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# Soviet Amphibious Forces: Tasks and Capabilities in General War and Peacetime

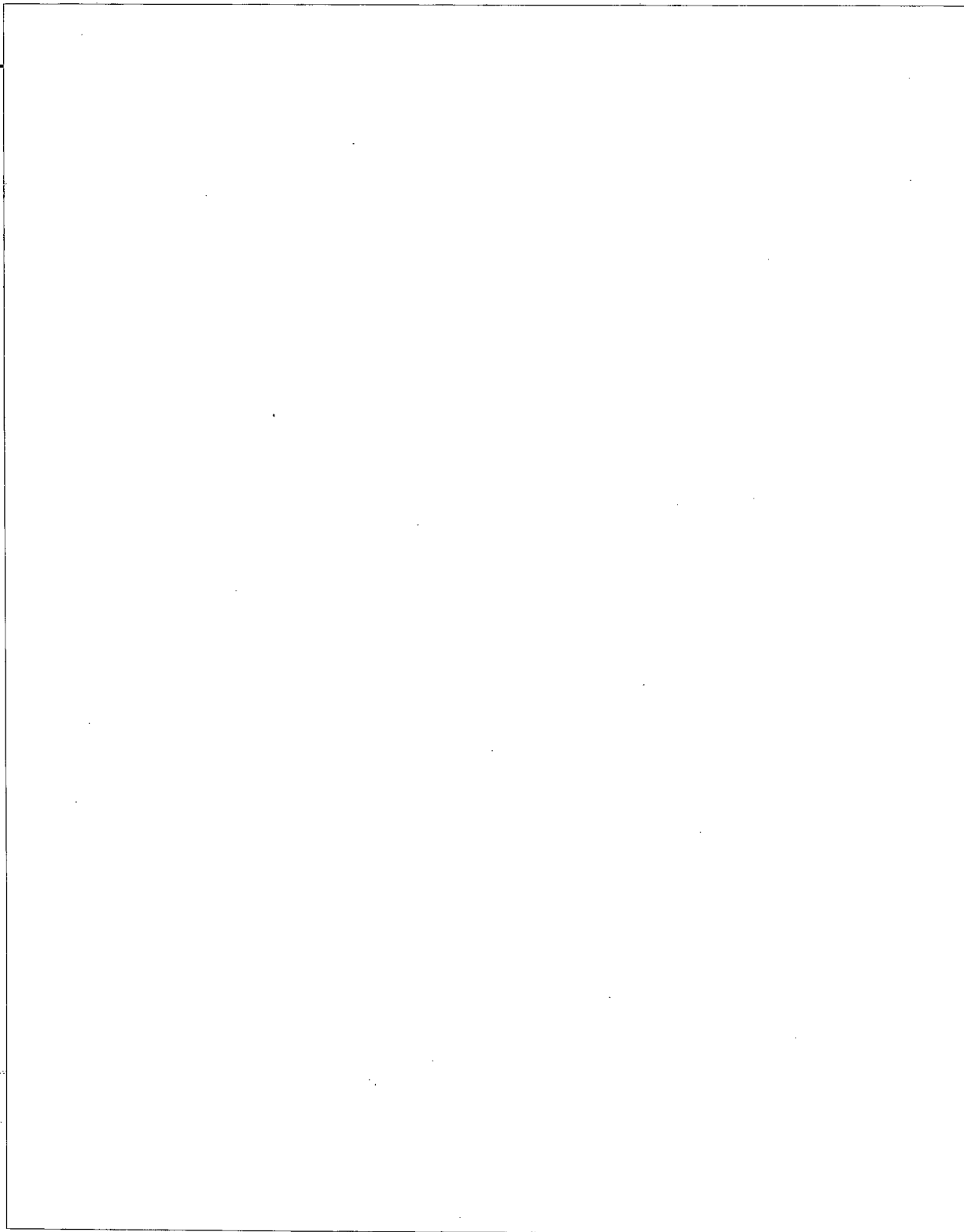
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June 1979

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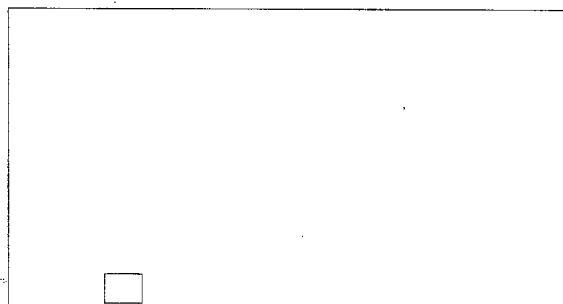


# Soviet Amphibious Forces: Tasks and Capabilities in General War and Peacetime



A Research Paper

*Information as of March 1979 has been used  
in preparing this report.*



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SR 79-100651X

June 1979

**Soviet Amphibious Forces:  
Tasks and Capabilities in  
General War and Peacetime**

**Key Judgments**

The Soviet Union maintains amphibious forces in each of its four fleet areas and in the Caspian Sea. These forces total 10,000 to 12,000 naval infantry troops, about 100 amphibious ships, and some 120 short-haul landing craft. They have been developed primarily to conduct amphibious landings along the maritime flanks of the USSR in support of ground operations and to counter enemy amphibious assaults.

The success of Soviet amphibious operations in wartime would depend largely on the acquisition of air and sea control and on the forward progress of the ground forces. Adequate air support might not be forthcoming, however, especially at the outset of a war with NATO, because the aircraft needed to provide the support would likely be committed elsewhere to higher priority missions. The Soviets might also have problems providing adequate antisubmarine protection for amphibious task forces because Soviet ASW forces have poor submarine detection capabilities.

Under certain circumstances, these same amphibious forces would also be capable of limited intervention in Third World countries to protect Soviet interests, even though the Navy does not appear to place much emphasis on this mission or train for it. Current Soviet intervention capabilities would be seriously limited by the lack of amphibious support ships and adequate sea-based airpower. The amphibious forces have little capability for a major opposed intervention overseas.

