the wartime Re/Re to NATO, providing detailed analysis of Soviet and German anti-SLOC campaigns in World War II, and describing the theoretical deployment and control of submarines during anti-SLOC operations.

The Soviets now view anti-SLOC operations as a component of a more extensive "naval blockade" strategy. Using their analysis of World War II Soviet and German anti-SLOC operations and based on the Soviet principles of naval art, they now theorize a naval blockade which would:

- be conducted from war outset;
- be established in areas contiguous to the opponents' coast;

- concentrate major blockade forces in the blockaded area, with only symbolic effort to be taken elsewhere;

- direct its main effort against both "military" (Re/Re) shipping and naval vessels;

- avoid using blockade forces to search for convoys;

- place a high priority on the simultaneous destruction of enemy port terminals, naval bases, and other shore installations;

- deploy forces according to the blockaded area, but may use surface ships, aircraft, and submarines;

- make massive use of naval mines; and,

- possibly use tactical nuclear weapons against both ports and convoys at sea.(14)

Since the early-1980s, Soviet military writings, force modernizations, and exercises have indicated their shift to a primarily protracted conventional war strategy. In a 1984 Red Star interview Marshal N. Ogarkov, then Chief of the Soviet General Staff, alleged that conventional weapons are becoming so efficient and destructive that a global war in which nuclear weapons would not be used is a possibility.(15) This does not mean the Soviets have totally discarded their previous nuclear war strategy. Their nuclear war strategy, still based largely on Sokolovskiy's Military Strategy, continues to exist, but may only be resorted to if the primary conventional strategy fails.

At least one Western analyst believes the Soviets' most recent protracted conventional war strategy now envisions a conventional campaign which could last 90 to 150 days before

a nuclear exchange resulted.(16) With this increased emphasis on conventional war, the Soviet Navy's anti-SLOC mission continues to receive greater emphasis. Soviet naval theoreticians have recently highlighted that "[t]ransoceanic communications are now becoming the most important factor determining the course and outcome of war in continental theaters of military operations" and that operations against these communications must exert "continuous pressure against ...[enemy] convoys...throughout their movement from forming points to unloading."(17) But, do the Soviets have the capabilities to conduct a wartime anti-SLOC campaign in the North Atlantic?

Anti-SLOC Forces

To estimate Soviet capabilities to carry out an anti-SLOC campaign in the North Atlantic, two Soviet principles of naval art are of primary interest: (1) the principle of combat-readiness; and, (2) the principle of concentration of forces. A review of these principles can suggest whether the Soviets are truly capable of executing their anti-SLOC strategy in the North Atlantic.

The Soviets define the principle of combat-readiness as the "degree of readiness on the part of forces, units, and ships to carry out combat missions at a designated time."(18) Combat-readiness includes proper manning, outfitting, training, and control of forces.(19) Soviet anti-SLOC combat forces include surface ships, aircraft,

and submarines. In the North Atlantic these forces would come primarily from the Soviet Northern Fleet (Norfleet) based in the Kola Peninsula vicinity. This does not discount their use of naval forces from the Baltic and Black Sea fleets. In fact, Soviet Baltic Sea forces often participate in Norfleet exercises. Both the Baltic and Black Sea forces, however, would be severely restricted from access to the North Atlantic during war by NATO control of the Danish, Turkish, and Gibraltar straits; NATO air defenses; and the demands of their own fleets' wartime missions. Even Norfleet surface combatants and naval bombers become severely restricted once they move out from under their own Kola Peninsula based air defenses.

Surface Ships

Admiral Gorshkov has declared that surface ships may be employed for anti-SLOC operations "in closed theaters and in coastal areas."(20) His statements, and the fact the Norfleet has only nine principle surface combatants with medium or long-range anti-ship missiles(21), all but rule out any anti-SLOC role for surface ships in the North Atlantic. Even if the Soviets wanted to deploy surface combatants south of the Greenland-Iceland-United Kingdom (GIUK) gap, their limited shipboard installed air defenses would make them highly vulnerable to NATO air attack. This would be true even if the Soviets seized additional fighter bases in southern Norway or used Cuban or West African

facilities. Thus, Norfleet surface combatants would most likely be limited to a sea control mission north of the GIUK gap which will be described in more detail later.

Naval Bombers

The employment of naval bombers in a North Atlantic anti-SLOC role cannot be so easily discounted. The Soviets could attempt to break their naval bombers through the NATO air defenses in either the Norwegian Sea or the Baltic Sea approaches and launch nuclear or conventional cruise missile attacks on convoys or ports in either Eastlant or the North Sea. The Norfleet's own 78 Backfire and Badger long-range naval bombers, possibly reinforced by some of the 110 Backfires and Badgers from the Baltic and Black Sea fleets, have the range to conduct cruise missile attacks in these areas.(22) Soviet Air Force long-range aircraft from their strategic air armies could also be used in a maritime attack role. These include some 180 Bear and Bison, 145 Backfire, and numerous Badger bombers.(23)

If the Soviets did obtain air control over the Norwegian Sea by seizing bases in Norway or neutralizing Iceland, Soviet long-range bombers would then have almost unlimited access to the Eastlant SLOCs. But even without this air control, these bombers could, supported by other Soviet forces, still break south of the GIUK gap. It is interesting to note that in the fictionalized book The Third World War, written by high ranking NATO generals and

advisors, an attack by Backfires was included which did break through the NATO air defenses and take heavy tolls on NATO convoys approaching Western Europe.(24)

Submarines

The Norfleet contains approximately 40 ballistic missile armed submarines (SSBNs).(25) The SSBNs are capable of attacking port complexes or even large convoys at sea with their nuclear missiles. Soviet land-based ballistic missiles could also be used for similar attacks.

Many Western experts have arguably maintained that Sokolovskiy, in Military Strategy, and Gorshkov, in The Sea Power of the State, were both prescribing just such ballistic missile attacks on port complexes as the primary anti-SLOC operation.(26) These SSBN or land-based nuclear missile attacks, along with nuclear attacks by naval bombers described above, remain part of the Soviet strategy for nuclear war. At least one British author even believes it probable that while a NATO-Warsaw Pact land war remained conventional, the war at sea could become nuclear from the beginning.(27) As explained above, since the early-1970s the Soviets have begun to deemphasize the use of nuclear weapons. Therefore, this work will not pursue nuclear attacks on convoys or ports further. These are, however, Soviet capabilities that should not be forgotten.

The Soviets have repeatedly referred to the attack submarine as their primary anti-SLOC force. Admiral

Gorshkov has stressed that nuclear-powered submarines "are intended for destroying surface ships and merchant vessels of the enemy."(28) The Norfleet contains 130-140 general purpose (attack) submarines. The Soviets are also believed to have 80 diesel-electric powered submarines in reserve among their four fleets.(29) Table 3 provides an approximation by type and capability of the attack submarines assigned to the Norfleet.

One British expert estimates 60-70 percent of these attack submarines (78-98 total) could be operational in wartime.(30) This is consistent with the numbers of submarines deployed in major Soviet naval exercises. In one 1977 exercise, 89 Soviet submarines were reported to have simultaneously surged into the Norwegian Sea and North Atlantic.(31) Although some of these 89 submarines probably came from the Baltic Fleet, the report did not account for additional Norfleet submarines regularly deployed to the Mediterranean (10-12 total) or those sometimes deployed to either the Western Atlantic or off West Africa.

In an anti-SLOC role, the Soviets intend to use their submarines for cruise missile and torpedo attacks and the laying of offensive minefields. As Table 3 shows, cruise missiles allow the submarines a 30 to 350 nautical mile standoff-range for convoy attack. But, when outside their own sensor ranges (15-20 miles), these cruise missile equipped submarines require an aircraft, surface ship, or another submarine to provide targeting data.

Table 3

Soviet Northern Fleet Attack Submarines

Type/ Class	Approx. No. In Service	No. Anti-Ship Missiles(a)		No. Torpedoes	Max. No. Mines(b)
SSGNs:					
CHARLIE I/II	10	8	SS-N-7/9	18	36
ECHO II	14	8	SS-N-3/12	22	36
OSCAR	2	24	SS-N-19	18	48
PAPA	1	10	SS-N-9	14	36
SSGs:					
JULIET	8	4	SS-N-3	22	36
WHISKEY-LONG BIN	1	4	SS-N-3	8	20
SSNs:					
ALFA	6			20	40
ECHO I	2			20	36
NOVEMBER	8			32	64
VICTOR I/II/III	29			32	64
MIKE	1			?	?
SIERRA	1			?	?
SSs:					
BRAVO	1			12	36
FOXTROT	26			22	44
TANGO	10			20	40
WHISKEY	10			12	24
ZULU IV	4			22	44

(a)

MISSILE	RANGE (NM)	MISSILE	RANGE (NM)
SS-N-3	200-350	SS-N-9	60
SS-N-7	30	SS-N-12/19	300

(b) As a general rule, one torpedo must be removed for each two mines carried.

Sources: Jan S. Breemer, "Soviet Naval Mine Warfare Forces," in The Future of the Soviet Navy, eds. Bruce W. Watson and Peter M. Dunn (Boulder: Westview, 1986), p. 106; Jane's Fighting Ships: 1985-86 (London: Jane's Publishing, 1985), pp. 518-533; Norman Polmar, Guide to the Soviet Navy(3rd Edition) (Annapolis: Naval Institute Press, 1983), pp. 95-124; Office of the Chief of Naval Operations, Understanding Soviet Naval Developments (Washington: GPO, 1985), pp. 88-103; Milan Vego, "Soviet Mine Warfare: Doctrine and Capabilities," Navy International, 87, no. 11 (1982), 1414-1420; Milan Vego, "Soviet Northern Fleet," Navy International, 88, no. 12 (1983), 710-721; and Milan Vego, "Part 3: 1961-1984, Torpedo Armed Submarines," Navy International, 90, no. 4 (1985), 240-243.

Torpedo attacks, although placing the submarine in significant danger from convoy escorts, may also be widely used. According to one recent Soviet writing "further development and recognition has...been obtained by torpedoes as an all purpose weapon against submarines and surface ships."(32)

It may be as mine layers though that Soviet submarines are the greatest threat to NATO SLOCs.

Mines

The Soviets have the world's largest stock of naval mines, estimated at 225,000-300,000 total. This is enough to block all major NATO ports as well as all major choke points around the world.(33) The Soviet mine inventory includes a variety of moored, bottom, and floating types which can be used in an anti-shipping role in depths up to 2,000 meters.(34) The Soviets can deploy mines from surface combatants, aircraft, and submarines. The large Soviet fleets of merchant ships and fishing vessels can also lay mines. One Soviet author has recounted how merchant vessels could lay mines in neutral harbors and sea lanes and in vital choke points, thus closing them to normal traffic with little effort.(35) The 1984 mining of the Red Sea by a suspected Libyan cargo-ferry highlights the ability of only a few mines to damage ships and disrupt shipping lanes.(36)

Overall, submarines remain the Soviets' preferred offensive minelayers because they can: (1) conduct

reconnaissance to determine where the busiest shipping lanes are; (2) lay mines covertly; and, (3) lay mines much more accurately.(37) Table 3 shows the mine laying capacity of the various Norfleet submarines.

Table 4 provides a summary of Soviet submarine laid mines. The PLT, PLT-3, MKD, and AMD 1000 mines in Table 4 would be used primarily in offensive mine barriers in coastal regions or near port entrances. The Underwater Electrical Potential (UEP) mine is designed primarily for ASW barriers and is activated by the target's electrical field. Little else is publicly known about the UEP.(38)

Table 4

Soviet Submarine Laid Mines

Designation	Type	Firing Mechanism	Explosive Charge (kg)	Max. Depth (m)
PLT	Moored	Contact	230	137
PLT-3	Moored	Contact	100	128
MKD	Bottom	Influence	782	55
AMD 1000	Bottom	Influence	699	55
UEP	Moored	Influence	227	490
Cluster Bay (a)	Rising	Acoustic	230	200
Cluster Gulf (a)	Rising	Acoustic	230	2000

(a) NATO Codename

Source: "Soviet Navy's new emphasis on mine warfare," Jane's Defence Weekly, 3 Mar. 1984, p. 316; with some changes by Dr. Milan Vego.

The Cluster_Bay and Cluster_Gulf mines in Table 4, although designed primarily to attack NATO nuclear submarines, also have an anti-shipping capability. Cluster Bay is intended for use on continental shelves, while Cluster_Gulf may be used in deep water up to 2,000 meters. Both of these rising mines are believed to be rocket propelled torpedo-like devices fitted with an active-passive acoustic sensor and tethered to the ocean floor. The target is initially detected by a passive acoustic sensor, then its exact location is determined by an active acoustic sensor. When the target is located within the mine's attack zone, the tether is cut and the mine's rocket motor ignites. The high speed of this mine would allow very little time for the target's evasion.(39)

Based on lessons learned in past World Wars and recent local conflicts, the Soviets have highlighted the increased importance of mines which "make it easier to conduct blockade operations for one side and increases the strain on the forces of the other side."(40) As part of a naval blockade, the Soviets see mines used for: (1) blockading basing areas of enemy naval forces; (2) blockading straits, narrows, internal waterways, and individual areas in sea theaters; (3) preventing operational deployment of enemy attack forces; (4) destroying [illegible] attack groupings or submarines and surface combatants along routes and in blockaded areas; and, (5) disrupting ocean, sea, and river shipping.(41)

Anti-SLOC Exercises

Within their definition of combat-readiness the Soviet Navy includes the training and testing of both forces at sea and their command and control systems.(42) Prior to 1970, the Soviets showed little capability to either operate forces in or control them during open-ocean anti-SLOC missions. This all changed in the spring of 1970 when the Soviets conducted OKEAN-70, the largest Soviet naval exercise ever conducted to that point.

OKEAN-70, deploying approximately 200 ships and submarines along with hundreds of naval aircraft sorties, demonstrated the Soviet ability to conduct simultaneous attacks on enemy naval forces in both the Atlantic and Pacific. It was referred to as a "coordinated" exercise because it showed the ability of the four Soviet fleets to operate under central control of Moscow based on a preplanned exercise scenario. Although anti-SLOC training was not part of OKEAN-70, the Soviets did display for the first time the ability to direct and control naval forces in wide ocean areas, a capability vital to any future anti-SLOC campaign.(43)

From 1970 until 1975 the Soviets continued smaller and more localized naval exercises. Norfleet exercises emphasized anti-carrier warfare [illegible] scenarios.(44) Then in 1975, as part of the large OKEAN-75 exercise, the Soviets displayed their first large-scale capability for interdicting the NATO SLOCs. OKEAN-75 deployed

approximately 220 ships and submarines supported by approximately 700 naval aircraft sorties. Conducted on a worldwide basis, the OKEAN-75 exercise areas were located across many of the world's major shipping lanes. OKEAN-75 demonstrated the Soviet ability to coordinate their ocean reconnaissance capabilities and conduct coordinated carrier and convoy attacks, again under central control of Moscow.(45)

OKEAN-75 was unique in the emphasis given to anti-SLOC scenarios in the North Atlantic. West of the Bay of Biscay, Soviet supply, hydrographic, and merchant ships formed convoys and followed the NATO Re/Re routes while coming under simultaneous submarine and air attack. In addition, Soviet units conducted anti-SLOC operations off West Africa along the major oil routes from the Persian Gulf to Western Europe. Overall, OKEAN-75 displayed a significant capability for the Soviets to block the vital wartime SLOCs upon which NATO forces in Europe would depend.(46)

Although there have been no additional worldwide OKEAN exercises since 1975, the Norfleet has continued more limited ACW, ASW, and anti-SLOC exercises, usually in the Norwegian Sea, GIUK gap vicinity, and west of the British Isles.(47) During the 1977 exercise mentioned earlier, when 89 submarines surged into the Norwegian Sea and Atlantic, at least 40 of these submarines exercised south of Iceland in the NATO Re/Re SLOCs.(48)

A more recent indication of Soviet anti-SLOC capabilities and intentions may come from their 1985 exercise dubbed SUMMEREX 85 by the West. In it the Soviets deployed as many as 50 surface ships and 40 submarines, supported by hundreds of aircraft sorties, for an exercise in the Norwegian Sea and North Atlantic. SUMMEREX 85 was reported to have "tested the ability of the Soviet Navy to sever NATO sea lanes which would resupply Europe in time of war."(49) In addition to operations in the eastern North Atlantic, SUMMEREX 85 was unique in that "several" Victor-class nuclear powered attack submarines were also involved off the U.S. east coast.(50) In referring to this exercise, U.S. Navy Secretary Lehman stated:

> They are practicing and training and building a fleet to control the Atlantic right off our shores. For the first time, we saw new submarines operating aggressively in our waters against our targets and vulnerabilities.[emphasis in original](51)

The Time Factor

Admiral Vladimir Chernavin, who in late 1985 relieved Admiral Gorshkov as Commander-in-Chief of the Soviet Navy, has written that the time factor is "the principle, decisive factor in combat-readiness [and] is all too often disregarded."(52) The time factor refers to the ability of combat-ready forces to reach their wartime operating areas. Recently, U.S. naval theorists have discounted a possible Soviet North Atlantic anti-SLOC campaign, because they think NATO-planned control of the GIUK gap and Danish straits,

along with the U.S. Forward Maritime Strategy of sending carriers to attack the Kola Peninsula, would bottle-up the Soviet submarines and keep them away from the North Atlantic SLOCs. This explanation does not realistically account for the period leading up to a NATO-Warsaw Pact conflict and thus discounts the all-important time factor.

The most plausible scenarios leading to a NATO-Warsaw Pact conflict can be taken from the crisis periods before the previous two World Wars.

> The "1914 model" assumes that neither NATO nor the Warsaw Pact enters the crisis with the intention of going to war. The major goal of both blocs would be to avoid stumbling into war as happened in 1914. The goal of avoiding war, however, would be tempered by strong inhibitions against suffering a diplomatic/military setback by "losing the crisis." Both blocs would prepare for war, but try to avoid provocative activity. However, war would result when one bloc suffered an unacceptable diplomatic/military setback.
>
> The "1940 model" assumes the Warsaw Pact would enter the crisis with the intentions of invading Western Europe at the most advantageous time. Their objective would be to mobilize enough striking power before NATO realized the true nature of the crisis.(53)

In either of these models, the Soviets would have sufficient time to deploy anti-SLOC forces well before the war began. In a "1914 model" crisis, which is considered the most likely, NATO forces deployed to the GIUK gap, Norwegian Sea, or Danish straits could do little to stop Soviet anti-SLOC forces from reaching the North Atlantic without displaying the provocative activity that could lead to war. Not knowing how long the crisis might last, the "1914 model" would probably limit Soviet force deployments

both because of the need to have relief units available and the requirement to not unnecessarily provoke the West.

In a "1940 model" scenario, most Western experts think the Soviets would launch an attack out of a regularly scheduled exercise. A major Soviet land exercise conducted simultaneously with a SUMMEREX 85-type naval exercise would provide the Soviets an opportunity to predeploy both their land and anti-SLOC forces.

But even after a war start, the Soviets could still fight their submarines south of the GIUK gap and into the North Atlantic. Admiral Gorshkov's greatest criticisms of the German World War II U-boat campaign was the German failure to develop the anti-SLOC struggle on a wide scale from the beginning of the war and to protect their U-boats with other forces, especially aircraft.(54) Gorshkov noted that many of the U-boats were sunk as they transited unprotected to and from their patrol areas. Soviet authors have made it clear they would not make these same mistakes in a future conflict. One Soviet author has explained:

> For this purpose special groupings of forces are assigned consisting of antisubmarine submarines, ships, aircraft, and helicopters which operate both independently and cooperatively in order to destroy or weaken and neutralize antisubmarine barriers and zones and to search for and destroy antisubmarine forces of the opposing side.(55)

Thus able to overcome the time factor, both during a crisis or after war start, the Soviets have shown through their force developments and naval exercises a high anti-SLOC combat-readiness in the North Atlantic. But even

when their combat-readiness is viewed in light of their anti-SLOC strategy, this still does not reveal their true North Atlantic anti-SLOC intentions. The anti-SLOC mission must now be looked at in relation to the principle of concentration of effort.