Soviet leaders nevertheless appreciate the political value of having naval forces in areas distant from the USSR. Amphibious ships with small naval infantry contingents are routinely kept in distant areas, particularly in politically sensitive ones such as the Mediterranean Sea and the Indian Ocean. Over the past decade, increases in the presence of amphibious ships during crises have been related primarily to military equipment deliveries, evacuations, and Soviet signals of concern—not to direct intervention.

We do not foresee any large-scale change in Soviet capabilities for distant operations, at least through the mid-to-late 1980s. Soviet naval writers, including Admiral Gorshkov, have indicated increased interest in develop-

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ing a Western-style naval intervention capability. The Navy, however, probably will continue to channel the lion's share of its available funds into strategic programs—where serious shortcomings remain—at the expense of other naval programs, including those for amphibious forces. [redacted]

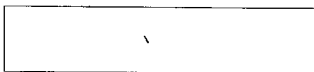
Soviet amphibious assault and intervention capabilities near the USSR and in distant areas will improve modestly as new aircraft carriers, modern amphibious ships, and other warships join the fleet. Throughout the next 10 years, however, shortcomings in sea-based airpower and other naval assets are likely to limit Soviet capabilities to intervene against determined opposition in distant areas. [redacted]

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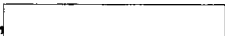

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**Preface**

This paper describes the composition and wartime tasks of Soviet amphibious forces and examines their capabilities to intervene abroad against varying degrees of opposition. It also looks into the Soviet Navy's prospects for acquiring new aircraft carriers, modern amphibious ships, and other warships, and assesses the impact of such additions on future Soviet amphibious assault and intervention capabilities. The study does not address the intervention capability of airborne troops nor the impact of ground operations during amphibious landings in wartime. 

Classified and unclassified writings, satellite photography,   
 provide detailed information on the current capabilities and likely wartime roles of Soviet amphibious forces. Our knowledge of current ship construction programs gives us a good basis for estimating Soviet amphibious capabilities in the near term. Estimates beyond the next five years are primarily based on the extension of near-term trends, interpretations of Soviet writings, and assessments of Soviet needs.





## Soviet Amphibious Forces: Tasks and Capabilities in General War and Peacetime

### Wartime Tasks

The Soviet Navy maintains amphibious forces in all four fleet areas and the Caspian Sea, primarily to be ready for wartime operations along the periphery of the USSR. Naval infantry troops are intended to serve as the initial assault element in amphibious landings on the USSR's maritime flanks and to secure a beachhead, usually in preparation for the arrival of merchant ships carrying more heavily armed ground forces. In major landings, the naval infantry normally would operate in conjunction with airborne and heliborne assault forces. The naval infantry has also been used in an antilanding role, and some naval infantry units—particularly in the Pacific—appear to be structured for defense as well as for amphibious assault. (See appendix A for details on the evolution of Soviet amphibious forces and naval infantry.)

Soviet amphibious warfare strategy is based on the main objective of supporting the coastal flanks of the ground forces. The structure, composition, planning, and training of these forces is centered on this objective. The focus of amphibious strategy on cooperating with the ground forces in securing exits to the open sea and supporting advances along the coastal flanks is especially apparent in Soviet classified writings.

The evidence for the specific wartime goals of the Northern Fleet amphibious forces is scant, but suggest an offensive role of seizing limited objectives along the northern Norwegian coast, especially in Finnmark (see figure 1). Soviet amphibious landings there also could be used to flank Western assault landings. Soviet landings could be made further south in Norway but would probably be confined to small-scale raids, because the landing forces would be beyond the range of land-based fighter and fighter-bomber air cover.

Classified writings all indicate that Soviet amphibious forces in the Baltic are earmarked for participation with other Pact forces in large-scale combined amphibious and airborne assault landings (see figure 2). Their primary objective would be to seize the Danish straits islands in conjunction with an overland drive by front ground forces along the Baltic coast and north through Jutland. These landings might be preceded by a smaller assault landing along the German coast ahead of the advancing front. After capturing the straits, subsequent Pact amphibious operations apparently would be conducted against southeastern Norway.

Classified writings as recent as 1973 describe Pact amphibious and airborne landings near the Turkish straits that would support a major ground thrust from Bulgaria to seize and cross the straits (see figure 3). After the landings, the Black Sea Fleet's amphibious ships would ferry the front's ground forces and equipment across the straits.

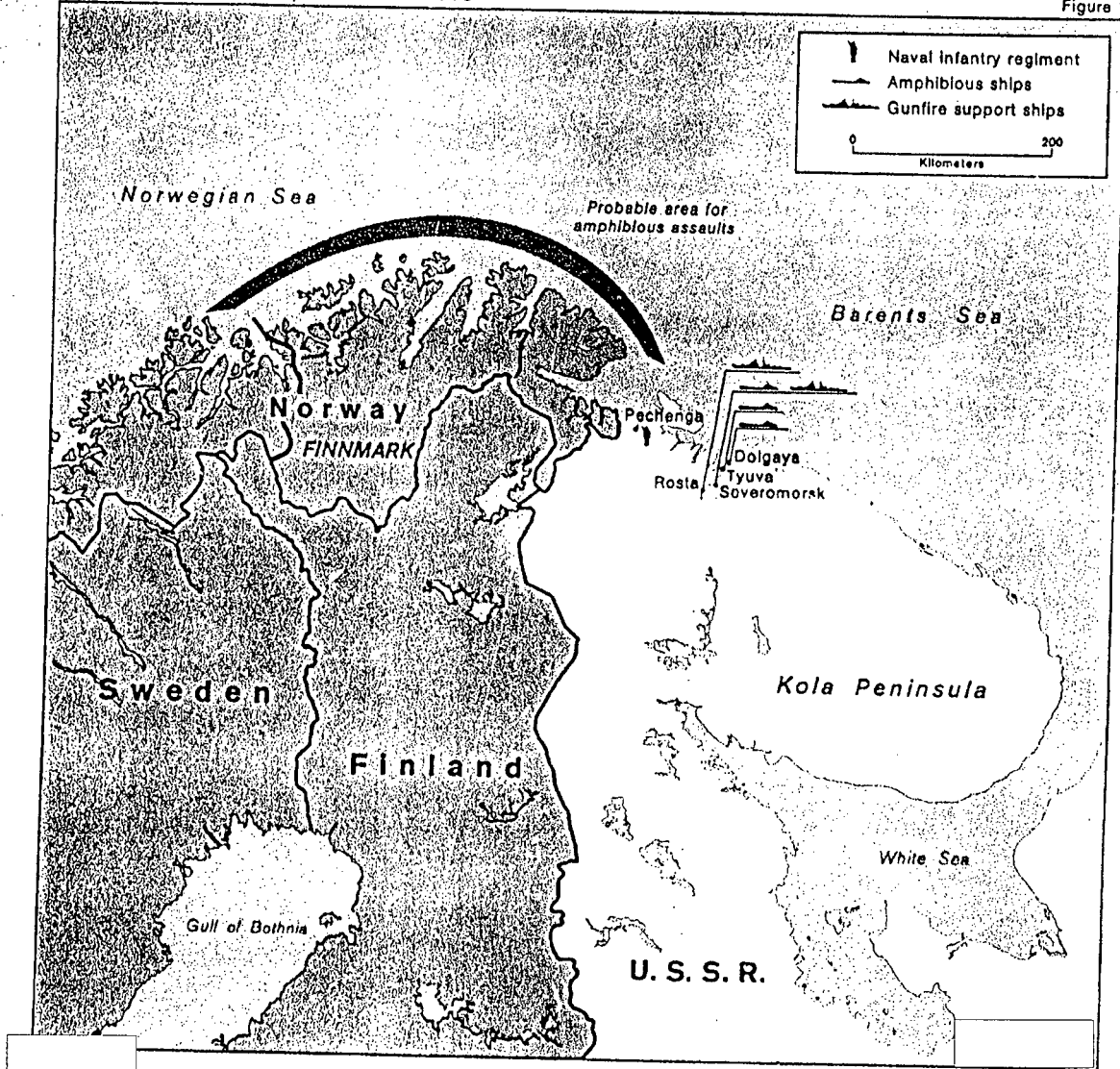
The wartime task of the amphibious forces in the Caspian Sea is not clear. Before the recent change of government in Iran, these forces reportedly were intended for assault operations against Iran. However, the Caspian Flotilla's inadequate lift and severely limited capability to support landings suggest that these forces may have been intended for raids or diversions rather than assaults of any significant size against major Iranian opposition.

The Pacific Fleet has the largest amphibious force of any of the Soviet fleets, but current intentions for its wartime use are less clear than in other areas. The fleet's naval infantry division most likely would defend coastal areas and conduct counterlanding operations.

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### Northern Fleet Amphibious Forces

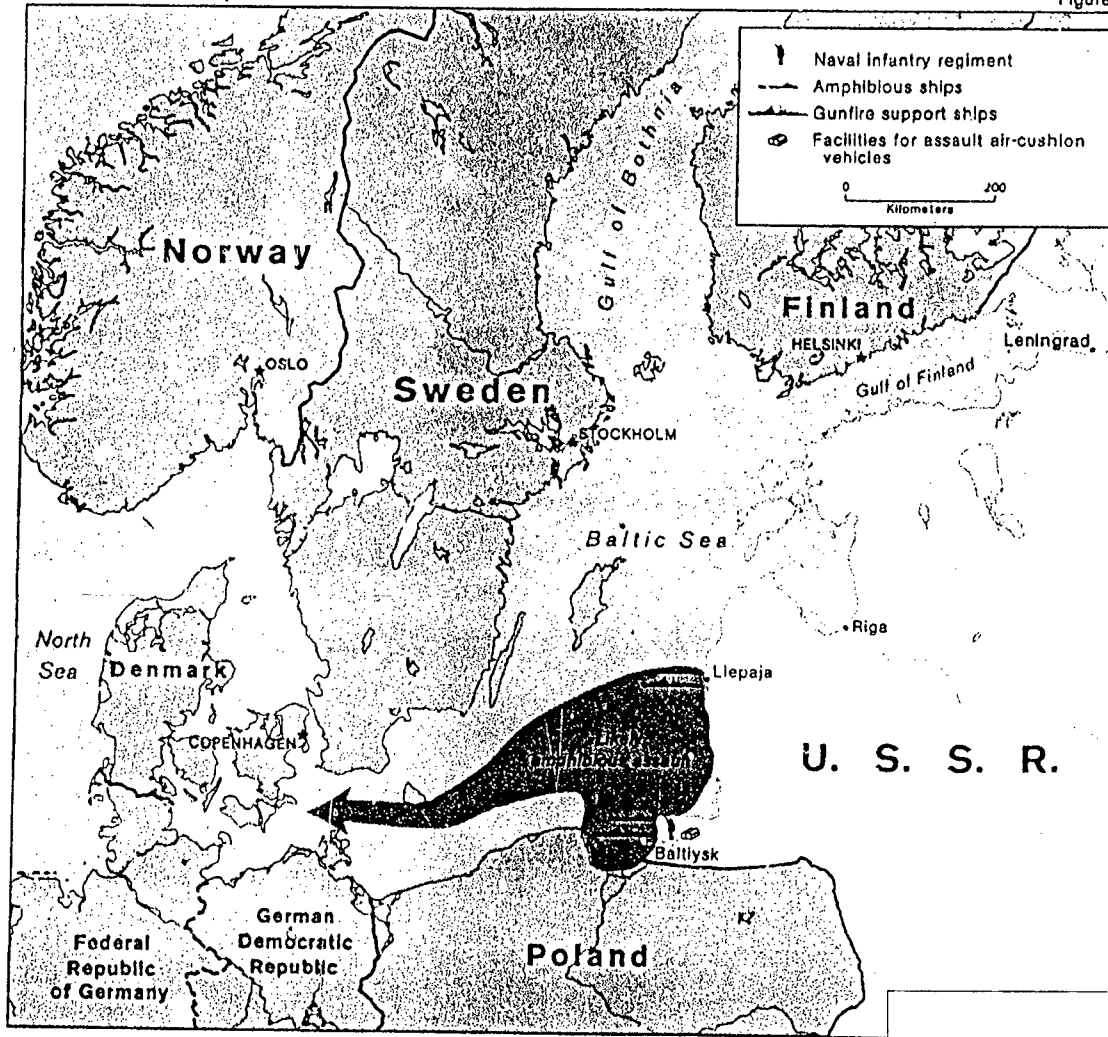
Figure 1



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### Baltic Fleet Amphibious Forces