Anti-SLOC Intentions

The Soviets define the principle of concentration of effort as operating "with the greatest concentration of operational combat capabilities being assigned to carry out the principle mission."(56) Although the Soviets have not provided a prioritized list of their Norfleet missions, analysis of their writings, force structuring, and operations/exercises shows the principle mission of their anti-SLOC capable forces to be maintaining sea control in the Barents, Greenland, and Norwegian seas.(57) When talking of sea control, Admiral Gorshkov usually refers to a pre-World War II Soviet definition which states:

> To achieve superiority of forces over the enemy in the main sector and to pin him down in the secondary sectors at the time of the operation means to achieve control of the sea in a theater or a sector of a theater, i.e., to create such a situation that the enemy will be paralyzed or constrained in his operations, or weakened and thereby hampered from interfering with our execution of a given operation.... [emphasis in original](58)

For the Norfleet, this effort to control the sea would be focused on protecting their own SSBNs, conducting anti-SSBN operations against NATO, and keeping U.S. carrier based aircraft from striking the Soviet homeland. A

combination of surface ship, aircraft, and submarine forces, either organized into multiple barriers or coordinated in their attacks, would be used to obtain and maintain sea control.

So, although anti-SLOC was listed in 1976 as the third priority mission of the Soviet Navy, it would receive secondary consideration for Norfleet force allocation in wartime. The Soviet dilemma becomes whether they can conduct a North Atlantic anti-SLOC campaign while simultaneously maintaining sea control north of the GIUK gap. The answer to this problem rests on determining both the Soviet objectives for a North Atlantic anti-SLOC campaign, and the required forces to attain them.

Objectives

The Soviets have professed only limited objectives for future anti-SLOC campaigns as part of their naval blockade operations. When writing of anti-SLOC operations, the Soviets almost always use qualified words such as "disrupt" or "interfere." They have pointed out, that as a rule, "blockade actions alone are insufficient to force a state to leave the war" and to use a naval blockade to achieve "prolonged sea superiority also did not justify itself."(59) They have acknowledged, though, that:

> By carrying out a blockade, in spite of powerful resistance in the approaches to the ports and to unloading points, it is possible to attain a sharp reduction in deliveries of commercial and military cargoes.(60)

The destruction of ships and cargoes may not be the only goal of a Soviet anti-SLOC campaign. By forcing NATO into a global convoying system, the anti-SLOC campaign would have a distracting and diversionary effect on NATO forces.(61) Admiral Gorshkov highlighted this when he cited how in World War II "for every one German submarine there were 25 ships of the Allies and 100 planes" deployed against it.(62) Therefore, even a limited Soviet anti-SLOC campaign might force NATO to pull ASW forces away from other tasks such as hunting Soviet SSBNs or protecting NATO's SSBNs and battle groups. If NATO devoted more resources to SLOC defense than the Soviets committed to their attack, an overall strategic advantage for the Soviets would be achieved.(63)

Force Requirements

In determining the concentration of effort (i.e., force requirements) needed to attain the limited Soviet naval blockade objectives, the Soviet analysis of German World War II U-boat campaigns provides a good starting point. Admiral Chernavin has written:

> In the Second World War German submarines in the Atlantic were employed en masse, as a result of which in 1941-1942 Germany achieved great successes on the ocean lines of communication. Merchant shipping losses, especially off the American coast, increased sharply.[emphasis added](64)

During 1941 the Germans concentrated their U-boat campaigns initially in Eastlant; however, they were forced to move them toward the mid-Atlantic by late 1941 as the

British ASW defenses improved. After the U.S. joined the war in December 1941, the Germans moved the U-boats to the North American eastern seaboard and the Caribbean, where hundreds of Allied merchant ships were sunk. This massacre was carried out by no more than 12 U-boats operating independently. Later as the Allied Westlant ASW defenses improved, the German U-boats first mined North American port entrances, then by late 1942 returned to operating in mid-Atlantic "wolf packs." In the mid-Atlantic, 30 to 40 U-boats were operating at once, sinking an average of over 40 merchant ships per month.(65)

Today, the Soviets may be able to achieve the same "great successes" Chernavin mentions with even fewer submarines. They may also be able to carry out anti-SLOC campaigns simultaneously in Eastlant and Westlant, something the Germans were unable to achieve. This is partially because of the limited objectives of a Soviet anti-SLOC campaign and the larger--and therefore fewer in number--NATO merchant ships involved in a future Re/Re effort. But at least three other important factors also come into play.

First, German U-boats operating in Westlant during World War II were restricted to only 10-12 days on-station time by a lack of refueling and resupply capabilities. Today, Soviet nuclear-powered submarines would not have this same limitation. Gorshkov has highlighted the flexibility nuclear power gives submarines which:

> Enables them to stay for a long time in the oceans, complete distant transits at high speeds of travel, remaining in immediate readiness for delivery of strikes at the enemy. They can draw close to fast surface ships of the enemy, pursue them for a long time, attack repeatedly, rapidly redeploy from one direction to another and successfully dodge hostile anti-submarine forces.(66)

Additionally, as will be addressed further in Chapter 4, the Soviets may use Cuban ports to refuel diesel-electric submarines and rearm and resupply both nuclear-powered and diesel-electric submarines. A Westlant ally is an advantage the Germans did not have in World War II.

Second, the Soviets have often cited the inadequate reconnaissance support provided to German U-boats, thus forcing the U-boats to waste considerable time and fuel searching for enemy convoys.(67) As will be further described in Chapter 3, the Soviet Ocean Surveillance System (SOSS) can be expected to provide anti-SLOC forces the locations of both NATO convoys and naval forces. In a recent Morskoy Sbornik article, a Soviet author explains how, using SOSS data on convoy position and movement plus proper communication methods, a group of submarines can be directed by shore units for an attack. The article even details how proper communication procedures actually reduce the number of submarines needed for the attack.(68)

Third, and probably most important, is the NATO shallow water (less than 200 meters) ASW problem. Although since World War II, improvements in submarine construction and weapons have been generally offset by methods of submarine

detection and attack, this is not true of shallow water ASW operations. Shallow water acoustic detection of submarines is degraded by water salinity and temperature differences, sonar reverberations, and general acoustic noise caused by ocean life and heavy shipping lanes.(69) Even noisy nuclear-powered submarines are hard to detect in these conditions. Quiet and smaller diesel-electric submarines are even more of a problem. Unfortunately for NATO, the broad continental shelves along the North American coast and approaches to Western Europe are largely shallow water environments and this is exactly where the Soviets have indicated they would deploy their blockade forces, not in mid-Atlantic like the German "wolf packs."

Estimates of the total number of submarines the Soviets would actually deploy in a North Atlantic anti-SLOC campaign vary widely. One British expert believes that even with a Soviet main emphasis on wartime sea control north of the GIUK gap, they would still dedicate at least 5 nuclear-powered and 20 diesel-electric submarines for anti-SLOC missions along the approaches to Western Europe, with 5 nuclear-powered submarines also dedicated to Westlant. This same expert, however, also believes if the Soviets decide to emphasize both an anti-SLOC campaign and countering NATO overall sea control in the North Atlantic, that 60 torpedo-armed and 10 guided missile-armed submarines would be dedicated to the approaches to Western Europe, with 10 torpedo-armed submarines also dedicated to Westlant.(70)

These British estimates provide a range (25-70 to Eastlant, 5-10 to Westlant) wherein probably lies the true number of Soviet submarines which would be assigned to the North Atlantic in wartime.

The analysis in this chapter argues in favor of the lower side of these ranges. With the lower figures, the Soviets could still carry out their naval blockade strategy and meet their limited objectives, maintain sea control north of the GIUK gap, and also meet Norfleet commitments in other theaters. The Norfleet provides 10-12 submarines to the Soviet Mediterranean Squadron on a normal basis and would at least maintain those numbers in wartime. They also would probably be committed to deploying at least two or three submarines off West Africa to interdict the SLOCs from the Persian Gulf to Western Europe, thus further diverting NATO naval forces by forcing NATO to also protect these areas. This would still leave 35-55 operational submarines, including the majority of those nuclear-powered and cruise missile equipped, plus all Norfleet surface and naval air forces, to maintain sea control north of the GIUK gap. This appears more than sufficient to counter even multiple NATO carrier battle groups.

The lower-range estimates above are also consistent with both Soviet naval exercise deployments and the general conservative nature of the Soviet leadership. Additionally, when the limited Soviet naval blockade objectives are combined with the Soviet ability to sabotage NATO port

complexes, thus further reducing the need for extensive SLOC interdiction forces, the lower-range estimates become even more likely.

Port Sabotage Threat

A primary element of the Soviet naval blockade is destruction of enemy port complexes. This could be carried out by attacks from naval bombers or submarine launched cruise missiles, but would be more easily executed by shore-side sabotage operations.

NATO port complexes are extremely vulnerable to sabotage. The port complexes include the ships themselves while at anchorage or moored to piers, dry cargo warehouses, petroleum and chemical storage tanks and pipelines, and equipment for cargo handling. Also included are bridges, locks, dams, and canals, damage or destruction of which could stop all shipping into and out of many NATO ports.

The facilities used for cargo handling and petroleum transfer are especially critical to a NATO Re/Re. A large number of Western merchant vessels are container ships with no onboard ability to unload or load containers. The destruction of shore-side cranes would negate the use of these ships. Additionally, without the petroleum transfer pipes intact, the millions of tons of oil and lubricants required by NATO European forces could not be transported. Unfortunately for NATO, both container port cranes and NATO pipelines are easily sabotaged.

The Soviet use of sabotage in the enemy's rear areas is not a new facet of their military doctrine. During World War II Soviet saboteurs are credited with destroying over 20,000 train cars, 12,000 railroad and highway bridges, and 4,000 tanks behind the German front lines.(71) In the early-1960s, Soviet Colonel Oleg Penkovsky revealed the extensive efforts being placed on saboteur training and infiltration by Soviet military intelligence.(72) In 1971, Czechoslovakian General Jan Sejna, who defected to the West in 1968, described how under Soviet direction, Warsaw Pact nations had implanted in Western Europe and North America networks of saboteurs who were to destroy vital installations at the outset of a war.(73)

More recently there has been significant information and Western writings on Soviet "Special Purpose" or "Special Designation" (or Spetsnaz) units. The main tasks of these units would be to: operate behind enemy lines for reconnaissance and intelligence reporting on nuclear delivery means and other vital targets; prepare for the landing of aircraft units behind enemy lines; deploy weapons of mass destruction; sabotage and disrupt supply and communications lines; and neutralize key political or military personnel.(74)

The full scope of Soviet sabotage capabilities consists of numerous individual elements. These elements include not only networks of agents already in place, but also agents or

Spetsnaz units that could be infiltrated just prior to a NATO-Warsaw Pact conflict.

When considering Soviet sabotage capabilities, two items must be kept in mind. First, individual sabotage elements are controlled by two separate Soviet agencies: the KGB (Committee for State Security) and the GRU (Main Intelligence Directorate of the Soviet General Staff). The KGB and GRU also both use their Eastern European and Cuban allies to support sabotage operations.

Second, sabotage elements are kept strictly compartmented so that the neutralization of any one element would neither destroy nor reveal the total sabotage capability. Therefore, parallel operations with the same sabotage goals may exist. During wartime, however, former Soviet military intelligence officers argue that all sabotage elements would come under direct KGB control.(75)

Legals and Agents

The KGB, GRU, and Soviet allies make use of their legal presence overseas and networks of agents for clandestine work.(76) The legal presence includes diplomats, trade mission personnel, correspondents, airline representatives, merchant [illegible], etc., who have obtained legal entry into a country. Agents are foreign citizens who have been recruited by the intelligence services to carry out clandestine tasks on their behalf. These agents are usually recruited by their greed for money, under threats of

blackmail, or by their ideological ties with the Soviets. Agents could include individuals, members of Soviet international front organizations (World Peace Council, U.S. Peace Council, etc.), or even international or domestic terrorist groups.

The KGB, GRU, and Soviet allies maintain undercover residencies in their embassies. Using legal diplomatic cover for their personnel, these undercover residencies control networks of agents developed throughout both the host and adjacent countries. The more trusted and valuable agents may not be controlled by the undercover residencies, but instead receive training, support, and directions from Moscow or other foreign capitals. In addition to running agent networks, the undercover residency personnel sometimes carry out clandestine intelligence missions themselves. In major Western countries the undercover residencies include representatives from the KGB and GRU directorates and departments assigned sabotage and assassination missions.

This does not mean that the Soviet legal personnel or their agents would carry out the actual sabotage. They could, but they could also support the sabotage mission by conducting reconnaissance of sabotage targets, obtaining blueprints of facilities and their security systems, establishing safe house and supply networks for saboteur support, and acting as communication links between Moscow and the actual saboteurs. Without this support, the Soviets could not count on the success of their sabotage efforts.

There are several examples of KGB-GRU personnel or their agents who have been assigned Western sabotage missions. In 1971, Oleg Lyalin, a KGB officer operating under the cover of a Soviet trade delegation in Britain, was suborned by British intelligence. Lyalin gave details of KGB war contingency plans to sabotage vital communication and strategic centers in Britain. His own target was an early warning system in Yorkshire.(77) He also reported how specially configured Aeroflot planes were equipped to drop mines to seal NATO SSBNs in their Scottish ports.(78) Lyalin's information on KGB operations in Britain resulted in the British expulsion of 105 Soviet intelligence officers and the Soviet removal of many sabotage and assassination specialists from posts worldwide.(79)

In 1972, Canadian authorities apprehended Anton Sabotka (80), a Soviet agent involved in sabotage support. Sabotka, born a Canadian citizen, was recruited after his parents returned him to their native Czechoslovakia as a teenager. He was trained in the reconnaissance of sabotage targets and groomed by Moscow as a communications link between Moscow and North American saboteurs. He operated for 11 years in Canada before apprehension.(81)

Illegals

The KGB, GRU, and Soviet allies also make wide use of "illegals."(82) Illegals are Soviet citizens, or sometimes citizens of other Warsaw Pact countries or Cuba, who live abroad illegally relying on fake identities, forged documents, and fictitious pasts. Because of the independent nature of their work and the lack of direct control Moscow has over their day-to-day activities, illegals are selected from only the most trusted of intelligence personnel. Husband and wife teams are sometimes used.

After selection, a prospective illegal undergoes an extensive training program. They are provided training in the language, customs, laws, etc., of their future country and given instruction in communication procedures including ciphers, codes, invisible writing, dead drops, and radio usage. Depending on their foreseen role abroad or their cover story, they may also be trained in several occupations. Most are also trained in selected areas such as sabotage, reconnaissance, technology theft, etc. Their training may include periods living in other countries to help establish their false identities and fictitious past and to see if they are capable of melding fully into a foreign society.

Eventually, using forged papers, they are illegally entered into their foreign post and begin to generate stronger cover stories by establishing residence, gaining employment, and joining social and professional societies.

Some illegals may immediately begin acting as clandestine intelligence operatives; others may be left as "sleepers," only to be activated when needed.

A key characteristic of illegals is that they do not usually communicate or have contact with their home country's diplomats or businessmen legally in a country. Their directions usually come direct from their home country either by radio or other means. Similarly, all information the illegal collects is usually sent directly home.

Illegals may be organized in networks or residencies where two to eight illegals work together on assignments. These are the only cases where illegals know the identities of other illegals. In countries where there is no legal Soviet, East European, or Cuban presence, or if a legal presence is thrown out of a country, "illegal residencies" are established to continue intelligence operations. These illegal residencies perform similar functions to legal residencies in running agent networks.

An example of a Soviet illegal residence is the case of Rudolf Herrmann (a.k.a., Ludek Zemenek). Herrmann was a Czechoslovakian citizen who, along with his wife, was trained as an illegal. After six years in Canada, he was placed in the U.S. and established a residence and business near New York City. Although used mainly for low risk intelligence collection in areas closed to legal Soviet citizens in the U.S., the Soviets primarily groomed Herrmann as the illegal resident for the entire U.S. should

diplomatic relations between the U.S. and USSR be broken. The FBI apprehended Herrmann in 1977 after he had been operating in the U.S. for over 10 years and had coopted his son, a legal U.S. citizen and student at Georgetown University, as a Soviet agent.(83)

Special Forces

To fill gaps in their other sabotage networks or attack especially high value or well protected targets, the Soviets may also use their special forces (Spetsnaz) units. Spetsnaz existence is a well kept secret in the USSR, but in the past 6-8 years several Soviet defectors have revealed their capabilities to the West. Although their total numbers are not known, most estimates show there could be as many as 27,000-30,000 Spetsnaz personnel in the Soviet armed forces.(84) There are also believed to be several thousand additional Spetsnaz type personnel assigned to the KGB and Soviet MVD (Ministry of Internal Affairs).(85)

Spetsnaz units are the true elite of the Soviet armed forces. Only the most capable personnel are selected for Spetsnaz training and this often includes many world-class athletes. Soviet armed force Spetsnaz units exist at the army front, naval fleet, and general staff levels. They are not readily identifiable from other military units as they often adopt the uniforms of the military units where they are stationed. Spetsnaz personnel receive extensive training including:- languages; the combat arts including

hand-to-hand combat, small arms, communications, and demolition; and special skills such as parachuting, SCUBA diving, etc.(86)

Spetsnaz units are designed to be highly mobile, destructive, and clandestine. They are well equipped and depending on the target would normally work in small groups of 4-12 personnel, using disguises as necessary to blend in with a country's population. They are usually equipped with rifle models designed for use by airborne/air mobile units including the AKM, AK-74, and short barreled AKR carbine. They have available a variety of sabotage explosives and depending on the mission, may also have hand-held surface-to-air missiles, silenced pistols, sniper rifles, and grenade launchers.(87) In addition, they may use man-portable atomic weapons and a variety of bacteriological or chemical weapons.(88) For communications they rely on long-range HF radios capable of encrypted burst transmissions.(89)

Spetsnaz units could use a variety of methods to enter the West in order to conduct target reconnaissance or carry out actual sabotage. These include entering in the guise of: tourists; trade, scientific, or other delegations; sports teams; or crews and passengers on merchant ships, fishing vessels, or civil aircraft. A certain number may be posted to permanent Soviet diplomatic missions or trade delegations as technical personnel, guards, gardeners,

drivers, etc.(90) They could also infiltrate illegally much the same as illegals.

Naval Spetsnaz elements are capable of infiltrating by small boat, SCUBA, or minisubmarine.(91) The Soviets have built at least two India-class diesel-electric submarines to act as motherships for minisubmarine operations. Recent violations of Swedish and Norwegian territorial waters by Soviet submarines and suspected minisubmarines point to their use in support of Spetsnaz operations.(92)

Once in the target country, Spetsnaz units would require logistic support and would most likely work with agent or other Soviet support networks already in place. These agents, sometimes called "pointers," would probably meet Spetsnaz teams, guide them to weapons caches and target areas, and provide other support (safe houses, transportation, food, etc.) as required.(93)

Sabotage Strength

Because of the clandestine and compartmented nature of these sabotage elements, the true number tasked against NATO port complexes is all but impossible to determine. Therefore, a broad scope of this sabotage threat is the best that can be developed in peacetime.

Soviet, other Warsaw Pact, and Cuban agents operating under the direction of legals in NATO countries probably account for the greatest port sabotage threat. Most sources estimate 35-40 percent of all Soviet and Soviet allied

personnel legally in the West are undercover intelligence officers. If true, this would place between 500 and 700 active intelligence officers (legals) in the U.S. and Canada with several thousand in NATO Europe. The operations of these intelligence officers cover a wide range. A certain percentage most certainly are attached to KGB and GRU directorates planning wartime sabotage and work in undercover residencies controlling agent networks which may eventually conduct the sabotage. Aleksei Myagkov, a former KGB officer, estimates that in West Germany alone there are a minimum of 8,000 active agents and 5,000 "sleepers" belonging to only the KGB and GRU who are prepared to conduct various sabotage assignments.(94)

The Soviets also appear to use international terrorists as part of their agent networks. Italy's Red Brigade, France's Action Directe, West Germany's Red Army Faction, and Belgium's Communist Combatant Cells are all Marxist-Leninist left-wing terrorist groups that have been linked indirectly to the Soviets. Consisting of several hundred total personnel, these are presently the most active terrorists in NATO Europe. Recently these groups have begun to make NATO facilities their primary targets. There is some evidence these terrorist groups have even formed a coalition to improve their operations.(95) During a NATO-Warsaw Pact conflict these groups could add another element to the Soviet sabotage network.

Even after many years of experience with captured illegals, Western security services remain puzzled by the extent of this system. Based on testimony of defectors, the size of illegals' training classes in Moscow, and the confessions of arrested illegals, estimates of total Soviet illegals in the entire West run from several hundred to a thousand. Harry Rositzke, a former CIA agent, points out that illegals do not operate forever; therefore, he believes there are only sixty or seventy Soviet illegals active in the West at once.(96) In addition to the Soviet illegals, probably a lesser number can be attributed to Soviet allies.

Of the total number of legals, agents, illegals, and Soviet Spetsnaz personnel, the exact number assigned to sabotage NATO ports is impossible to determine. Aleksei Myagkov has written of several "Five-Hundredth Detachments" stationed in the Soviet Union and trained to sabotage the main seaports of the West.(97) In the overall context, however, port sabotage would probably take a lower priority than the destruction of NATO nuclear weapons, major military facilities, and communication and command centers. Yet, with several thousand personnel available for these sabotage operations, at least some sabotage of the port facilities can be expected. This is probably most true for the NATO European ports which are more vulnerable to the Soviet Spetsnaz forces due to their proximity to the USSR.

In the U.S. and Canada the port sabotage threat is even more difficult to determine. Because of logistic and

transportation problems, only the highest priority North American targets--nuclear weapon facilities, military bases (including naval bases), and command centers--would probably be assigned to Spetsnaz units, if they were even used. Agents and illegals could also be assigned sabotage of these high priority targets. As lower priority targets, North American Re/Re ports would probably receive some sabotage, with the major Re/Re ports the most likely targets. The greatest threat to North American naval and Re/Re ports, however, might not come from the Soviets directly, but as a result of Cuban sabotage networks described further in Chapter 4.

Notes

(Note: Morskoy Sbornik translations are provided by the Naval Intelligence Support Center, Suitland, MD. They may be found in various library periodical files under either Morskoy Sbornik or Soviet Naval Analyst, both using the edition numbers shown.)

1. For a summary of various Western views on Soviet SLOC interdiction see Bryan Ranft and Geoffrey Till, The Sea in Soviet Strategy (Annapolis: Naval Institute Press, 1983), p. 181.

2. A. V. Basov, The Navy in the Great Patriotic War: Experience of Operational-Strategic Employment (Moscow: Nauka Press, 1980) p. 295, cited in Milan Vego, "Anti-SLOC in the Soviet Naval Theory and Practice," draft paper, 28 Nov. 1984, p. 2.

3. V. D. Sokolovskiy, ed., Military Strategy (Moscow: Voyenizdat, 1962). A second edition in 1963, and a third in 1968, were also published. The third edition, edited with an analysis and commentary by Harriet Fast Scott, was published in 1975 in the U.S. as Soviet Military Strategy (3d ed.) by Crane, Russak and Co., New York. This will be the edition referenced.

4. Ibid., pp. 205, 210, 211.

5. Ibid., pp. 299-303.

6. S. I. Filonov, "Armed Conflict and Ocean Lines of Communication," Morskoy Sbornik, no. 3, 1965, pp. 39-41, cited in James M. McConnell, "Strategy and Missions of the Soviet Navy in the Year 2000," in Problems of Sea Power as We Approach the Twenty-First Century, ed. James L. George (Washington: American Enterprise Institute, 1978), p. 50.

7. Sergei G. Gorshkov, "Navy," Great Soviet Encyclopedia, Vol. 5 (1970), p. 675.

8. For a discussion of the shift of Soviet strategy see Harriet Fast Scott and William F. Scott, The Armed Forces of the USSR (Boulder: Westview, 1984), pp. 52-65.

9. Sergei G. Gorshkov, "Navy," Soviet Military Encyclopedia, Vol. 5 (1976), p. 235.

10. Sergei G. Gorshkov, The Sea Power of the State (Moscow: Voyenizdat, 1976) (English edition--Annapolis: Naval Institute Press, 1979), p. 276.

11. Ibid., pp. 213-222.

12. Ibid., p. 221.

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CHAPTER 3

The Potential Soviet Western Atlantic Anti-SLOC Campaign

> On 12 December [1941] at a conference between Hitler and Grand Admiral Raeder, Commander-in-Chief of the German Navy, the decision was made to plan and carry out Operation Paukenschlag ("drum roll") off the East Coast of America.
>
> Its purpose was to paralyze coastal shipping and thus disrupt the supply of oil and other raw materials on the U.S. East Coast. A gradual expansion of the operations area into the Gulf of Mexico and the Caribbean Sea was planned in order to disperse the Allies' patrol and escort forces, which were not numerous to begin with, and thereby reduce the effectiveness of the war against the [German] submarines....
>
> The aggressiveness of the German submarines literally stunned the U.S. Navy command. However, the shortage of forces prevented the Americans from organizing an effective antisubmarine defense of their coastal communications. Moreover, whenever ASW forces in any one zone were augmented, the Germans enlarged their area of operations....
>
> The effectiveness of the submarines' combat activity in the Western Atlantic may be judged from [the following] data.... [Between January and September 1942] they sank 520 ships of a combined displacement of 2,739,345 tons.... The enormous disparity between the number of ships sunk and the number of German submarines sunk is striking, 520 and 15, respectively: that is, 33 transports for every submarine sunk....(1)

This recent (1982) Soviet analysis of German World War II operations could provide insight into a future Soviet Westlant anti-SLOC campaign. As Chapter 2 showed, Soviet objectives for such a campaign, disruption of shipping and dispersal of enemy forces, are very similar to those of Germany over 40 years ago. But, like the German U-boats, Soviet forces in Westlant would be restricted by supply

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lines stretching thousands of miles from their homeports and an enemy possessing both air and sea control throughout the operating area.

This chapter takes the Soviet North Atlantic anti-SLOC strategy described in Chapter 2 and develops the operational art components of a Soviet Westlant anti-SLOC campaign. The Soviets describe operational art as focusing on

> The operational deployment of forces, operational coordination, the planning, preparation, and conduct of operations, [and] operational support to combat actions....(2)

Each of these areas is treated within the framework of the Soviet principles of naval art in Table 1 (pg. 11). Only by viewing a possible Westlant anti-SLOC campaign through the prism of these principles of naval art may the full extent of such a campaign be understood.

Command and Control

Who are the Soviet war planners and operational commanders for a Westlant anti-SLOC campaign? For this answer the Soviet wartime military command structure in Figure 5 must be reviewed.

During wartime the Defense Council has virtually complete control over the military, economic, and political direction of the USSR. The exact composition of this council is unknown, but it is assumed to be headed by the general secretary of the Communist Party of the Soviet Union (CPSU) and includes only the highest Soviet leaders.(3)

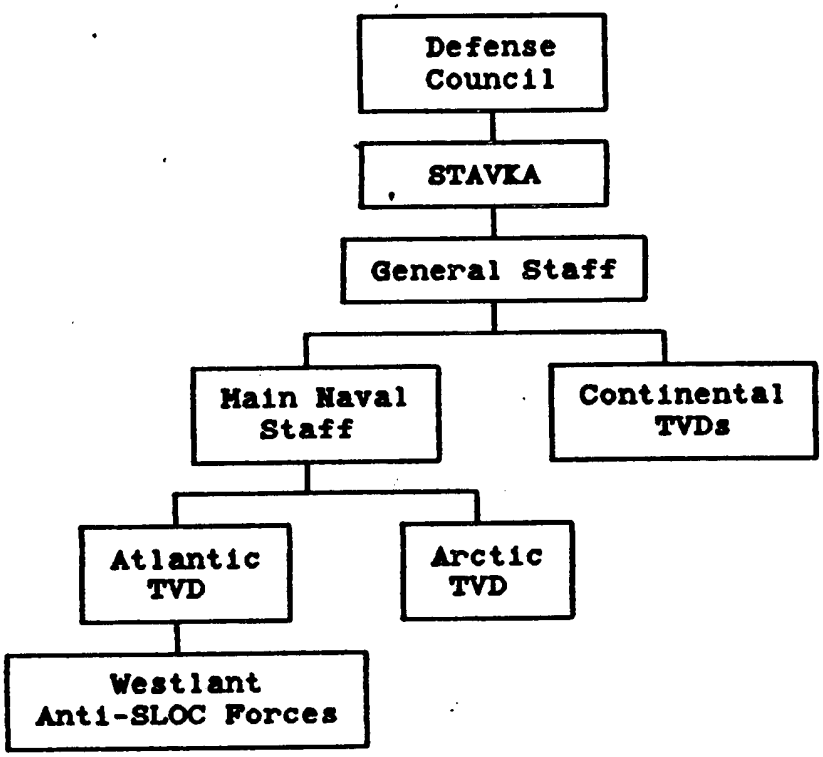

Figure 5

Soviet Western Atlantic Wartime Control Structure

Sources: Adapted from Harriet Fast Scott and William F. Scott, The Armed Forces of the USSR (Boulder: Westview, 1984), pp. 105-122, 225; and William F. Scott and Harriet Fast Scott, "Command Structure," U.S. Naval Institute Proceedings, Dec. 1985, pp. 42-44.

Subordinate to the Council of Defense is the Supreme High Command or Stavka. As the highest military control organ it is Stavka's job to determine the operational tasks of the Soviet armed forces and to monitor the accomplishment of these tasks. It is here the initial direction for a Westlant anti-SLOC campaign would probably originate. The exact wartime membership of the Stavka is also unknown, but it is assumed to also be headed by the general secretary of

the CPSU and include the members of the peacetime Main Military Council made up of the minister of defense and the first deputy and deputy ministers of defense. This includes the Commander-in-Chief of the Soviet Navy as a deputy minister of defense.(4)

Once Stavka decisions are made, the staff work to carry them out is completed or directed by the Soviet General Staff. Operational control of combat forces is the responsibility of designated commanders of theaters of military operations (TVDs) who are subordinate to the General Staff. It is believed the Soviets have divided the entire planet into 10 continental TVDs and 6 oceanic or maritime TVDs.(5) In relation to a Westlant anti-SLOC campaign, it is believed an Atlantic Oceanic TVD commander would maintain operational control of the forces involved. It is assumed the Commander, Norfleet is commander of both the Atlantic TVD and a separate Arctic TVD. The Commander, Norfleet may be the only fleet commander with full TVD responsibilities, as the other Soviet fleets are believed subordinate to their adjacent continental TVD commanders.(6)

The Soviet naval chain of command is unique among the Soviet armed forces in that the General Staff, dominated by Soviet ground force officers, relies heavily on the Main Naval Staff of the Soviet Navy for both staff work and operational control of oceanic TVDs and naval forces at sea.(7) Therefore, both the primary contingency planning and operational direction for a Westlant anti-SLOC campaign

would be a combination of efforts by both the Main Naval Staff and the Atlantic TVD commander.

An insight into how this system might function was provided in a Soviet volume about OKEAN-70.(8) This work explained how the main command post for directing OKEAN activities was manned by the Main Naval Staff in Moscow. Orders from Admiral Gorshkov were described as providing "a basic instruction containing the main missions" of the forces. Fleet and operational commanders were then to "work out specific aspects of these missions." Operational proposals from the fleets were then evaluated by the Main Naval Staff and carried out only after Gorshkov's approval. Other items in this same volume made it clear the Main Naval Staff also provided direction and kept detailed information on individual units. This ranged from directing the navigational movement of individual ships to even knowing the sonobuoy drop time of individual ASW aircraft.

The command and control of Soviet Norfleet forces during exercises and peacetime operations reflect these same methods. It appears that ships are under joint control of the Norfleet and Moscow when they deploy to the Caribbean or South Atlantic. It also appears there are frequent crossovers of control, depending on the force size, operations underway, and political sensitivity of the mission.(9) Because of a Soviet emphasis on having their wartime control structures in place in peacetime (i.e., some of their continental TVD staffs are presently formed with no

troops assigned), it is logical to assume that a wartime Westlant anti-SLOC campaign would also be conducted under joint Atlantic TVD and Main Naval Staff direction.

Force Allocation

Upon being directed to prepare a Westlant anti-SLOC campaign, Atlantic TVD and Main Naval Staff war planners (hereafter called Soviet planners) must consider the principle of combat-readiness and the all-important time factor. They must first survey the combat-ready forces available and determine how to deploy them to Westlant stations.

Whether a "1914 model" or "1940 model" crisis is unfolding, all 10 of the Westlant dedicated submarines (i.e., "worst case" of the 5-10 estimate in Chapter 2) cannot be maintained continuously on Westlant stations. At least four or five of these submarines must realistically be kept as relief or reinforcement units in Soviet ports. This would allow relief for submarines either deployed several weeks in a "1914 model" crisis or for relief and replacement after a war became protracted in either model.

Table 5 provides a listing of six Soviet submarines and their weapon out-loads that could be used in a Westlant anti-SLOC campaign. This example force will be used for the consideration in the remainder of this chapter.

Table 5

Potential Soviet Western Atlantic
Wartime Submarine Deployments

No./Class	No. ASUW Torpedoes	No. ASW Torpedoes	No. Mines
1 VICTOR III	6	10 (a)	32
3 VICTOR I/II	10	6 (b)	32
2 FOXTROT	14	2	12

(a) Includes 6 ASW torpedoes, 2 SS-N-15 (long-range ASW missiles equipped with nuclear depth charge), and 2 SS-N-16 (long-range ASW missiles equipped with ASW torpedo).
(c) Includes 2 ASW torpedoes, 2 SS-N-15, and 2 SS-N-16.

Note: It is realized that the exact number of submarines, submarine classes, and weapon out-loads could take a multitude of configurations. The objective here is not to debate the numerous variables involved, but to show a representative scope of a possible Westlant SLOC threat. As this chapter is further developed the reasons for the estimates in this table will become clear. A detailed discussion of each of the weapons identified in this table is beyond the scope of this work.

Sources: Armament capabilities from Milan Vego, "Part 3: 1961-84, Torpedo Armed Submarines," Navy International, 90, no. 4 (1985), 240-243; and Milan Vego, "Their Torpedoes," U.S. Naval Institute Proceedings, Jul. 1984, pp. 139-141.

The submarines in Table 5 are not the only Soviet offensive forces which could be deployed to Westlant both in the crisis before and period after war start. (Reconnaissance forces are addressed later.) At least two Yankee-class SSBNs would probably be on station near Bermuda. Assigned a strategic deterrence/strike role, these submarines would try to remain undetected by NATO ASW forces as part of the Soviet strategic reserve.

Additionally, during 1984-1985, the Soviets stationed at least one Echo II-class cruise missile equipped submarine

in Westlant on a strategic nuclear deterrence mission. This was in reply to the NATO theater nuclear force deployments in Europe in late 1983. This patrol is now apparently discontinued.(10) An Echo_II could be returned to Westlant during a crisis with a primary strategic deterrence mission and a secondary mission of attacking major NATO battle groups in conjunction with the Table 5 forces. The ability of an Echo_II to conduct battle group attacks would be limited, however, by a lack of either Soviet air or surface units to provide targeting for its missiles. (Coordination of an Echo_II and Bear reconnaissance aircraft at war outset will be described later.) For this same reason it is unlikely other cruise missile equipped submarines would be deployed to Westlant with a primary Re/Re attack mission.

Soviet and Warsaw Pact merchant and fishing vessels in Westlant may also participate in a Westlant anti-SLOC campaign. Past Soviet naval operations have shown these vessels are integrated into the Soviet Navy command and control system. On an average day 20-30 of these vessels are either en route or in port in the U.S.(11) These vessels could lay a variety of mines at port entrances, along coastal SLOCs, or on continental shelves.

And finally, Soviet and other Warsaw Pact commercial aircraft must also be considered. As explained in Chapter 2, the Soviets have plans for Aeroflot planes to clandestinely lay mines at the entrances to NATO SSBN bases in Scotland.(12) Although Aeroflot flights to the U.S. and

Canada are limited, there are numerous Warsaw Pact flights over the Westlant air lanes, especially over or near the Caribbean SLOCs.

Force Transits

Once the Soviet Westlant force allocations are determined as above, the Soviets must next plan the transit of these forces to Westlant. Here the naval art principle of surprise first comes into play. The Soviets define the principle of surprise:

> To mean actions unexpected by the enemy which are coordinated in time, place, makeup of forces and weapons, and methods of their employment and allowing a defeat of the enemy grouping in a chosen sector.(13)

For a Westlant anti-SLOC campaign the first step in achieving surprise is moving the Table 5 submarines undetected into Westlant and then having them remain undetected while on-station. The Soviets could be fortunate at a crises outset to have a Victor-class already patrolling in Westlant and possibly a diesel-electric submarine deployed as part of a Soviet Caribbean Squadron. The surface ships in a Caribbean Squadron would almost be forced to return to their European ports before the outset of war, however, the diesel-electric submarine could be left behind. Those submarines transiting from their Soviet homeports could attempt to arrive undetected on Westlant stations by using slow transits (if time allowed) and taking advantage of gaps in NATO ASW surveillance systems.

The Soviets have a healthy respect for NATO submarine detection capabilities. A 1985 Morskoy Sbornik article explained in fair detail how the NATO submarine surveillance systems are not only used but also being improved.(14) It explained how the NATO Sound Surveillance System (SOSUS), consisting of hydrophones set on the ocean floor, is supplemented by other sonar and non-sonar systems to track Soviet submarines. For submarines departing the Norfleet the article alleged:

> Soviet submarines entering the Atlantic from the Barents Sea must be tracked first by satellites, Norwegian Orion [P-3] aircraft, and the SOSUS on the line from Bear Island to the north coast of Norway. Next the hydrophones of the American SOSUS system, deployed on the Greenland-Iceland-Great Britain line, and English Nimrod aircraft come into action. When detected submarines leave the English zone of responsibility their tracking is turned over to the Americans again. In the Central Atlantic tracking can be done by the SOSUS means of the Bermuda Islands chain and SURTASS [Surface Towed Array Surveillance System] and TACTASS [Tactical Towed Acoustic Sensor System] ships and vessels. The positions of submarines determined by the SOSUS are compared in real time with satellite data and refined by Orion aircraft using radio buoys and magnetometers.(15)

Unfortunately for NATO, their ASW surveillance system is not fool proof. In 1980 the media reported the passage of a Soviet Alpha-class nuclear-powered submarine (not a quiet submarine by any standard) through the SOSUS barrier. This submarine was detected only after breaking radio silence.(16) Additionally, because of a recent breach in U.S. security, the Soviets probably have excellent data on most of the NATO ASW surveillance shortfalls.

In 1985 a Soviet-backed U.S. spy ring was uncovered which revealed that during 1984 and early 1985 the Soviets were provided classified documents which dealt with the U.S. tracking of Soviet submarine movements.(17) It would not be difficult for them, knowing their exact submarine locations, to figure out any gaps in the NATO submarine detection system. Using this data they could then plan their submarines' undetected transits to Westlant.