Figure 2



In a NATO - Warsaw Pact war, Soviet amphibious forces in the Baltic, together with Polish and East German forces, would conduct assault landings in the Danish islands. Amphibious assault forces would include the Soviet naval infantry regiment at Baltiysk, the Polish 7th Assault Landing Division, and a regiment of the East

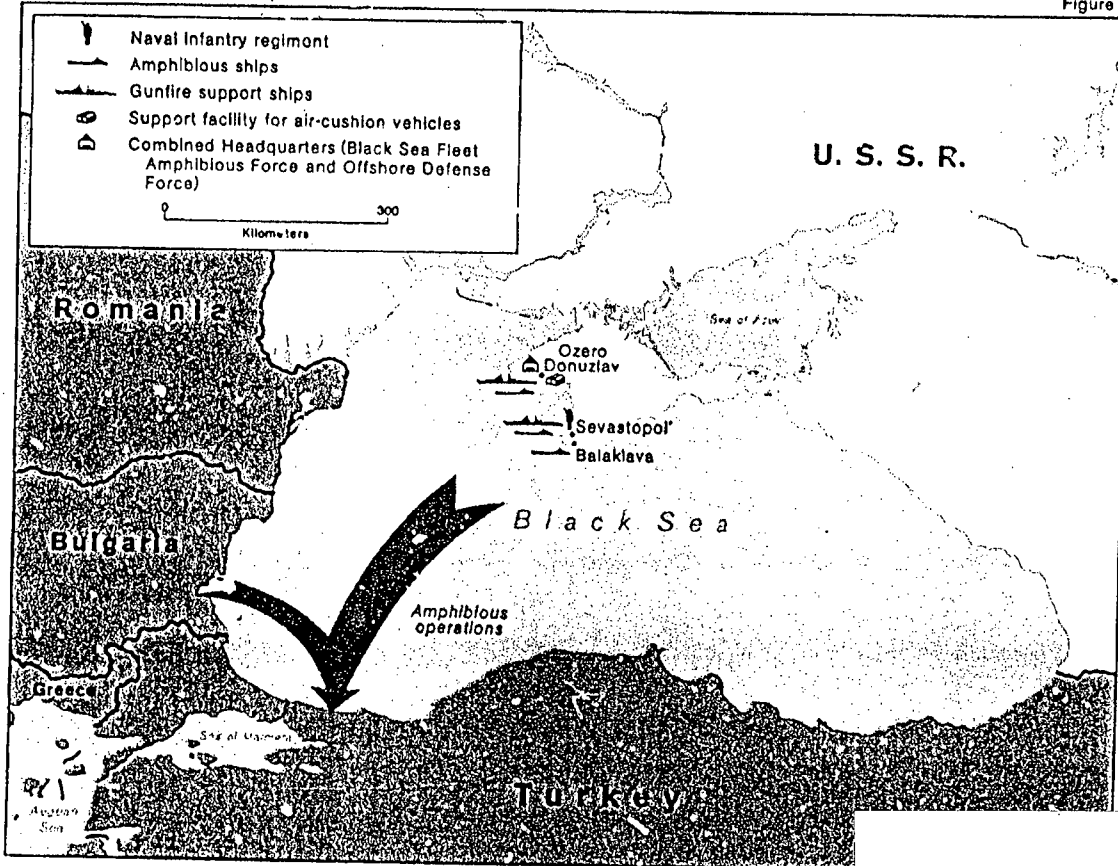
German 8th Motorized Rifle Division. The other two regiments of the East German division, elements of the Polish 15th Mechanized Division, and possibly some Soviet ground forces could be used in follow-on operations.

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### Black Sea Fleet Amphibious Forces

Figure 3



The Soviet naval infantry regiment at Sevastopol', together with a Bulgarian naval infantry battalion, probably would conduct an amphibious assault on the Turkish coast to support a forced crossing

of the Bosphorus. A Soviet motorized rifle regiment probably would be landed from merchant ships following the initial assault.

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especially in isolated areas like Sakhalin (see figure 4). In a war with China, the naval infantry might be used for raids on Chinese ports, operations along the Amur and Ussuri Rivers, and landings near the flanks of Soviet armies. [ ]

The Soviet western fleets have enough amphibious ships to move their own naval infantry as well as some ground troops and non-Soviet naval infantry. The Pacific Fleet's lift capacity is not adequate to move all of the naval infantry units stationed in the Far East (see table 1, page 7) [ ]

#### Amphibious Assault Operations And Tactics

Soviet [ ] writings stress the complexity of major amphibious landings and the need for close coordination among the various participants. The writings indicate that major landings would precede an advance by ground forces in a particular area such as Jutland, and independent operations by the lightly equipped landing forces could last a few days before a linkup with the ground forces [ ]

Large amphibious landings would be preceded by the use of airborne or heliborne forces beyond the beach-head area. Naval gunfire and strikes by land-based aircraft would be used to soften up the defending forces and cover mine-clearing operations prior to the landing of the assault force. Air-cushion vehicles and helicopters would be used early in the operation to land forward elements of this force quickly, while most of the force would land from amphibious ships. Additional units of heavily equipped ground forces would be transported to shore on assorted landing craft or would be landed at captured ports or shore facilities created by Soviet construction teams. [ ]

Present Soviet doctrine apparently allows for the conduct of assault landings during conventional, or nuclear and chemical warfare. Classified writings from the early 1970s refer to the use of tactical nuclear weapons prior to landings against the NATO-held straits. The writings [ ] also indicate that amphibious landings in the Danish straits could occur in the conventional stage of a war. [ ]

#### Planning and Embarkation

Current Soviet plans apparently call for many days of preparation for any major landing. Some of this preparation presumably could be accomplished during the period of rising tension the Soviets believe would normally precede a general war. According to a 1970 classified article, the preparation time required depends primarily on the amount of additional, preembarkation training needed by the landing force (see table 2). Such training might include rehearsals of the landing [ ]