It is unrealistic for the Soviets to believe all of the submarines in Table 5, and possibly an Echo_II, would remain undetected while in transit and on-station in Westlant. The diesel-electric powered Foxtrots in Table 5 would have the best chance of arriving on Westlant station and remaining undetected. The Victor_III is also relatively quiet and may only occasionally be detected. The Victor_I/IIs and the Echo_II, however, are noisy submarines by U.S. standards and stand the greatest risk of detection. But even these have recently been receiving numerous features to dampen their machinery noise.(18) All of these submarines, upon arrival in Westlant, could patrol slowly over or near the Westlant continental shelves, minimizing their probable detection and confusing NATO ASW forces as to their true strength. When combat was begun, the Soviet Westlant submarine force could be larger than expected, and thus the first of several elements of surprise would have been achieved.

The Battle of The First Salvo

The Soviets explain the full objectives of surprise as trying to create:

> Favorable odds for inflicting substantial losses on the opposing side within a relatively short time and for disorganizing and disrupting his control of forces... [and] the operation plans the enemy has prepared for various situations.(19)

Because of the limited objectives of Soviet naval blockades, surprise in a Westlant anti-SLOC campaign would focus primarily on disrupting NATO force control and operation plans (i.e., general harassment), with a secondary emphasis on inflicting Re/Re losses.

Soviet writers have highlighted that surprise produces the greatest effect when all elements (including reconnaissance and radio electronic combat described later) are employed under a unified plan.(20) They have also repeatedly said that surprise is only temporary.(21) A successful surprise attack must be followed by decisive actions. This then brings into play the naval art principle of seizing and holding the initiative.

The Soviets have explained that one of the most important characteristics of naval art:

> Is its recognition of the dominance of the offensive, aggressive principal in combat operations; and this is impossible to achieve without seizing and holding the initiative in battles and operations.[emphasis added] (22)

They also state:

> The side which has seized the initiative can force the enemy to fight under conditions unfavorable to him, which weakens in advance his capacity to organize his defense or resistance in any encounter. Possession of the initiative makes it possible to choose the time and place for main-force operations, the success of which will determine whether the objective of the battle or operation is achieved.(23)

In addition, they have explained that "seizing and holding the initiative is very much involved in the achievement of surprise; it is in a sense its realization."(24) Admiral Gorshkov has combined the principles of surprise and seizing and holding the initiative into his now famous tactic labeled the "Battle of The First Salvo".(25)

This tactic calls for initiating an attack with a high element of surprise, using all available weapon power in a single, near simultaneous, massive strike. This strike would not be confined to Westlant, but would be conducted worldwide in the opening moments of war. Both OKEAN_70 and OKEAN_75 demonstrated the Soviet ability to execute the "First Salvo."(26)

Because of its worldwide nature, the "First Salvo" and the period leading up to it would be directed by the Main Naval Staff Headquarters outside Moscow. Subsequent operations in Westlant would then be turned over to the control of the Atlantic TVD submarine commander.(27)

It is assumed that in either a "1914 model" or "1940 model" crisis, the Soviets would initiate the war and thus

select the time for the "First Salvo." In Westlant, the "First Salvo" would consist of a variety of simultaneous sabotage, mining, torpedo, and missile attacks on North American ports and Re/Re shipping.

The initial element of a "First Salvo" attack could be Warsaw Pact merchant or fishing vessels employed for mine laying just prior to a war start. This threat would be greatest in either a "1940 model" or long "1914 model" crisis where Westlant-bound vessels could be loaded with mines and their mine laying coordinated with other Soviet forces. In a short "1914 model" crisis the threat from mining by these vessels would decrease sharply.

Table 6 shows those U.S. ports both restricted to and frequently used by Warsaw Pact vessels. Those ports frequently used are ideal for laying ground (bottom) mines such as the Soviet AMD 1000. This mine, containing 699 kilograms of explosive, can be laid in up to 55 meters of water and is probably equipped with a variety of time delay devices and influence (acoustic, magnetic, pressure) firing mechanisms.(28) After laying mines several days in advance of the "First Salvo," these vessels could then transit to neutral Caribbean or South American ports to wait out the war.

Table 6

Warsaw Pact Vessel U.S. Atlantic and Gulf of Mexico Port Restrictions and Use

Restricted from:	Frequently used:
Portsmouth, NH	Great Lakes Ports
Groton, CT	Boston, MA
New London, CT	New York, NY
Hampton Roads, VA	Delaware Bay Ports
Charleston, SC	Baltimore, MD
Port Canaveral, FL	Savannah, GA
Port St. Joseph, FL	Wilmington, NC
Panama City, FL	Tampa, FL
Pensacola, FL	Mississippi River Ports
	Galveston/Houston, TX

Source: U.S. Coast Guard

Mining by Warsaw Pact military or commercial aircraft could also be conducted just prior to the "First Salvo." The greatest threat from this type mining is probably in the Caribbean vicinity. These aircraft would most likely deploy bottom mines such as the Soviet AMD 500. This mine is similar to the AMD 1000, except it carries only 299 kilograms of explosives and has a maximum deployed depth of 24 meters.(29)

For those ports or sea lanes not available for Warsaw Pact vessel or aircraft mining, the Soviets could use a combination of their sabotage networks described in Chapter 2 and mining by the Table 5 patrolling submarines to disrupt Re/Re shipping. A former SACLANT has stated the logical areas for Soviet Westlant submarine patrols are off the ports of Hampton Roads, King's Bay, and Charleston, and in the Florida Straits.(30) The ports of Hampton Roads and Charleston provide the Soviets a double benefit, as they are

not only important naval complexes but also major Re/Re terminals. King's Bay and Charleston, major SSBN and nuclear-powered attack submarine (SSN) bases, are only 100 miles apart. All of these ports are also within a few hundred miles of other major U.S. naval complexes and Re/Re terminals.

The basic tactical unit for Soviet submarines is a pair. Each pair usually consists of sister ships of the same class; i.e., two Victors, Foxtrots, etc. Usually the senior commanding officer of the pair is the officer in tactical command. The Soviets have demonstrated the tactical employment of paired submarines numerous times against U.S. SSBNs.(31) This same deployment method would also likely be used during a Westlant naval blockade. Therefore, it is likely the Table 5 forces could be paired and deployed during a crisis as shown in Table 7.

Table 7

Potential Soviet Western Atlantic
Submarine Operating Areas

No./Class	Primary Operating Area(s)	Secondary Operating Areas
2 VICTOR I/II	Port of Hampton Roads	Ports of New York, Delaware Bay; and Nantucket/Cape Hatteras coastal SLOCs
1 VICTOR III 1 VICTOR I/II	Ports of Charleston/ King's Bay	Ports of Wilmington, Savannah, Jacksonville; and Cape Hatteras coastal SLOCs
2 FOXTROT	Florida Straits	Bahamas, Caribbean SLOCs

Deployed as above, the Victors would be operating over or near the U.S. continental shelf which provides good conditions for both initial mining and remaining undetected by NATO ASW forces. Table 8 shows the distance from selected U.S. ports to the edge of the continental shelf and the resultant maneuvering room it would provide patrolling submarines. Based on available intelligence, Victors could be easily redeployed over and along the continental shelf between their primary and secondary operating areas shown in Table 7.

Table 8

Distances from Selected U.S. Ports to Edge of Continental Shelf

Port	Nautical Miles to Outer Edge of Continental Shelf
New York, NY	90
Delaware Bay	65
Hampton Roads (Norfolk, VA)	65
Charleston, SC	55
Kings Bay, GA	70
Jacksonville, FL	65

Source: Various U.S. Defense Mapping Agency Nautical Charts

Just prior to the "First Salvo," the Victors could lay mines based on the Main Naval Staff's directions. They could then assume their secondary role of sporadic attack on major naval surface units (aircraft carriers, amphibious carriers, battleships), submarines (SSBNs, SSNs), and major Re/Re military personnel or cargo ships. As Table 5 shows, once a Victor is outfitted for mine laying and provided ASW weapons there is little room for anti-shipping weapons.

These ASUW torpedoes, usually used in salvos of two or three, must therefore be used selectively. Admiral Gorshkov and other Soviet authors have often criticized the German World War II policy of trying to destroy "as many enemy transports as possible without taking into consideration the nature of cargoes being transported."(32) Another Soviet writer, when discussing a submarine's difficulty in locating a main target, explained, "[t]o release a torpedo against an escort ship, even if this is done well, means failing the mission...."(33)

The Florida Straits and numerous channels in the Bahamas and Caribbean are ideal for diesel-electric submarine employment. Bordered by various islands, banks, and reefs, these areas would restrict a nuclear submarine's ability to use speed and deep dives for evasion. At the same time, these conditions provide good havens for diesel-electrics to both hide and launch attacks from.

The 40-90 mile wide Florida Straits, through which 65 percent of all Re/Re shipping transits, contains the swift (4-6 knot) Gulf Stream current. This current, combined with 800-1200 meters of water would degrade mine laying operations. The depths of most other channels in the Caribbean also preclude mining except for use of the Cluster Gulf mine in Table 4 (pg. 28).

Foxtrot submarines deployed in the Florida Straits may or may not be part of the "First Salvo," depending on their targets of opportunity. They could lay mines beforehand,

but more likely would try to remain undetected, commencing sporadic shipping attacks at or soon after "First Salvo" time. The Foxtrots could become what the Soviets describe as "mobile minefields."(34) This would consist of sporadic torpedo attacks on Re/Re shipping as the merchant ships transited near the submarines' patrol areas. Target selection in the Florida Straits or Caribbean would probably not be as selective as for the Victors described above, especially since major NATO naval surface units and submarines may not be in these areas. Because these diesel-electric submarines would not require high speed or long endurance to either chase high value units or convoys or to redeploy quickly from one operating area to another, they could remain on-station longer at slow, quiet speeds.

Both at and after "First Salvo" time, the Foxtrots could use a tactic found in a recent (1985) Soviet analysis of German U-boat operations which explained how:

> In order to avoid detection by sonar the submarines lay on the bottom where, remaining motionless [note - only diesel-electric submarines can do this], they "waited" for hours for a target to pass. Upon the appearance of a target the submarine rose up and fired torpedoes by means of passive sonar data.... The main...losses [from these attacks] involved single transports in coastal waters.(35)

After the "First Salvo," the Victors could take up patrol positions off selected ports or along coastal SLOCs. They would probably continue to operate in pairs and be assigned individual adjacent patrol areas providing overlapping sonar coverage and mutual support.(36) A hint

of the tactics these submarines could use against high value surface targets was also provided in the recent Soviet evaluation of German World War II U-boat tactics which recounted:

> For purpose of secrecy they stayed submerged during the day surfacing to periscope depth for a short period every hour.... Upon spotting a target, the submarine[s] took up a course for a torpedo run at lowest speed.... When breaking off the chase [after attack], the submarine[s] either counterattacked ASW ships or evaded them at maximum speed with changes in course and submersion depth.(37)

After war start the Soviets could retain the initiative in Westlant by moving the submarines between patrol areas using available intelligence data. The submarines could lay additional mine barriers near ports or across coastal sea lanes and continue sporadic torpedo attacks throughout Westlant. Soviet reinforcement and relief units could be dispatched to keep continuous pressure on the Westlant SLOCs. The Soviets have praised the German World War II ability to retain just such initiative by maneuvering and redeploying their U-boats off the North American east coast as situations changed, resulting in the disorientation of Allied ASW forces.(38)

Combat Support

The Soviets cannot hope to conduct a Westlant anti-SLOC campaign similar to the one described above without considering the naval art principle of thoroughgoing combat support. The Soviets define support of combat activities as a system of measures for the purpose of maintaining forces

at high combat-readiness, creating favorable conditions for the organized and timely entrance into battle and successful conduct of combat activities, prohibiting or preventing surprise attack by the enemy, and reducing the effectiveness of enemy strikes against own forces. This support may be classified as "combat" or "operational," "special," "rear" or "logistical," and "technical."(39) The principle forms of operational support are reconnaissance, communications, and radio electronic combat.

Soviet Ocean Surveillance System

The Soviets highlight the importance of reconnaissance by explaining:

> Success in battle depends also on the degree to which reconnaissance detects enemy forces in time, determines target coordinates accurately, and provides target indication data.(40)

The Soviets have developed a centralized naval reconnaissance system to provide the Main Naval Staff and TVD commander all possible information on enemy forces. The Soviet Ocean Surveillance System (SOSS), a collective heading for all naval surveillance activities, makes wide use of aircraft, radio intercept, satellites, surface ships, and human sources to collect information which is then sent to and processed by Soviet naval intelligence.(41) This information is then widely shared between the intelligence directorates of the fleets, the Main Naval Staff Intelligence Directorate, and the GRU. These SOSS

collection resources would play a variety of roles in a Westlant anti-SLOC campaign.

Aircraft. The Bear turboprop bomber, the largest aircraft flown by Soviet naval aviation, is their only surveillance aircraft which has regularly operated in Westlant. The Bear_D surveillance version and the Bear_F anti-submarine version regularly operate out of San Antonio de los Banos airfield in Cuba. As will be seen in Chapter 4, it is likely these aircraft would be available for Westlant surveillance during a crisis period before war. Since neither of these aircraft are capable of self defense, there is little chance they could operate near the North American Air Defense (NORAD) region after hostilities began.

The Bear_D is equipped with a long range Big_Bulge surface search radar and is intended to seek out surface ships and provide operational data to naval intelligence centers and targeting data for Soviet surface combatants and submarines. The Bear_D can use a video data link to provide surface combatants and submarines (such as an Echo_II) equipped with the SS-N-3 Shaddock or SS-N-12 Sandbox anti-ship missiles an actual radar picture of the target. These missile shooters can then give the missile in-flight guidance corrections.(42)

The Bear_F uses sonobuoys and magnetic anomaly detection (MAD) devices to search for NATO submarines. It

also has a short range surface search radar. It is believed to carry both ASW torpedoes and nuclear depth bombs.(43)

The Soviets regularly deploy two Bear_Ds and/or two Bear_Fs out of Cuba. During a crisis period these aircraft could provide tracking of both surface shipping and submarines along the entire North American eastern seaboard. The Bear_Ds would probably focus on NATO naval forces, especially carrier and amphibious battle groups and large concentrations of Re/Re ships. The Bear_Fs would be used to locate U.S. SSBNs or SSNs as they transit to their wartime stations.

If at "First Salvo" time the Bears remained in Westlant and the Soviet planners decided their potential risk was worth the gain, they could be utilized in the "First Salvo" attacks. The Bear_Ds could be used to provide targeting for a patrolling Echo_II or reconnaissance data to other submarines. The Bear_Fs could conduct their own attacks on NATO submarines.

Radio_Intercept. After World War II, using captured German technology, the Soviets built an elaborate high frequency direction finding (HFDF) network given the code name "Krug" (German for "ring" or "circle"). These systems are located along the land and sea borders of the USSR. They seek to intercept HF transmissions from NATO surface ships and submarines and triangulate their position.(44) NATO naval forces are especially susceptible to the Krug

network because of the widespread use of HF communications for the Naval Tactical Data Systems (NTDS - Links 11 and 14) and the "Orestes" ship-shore/ship-ship circuits.(45) Western merchant ships (the wartime Re/Re shipping) also make primary use of HF transmissions.

It is believed that the Soviets use Krug to cue their other collection assets to focus on a certain area.(46) Because of Westlant's distance from the USSR borders, Krug intercepts would be of only limited wartime use in an anti-SLOC campaign. However, during the crisis period before war, the Soviets may still rely on their communications intercept site at Lourdes, Cuba. This facility enables the Soviets to monitor Westlant maritime, military, and space communications, as well as U.S. domestic telephone calls.(47)

Satellites. The Soviets use several varieties of electronic intelligence (ELINT) and radar ocean reconnaissance satellites (RORSAT). Although specific details are lacking on these systems in unclassified literature, enough is known to explain their significant contribution to SOSS.

ELINT satellites are used to intercept electronic signals from ships, providing the ships' locations in varying degrees of accuracy. They can also provide ship type information from intercepted radar signals.(48) These

satellites are operated by the GRU, but support SOSS when over water.(49)

A second type of ELINT satellite used by SOSS is the Electronic Intelligence Ocean Reconnaissance Satellite (EORSAT). They are tasked almost entirely against naval targets.(50) These satellites are believed to be capable of down-linking their information in real time to Soviet command centers and weapons platforms.(51) EORSAT and ELINT satellites are also believed to be used for keying the RORSAT to areas of interest.(52)

RORSATs employ a powerful, side-looking pulsed radar which is estimated to have a swathe width of 240-300 nautical miles. They operate only over ocean areas and are used for detecting and locating naval targets. The RORSAT targeting data must be down-linked to weapon platforms, probably those carrying long-range anti-ship missiles.(53)

The Soviets are gradually improving their space-based ELINT assets. They have demonstrated great versatility and flexibility in launching and maintaining several surveillance systems in orbit and are capable of redirecting them as the world situation dictates.(54) In a Westlant wartime anti-SLOC campaign, these satellites could become the primary systems for providing Soviet submarines locations of NATO naval forces and Re/Re shipping.

It should also be noted that Soviet submarines would receive non-reconnaissance combat support from satellites for communications, navigation, and meteorological

forecasts.(55) These are the principle means of "special" combat support.

Ships. The Soviets maintain a fleet of 50 specialized intelligence collection ships (AGIs). Many of these are converted trawlers or survey ships, while others are built from the keel up as AGIs. These ships are capable of collecting a vast array of ELINT data.

The Soviet merchant and fishing fleets are also possible ELINT collectors. They have been observed with a variety of antennas capable of collecting ELINT data. Additionally, Soviet submarines have been photographed with antenna systems which could support tactical ELINT collection.(56)

There is usually at least one Soviet AGI operating off the North American east coast. The primary targets of this AGI collection effort are the missile launches from Cape Canaveral and the SSBN base at King's Bay, Georgia. As with the Bears and Lourdes complex, the AGIs and merchant/fishing vessels would be of primary ELINT benefit in the crisis period before war. Relatively undefended (small guns and short range surface-to-air missiles), the AGIs could not operate in Westlant in wartime.

Human Sources. As explained in Chapter 2, the KGB, GRU, and Soviet allies' intelligence services have numerous human collection resources spread throughout the U.S. and Canada. Among other assignments, these personnel are

probably gathering information on military and commercial ship movements. Although exact numbers are unknown, it is likely that between all the various intelligence services every major North American port would be under surveillance in wartime. Ship location data and sailing schedules could be easily collected and passed either directly to offshore ships or clandestinely to Moscow for correlation with other SOSS data.

When looked at in total, the SOSS appears capable of providing patrolling Soviet submarines fairly complete and timely information on Westlant ship movements. Once this information is collected and evaluated, both it and the necessary operational directions must then be transmitted to the Soviet Westlant forces.

Communications Support

In order to pass SOSS information and provide operational direction to Westlant forces, Soviet planners must consider the naval art principle of coordination of forces. They define this principle as:

> Concordance with respect to the time, objectives, and place of operations by single-type or multi-type forces and groups, in order to achieve the specific objective of a battle or operation.(57)

To achieve this principle, the Soviets have developed a naval communications system characterized by:

- a quick reaction flexibility for shifting command and control of forces from peacetime to wartime operations, for shifting from centralized to decentralized control as necessary and for maintaining firm, continuous control of forces despite situational changes and enemy efforts to disrupt communications and deny intelligence inputs;

- the secure and deceptive means to provide offensive operations with a good element of surprise;

- the means to absorb and efficiently make usable great amounts of information on the enemy; and,

- a combat survivability under adverse conditions of enemy strikes and electronic warfare.(58)

During a Westlant anti-SLOC campaign, Soviet submarines would be controlled primarily via a shore based dual HF and very low frequency (VLF) communications system. Control orders and intelligence would be sent simultaneously on the HF and VLF circuits, with individual transmissions sent several times to ensure receipt by the submarines.(59) The Soviets also have an ultra high frequency (UHF) satellite relay broadcast capability. In addition, it is also believed the Soviets have an extremely low frequency (ELF) system which would be used to alert deep submarines to come shallow and receive the HF, VLF, or UHF broadcasts.(60)

Communications from the submarines would be minimal. One of the Soviet criticisms of the German World War II U-boat campaign was the German high command's insistence that the U-boats transmit HF convoy sighting reports both to other U-boats and the German naval headquarters. Through the use of HFDF, the Allies were able to locate and destroy

numerous U-boats. Gorshkov has indicated this mistake is not likely to be repeated by the Soviet Navy.(61)

Required Soviet submarine transmissions back to the shore-based command center would be via either HF or very high frequency (VHF) satellite relays.(62) The VHF transmissions would be used whenever the submarine was so equipped, as they are usually directional, may be compressed for short "burst" transmission, and are not easily detectable by direction finders. Because Soviet submarines in Westlant would not have to coordinate with either surface or airborne anti-SLOC forces, few transmissions would be required. Coordination between individual submarines would be via UHF of VHF line of sight communications or underwater acoustic transmissions.(63)

Radio Electronic Combat

The third primary Soviet operational combat support method is radio electronic combat (REC). They define REC as:

> The set of measures performed for reconnaissance of the electronic material and systems of the enemy and their subsequent electronic neutralization, as well as the measures performed for the electronic protection of friendly electronic material and systems.(64)

REC is a part of the larger Soviet strategy of maskirovka which includes such other actions as visual camouflage, operational security, dummy forces and installations, and disinformation.(65) The REC component of maskirovka is aimed at denying NATO use of the

electromagnetic spectrum, while protecting the Soviet use of the spectrum.

REC can be broken into four divisions; exploitation, denial, deception, and destruction. Exploitation, or the passive use of the enemy's emissions for one's own good, was the basis for much of the SOSS described above. During a Westlant anti-SLOC campaign, the other three divisions of REC would be directed at protecting the Westlant deployed submarines.

Denial or jamming, as Admiral Gorshkov wrote, "may completely paralyze the system of monitoring the situation and the receipt of information."(66) Deception, on the other hand, is directed at providing false or retransmitted electronic signals in order to confuse the enemy.(67) During a prewar crisis, Soviet AGIs or aircraft in Westlant could conduct either of these REC operations. In wartime it would be left to submarines.

Little is known about Soviet submarine jamming and deception capabilities. They could easily be outfitted for spot pulse jamming and other missions such as IFF spoofing, deceptive repeating of air and maritime navigation aids, and intrusion on unsecure radio communication circuits.(68) A submarine's ability to conduct these operations while remaining undetected, combined with the great confusion that even partially successful attempts would create(69), make it likely that denial and deception could be a secondary mission of wartime Westlant deployed submarines. This

confusion would contribute greatly to the submarines' own survivability by degrading the operating capability of NATO ASW forces.

REC destruction refers to the hard kill of enemy electronic emitters, command centers, or weapon systems. This could be a mission of the Soviet sabotage networks described in Chapter 2. Soviet submarines could also conduct REC destruction operations by landing their own shore-side saboteurs or by utilizing anti-radiation or other land-attack cruise missiles.

NATO shore installations, including SOSUS facilities, communication facilities, HFDF sites, and radar stations, are highly vulnerable to both saboteurs and cruise missiles. Their locations are usually fixed and easily identifiable to anyone wanting to know. They are normally in isolated areas on or near the coast and are lightly defended. Saboteurs may only have to cut a few cables to place them out of operation. Even a cruise missile attack would not have to destroy the installation, but merely use a chemical or biological (CB) warhead to incapacitate its personnel.(70)

A combination of any or all of these REC operations would not only help ensure a Westlant deployed submarine's survival, but could also contribute to the Soviet objectives of gaining surprise and seizing and holding the initiative. But, before any of this is possible, the Soviets must first solve their most difficult Westlant combat support problem: logistics.

Logistical and Technical Support

The Soviets assert that logistical and technical support of submarines "exerts an enormous influence on the success of [combat] operations." They highlight that even nuclear submarines, having practically unlimited fuel, fresh water, and air, still require technical support and crew reliefs. Therefore, it is critical that logistical and technical support be coordinated "in the development of plans for employing submarines."(71) This is where the Atlantic TVD commander would play his most important role in Westlant anti-SLOC planning.

The Soviets possess no capabilities for technical support of nuclear-powered submarines in Westlant. Soviet submarine tenders could not operate unprotected in Westlant after a war start. And although in 1970 there were indications of the Soviets building a nuclear-powered submarine base in Cuba, they have still not shown the capability to technically support nuclear submarines in Cuba.

Soviet or other Warsaw Pact merchant or fishing vessels could provide prewar food replenishment to Westlant patrolling Victors; however, technical support would remain dependent on their Norfleet bases. These submarines could be maintained on-station a maximum of 45-60 days during a crisis. This time frame would become less after a war start and they expended their weapons. This would force the Victors to be supported by relief submarines from Norfleet

in order to keep their numbers constant in Westlant. To maintain four Victors on Westlant station during a crisis and in the early stages of war would require at least a two-to-one (and probably a three-to-one) combat-ready ratio, meaning four Victors in Westlant and four (or eight) others either en route or being serviced in Norfleet ports.

This relief process for Westlant deployed Victors makes the Soviet planning for a Westlant anti-SLOC campaign even more difficult. After a war start, Victors transiting the NATO North Atlantic ASW surveillance system described earlier could face a 50-75 percent destruction rate. They would probably be most vulnerable as they passed through the GIUK gap. This would therefore demand the escorting and protection of these submarines during transit near the GIUK gap as described in Chapter 2. Thus, Soviet planners may have to allocate more than just submarine forces to support a Westlant anti-SLOC campaign.

Support of the two Foxtrots in Table 5 would depend on assistance from Cuba. Without this support, these submarines could remain on-station a maximum of 10-15 days. Because of the long distances to Norfleet ports and slow diesel-electric submarine transit speeds, a three-to-one or even four-to-one combat-ready ratio, or as many as six or eight Foxtrots, would have to be dedicated to keeping two on-station without Cuban assistance. These submarines could also expect high destruction rates as they transited to and from Norfleet ports after war start. However, with fuel,

food, and technical support from Cuba (which has three Foxtrots of their own), plus rearming support after a war start, two or three of these submarines could be kept in Westlant for several months.

The use of Cuban support for food and rearming could also extend the Victor Westlant patrols by several weeks during a crisis. But, no matter what intentions the Soviets planners may have for Cuban overt or covert support to a Westlant anti-SLOC campaign, Fidel Castro and the Cuban ruling elite may have other thoughts--as will be seen in Chapter 4.

Notes

(Note: Morskoy Sbornik translations are provided by the Naval Intelligence Support Center, Suitland, MD. They may be found in various library periodical files under either Morskoy Sbornik or Soviet Naval Analyst, both using the edition numbers shown.)

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Chapter 4

The Cuban Threat

Cuba's alliance with the Soviet Union--measured in terms of the magnitude of economic and military aid; the integration of economic, military, and political institutions; and longevity--remains the strongest of Moscow's patron-client ties with Third World countries. It can best be described as a relationship in which neither partner exerts complete control or influence over the other and in which mutual interests of both countries are served but at costs to both sides. It is not, however, a partnership of equals. Because Cuba depends heavily on Soviet economic aid to keep its economy from collapsing, Moscow dominates the relationship. Thus, as one observer has noted, the Soviets can (at least in peacetime) force the Cubans to "operate within the parameters set by the Kremlin."(1)

Providing no significant markets to the Soviets, Cuba's main value to them is its geostrategic location and its commitment to communism. Cuba provides the Soviets a stepping stone for spreading the communist revolution to the Third World, especially Latin America and Africa. Although the Cuban-Soviet relationship has sometimes been strained by disagreements over various Third World ventures, it appears now (mid-1986) they are allied closer than ever.(2) This was highlighted by the high praise each country's leader

extolled on the other during the recent Third Congress of the Communist Party of Cuba (PCC) and Twenty-Seventh Congress of the Communist Party of the Soviet Union (CPSU). This culminated in a March 1986 meeting in Moscow between CPSU Secretary General Mikhail Gorbachev and PCC First Secretary Fidel Castro where they "expressed satisfaction over the successful development of Soviet-Cuban ties in all areas of social life."(3)

It would seem that for the $4 to $5 billion a year the Soviets provide to prop-up the struggling Cuban economy (not to mention the untold free military aid), the Soviets would expect more from Cuba than just an inroad to the Third World. Although Cuba also provides the Soviets benefits as a constant irritant to the U.S., it could be in its potential role in a NATO-Warsaw Pact conflict that Moscow also sees a future return on its huge investment. Moscow's ability to collect on this investment by using Cuba as "their aircraft carrier," as one Soviet defector noted(4), could be limited by the lack of a formal Soviet-Cuban defense alliance and the ultimate priorities of Fidel Castro.

Soviet-Cuban Military Relations

One of Fidel Castro's primary objectives since the beginning of his 25-year alliance with the Soviets has been to obtain a formal defense commitment binding the Soviets to come to Cuba's aid in case of a U.S. attack. Although the

Soviets often pose as Cuba's protector, there are no formal agreements to this effect. Cuba has not been allowed to enter the Warsaw Pact, although they often send observers to Warsaw Pact exercises.(5) Cuba also does not have a Treaty of Friendship and Cooperation--which sometimes contain security measures--with the Soviets.(6)

Even without a defense treaty, the Soviets have tried to provide for Cuba's defense in various ways. These include a series of "understandings" between the U.S. and Soviets, verbal assurances by Soviet leaders, and the buildup of the Cuban armed forces.

In 1962, 1970, and 1979 a series of "understandings" was enacted between the U.S. and Soviets on Soviet-Cuban military relations. The word "understandings" must, at least initially, be placed in quotation marks as there are no written agreements.(7) It should also be noted that Fidel Castro was never consulted by the Soviets during the development of any of these understandings.

In 1962, as part of the agreement on the Soviets removing their strategic weapons from Cuba, the U.S. assured the Soviets it would not invade Cuba to overthrow the Castro government. From the U.S. viewpoint this understanding was not fully implemented because Cuba refused to accept on-site inspections. Because of this, the U.S. felt free, during the 1960s, to continue attempts to overthrow Castro by assassination and other covert means.(8)

Then, in 1970, there were indications the Soviets were building a nuclear submarine base near Cienfuegos, Cuba. Construction of shore and port facilities and the arrival of a Soviet submarine tender and barges used for servicing nuclear-powered submarines were all identified.(9) The U.S. immediately protested and indicated it expected the Soviet Navy not to utilize Cuba as a base for strategic operations. With attempts to overthrow Castro all but ceased, the U.S. found it easier at this time to offer to reaffirm the 1962 understanding, rather than renegotiate a totally new agreement. A second set of understandings was apparently also reached with regard to the basing of Soviet naval vessels in Cuba. The contents of these 1970 agreements remain secret to all but a handful of U.S. officials and their interpretation has become ambiguous with time.(10)

In 1979, after the U.S. first revealed and protested the existence of MIG-23s and a 2,800-man Soviet Combat Brigade in Cuba, another set of understandings evolved. The Soviets promised not to change the character of their existing presence in Cuba or to give Cuban-based forces an autonomous combat function. Both countries also reaffirmed the 1962 and 1970 understandings.(11)

The physical presence of several thousand Soviet citizens in Cuba may be another quasi-security assurance to Castro. The Soviet Combat Brigade in Cuba, 9,800 Soviet military and civilian advisors, and 2,100 Soviet technicians

at the Lourdes electronic intelligence facility(12), may be considered by the Soviets and Cubans as a "tripwire" against U.S. attack.(13)

Another method used since 1969 to assure Castro of Soviet defense support is the visits to date of 25 Soviet Navy Caribbean Squadrons.(14) These squadrons usually consist of two destroyer/frigate type ships, a replenishment ship, and sometimes a submarine.(15) These ships usually spend several days visiting various Cuban ports and conducting exercises (with Cuban forces) near Cuba and in the Gulf of Mexico.(16) In addition to assuring Castro of Soviet support and generally "showing the Soviet flag" in the Caribbean, these visits allow the Soviet Navy to gain valuable knowledge and experience concerning Westlant geography and anti-submarine warfare conditions. These visits, along with extensive Soviet and Cuban hydrographic studies, have ensured the Soviets a complete hydrographic map of the Gulf of Mexico and Caribbean.(17)

The Soviets have also tried to give the Cubans other verbal assurances of their defense commitments. In an early 1981 speech, CPSU General Secretary Breshnev for the first time mentioned Cuba as a member of the "socialist community."(18) The significance of this was shown a few days later when Breshnev announced: "[t]he Socialist community is indissoluble, defense of it is cause not only of each state but of the entire socialist coalition."(19) Then, only four weeks later, while delivering an important

speech regarding the Polish crisis on April 7, 1981, Breshnev unexpectedly concluded his remarks by stressing the Soviets' role as the protector of Cuba's security.(20)

Just before these 1981 statements, Marshal Nicolai V. Ogarkov, Chief of the Soviet General Staff, expressed other Soviet intentions for Cuba's defense. During a visit to Cuba, he implied the defense of Cuba remained the responsibility of the Cuban Revolutionary Armed Forces (FAR) by stressing the need for further Cuban combat training.(21)

More recently, as the Soviets have given Cuba renewed assurance of economic and political support, the defense commitment issue remains tenable. General Secretary Gorbachev recently stated his "government's unrestricted support for Cuba's [own?] efforts to guarantee its security in light of threats from the United States."(22)

After 25 years with no formal defense treaty, bilateral U.S.-Soviet talks when crises did occur, and Soviet vacillations on verbal defense commitments, Castro must have concluded the Soviets would not, or could not, come to Cuba's aid if the U.S. should attack or if a NATO-Warsaw Pact conflict should occur. This was indicated when Castro reminded late CPSU General Secretary Konstantin Chernenko that "we, here in this remote part of the world, far away from the center of the Socialist community are ready to defend ourselves, but still feel a need for protection."(23) Fortunately for Castro, the Soviets have provided Cuba the military might to more than adequately defend itself.

The Cuban Armed Forces

The construction of the Cuban armed forces is one of the true success stories of the Cuban Revolution. Cuba has evolved into possibly the most completely militarized country in the world. The degree of involvement of the Cuban population in defense and internal security exceeds even that of Israel.(24)

In 1960, the Cuban armed forces consisted of 46,000 total personnel. Today, the Cuban FAR is composed of the regular components--the Army (ground forces), the Navy, and the Air and Air Defense Forces--plus the paramilitary Youth Labor Army, Territorial Militia Troops (MTT), and Civil Defense totalling approximately 1,600,000 personnel.(25) The quality of these armed forces also has improved, as they have become professionalized, modernized, and combat-tested.(26) The Cuban Army possesses all the tanks, artillery, mobility, and local air defense systems of the world's most capable armies. The U.S. Defense Intelligence Agency describes the Cubans as "capable of conducting a tenacious defense of the island."(27)

Fidel Castro uses the threat of U.S. invasion as the catalyst to maintain the Cuban armed forces at high readiness levels. Since 1980, Cuba has made a major effort to form the MTT and train its one million plus members. This is to back-up the 155,000-man regular FAR and 190,000 reservists in time of war. The Cubans refer to this MTT

concept as "the war of the people." In describing the MTT, Castro has exclaimed:

> All executives, all workers, all political, administrative and technical officials, everybody has the necessary training, the appropriate mission. It is impressive.(28)

Cuba could not have developed such a large military force without Soviet assistance. Since 1980 the Soviets have dramatically increased their advisors and shipments of military supplies to Cuba. Shipments have gone from an average of 20 thousand metric tons to over 65 thousand metric tons annually. (Some of these increases are due to Soviet arms being transhipped to Nicaragua.) These shipments, alone worth $600 million annually, are provided free to Cuba.(29) This figure does not include the Soviet technical assistance and training, also free, without which the impressive FAR could not exist.(30)

Because of the size and quality of the FAR and MTT, a U.S. invasion of Cuba, whether resulting from a direct U.S.-Cuban conflict or as part of a NATO-Warsaw Pact conflict, would be costly. Some Western planners believe that during a NATO-Warsaw Pact conflict, Cuba could be easily neutralized by U.S. air and naval strikes. A review of Cuban naval, air, and air defense forces, however, reveals even a neutralization operation would be extremely difficult and costly.

Table 9 shows the Cuban naval and air forces that could be used to defend against a U.S. or NATO naval/air strike. Since the Cubans adhere closely to Soviet strategy and tactics, these forces would probably be deployed as part of a defense-in-depth, much the way the Soviets would protect the Kola Peninsula. Radio/radar jamming and other forms of Soviet style REC could also be expected.

Cuban naval defense would consist of the missile attack boats (Osas, Komars), probably under the command and control of the Konis, striking U.S. naval task groups within 40-50 miles of the Cuban coast. These vessels would be supported by the shore-based Samlet anti-ship cruise missiles and MIG-21/23 air strikes. The Foxtrot submarines could also be coordinated with these attacks. Closer to the Cuban coast, the PTHs and PTLs would attack enemy naval forces. Cuba also has significant port and coastal mine-countermeasures and defensive mine laying capabilities.(31)

Table 9

Selected Cuban Naval and Air Defense Forces

Unit	Number	Main Armament
FOXTROT SS	3	22 Torpedoes or 44 Mines
KONI FF	2	4 X 76mm Guns 2 X SA-N-4 SAMs
OSA I/II PTG	18	4 X SS-N-2B/STYX (25 NM Range)
KOMAR PTG	8	2 X SS-N-2B
TURYA PTH	8	4 Torpedoes 2 X 57mm Guns
P-4/P-6 PTL	18	2 Torpedoes 14.5/25mm Guns
MIG-21/FISHBED	184	Bombs, AAMs, ASMs
MIG-23/FLOGGER	51	Bombs, AAMs, ASMs (15 interceptors and 36 attack models)
MI-8/HIP	40	Mini-Gun/Rockets
MI-24/HIND	18	Mini-Gun/Rockets
SSC-2B/SAMLET	50	(50 NM Range SSM)

Sources: The Military Balance: 1984-1985 (London: International Institute for Strategic Studies, 1984) pp. 119-120; Wesley McDonald, "Atlantic Security - the Cuban Factor," Jane's Defence Weekly, 22 Dec. 1984, p. 1111; and U.S. Defense Intelligence Agency, Handbook on the Cuban Armed Forces (Washington: n.p., 1986), passim.

Cuba's defense from air attack or airborne invasion would begin with MIG-21/23 interceptors, backed by surface-to-air missiles (SAMs) and anti-aircraft guns described in Table 10. A former SACLANT has stated the Cuban air defenses are on a par with the best in the world.(32)

Table 10

Cuban Air Defense Missiles and Guns

Number of Battalions	Number/Type Weapon Launchers
28	60/SA-2 140/SA-3 12/SA-6 SA-7/SA-9

In addition the Cuban inventory contains over 1,600 anti-aircraft guns, including:
ZU-23, 37mm, 57mm, 85mm, 100mm (towed), ZSU-23-4, 23mm, 30mm, M-53, BTR-60P, ZSU-57

Sources: The Military Balance: 1984-1985 (London: International Irstitute for Strategic Studies, 1984) pp. 119-120; "The Military Balance: 1985-1986," Air Force Magazine, Feb. 1986, p. 99; U.S. Defense Intelligence Agency, Handbook on the Cuban Armed Forces (Washington: n.p., 1986), passim.

The MTT also has a role in the air defense of the country. As one Cuban author explained:

> The enemy will not be able to bomb and strafe our cities towns or countryside with impunity, much less drop in troops without proper punishment.... Along with...the regular anti-air defense troops, will be rockets, projectiles and other means belonging to the People's Anti-Air Defense [MTT].... Grenades, rocks, shrapnel, shells and explosive materials of all types will storm through the air....(33)

As an example of how effective these Cuban air defenses might be, a comparison with the Vietnam War in the 1970s can be used. Although both offensive and defensive air weapons are different today, the numbers and general capabilities involved do provide some insight. During 1971-73, at the peak of the air war over North Vietnam, the North Vietnamese had 35 to 46 SA-2 battalions for a total of 210 to 276 launchers. They also possessed approximately 60 MIG-21 and 160 assorted MIG 15/17/19 interceptors.(34) These air

defense forces took significant tolls on U.S. bombers and fighters over Vietnam.