During the planning stage, command and control of the amphibious landing also would be worked out. Although the overall commander for large amphibious landings probably would be the front commander, actual command and control of the amphibious task force would rest with a senior naval officer.<sup>1</sup> He would

<sup>1</sup> Soviet naval writings indicate that military planners, in selecting a commander for an amphibious landing force, would take into account the specific conditions and goals of the operation as well as the composition and tasks of the forces taking part. Thus, if a landing were part of a front offensive, the front commander would be in charge; similarly, if a landing were in support of the fleet, it would be entrusted to the fleet commander. In those cases where major amphibious landings were conducted outside the framework of a front operation, the command would devolve on an individual designated by the Supreme High Command [ ]

Table 2

#### Preembarkation Training of Amphibious Landing Forces—A Soviet View<sup>1</sup>

Composition of Landing Force	Number of Days
A naval infantry battalion with reinforcements (that is, a battalion landing team)	1-3
A naval infantry regiment's basic subunits	2-3
A full-strength naval infantry regiment	3-4
A naval infantry regiment, a motorized rifle regiment, and reinforcement units	8-10
A motorized rifle division	12-14
A motorized rifle division, an amphibious landing division, a naval infantry regiment, and reinforcement units	25-30

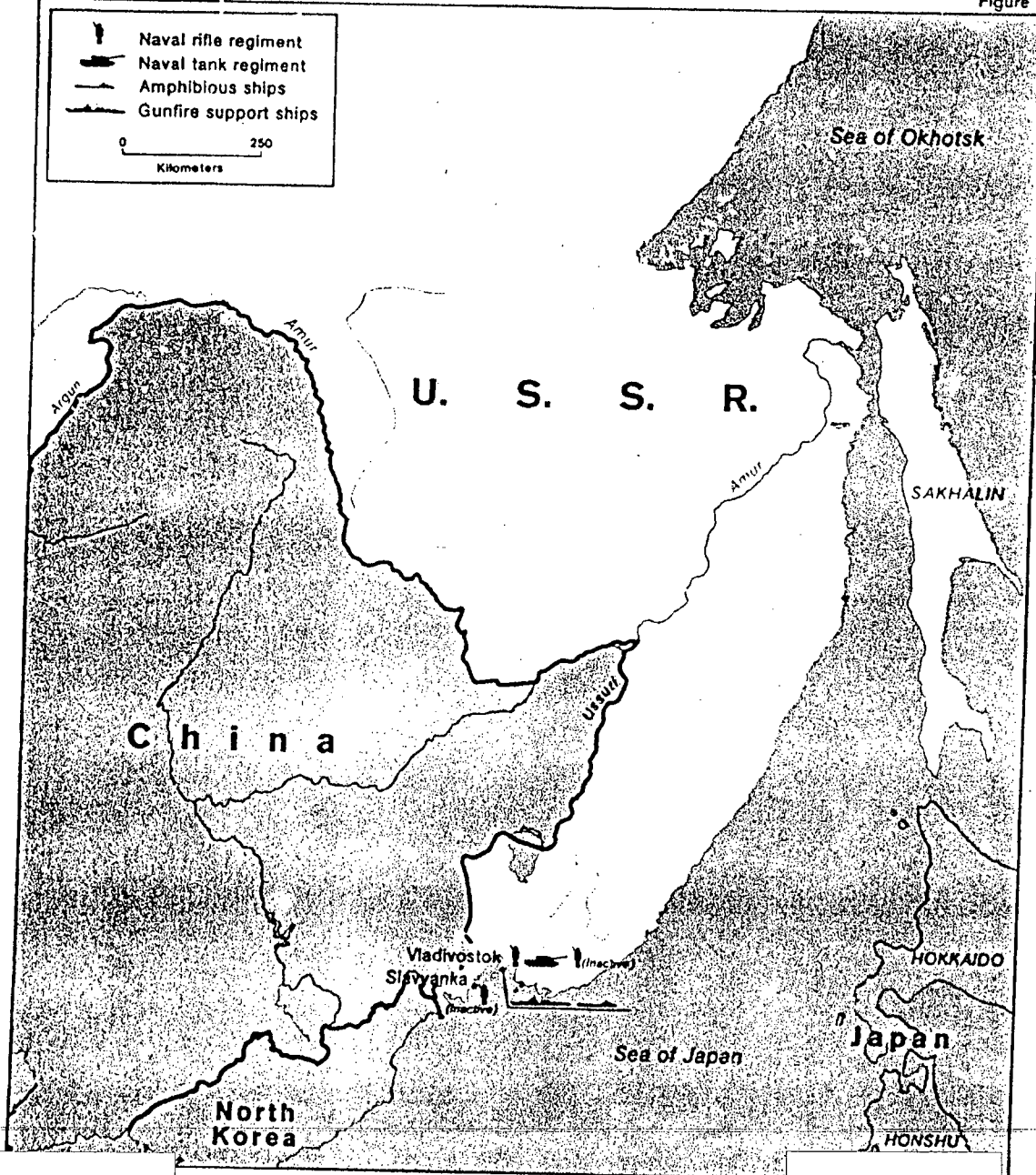
<sup>1</sup> Depicts the representative minimum number of training days, apparently for both Soviet and NSWP forces in the Baltic, based on Soviet World War II experience [ ] and estimates of "extreme" conditions for future landings.