By comparison, Cuba has only 60 SA-2 launchers (now old). More important are the over 150 SA-3/6 medium to low altitude SAMs. These would be used to counter the primarily low-altitude attack tactics of U.S. air forces and cruise missiles. They also have numerous short range (1-3 mile) SA-7/9 launchers. The 184 MIG-21 and 15 MIG-23 interceptors are an advantage Cuba has over the 1970s' North Vietnam. Centered around the major military and commercial locations in Cuba, the cumulative effect of these air defense systems could take a significant toll on U.S. attack forces.

Since the early-1960s the probability of a U.S. invasion of Cuba has decreased rapidly. Why then would the Soviets continue to modernize the Cuban FAR? Do they have an intended offensive role for the FAR?

The Soviet Options

The Soviet leadership must have in mind some wartime role for Cuba. Since the Soviets have neither given Castro his desired defense treaty nor written or talked about their intentions for Cuba in a NATO-Warsaw Pact conflict, this role is difficult to determine. Since the Soviet naval blockade strategy asserts only limited goals for SLOC interdiction, Cuba's contribution to this strategy would not seem a high priority. Probably of more interest to the Soviets is the number of U.S.-NATO forces which would be

tied down by a hostile or potentially hostile Cuba. Whether belligerent or neutral, Cuba may thus affect a NATO-Warsaw Pact conflict.

Cuba as a Belligerent

In addition to their defensive role, the Table 9 Cuban forces also possess a large offensive capability. They could conduct concentrated attacks on naval forces or Re/Re shipping in the Florida Straits, Yucatan Channel, Windward Passage, or anywhere within 40-60 miles of the long north or south coasts of Cuba. They could also conduct offensive mine laying in the shallow water areas of the Gulf of Mexico and Caribbean.

The Foxtrots have sufficient range to attack shipping or lay mines anywhere in Westlant. As Figure 6 shows, the Cuban MIG-23s, with a 650 nautical mile unrefueled range, could attack Re/Re shipping and ports or U.S. military bases throughout the Caribbean or Gulf of Mexico, ranging from New Orleans, Louisiana, to the oil fields and refineries of Venezuela. The Cubans have 36 MIG-23s configured specifically for such naval or land attacks.

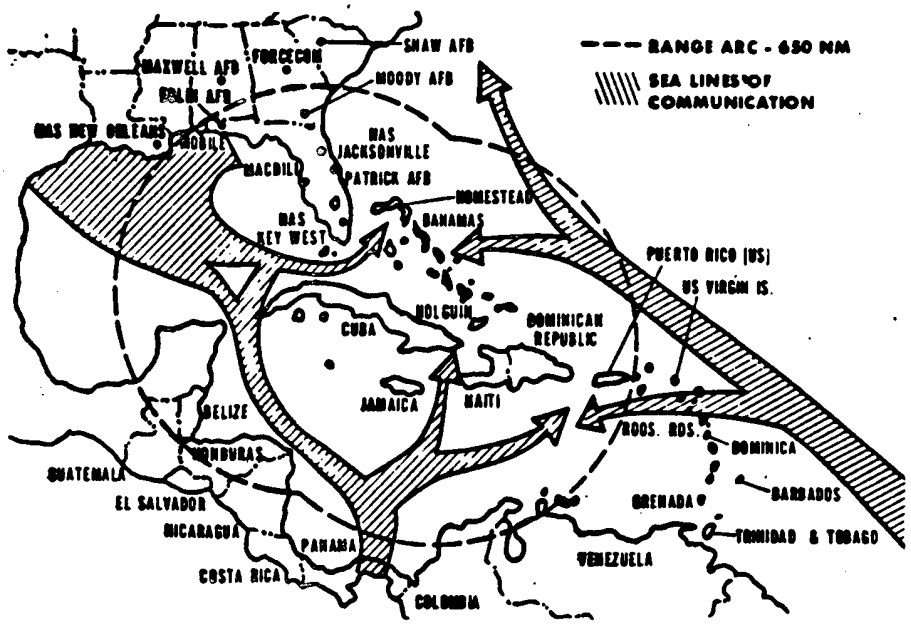

Figure 6

Cuba's Potential Target List

Source: Wesley McDonald, "Atlantic Security - the Cuban Factor," Jane's Defence Weekly, 22 Dec. 1984, p.1107.

If Cuba should become belligerent at the start of a NATO-Warsaw Pact conflict, the U.S. would be forced to neutralize the Cuban forces in Table 9. This scenario must have been war-gamed in the past; however, the results of these games are not available in open sources. What has probably been concluded from these games are:

- the neutralization of Cuban offensive forces would require a significant dedication of U.S. forces; and
- this neutralization effort could not be completed overnight, but would probably take two or even three weeks of major strikes before Cuban forces were no longer a significant threat.

It is estimated that it would take at least two U.S. Navy aircraft carrier battle groups and several U.S. Air Force squadrons to successfully neutralize Cuba.(35) These forces, though U.S. based, are not in reserve but are committed to the defense of Western Europe. This would reduce by two the carriers the U.S. could send to the Mediterranean or into the Norwegian and Barents Seas to defend NATO's southern and northern flanks.

The lack of U.S. ability to conduct large scale naval operations in the Caribbean, along with meeting other worldwide commitments, was highlighted in a 1983 U.S. exercise off Central America. This exercise involved two aircraft carrier battle groups, the battleship New Jersey with escorts, and assorted auxiliary vessels, for a total of 43 warships. This is similar to the number of naval forces required to neutralize Cuba. This force cut deeply into the U.S. Navy's normal deployments, prompting John Moore, editor of Jane's Fighting Ships, to comment that this sort of Caribbean scenario stretched the U.S. Navy "desperately tight.... The U.S. Navy simply does not have enough ships; NATO does not have enough ships."(36) When combined with holding back several U.S. Air Force air squadrons from the European central front, the overall impact of a Cuban neutralization operation would be significant.

While the U.S. was conducting these neutralization operations, Cuba would most likely not sit idly by and take a beating. Preemptive strikes would probably be launched

against U.S. naval forces and air bases in the southeastern U.S. The FAR might also conduct strikes on Re/Re shipping and military or civilian targets throughout the Caribbean and southeastern U.S. The U.S. naval base at Guantanamo Bay would probably be overrun in short order. Additionally, the Cubans might also use their naval amphibious capability and special forces units to attack and seize U.S. military bases and command centers at Key West, Florida, or elsewhere in the Caribbean. And finally, the Cubans could unleash a wave of sabotage and terror (to be described in more detail later) throughout the U.S.

What would the Soviets gain by a belligerent Cuba? Large numbers of U.S. naval and air forces would have to be diverted from the European theater for two to three weeks, possibly allowing the Soviets to achieve their initial European war objectives. Belligerency may in fact be the intended Soviet role for Cuba. However, with Cuba as a neutral, they may achieve an even longer term diversion of U.S. naval and air forces, while at the same time obtaining other benefits which would support their overall war effort and ultimate objectives.

Cuba as a Neutral

The potential for Cuban belligerency in itself is probably enough to tie up significant U.S. forces in the Caribbean and southeastern U.S. It is unlikely that after Castro declared neutrality, the U.S. would release all its

forces to the European theater on his word alone. Although defense from this potential threat would require fewer U.S. forces than a Cuban neutralization operation, the U.S. would still require numerous naval escorts for Caribbean shipping and U.S. air defenses in Florida would have to be poised for a potential Cuban attack.

At the same time these U.S. forces were being held in reserve, Cuba could be supplying the Soviets a variety of political and combat support services both prior to and during a war. These would include propaganda support; intelligence support; resupply of Soviet Westlant deployed submarines; sabotage of U.S. nuclear weapon facilities, military bases, and Re/Re port complexes; and a reserve for both SLOC interdiction and Soviet aircraft landing bases.

Propaganda Support. A declaration of neutrality does not demand that nations not participating in an armed conflict be indifferent to the issues of the belligerents. The sympathies of a neutral may lie entirely with one side. A neutral does not violate his status as long as he does not commit any unneutral acts that might aid the side he favors.(37) As a neutral, Castro could be a primary world spokesman for the Soviet side of the crisis in progress.

Often in the West, Castro is viewed as an international outlaw, operating outside the diplomatic pale and unresponsive to international law. This may have been true in the early-1960s, but is not the case today. Castro sees

himself as a leader of the Third World movement. He has been passionately committed to the Nonaligned Movement (NAM), even becoming its leader and chief spokesman for several years beginning in 1979. The Cubans are also regular and vocal participants in the United Nations and its various organizations. Cuban leaders also make regular diplomatic tours of Africa and the socialist bloc, concentrating on improving their relations with other Third World and Communist states. As Cuba's diplomatic standing has improved, Castro has become increasingly sensitive to international opinion and respectful of traditional international organizations.(38)

Cuba has generally supported the Soviet position in international forums. This has been true even when the Soviet side may clash with Cuba's own interests, as when Castro supported the Soviet invasion of Afghanistan, even though it tarnished his image in some Third World countries.(39) Castro can, therefore, be depended on to become a vocal supporter of the Soviet side in any international crisis. Cuba acting as a propaganda medium for Soviet views would be a significant plus for the Soviets, both before and during a NATO-Warsaw Pact conflict.

Intelligence Support. The exact timing of Cuba's declaration of neutrality is critical to Soviet continued use of Cuban facilities for intelligence collection. During a prewar crisis, and before a neutrality declaration, it is

likely Bear reconnaissance flights and AGIs would continue to use Cuban facilities. The full use of the Lourdes electronic intelligence facility would also be expected. After a Cuban neutrality declaration, the open Bear and AGI support would have to cease. The status of Lourdes, however, is more complicated.

Under accepted international law, the rights and duties of neutrals are prescribed in the Hague Convention of 1907. The duties of neutrals center on two general themes; abstention and prevention. The neutral state must not only abstain from giving help to either belligerent by any act of its own, but it must also take positive measures to ensure that neither the belligerents themselves nor persons acting in their interest make use of its neutral territory in such manner as to give direct military aid to either party.(40)

In accordance with these provisions, the Lourdes complex would have to be shut down when Cuba officially declared neutrality. But it is unlikely, in the middle of a NATO-Warsaw Pact crisis, the Soviets would be able (or willing) to pack up Lourdes' 2,100 technicians, the Soviet Combat Brigade, and almost 10,000 other Soviet advisors and ship them back to the Soviet Union. Therefore, what does Cuba do with these 15,000 Soviet citizens?

Under the Geneva Convention of 1949 for the protection of prisoners of war, belligerent military personnel in a neutral state are assured the same treatment as prisoners of war. The neutral country may, if it chooses, grant them

more favorable treatment. In fact, interned Allied personnel in Sweden during World War II were afforded many privileges.(41) This would be the expected case for Soviet personnel in Cuba.

After Cuba's neutrality declaration, Havana would be almost forced to declare Lourdes was shut down and that all Soviet citizens had been interned. Just as with Castro's refusal to allow on-site inspection of Soviet strategic weapons removal from Cuba in 1962, he can be expected to not allow inspection of the conditions for interned Soviet citizens in Cuba. This could allow clandestine operation of Lourdes, possibly at a reduced level.

The shut down of Lourdes would not negate Cuba's ability to continue operation of its own intelligence collection facilities and the passing of information clandestinely to the Soviets. Little is revealed in open sources of Cuban intelligence collection operations. It is known they possess the surveillance radars to employ the Samlet cruise missiles, various SAMS, and control MIGs and other aircraft. Therefore, it follows they should also possess other electronic intelligence capabilities to monitor U.S. naval and air activities near Cuba. If this is true, Cuban intelligence alone could clandestinely provide the Soviets information on U.S. activities near Cuba and in southern Florida.

Logistic Support. Another prewar capability the Soviets could expect from Cuba is the refueling and resupply of Westlant deployed combat forces. Here again, the timing of Cuba's declaration of neutrality would be critical. As with the Bears and AGIs, there is no reason Soviet submarines could not make port calls in Cuba during a prewar period before Cuba declared neutrality. In an extended crisis this would ease the Soviet combat support for these forces by increasing their on-station times. After a neutrality declaration, this support could continue clandestinely.

Although the Soviets have not used Cuba to base or operate nuclear-powered submarines on a continuous basis, the submarine base at Cienfuegos was completed and is used by Cuba. A good deal of security is provided by the narrow entrance to Cienfuegos bay and the isolation of the surrounding countryside, making access to this base difficult. The two 80-foot barges used for storing radioactive effluent from submarine nuclear reactors remain at the base. It also has a 200-man barracks, communication center, and other facilities associated with submarine maintenance.(42)

Although it is unlikely a full capability for technical support of modern Soviet nuclear submarines is maintained, support such as rearming, food and fresh water resupply, and minor repairs could be performed. With Cuba's first nuclear power plants being built only a few miles from the

Cienfuegos base, this could be a source of Soviet nuclear submarine technical assistance.(43) Full facilities for both repair and resupply of the Soviet Foxtrots are available either at Cienfuegos or the main Cuban submarine base in Havana. Soviet technicians who are needed to keep the Cuban Foxtrots operational could provide this support. A limiting factor on Cuban support of nuclear or diesel-electric submarines would be the Soviet desire to keep their Westlant force deployments hidden, thereby not revealing them to U.S. intelligence sensors focused on Cuba.

It is also possible for the Soviets to make clandestine use of Cuban support facilities either to keep their Westlant forces secret or for support after a neutrality declaration or actual war start. Because of Cienfuegos' isolation, a submarine could enter port under cover of darkness and radio silence, be serviced and resupplied, then put back to sea before dawn, thus remaining undetected. Cuban merchant or fishing vessels could also provide submarines limited resupply support either in Cuban territorial water or isolated areas of the Caribbean or Bahamas. The area 20-30 miles south of Cienfuegos is perfect for such clandestine operations. Away from major shipping or air lanes, a nighttime (or even daytime) rendezvous could easily go undetected. The Cubans thus possess a good capability to clandestinely support Soviet Westlant forces, even as a declared neutral.

Sabotage Support. Whether a belligerent or neutral, Cuba could make wide use of a sophisticated sabotage network during a NATO-Warsaw Pact conflict. This network may in fact be the major threat to North American port facilities. The Cuban Directorate for Intelligence (DGI), which has been totally subordinate to the KGB since 1968, has developed a similar system for using illegals, undercover residencies, and agents as described in Chapter 2. Additionally, the Cubans have their own special forces units and close contact with several U.S. domestic terrorist factions.

In late 1970, Cuba established an Illegals Center for training staff officers in sabotage and espionage to be directed at the U.S.(44) The legal emigration of Cubans to the U.S. and the several illegal mass exoduses of Cuban citizens, such as the 1980 Mariel Boatlift, provide perfect cover for the introduction of illegals or agents into the U.S. The porous U.S.-Mexican and U.S.-Canadian borders and various Latin American refugee programs could also allow Cuban agents to enter the U.S. easily. With the millions of Spanish speaking citizens, registered aliens, and illegal immigrants in the U.S., Cuban illegals or agents would easily blend with U.S. society.

An example of actual Cuban sabotage operations in the U.S. during a period short of war can be seen in a 1962 case in New York. A Soviet-trained Cuban national saboteur, Roberto Santiesteban, entered the U.S. legally as a member of the Cuban United Nations Mission. Using a network of

other U.N. personnel and several agents of Cuban descent living in the U.S., he planned to simultaneously blow up major department stores, transportation networks, and an oil refinery all in the New York City area. It was only on the night he actually intended to execute the bombings that the FBI apprehended Santiesteban and his sabotage network.(45)

Both the Cuban Ministry of the Interior (MININT) and FAR have special forces which could be used in a Spetsnaz-type role. The MININT maintains a 2,000-man Special Troops, a commando-type unit. These troops provide protection to senior Cuban officials, support other internal security requirements, and provide military training to selected foreign countries and groups (i.e., U.S. and international terrorists). The Special Troops are among the most highly skilled and disciplined Cuban military units.(46)

The Cuban Navy also is believed to have an unknown number of qualified personnel assigned to a Frogman Unit. This unit is believed to consist of a scuba-qualified force specializing in underwater demolition operations, mine warfare, and beach reconnaissance.(47)

Although risky for a neutral to attempt, Cuban special forces could be inserted in the U.S. much the same as illegals or agents described above. Using the Foxtrot submarines, their high speed naval craft, or even Cuban merchant or fishing vessels transiting the Florida Straits

or Gulf of Mexico, Frogman Unit personnel or Special Troops could also enter the U.S. for sabotage assignments.

The role of the DGI in assisting the most extreme factions of Marxist-Leninist leaning U.S. domestic terrorists has been documented for some time. The Cubans have been active in training, providing communication links, and offering support and safe haven for these U.S. terrorists.

In 1968 and again in 1969, the U.S. expelled two Cubans from their United Nations Mission for directing and financing violence by U.S. black extremists.(48) In 1980, the FBI made public that the KGB had, through the DGI, supported the Weather Underground in its efforts to undermine the Vietnam War. This support included training, financial aid, and instruction in maintaining clandestine communications.(49) Between 1969 and 1977 alone, the Cubans recruited 2,500 U.S. citizens to work in Cuba as part of the Venceremos Brigade. Many of these Americans were trained as terrorists during their stay in Cuba and later became members of U.S. left-wing terrorist groups. Some of the presently-active May 19th Coalition, a U.S. left-wing terrorist group (made up of former Weather Underground and Black Liberation Army members), received their initial training as part of the Venceremos Brigade. As late as 1981, when former Weather Underground leader Kathy Boudin was captured and the May 19th Coalition first uncovered,

evidence of continued Cuban assistance to U.S. terrorist communications was revealed.(50)

The Cubans have provided even more extensive support to left-wing Puerto Rican terrorists, the most active terrorists in the U.S. for the past several years. In addition to training and financial aid, Castro has often supported these terrorists' goal of Puerto Rican independence in various international forums.(51) In October 1985, the FBI arrested a longtime Puerto Rican terrorist, Filiberto Inocencio Ojeda Rios. Rios, arrested for participation in a 1983 $7 million Wells Fargo robbery in Hartford, Connecticut, was revealed to have been a DGI agent for over 20 years.(52) Victor Gerena, a known Puerto Rican Terrorist and ringleader of the Wells Fargo robbery, has reportedly been given safe haven in Cuba.(53)

Miscellaneous Support. In addition to the support described above, Cuba as a neutral could also provide safe haven for Soviet merchant or fishing vessels, some of which might have mined U.S. ports or coastal SLOCs. The crews of these vessels would have to be interned as has been described for other Soviet technicians and advisors. Since the Soviets have no requirement for their own resupply by sea during a war, it would be better for these ships to stay in a neutral port such as Cuba than attempt to transit to or remain in Soviet ports where they might come under attack.

Cuban ships, submarines, or aircraft could also covertly mine certain Caribbean SLOCs. Additionally, a clandestine Cuban submarine torpedo attack on Re/Re shipping could be conducted as it could not be distinguished from one by the Soviets. Both covert mining and clandestine attacks, however, would be extremely risky for a neutral who was not prepared to go to war if these activities were uncovered.

Cuba might also provide the Soviets both a reserve force and reserve landing bases. A status of neutrality may be relinquished at any time the state concerned wishes.(54) Therefore, even after declaring and remaining neutral in the early stages of a war, the FAR would remain a Soviet reserve. They could be called upon to help finish off an already severely weakened NATO or as part of a last ditch desperation offensive against the continental U.S. At the same time, Cuba could be used as a landing base for Soviet Bear, Backfire, or Blackjack bombers which had completed strategic strikes on the U.S.

A final measure of miscellaneous support Cuba could provide is the utter chaos that would be unleashed should Castro allow another mass migration to the U.S. like the 1980 Mariel Boatlift. Such a migration would tie down numerous U.S. military forces in the southeastern U.S., just as it did in 1980. These are the same forces that are scheduled to either deploy to Europe or provide Westlant defense. Such a migration would also distract U.S.

political leaders from the simultaneous crisis occurring with the Soviets.

Castro's Decision

No matter which of the above options, belligerent or neutral, the Soviet leadership intends for Cuba, the final decision on Cuban actions would depend on the Cuban ruling elite, specifically Fidel Castro. This decision would be influenced more by Cuba's ultimate internal and external national objectives than by any amount of pressure from the Soviets. After a brief consideration of these Cuban objectives and the Cuban internal situation, Castro's wartime decision options in Table 2 (pg. 12) will be examined.

As estimated by almost every Western analyst, survival of the Cuban Revolution is Cuba's primary objective. Secondary objectives, not all agreed upon in the West, include fostering Cuban economic growth, regaining Cuban autonomy from the Soviets, and spreading Cuban-style Marxist-Leninist revolution in the Third World.(55)

The principal achievements of the Cuban Revolution are its survival for over 25 years and its complete restructuring of the Cuban way of life.(56) In attaining these achievements, Fidel Castro has developed an awesome formal power base. After initially consolidating his power, Castro created and institutionalized a political system patterned after the Soviet model. The FAR, MININT, and

Cuban Security Organs have evolved and remain strongly loyal to Fidel and his brother Raul, the second secretary of the PCC, head of the FAR, and Fidel's likely successor.(57) Through all this, Castro has remained extremely popular with the vast majority of the Cuban masses.

In restructuring Cuban life, the Cuban Revolution was able to eradicate poverty. The sprawling slums and bare subsistence rural life, persistent throughout the Caribbean and Latin America, are not evident in Cuba.(58) The Cubans are healthy, well fed, and well educated.(59) But even so, there remains scattered discontent throughout Cuba over restrictions on freedom of the press, human rights violations, and the lack of consumer items. The Cubans have not been shut off from the world. U.S. television, tourists (including some from the U.S. in the late-1970s), and trips abroad reveal to them the high standards of living in the West. Many Cubans strive for this higher standard. Because of this discontent, some estimates say as many as 2 million of Cuba's 10 million total citizens would emigrate if given the chance.(60)

Cuba's principle problem is its lack of economic growth. Rated at 4.8 percent in 1985(61), this growth level has not allowed the increase in consumer goods that Castro desires or the Cuban populace is beginning to demand.

The basic characteristics of the Cuban economy which have retarded the desired growth and make it vulnerable are: (1) Cuba's over reliance on sugar as its primary export

commodity; (2) Cuba's dependence on the Soviet Union for favorable trade subsidies, a guaranteed market for its sugar products, and loan agreements; and (3) the vulnerability of sugar to international market pressures.(62) Sugar accounts for approximately 80 percent of Cuba's exports.(63) The Soviets buy almost 50 percent of this sugar at inflated rates above the world market price. The remaining sugar is sold to either other communist countries or on the world market.

The Cubans are also dependent on the Soviets for 98 percent of their oil. Recently, in a push to obtain vitally needed foreign exchange, the Cubans have been taking Soviet oil imported at artificially low prices and through their own austerity programs reselling the same oil on the world market.(64) Cuba hopes its recent venture into nuclear power will lessen this oil dependency on the Soviets.

A combination of hurricane damaged sugar fields in 1985 and the drop in world oil prices in early-1986 has made Cuba's austere economic problems worse. Because of this, the Cubans and Soviets recently signed an aid and trade package boosting Soviet aid to Cuba by 50 percent (over estimated $4 to $5 billion present levels) during 1986-1990.(65)

Because of their economic problems, the Cubans, who have been proud of always having paid their debts, are now having to reschedule much of their foreign debt. They owe approximately $9 billion to the Soviets which has been

rescheduled on favorable terms until 1991. They also owe the West between $3 and $4 billion which, beginning in 1983 and continuing today, has also been rescheduled.(66)

In 1972 Cuba joined the Council for Mutual Economic Assistance (COMECON). Although COMECON has kept the Cuban economy afloat by providing markets for Cuban sugar, citrus, and other products (usually all at subsidized prices), Cuba's membership in COMECON has restricted its general economic growth. In order to meet its COMECON commitments, Cuba has had to devote the majority of its manpower, capital, and land to sugar and citrus production. This has not allowed Cuba to diversify their economy and develop an industrial capacity. Also, COMECON deals in nonconvertible currency which does not provide Cuba the foreign exchange it needs either to import the technology and machinery required to diversify or to pay for more consumer goods.(67)

Cuba is therefore caught in a dilemma. It cannot afford to break its ties with the Soviets or COMECON because of its dependency on these markets and their subsidies. But, as long as it remains tied to these markets, its potential economic growth will be stifled and it will continue to relinquish much of its autonomy to the Soviets.

Surveying the world scene, however, shows there are no readily identifiable markets for the Cuban agricultural products other than COMECON. No other country, especially the U.S., would be willing to subsidize Cuba at a rate of $4 to $5 billion per year.(68) So, for the foreseeable future,

Cuba will remain allied closely with the Soviets out of economic necessity alone. But would a potential NATO-Warsaw Pact war provide Castro the opportunity to break this economic dependency? Or would he choose to align himself closer with the Warsaw Pact?

Castro's past actions show that when faced with a crisis, he usually takes the initiative and attempts to achieve several of his objectives without making concessions.(69) This would probably also characterize his actions during a NATO-Warsaw Pact crisis. Appropriate at this point is a review Castro's decision options: whether to switch sides, become a belligerent from war's start, or declare neutrality. As he makes the decision on which path to lead Cuba during such a crisis, he must also consider that the world political and economic order may be completely revamped after a superpower conflict.

Switch Sides

Owing to a combination of economic, historical, and ideological reasons, it is highly unlikely Castro would become an ally of the U.S. or NATO in the crisis period prior to a NATO-Warsaw Pact conflict. Castro's interests, as shown in his NAM and U.N. dealings, are primarily "north-south," not "east-west" which are the superpowers' primary concerns.(70) His ties to the Soviets are ideological by choice and economic by necessity. As described above, the West is not prepared to provide Castro

the markets, subsidies, or financial aid required to keep his economy afloat. In his quest for economic autonomy, he is unlikely to exchange Soviet hegemony for that of the West, with which he has no ideological ties.

No one knows for sure when Castro accepted the Marxist-Leninist ideology. In one 1977 interview he said he had made the decision to become a communist while in law school in the late-1940s.(71) One of his fellow guerrilla elite from the Sierra Madre wrote he was sure Raul and even Che Guevara were communists in the late 1950s, but no one suspected Fidel.(72) It is known that in 1961 Castro gave himself a surprise self-baptism in communism by telling the Cuban people he had been an apprentice Marxist-Leninist for years and would remain a Marxist-Leninist until he died.(73) Since then he has been a tried and true Marxist-Leninist with his own peculiar brand of communism.

Castro's brand of communism is characterized by a great distrust and hatred for the U.S. During the Sierra Madre insurrection Castro wrote:

> When I saw the rockets they fired.... I swore the Americans would pay dearly for what they are doing here. When this war is over I shall begin a longer and greater war: the war I'll wage against them. I realize that this is my true destiny.(74)

Since his 1959 takeover, Castro has developed an unremitting and relentless hostility toward the U.S.(75) Some would say the U.S. has more than provided ample reason for this through its continuous economic and trade embargo, the Bay of Pigs invasion, innumerable attempts to

assassinate Castro, and 25 years of dirty tricks and verbal threats.(76)

Castro blames almost everything wrong in Cuba on the U.S. and especially on the CIA. He has been able to channel this anti-Americanism for both Cuba's and his own benefit by wrapping himself in anti-Yankeeism and using it to build both national unity and his own popular support.(77) The willingness of the Cuban people to serve in the FAR and MTT, plus continue to accept austere economic conditions, reflect the Cuban nationalism Castro has developed with his constant anti-U.S. rhetoric. It is unlikely he would abandon this anti-Americanism and communist ideology to become a U.S. ally, because by doing so he would confuse the Cuban populace and thus crack the foundation of a Cuban Revolution built on these ideals.

Become Belligerent

From Havana's vantage, the absence of a formal defense commitment from the Soviets portends potential Soviet abandonment in the event of a NATO-Warsaw Pact confrontation, even if Cuba immediately joined on the Warsaw Pact side. No matter what damage the FAR could inflict as a belligerent, being cut off from Soviet shipments and without resupply of equipment, spare parts, or ammunition, operations could only be expected to continue for a few weeks at most. Because of Cuba's reliance on the Soviets for oil and its minimal oil storage capability(78), within a

few weeks military vehicles, as well as the entire Cuban economy, would come to a halt.

So, if a NATO-Warsaw Pact conflict became protracted, after only a few weeks of belligerency Cuba would find itself militarily and economically depleted with massive country-wide destruction from U.S. counter-strikes. The city of Havana, oil refineries, and all military complexes would at least be heavily damaged. Thousands of Cuban citizens would probably have been killed. It is unlikely Cuba would find any friendly nations in the Caribbean, Latin America, or even the rest of the Third World willing to provide disaster assistance. Thus devastated and isolated, Cuba's only hope would be a victorious Warsaw Pact coming to its aid. But, a victorious Warsaw Pact would probably be heavily damaged and could likely provide little if any relief.

Although in the scenario just described the Cuban people may rally around Fidel, much the way they did during and after the Bay of Pigs, the resultant economic problems could severely strain the Cuban Revolution's popular support and set it back years if not decades. This would be in complete opposition to the Cuban elite's first priority objective of ensuring both the survival and progress of the Cuban Revolution. Therefore, it can be concluded that Cuban belligerency from the start of a protracted war is most unlikely.

Declare Neutrality

Since switching sides or becoming belligerent at war's start are both unlikely, it can be concluded that declaring neutrality is Castro's most likely option. Neutrality would provide Castro the greatest flexibility within which he could maneuver to obtain the best position for Cuba at war's termination. This flexibility would allow Cuba to either remain a true neutral, declare neutrality but conduct covert belligerency, or declare neutrality but later opt for belligerency on the Warsaw Pact side, giving Cuba the wide range of neutral options described earlier.

Upon declaring neutrality, Cuba could remain aligned with the majority of Third World nations. Although Cuba would probably not be cut off from Soviet or COMECON markets or oil until war was inevitable, as a neutral they could begin to negotiate for other markets and oil supplies in the Third World. Cuba remains friendly with Mexico and retains cordial, though not friendly, relations with Venezuela, cultivating access to its two most likely alternative oil sources.(79) Cuba may also be able to negotiate with Angola or other African or Middle Eastern states for oil. Although Cuba's limited foreign exchange and decreasing wartime markets for its sugar and citrus products would severely complicate oil negotiations, it is at least an available option.

After declaring neutrality, Cuba could survey the international situation before deciding which, if any, of

the covert belligerent actions described earlier to take. As a minimum, propaganda support, intelligence support, and safe haven for Soviet merchant and fishing vessels would probably be provided. Additional covert support would depend on both Soviet demands and what the Cubans thought they could get away with.

Cuba must consider that a declaration of neutrality may not go without a U.S. response. The U.S. may demand Cuba demonstrate its neutrality. These demands may include the closing down of Lourdes, on-site inspection of interned Soviet military advisors and technicians, Cuba keeping its submarines above water and in designated ports, and the grounding of all Cuban military aircraft.(80)

If Castro holds true to his past performances, he would probably respond to such demands or other threats from the U.S. with defiance.(81) This might entail his increasing clandestine support to the Soviets or even unleashing another mass Cuban migration. Castro's reactions in 1981 to threats of U.S. military measures against Cuba provide a case in point. Not only did Castro form the MTT, but he also tightened his military ties with Moscow and brought in large quantities of arms. Taking Secretary of State Haig at his word of an imminent invasion, Castro mobilized Cubans to defend their island to the last man.(82) If Castro was willing to defy what he had seen as an imminent invasion in 1981, then he may be willing to do the same in the face of

demands or threats associated with his neutrality status in a NATO-Warsaw Pact crisis.

But, before Castro defies U.S. demands or threats, he should be made aware of the claim of "self-defense" in international law. In both World Wars I and II, various nations invaded neutrals by declaring self-defense, stating they had proof the other belligerent was preparing to use or cross the neutrals' territory to launch an attack.(83) In Cuba's situation, the U.S. could claim self-defense because of Castro's potential to sever the Caribbean and Gulf of Mexico SLOCs. At a minimum, the U.S. could probably justify launching air strikes and mining Cuban harbors to neutralize the Cuban offensive threats in Table 9. As described earlier, this could be a costly and lengthy operation for the U.S., but one required by the Cuban threat potential. One Western analyst has summed up Cuba's dilemma as a neutral by writing:

> To be sure, a rational Cuban leadership would seek to avoid being drawn into a war with the United States because the conflict would result in heavy civilian as well as military casualties on the island. Still, there are conditions under which a strategic threat posed by Cuba cannot be ignored without serious peril to U.S. security, and these conditions could turn out to be beyond the control of even the most rational of Cuban leaders.(84)

All things considered, of all available options, neutrality is the only one in Castro's best interests. With Cuba as a neutral the Soviets could still reap several benefits from their alliance. At the same time, Castro could maneuver internationally to put Cuba in the best

position looking ahead to the crisis or war termination. Overall, neutrality is the only option consistent with Cuba's internal and external objectives.

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CHAPTER 5

Conclusion

Summary

Since World War II, the Soviet Navy has developed both the strategy and the capability to conduct a wartime campaign against NATO's North Atlantic SLOCs. This anti-SLOC strategy is a component of a larger Soviet naval blockade strategy. The Soviets now theorize a naval blockade which would:

- be conducted from war outset;
- be established in an area contiguous to the opponents' coast;
- concentrate major blockade forces in the blockaded area, with only symbolic effort to be taken elsewhere;
- direct its main effort against both "military" (Re/Re) shipping and naval vessels;
- avoid using blockade forces to search for convoys;
- place a high priority on the simultaneous destruction of enemy port terminals, naval bases, and other shore installations;
- deploy forces according to the blockaded area, but may use surface ships, aircraft, and submarines;
- make massive use of naval mines; and
- possibly use tactical nuclear weapons against both ports and convoys at sea.(1)

This naval blockade strategy exists both in Soviet nuclear and conventional war strategies. It has, however,

become more important since the mid-1970s when the Soviets began to accept a primarily conventional war strategy.

Over the last 20 years, with the construction of long-range nuclear-powered submarines and long-range cruise missile equipped naval bombers, the Soviet capability to execute the anti-SLOC component of their naval blockade strategy has increased. The Soviets have recently exercised these naval forces in anti-SLOC operations along the NATO North Atlantic SLOCs. When combined with their massive naval mine inventory and mine laying capability, the Soviets possess significant forces for conducting naval blockades. The major limitation on these forces in the North Atlantic during a NATO-Warsaw Pact conflict would be the primary mission requirement for Norfleet forces to gain and maintain sea control north of the GIUK gap. This requirement, however, would still leave sufficient submarine forces to conduct a naval blockade of both Western Europe and the North American eastern seaboard.

The majority of the available Soviet anti-SLOC forces would probably be deployed in a naval blockade of Western Europe. Even so, Soviet naval writings and recent naval exercises have shown an interest in conducting a wartime naval blockade in Westlant. Their primary objective for a Westlant campaign would be a limited disruption or interference with the Westlant SLOCs, thus forcing NATO to spread its SLOC defense forces over a large area.

Approximately four to six Soviet submarines would be maintained on-station to attain these limited Westlant objectives. These submarines would probably be assigned multiple missions of mine laying, shipping attack, and submarine attack. Because of the difficulty in supporting these submarines logistically, the majority of the Westlant deployed submarines would be nuclear-powered. However, diesel-electric submarines cannot be totally discounted because of their ideal capabilities for operating in the Florida Straits and Caribbean choke points.

Of those submarines deployed to Westlant, the majority would be assigned patrols near the major U.S. military and Re/Re ports along the U.S. Atlantic seaboard and in the Florida Straits. Others could also be deployed in the Gulf of Mexico, Caribbean, and off Canada's Atlantic seaboard. Based on information available from the SOSS, the submarines could be quickly redeployed between these areas.

There is also a low threat from mining by Warsaw Pact merchant or fishing vessels and military or commercial aircraft. This threat would be greatest in a "1940 model" crisis where the Soviets planned their "First Salvo" time well in advance, thus allowing Westlant-bound merchant and fishing vessels to be loaded with mines. The threat would substantially decrease in a more probable "1914 model" crisis where time would not be available to coordinate mining by these vessels. The aircraft mining threat would probably be limited to the Caribbean SLOCs.

The port attack component of the Soviet naval blockade strategy in Westlant would be assigned to shore-side saboteurs. The exact level of the Westlant sabotage threat is unknown because of its clandestine nature. It probably consists of several elements including illegals, legals, agents, terrorists, and special forces. Some of these saboteurs are already in place, others could be inserted just before war start. There is probably a low to moderate sabotage threat to the major North American military and Re/Re ports. The exact threat to an individual port would depend on its importance to the overall Re/Re. The majority of North American ports, however, would experience little or no sabotage.

The Soviets may hope to augment their sabotage networks and increase their Westlant deployed submarine on-station times by calling on their Cuban allies. It is most probable that Cuba will declare itself a neutral if it appears a NATO-Warsaw Pact conflict is imminent. Neutrality is the only option consistent with Cuba's long-range objectives. But even as a neutral, Cuba could provide the Soviets a wide variety of support: clandestine sabotage and submarine resupply; overt propaganda; clandestine intelligence, mining, and submarine attacks; and safe haven for Soviet merchant and fishing vessels. The exact level of Cuban support to the Soviets would depend both on what the Soviets demanded and what Fidel Castro thought he could get away with.

More important to the Soviets, even with Cuba as a neutral, is the U.S. perceived potential of the Cuban FAR. On the chance Cuba would conduct clandestine mining and submarine attacks or relinquish its neutral status and declare belligerency, the U.S. would be forced to hold forces in reserve in order to defend the southeastern U.S. and the Re/Re shipping transiting the Caribbean, Gulf of Mexico, and Florida Straits. This would assist the Soviets in their primary objective of dispersing NATO forces, thus reducing those available for either European deployment or attacking the Soviet homeland.

U.S. demands or threats against Cuba not to conduct clandestine attacks or become belligerent would most likely be met by defiance from Castro. This could possibly cause him to increase his clandestine support to the Soviets or even unleash chaos on U.S. military forces and decision makers by starting another mass Cuban migration to Florida.

When compounded, the potential Westlant threat from Soviet submarines, sabotage networks, and Cuban forces presents significant problems to NATO and U.S. Westlant defense planners.

Threat Surveys

In order to see how others estimate the wartime Westlant threat and to compare it to the information and conclusions in this work, a series of questionnaires was sent to various U.S. and Canadian agencies responsible for

Westlant defense. The details of this survey process are contained in Appendix A.

Table 11 provides the results of a survey on the estimated number of submarines the Soviets would deploy to Westlant in wartime. This estimate of 28 total submarines is substantially above the 4-6 submarines this work concludes would be deployed to Westlant. To actually dedicate 28 submarines to Westlant, the Soviets would have to degrade their capabilities for maintaining sea control north of the GIUK gap, conducting a naval blockade of Western Europe, or providing submarines to the Soviet Mediterranean Squadron. Based on the limited objectives the Soviets have indicated for their naval blockade operations, this is highly unlikely.