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### Pacific Fleet Amphibious Forces

Figure 4



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**Table 1**

**Soviet Amphibious Assault Ships—Order  
Of Battle and Lift Capability<sup>1</sup>  
(mid-1978)**

	Northern	Baltic	Black	Caspian	Pacific	Total
<b>Primary Lift (Active Amphibious Ships)</b>						
Iran Rogov LPD	—	1	—	—	—	1
Alligator LST	2	2	5	—	5	14
Ropucha LST	4	2	—	—	4	10
Polnocny LSM	11	9	11	11	10	52
<b>Total Ships</b>	<b>17</b>	<b>14</b>	<b>16</b>	<b>11</b>	<b>19</b>	<b>77</b>
<b>Total Lift<sup>2</sup> (NRR)</b>	<b>1.25</b>	<b>1.28</b>	<b>1.44</b>	<b>0.20</b>	<b>1.87</b>	<b>6.04</b>
<b>Residual Lift (Reserve Amphibious Ships)</b>						
Polnocny LSM	—	6	—	—	—	6
MP-4 LSM	1	—	—	—	15	16
<b>Total Ships</b>	<b>1</b>	<b>6</b>	<b>—</b>	<b>—</b>	<b>15</b>	<b>22</b>
<b>Total Lift<sup>2</sup> (NRR)</b>	<b>0.02</b>	<b>0.11</b>	<b>—</b>	<b>—</b>	<b>0.33</b>	<b>0.46</b>
<b>Short-Haul Lift (Active and Reserve Landing Craft)<sup>3</sup></b>						
SMB-1 LCU	—	5	15	10	10	40
Vydra LCU	—	7	10	6	10	33
Aist LCUA	—	6	—	—	—	6
Lebed LCMA	—	3	5	—	—	8
Gus LCPA	—	8	8	1	13	30
<b>Total Craft</b>	<b>—</b>	<b>29</b>	<b>38</b>	<b>17</b>	<b>33</b>	<b>117</b>
<b>Total Lift<sup>2</sup> (NRR)</b>	<b>—</b>	<b>0.16</b>	<b>0.21</b>	<b>0.12</b>	<b>0.15</b>	<b>0.64</b>
<b>Cumulative Lift Total (NRRs)</b>	<b>1.27</b>	<b>1.55</b>	<b>1.65</b>	<b>0.32</b>	<b>2.35</b>	<b>7.14</b>

<sup>2</sup> Total lift is expressed in terms of the number of naval rifle regiments the ships can carry.

<sup>3</sup> The small Gus LCPA is not included in the lift computations, because it has no capability to carry amphibious equipment.

be responsible for the embarkation, movement, and landing of troops; for fire support; for resupply; and for the evacuation of sick and wounded. A naval infantry officer would command the amphibious assault party but would be subordinate to the task force commander until the landing party disembarked. If a large force of ground troops were landed after the initial assault, overall control of land operations apparently would pass to a ground forces commander. Normally, both the task force commander and the landing party commander are aboard a command cruiser or destroyer until the landing.

The Soviets acknowledge the need for surprise in a landing and stress secrecy in preparing for the assault and in moving to the landing site. According to Soviet writers, modern reconnaissance systems have made cover and deception efforts increasingly important in amphibious warfare and require the inclusion of a detailed plan for cover and deception as a part of any amphibious operation. These writings further indicate that radio electronic warfare and electronic countermeasures must be used to deceive the "enemy" about the time, place, and strength of a landing. Some other writings, however, note that the preparations for a landing could be in the guise of an amphibious exercise. Despite their desire for surprise, the Soviets, according to authoritative writings, would attack enemy air, naval, or missile forces which could threaten the assault elements during sea transit, even before their landing force embarked.

**Composition and Transit**

in addition to assault landing ships, a major amphibious task force normally would include the types of ships shown in table 3. In addition to the ships that would comprise the task force, Soviet writings call for the use of hydrographic and intelligence ships to aid in choosing the time and place for the landing and to mark the beach approaches.

Table 3

Hypothetical Soviet Amphibious Task Force

Ship Type	Function
Landing ships	To transport the amphibious assault force.
Merchant ships	To transport follow-on army troops and equipment.
Major surface combatants (usually gun-armed cruisers or destroyers)	To provide gunfire support; often to serve as command flagship.
Major and minor surface combatants (equipped with guns, missiles, and ASW systems)	To escort landing force and protect against attacks by ships, submarines, and aircraft.
Minesweepers <sup>1</sup>	To clear channels in the minefields and assist in opening passages at the landing beaches.
Sea rescue auxiliaries	To provide salvage and rescue services to damaged ships.

<sup>1</sup> Some Soviet amphibious ships have a limited capability to clear mines near and on the beach, using rocket depth charges and rocket-projected explosive line charges.

the amphibious task force normally moves to the landing area in a rectangular convoy formation consisting of two or three columns of amphibious and cargo ships screened by escorts and minesweepers. The main body sometimes includes various auxiliaries and a major surface combatant which could be the command flagship or the major element of a simulated Western amphibious assault force. For landings in distant areas, replenishment and other auxiliary ships would have to be included.

Soviet amphibious task forces have ranged from a few ships to more than 40, including about 20 landing ships, although each ship may have simulated more than one unit. The number of escorts and minesweepers used to screen the landing force would vary according to convoy size, combatant and air cover



availability, landing location, and enemy threat [redacted] the relative size of the screen has varied markedly, but generally has averaged three ships for every four of the main body. In Soviet writings, however, the ratio has varied from one escort per three escorted units, in the case of a large landing force, to five escorts per escorted unit for a more modest assault group. [redacted]

[redacted] large amphibious task forces have split into two groups, with the landing ships preceding the merchant ships by 25 to 50 nautical miles (nm). This separation decreases shortly before the landing to allow the follow-on force to reach the shore an hour to an hour and a half after the assault force. [redacted] the distance between landing ships has been reduced to one mile or less. This reduced spacing suggests that the Soviets are now less concerned about potential nuclear attacks on their landing forces than they were in the sixties and more concerned with massing forces for a conventional attack. [redacted]

#### *Air Cover and Sea Control*

Soviet writings indicate that the possession of air superiority is considered vital to the successful outcome of a major landing. The writings [redacted] also indicate that the Soviets anticipate varying degrees of air opposition during amphibious operations. Limited air defense of a Soviet amphibious task force could be provided by missile- and gun-armed combatants, but without the support of fighter aircraft the task force probably would be unable to offset many attacks by modern NATO aircraft. [redacted]

Soviet writings indicate that near the USSR air cover for a task force generally would be provided by specially assigned land-based fighter aircraft of the National Air Defense Forces (PVO Strany) and Frontal Aviation. The writings also indicate that these forces would play a major role in covering the concentration, embarkation, and landing of the amphibious force and in the support of a subsequent land offensive. [redacted]

Classified writings of the late 1960s indicate that air coverage of deployed naval forces is based on a three-zone system. In the first zone, extending 150 to 200

kms from shore, fighters would be controlled by the PVO Strany. In the second zone, between 250 and 400 kms from shore, joint operations would be controlled by ship and aircraft [redacted] in the Pacific, long-range fighters operating more than 200 kms from shore would be controlled by the Navy. The third zone of naval air defense extends beyond range of most land-based fighters; in this zone, small groups of long-range fighter-interceptors would operate with radar patrol aircraft out to about 1,000 kms. [redacted]

It probably would be difficult for the Soviets to protect their amphibious ships with PVO Strany and Frontal Aviation fighter aircraft because they do not practice such operations. To acquire proficiency in this task, the Soviets would have to conduct extensive, coordinated open-ocean training involving fighters, shipborne air controllers, and airborne warning and control aircraft.