Table 11

Estimated Western Atlantic Submarine Deployments

Submarine Mission	Estimated Median
Anti-Carrier or Amphibious Battle Group	8
Anti-SSBN	6
Mining	3
Anti-Re/Re	10
Other (Spetsnaz, protect USSR SSBNs, etc.)	1
Total	28

Table 12 provides the results of a survey on the estimated North American port sabotage threat. Because of its clandestine nature, this is the most difficult Westlant threat to assess. The data in Table 12 reveals there could be at least a moderate sabotage threat to North American ports. This was concluded by first combining the high and medium estimates for each sabotage element in Table 12 which, except in the case of Soviet/Bloc legal presence, equals over 50 percent. These combined estimates must then be discounted, because, just as with the submarine threat estimates in Table 11, the survey participants probably overestimated the actual threat. Based on these discounted Table 12 estimates and the other research in this work, it is likely that the major military and Re/Re ports (Hampton Roads, Charleston, King's Bay) face a moderate sabotage threat, with other North American ports facing a much lower threat. Not to be ignored, however, is the synergistic effect all of the Table 12 sabotage elements could present, which could result in a greater overall threat to North American naval bases and major Re/Re terminals.

Table 12

Estimated Western Atlantic Port Sabotage Threat

Sabotage Element	Threat Percentage (a) High	Medium	Low
Soviet/Bloc Illegals	25	38	37
Soviet/Bloc Legal Presence	6	32	62
Soviet/Bloc Agents	43	36	21
U.S. Domestic Terrorists	23	28	49
International Terrorists	29	51	20
Soviet/Bloc Special Forces	32	26	42

(a) Shown as percentage of survey participants who estimated either a high, medium, or low threat from each element based on the following definitions:

High = an extensive sabotage effort is expected.

Medium = some sabotage effort is expected, but nothing which would cripple the NATO Re/Re.

Low = little or no sabotage effort is expected.

Table 13 provides the results of a survey on which options Fidel Castro would choose during a NATO-Warsaw Pact conflict. It shows that Castro would probably choose some form of neutrality. This 88 percent combined estimate is fully supported by the analysis in Chapter 4. At the same time, there is a combined 47 percent estimate that Cuba would either start out or become fully belligerent at some time during the conflict. The research for this work tends to discount these full belligerency estimates because Castro is unlikely to consciously bring Cuba under certain U.S. attack, thus committing military, economic, and probably political suicide.

Table 13

Estimated Western Atlantic Cuban Threat

Cuba's Options	Probability of Adoption (Average)
Switch Sides	1
Overt Belligerence	11
True Neutrality	18
Overt Neutrality/Covert Belligerence	34
Overt Neutrality/Deferred Belligerence	36

Future Trends

The estimates and analyses presented in this work have dealt with a Westlant threat assessment based on Soviet and Cuban force capabilities that exist today. What might be the potential threat from these forces by the mid-1990s?

The Soviets are continuing a program to build more modern and capable submarines, both nuclear and diesel-electric powered. Based on their current construction rates, by 1995 the Norfleet could contain a submarine inventory as shown in Table 14.

Table 14

Potential 1995 Soviet Northern Fleet Submarines

Type	Class	Present No. in Service	Estimated No. in Service 1995
SSBN	TYPHOON	4	8
	DELTA	22	22
	OTHER	14	--
SSGN	OSCAR	2	5
	CHARLIE I/II	10	10
	ECHO II	14	8
	PAPA	1	1
	YANKEE	--	10
SSG	JULIET/WHISKEY	9	--
SSN	ALPHA	6	6
	VICTOR I/II/III	29	29
	MIKE	1	10
	SIERRA	1	12
	OTHER	10	--
SS	FOXTROT	26	10
	TANGO	10	20
	KILO	--	10
	OTHER	15	--
	TOTAL	174	161

Sources: Developed from John Jordan, "Future Trends in Soviet Submarine Development," in The Future of the Soviet Navy, eds. Bruce W. Watson and Peter M. Dunn (Boulder: Westview, 1986), pp. 16-18; Office of the Chief of Naval Operations, Understanding Soviet Naval Developments (Washington: GPO, 1985), pp. 88-104; U.S. Defense Intelligence Agency Unclassified Communist Naval Orders of Battle (Washington: n.p., 1986), p. 1; and Milan Vego, "Part 3: 1961-84, Torpedo Armed Submarines," Navy International, 90, no. 4 (1985), 240. A submarine life of 30 years was used in this estimate.

Even though the total inventory of Norfleet submarines should decrease slightly by 1995, the overall fleet capabilities should improve immensely. The Typhoon-class and newer Delta-class SSBNs would be able to use the deep polar basins under the Arctic ice cap to hide relatively

undetected from NATO SSNs. This would allow large numbers of Norfleet submarines to be released from the pro-SSBN mission and deploy into the Norwegian Sea or North Atlantic.(2) As more nuclear-powered submarines become available, the probability decreases that the Soviets would deploy diesel-electric submarines to Westlant in wartime.

The newer Mike- and Sierra-class nuclear-powered submarines entering the Soviet inventory are both quieter and more capable than their predecessors. Both classes will not only be able to carry mines, torpedoes, and ASW weapons, but also the new SS-NX-21 land-attack cruise missile. These SS-NX-21 missiles may also be back-fitted on the older Yankee- and Victor III-class SSNs.(3)

The advent of the SS-NX-21, with an estimated range of 1,600 miles, brings a new dimension to the Westlant SLOC threat. It can be fired from a standard 65-centimeter torpedo tube on the Mike-, Sierra-, Yankee-, and Victor III-classes. Similar to the U.S. Tomahawk missile, it is believed the early SS-NX-21 versions will have nuclear warheads; however, a suspected sophisticated terrain-contour-matching guidance system could make later variants accurate enough for conventional strikes. This would allow Westlant-deployed submarines to attack naval bases, Re/Re ports, or other military bases or command and control centers along the entire North American eastern seaboard.(4)

The SS-NX-21 is not the only new Soviet submarine launched land-attack cruise missile in development. The

larger SS-NX-24 is apparently being back-fitted on Yankee-class submarines, which is converting them from SSBNs to SSGNs. Not much is known about the SS-NX-24. Similar in size to the Yankee's SS-N-6 ballistic missiles, it may have a range of 1,600 miles or greater. It is believed to be nuclear armed only and should become operational by 1987.(5)

To fully utilize these land attack cruise missiles, Soviet submarines would be required to transit into the North Atlantic. This would probably increase the prewar crisis deployment of SSNs both off Western Europe and in Westlant. The Yankee SSBN peacetime patrol areas near Bermuda may eventually become Yankee SSGN patrol areas. Regular Yankee SSGN peacetime patrols may also be instituted off Western Europe.

If at the start of a conventional war the Soviets did launch SS-NX-21 cruise missiles at North American ports or command centers, the military relevance could be questionable. The greatest benefit to the Soviets might be the emotional effect the explosion of several 1,000-pound bombs would have on the U.S. populace, thus distracting from their support of NATO defense.(6) If these cruise missiles carried chemical or biological warheads, the emotional impact would be even greater. These missiles could also be used in an REC destruction role to attack SOSUS facilities or other Westlant ASW command and control facilities. These new cruise missiles could, therefore, contribute to both the

achievement of the limited Soviet Westlant naval blockade objectives and protection of Westlant deployed submarines.

If the Yankee-class SSBNs are not all converted to carry the SS-NX-24, they could be configured as mine layers. Although not identified, the Soviets have written of submarines specially designed to carry mines.(7) It is estimated a Yankee-class could be converted to carry 260 naval mines.(8) The Soviets have also written of submarines equipped with special expendable "nacelles" which allow mines to be carried external to the submarine's hull. The addition of these "nacelles" would give a single submarine the capability of carrying both a full load of torpedoes and up to 200 mines. Once the mines were laid, the "nacelles" would be jettisoned.(9)

The Soviets also continue to improve their mine capabilities. After several ships were damaged in the Red Sea in 1984, a mine-sweeping operation in that area uncovered a Soviet made bottom mine. It was 10 feet long and 21 inches in diameter, indicating it was made for either submarine or ship launch. Capable of holding 1,500 pounds of high explosive, it was equipped with acoustic, pressure, and magnetic detonators, along with a time delay device. This mine, which was believed laid by a Libyan cargo-ferry, was of a type completely unknown to the West. It was later determined that it had been manufactured by the Soviets for export sometime after 1981.(10) It is reasonable to assume

the Soviets are building even more capable modern mines for their own use.

Over the next several years the Soviets may also improve their North American sabotage networks. Although there is no indication their size may be increased, the weapon and communication capabilities will probably be upgraded. This could allow even fewer saboteurs to be more effective and destructive.

The modernization of the Cuban FAR will probably continue, as will the increases in the Cuban potential offensive capabilities which were begun in the late-1970s. Cuba may receive several additional Koni frigates and Foxtrot submarines. An inventory of 4-6 Konis and 4-6 Foxtrots appears optimum for a country Cuba's size. The Soviets may also deliver additional Osa or even more capable missile boats to replace Cuba's aging Komar-class.

The Cubans should continue to take delivery of additional MIG-23s and maybe even newer Soviet fighter/bombers. Cuban air defenses should also be kept modernized with the latest export versions of Soviet SAM systems.

The aged Cuban SSC-2B Samlet anti-ship cruise missiles are believed to be deactivated, although since mobile they could be returned quickly to service. The Soviets may provide the Cubans more modern and longer range Soviet land-based anti-ship cruise missiles.

And finally, the potential threat from Nicaragua cannot be discarded. Since its 1979 revolution and subsequent alignment with the Cubans and Soviets, the Sandinistas' armed forces have been significantly enlarged and modernized with the help of Cuban and Soviet arms deliveries. To date, this has not included any weapons system that could threaten the Caribbean SLOCs. It is probably only a matter of time, however, until Nicaragua does take delivery of jet fighter/bomber aircraft and missile boats that can threaten the Caribbean SLOCs and the Panama Canal.

Overall, improved Soviet submarines, deployment of submarine launched land-attack cruise missiles, improved Soviet mine warfare capabilities, continued modernization of the Cuban FAR, and the potential future threat from Nicaragua, all present NATO and U.S. Westlant defense planners with increasing problems over the next decade.

Postscript

At present, U.S. (not NATO) wartime naval strategy in the North Atlantic calls for the dispatch of several aircraft carrier battle groups north of the GIUK gap to attack the Soviet Navy and its Kola Peninsula bases. This strategy has been dubbed the Forward Maritime Strategy. Supporters of this strategy have professed that phrases such as "protect the SLOCs" are being superseded by phrases like "sink the Soviet Navy."(11)

This work has shown that even with the U.S. Forward Maritime Strategy, the Westlant SLOCs and ports could still come under moderate attack. NATO and U.S. planners should, therefore, take heed of historian Lidell Hart's observation, "[w]ar is a two-party affair...[thus] imposing the need that while hitting one must guard." "Guarding" entails protecting both one's strategic rear and the lifelines connecting it with forces in the field. This is a prerequisite for any offensive action.(12) A prerequisite for a successful U.S. Forward Maritime Strategy is ensuring Westlant security.

Notes

(Note: Morskoy Sbornik translations are provided by the Naval Intelligence Support Center, Suitland, MD. They may be found in various library periodical files under either Morskoy Sbornik or Soviet Naval Analyst, both using the edition numbers shown.)

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2. Anthony R. Wells, "The Soviet Navy in the Arctic and North Atlantic," National Defense, Feb. 1986, pp. 40-42.

3. John Jordon, "Future Trends in Soviet Submarine Development," in The Future of the Soviet Navy, eds. Bruce W. Watson and Peter M. Dunn (Boulder: Westview, 1986), pp. 13-18; and Office of the Chief of Naval Operations, Understanding Soviet Naval Developments (Washington: GPO, 1985), p. 144.

4. Ibid.

5. Jordon, p. 16; Wells, p. 41; and U.S. Department of Defense, Soviet Military Power (Washington: GPO, 1986), pp. 33-36.

6. Robert S. Wood and John T. Hanley, Jr., "The Maritime Role in the North Atlantic," Naval War College Review, Nov.-Dec. 1985, p. 15.

7. I. Bykhovskiy, "The Use of Submarines to Lay Mines," Morskoy Sbornik, no. 7, 1977, p. 27.

8. Milan Vego, "Soviet Mine Warfare: Doctrine and Capabilities," Navy International, 87, no. 11 (1982), 1420.

9. Bykhovskiy, p. 29.

10. Scott C. Truver, "Mines of August: an International Whodunit," U.S. Naval Institute Proceedings, May 1985, pp. 109-113.

11. Wood and Hanley, p. 18.

12. Charles P. Peterson, "Strategic Lessons of the Recent Soviet Naval Exercises," National Defense, Feb. 1986, p. 32.

APPENDIX A

Use of Questionnaires in Assessing the Wartime Threat in the Western Atlantic

This work's objective was to develop the probable wartime threat in Westlant. Rather than rely totally on the author's conclusions in developing this threat assessment, a series of surveys (questionnaires) was used to poll various U.S. and Canadian sources. These surveys were sent to U.S. and Canadian military and government agencies responsible for the contingency planning, intelligence support, operational direction, and training of forces assigned Westlant port and SLOC defense missions. The agencies and individuals participating in the surveys were guaranteed anonymity.

Three surveys were mailed in January, March, and June (1986), respectively. Each survey differed somewhat in both the questions asked and information provided the participants. A summary of the surveys and their results are provided below by threat area.

The Submarine Threat

All three surveys requested estimates on the Westlant wartime submarine threat. The Delphi Technique was selected as the method for generating this threat assessment.(1)

The Delphi Technique requires experts on a subject to consider the views of their peers in an environment free from biases caused by personalities. Peer views (survey

results) are fed back to each expert in terms of the median response and the interquartile range (IQR) of the responses. The median is the middle answer in a series of responses. The IQR is the interval containing the middle 50 percent of the responses (i.e., 25 percent on each side of the median). On each round of the Delphi, participants were given the opportunity to reconsider and change their earlier responses in light of the views of peers.(2)

During the first survey, 250 submarine threat questionnaires were sent. Forty-three answers were returned. Twenty-five of these participants indicated they felt at least moderately qualified (3 on a 1-5 scale, 5 being fully qualified) to answer the following question:

> During a NATO-Warsaw Pact conflict in Europe, what is your estimate of the number of Soviet submarines that will be deployed to the Western North Atlantic to conduct the below primary missions along the North American coast?

The results for those feeling at least moderately qualified are shown in Table A-1.

In the second survey the Table A-1 data was returned to the same agencies. Of 120 questionnaires sent in the second survey, 20 were returned. The results are shown in Table A-2.

The Table A-2 results were provided to participants in the third survey. Of 120 questionnaires sent in the third survey, 21 were returned. The results are shown in Table A-3.

Table A-1

First Survey
Submarine Threat Results

Submarine Mission	IQR Start	Median	IQR Stop
Anti-Carrier or Amphibious Battle Group	4	10	20
Anti-SSBN	5	7	15
Mining	2	5	5
Anti-Re/Re	4	10	20
Other (Spetsnaz, protect USSR SSBNs, etc.)	0	1	4
Total(a)	10	32	50

(a) Some submarines might have more than one mission, therefore the totals do not necessarily equal the sum of each column.

Table A-2

Second Survey
Submarine Threat Results

Submarine Mission	IQR Start	Median	IQR Stop
Anti-Carrier or Amphibious Battle Group	5	10	20
Anti-SSBN	5	8	15
Mining	2	5	6
Anti-Re/Re	6	15	20
Other (Spetsnaz, protect USSR SSBNs, etc.)	0	1	2
Total	16	32	50

Table A-3

Third Survey
Submarine Threat Results

Submarine Mission	IQR Start	Median	IQR Stop
Anti-Carrier or Amphibious Battle Group	4	8	10
Anti-SSBN	4	6	10
Mining	2	3	6
Anti-Re/Re	4	10	15
Other (Spetsnaz, protect USSR SSBNs, etc.)	0	1	2
Total	18	28	30

The Port Sabotage Threat

The Delphi Technique was not used to estimate the North American wartime port sabotage threat. Only a single questionnaire during the first survey was used. Five hundred questionnaires were sent asking the following question:

> During a NATO-Warsaw Pact conflict in Europe, what is your estimate of the sabotage threat to North American naval bases and ports directed at stopping the reinforcement and resupply of NATO European forces?

One hundred eight of these questionnaires were returned. Seventy-six of the participants indicated they felt at least moderately qualified to answer the above question. The overall results are shown in Table A-4.

Table A-4

Port Sabotage
Survey Results

Sabotage Element	Threat Percentage (a) High	Medium	Low
Soviet/Bloc Illegals	25	38	37
Soviet/Bloc Legal Presence	6	32	62
Soviet/Bloc Agents	43	36	21
U.S. Domestic Terrorists	23	28	49
International Terrorists	29	51	20
Soviet/Bloc Special Forces	32	26	42

(a) Shown as percentage of at least moderately qualified participants who estimated either a high, medium, or low threat from each element based on the following definitions:

High = an extensive sabotage effort is expected.

Medium = some sabotage effort is expected, but nothing which would cripple the NATO Re/Re.

Low = little or no sabotage effort is expected.

The Cuban Threat

The Delphi Technique was used to estimate the wartime Cuban threat in Westlant. The same individuals who were sent the submarine threat questionnaires in surveys two and three (120 each time) were also asked to respond to the following question:

> During a conventional NATO-Warsaw Pact conflict in Europe, what is your estimate of the probability that Cuba will adopt the below options?

During the second survey, 26 questionnaires were returned. The results are shown in Table A-5.

The results in Table A-5 were sent to the participants in the third survey. Twenty-two responses were received. The results are shown in Table A-6.

Table A-5

Second Survey
Cuban Threat Results

	Probabilities of Adoption			
Cuba's Options	IQR Start	Median	IQR Stop	Average (Mean)
Switch Sides	0	0	5	2
Overt Belligerence	0	8	25	18
True Neutrality	5	14	25	18
Overt Neutrality/Covert Belligerence	15	20	50	30
Overt Neutrality/Deferred Belligerence	20	30	50	32

Table A-6

Third Survey
Cuban Threat Results

	Probabilities of Adoption			
Cuba's Options	IQR Start	Median	IQR Stop	Average (Mean)
Switch Sides	0	0	0	1
Overt Belligerence	5	10	10	11
True Neutrality	5	10	25	18
Overt Neutrality/Covert Belligerence	20	30	50	34
Overt Neutrality/Deferred Belligerence	25	33	50	36

Discussion

Each of the surveys were sent to participating agencies which were requested to distribute them to qualified individuals. In order to obtain the largest number of participants possible, there was no requirement for individuals to have completed earlier questionnaires to participate in either the second or third surveys. The major problems with this method were: (1) the inability to control the expertise of participants, and (2) the limited responses obtained to the surveys. These problems were probably a major reason the IQRs remained so large in both the submarine and Cuban threat estimates.

One strong point of a Delphi Technique is the method's applicability to problems which are "fuzzy," that is, which defy precise definitions. These are exactly the types of problems presented in this Appendix. Delphi forecasts should, however, not be regarded as precise statements about the likelihood of specific events or conditions, but only used as subjective approximations of the future.(3) Thus, the final results of this survey process can only be considered as a subjective approximation of the Westlant wartime threat. The survey results are compared with the other research conducted for this work in Chapter 5.

In addition to the final subjective approximations of the Westlant threat, a major lesson learned from these surveys was the wide divergence of views on Westlant threat

issues. This divergence was further confirmed in the interviews and other research done for this work. Many of the returned questionnaires contained comments which provided the author avenues for further investigation. Overall, the effort expended on these surveys was worthwhile.

Notes

1. See T. Gordon and O. Helmer, Report on a Long-Range Forecasting Study (Santa Monica, CA: Rand, 1964). This report is the basis for the Delphi Technique.

2. This Delphi Technique summary provided in Claude R. Thorpe, "Mission Priorities of the Soviet Navy," in Naval Power in Soviet Policy, ed. Paul J. Murphy (Washington: GPO, 1978), p. 167.

3. Stephen J. Andriole, Methods for Intelligence Analysis, Production, and Presentation (Washington: Defense Intelligence College, 1983), pp. 11-16 to 11-17.

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