There is also some question about the availability of fighter aircraft to provide air cover, especially in Central Europe at the onset of war with NATO. The Soviets apparently believe that a large number of aircraft would be required to provide complete fighter coverage for wartime amphibious assault forces. Soviet writings indicate that about 140 land-based fighters (three or four regiments) would be needed to provide continuous cover for the first echelon of a major landing force in the Baltic during its sea transit and landing at a distance of 400 kms from the USSR. Such a substantial number of aircraft almost certainly would not be available to support an amphibious operation early in a NATO - Warsaw Pact war. Most

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fighters would be committed, at least initially, to the air defense of Warsaw Pact territory or to bombing offensives and close air support of Pact ground forces in Central Europe. [redacted]

The Soviets' dependence on land-based fighters for air cover of amphibious task forces has been altered only slightly by the introduction of the Kiev-class carrier and its Forger v/STOL aircraft.<sup>1</sup> Armed with air-to-air missiles and cannon, these aircraft could provide air defense against heavily laden, unescorted attack aircraft, but they would not be effective against the modern fighter-interceptors that would escort enemy strike aircraft. [redacted]

Soviet writings suggest that naval units operating ahead of the amphibious task force would assist it in establishing local sea control. According to one authoritative Soviet document, submarines would be used independently or in conjunction with fleet aircraft to prevent enemy surface ships from breaking through to the task force. [redacted]

Missile and torpedo boats could be used to establish sea control in coastal waters, protecting the movement of the task force. [redacted] these boats have been used primarily in an antilanding role to oppose the amphibious task groups. [redacted]

Land-based aircraft and missile forces also would be used for sea control and related tasks in support of the transiting amphibious task group and in preparations for landing. These units would consist primarily of naval strike and antisubmarine warfare (ASW) aircraft but also might include coastal missile and artillery units, frontal rocket forces, and, depending on their availability, some Frontal and Long Range Aviation

<sup>1</sup> The Kiev-class aircraft carrier, three of which are expected to be operational by 1982, normally carries about 20 Hormone helicopters for ASW operations and 15 Forger fixed-wing v/STOL aircraft to defend against air and seaborne attack. (The Forger complement can be increased to 35 if no helicopters are aboard.) The Kiev-class carriers are less capable than US carriers for conducting air operations and are designed primarily for ASW. [redacted]

aircraft. All of these forces could be used to destroy ship groupings, nuclear or missile systems, and major airfields or naval bases threatening the transiting amphibious task force. [redacted]

#### *Support Air Strikes*

Soviet amphibious strategy also calls for extensive use of air bombardment, partly because of the increased mobility of enemy defenders and the declining number of large-caliber naval guns aboard Soviet surface ships. Prelanding airstrikes in areas near the USSR could be conducted by fighter-bombers of Frontal Aviation, medium bombers or fighter-bombers of Naval Aviation, and bombers of Long Range Aviation. [redacted]

but it is unclear how the Soviets would allocate aircraft for preliminary amphibious bombardment in wartime. Rather than being preplanned it probably would depend on which aircraft were available at the time of the amphibious operation. [redacted]

#### *Close air support during and after landings.*

Frontal Aviation's fighter-bombers (sometimes with interceptor escorts) and helicopter gunships. [redacted]

Missile-carrying naval bombers would be available to support amphibious operations only to the extent that they could be spared from their primary role of antiship attack. Additionally, Naval Aviation has a regiment of SU-17 Fitter fighter-bombers in the Baltic and two regiments of medium bombers which do not carry missiles—one in the Baltic and one in the Black Sea—that probably would be used to support amphibious operations early in a war. [redacted]

Soviet writings indicate an awareness that there is a serious problem inherent in relying on frontal air support for major amphibious landings. They note that at least one or two bomber or fighter-bomber divisions would be required for close air support and that a landing probably would occur during a major ground offensive when the front would be unlikely to have many aircraft available to support amphibious operations. [redacted]

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Perhaps because of this problem, as well as difficulties in coordination, the exclusive reliance on Frontal Aviation for close air support may be changing. Since 1975 the Baltic Fleet has acquired some 40 SU-17 fighter-bomber aircraft.

[redacted]

The Forger v/STOL aircraft could provide limited close air support, using externally-mounted rockets, bombs, cannon, or tactical air-to-surface missiles, but it has severe limitations in weapons payload, flight time, and range. In addition, the Forger would be vulnerable not only to modern fighters but also to ground-based air defense systems, which could take advantage of its limited performance and lack of electronic countermeasures.

#### Gunfire Support

Soviet doctrine stress the use of intense preparatory fire immediately before major amphibious landings. According to the *Soviet Naval Infantryman Reference Manual*, a maximum number of naval guns and aircraft would take part, aided by weapons of the amphibious assault party firing from the landing ships.

[redacted]

[redacted]

Shore bombardment is meant to be short but intense, covering the approach of the amphibious ships, the clearing of mines and obstacles, and the marking of channels for the landing forces.

Since the 1950s the Soviets have favored missiles over large-caliber guns as main weapons for surface ships. Their primary gunfire support ships—cruisers and destroyers with 130-mm and 152-mm guns—were all built in the late 1950s or earlier (see table 4).<sup>3</sup> Some of these are being or have been scrapped. The Soviet force of secondary gunfire support ships—frigates—also faces block obsolescence.

<sup>3</sup> Soviet writings indicate that only ships with 130-mm (5.1 inch) or larger guns are considered primary gunfire-support units. This is similar to US naval gunfire doctrine, which calls for the use of 5-inch guns—standard on our destroyers—or larger.

In recent years, however, because the Soviets have perceived an increased likelihood of amphibious operations during conventional war, their writings have stressed that the utility of naval guns had been grossly underrated. Guns reportedly have proven far more effective and economical than missiles for conventional shore bombardment in support of landings or separate ground force operations.

The Soviets now are taking some steps to meet the need for larger caliber guns in the fleet. Some Krivak-class frigates are being fitted with a 100-mm antiair and antiship gun instead of the 76-mm weapon installed on other ships of that class. This gun could partly compensate for the retirement of Skoryy and Kotlin destroyers, as well as Riga-class frigates. Nevertheless, it is not comparable for shore bombardment to the destroyers' 130-mm guns.

Two other developments probably will have more impact on future Soviet naval gunfire capabilities. In recent years, many active and reserve Sverdlov-class cruisers equipped with 152-mm guns have undergone conversion or modernization, ensuring the continued availability into the early 1980s of large-caliber naval gunfire. In addition, in 1975 the Soviets began building what appears to be a new class of gun cruiser. As many as four units already may be under construction and eventually could be equipped with a new gun. Some guns under development are at least 152 mm.

The number of gunfire support ships required for a major opposed landing depends on such factors as the size of the assault force, the breadth of the landing front, and the density of antilanding defenses. Soviet writings indicate that as few as five and as many as 40 gunfire ships might be needed for such an assault in conventional warfare, and they acknowledge a lack of adequate numbers of these ships for landings on a broad front.

The Soviets also use rockets on their amphibious ships for shore bombardment. All Pact landing ships built in recent years have been equipped with barrage rocket launchers, and some older units have been fitted with

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Table 4

**Soviet Surface Combatants Capable of Providing  
Naval Gunfire Support, 1 March 1979<sup>1</sup>  
(By Fleet Subordination)**

Class and type of ship	IOC	Northern	Baltic	Black	Caspian	Pacific	Total
<b>Cruisers</b> 152 mm (6") <sup>2</sup>							
Sverdlov CG	1950 (1962 conversion)	—	—	1	—	—	1
Chapayev CL	1949	—	1	—	—	—	1
Sverdlov CL	1950 (some 1971 conversions)	2	2	2	—	3	9
(Total)		(2)	(3)	(3)	(0)	(3)	(11)
<b>Destroyers</b> 130 mm (5.1") <sup>2</sup>							
Kotlin DDG	1954 (1962 conversion)	1	1	3	—	2	7
Kotlin DD	1954	1	2	—	—	3	6
Modified Kotlin DD	1954 (1960 modification)	2	—	3	—	3	8
Skoryy DD	1949	3	3	7	—	2	15
Modified Skoryy DD	1949 (1960 modification)	—	1	—	—	3	4
(Total)		(7)	7	(13)	(0)	13	40
(Subtotal—primary)		9	10	16	0	16	51
<b>Frigates</b> 100 mm (3.9") <sup>2</sup>							
Krivak II FFG	1976	1	4	1	—	1	7
Kola FF	1950	—	—	—	1	—	1
Riga FF	1952	8	5	6	2	11	32
(Total)		(9)	9	(7)	3	(12)	(40)
(Subtotal—secondary)		9	9	7	3	12	40
Grand total		18	19	23	3	28	91

<sup>1</sup> Only those ships in an active status are shown.

<sup>2</sup> Size of main gun.

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such equipment. One classified article in 1968 stated that, because the Soviets lack sufficient gun-armed ships to gain fire superiority over the enemy, they should equip ships with rocket launchers. The author of the article evidently envisaged production of an inshore fire-support ship, but none has been built

#### *Airborne Participation*

Soviet strategy seems to call for the use of both airborne and amphibious forces in most major landings near the USSR. The airborne landings usually would directly support the amphibious assault and occur some miles inland a few hours before the seaborne landing. To block enemy reserves from reaching the beachhead, the airborne assault might occur at the same time or even after the amphibious assault and be as deep as 200 kms inland

#### *Helicopter Lift*

Soviet writings reflect the concept of using helicopters in amphibious assaults for directing naval gunfire, relaying communications, minesweeping, reconnaissance, transporting supplies, and landing commandos or advance combat engineer teams. The Soviets have long espoused using shore-based rather than ship-based helicopters and troops for landings behind beach defenses. Soviet classified writings stress the need for rapid landings using helicopters and air-cushion vehicles for surprise assaults on a broad front, bypassing strongholds, while the amphibious task force still is outside the range of shore batteries. In most cases the heliborne force would land 20 minutes to an hour before the amphibious assault, but after the parachute drop of airborne forces. In other cases, however, the airborne drop, helicopter assault, and amphibious landing could occur simultaneously

Troop-carrying Hook helicopters have participated (Hound helicopters have been used to a lesser degree.) Normally, the troops and helicopters are from the ground forces rather than the Navy. Although naval infantry sometimes have been identified conducting helicopter landings, Soviet writings suggest that in many cases they may have been merely small commando or combat engineer teams. Nevertheless, some Soviet

writings claim that heliborne assault forces on coastal axes are composed of both naval infantry and ground forces

Thus, although large airmobile operations would be performed by pact ground forces and helicopters, smaller wartime operations—perhaps one or two companies in size—could be conducted by naval infantry in ground force or naval helicopters. Soviet writings acknowledge that the short range of land-based helicopters could pose some problems for conducting assaults, even in areas peripheral to the USSR.

#### *Merchant Ship Lift*

Because of the limited size of the Soviet amphibious force, major assaults probably would include merchant ships to transport ground forces and their heavy equipment and fire support needed in a followup role for combat ashore. To offload such ships, however, the Soviets would have to capture ports, create temporary ones, or transfer troops from ships anchored at the harbor's entrance to small transport craft.

The requirement for merchant sealift is a function of the overall size of a combined landing force. Soviet writings have discussed the use of landings at both a tactical (division or less) level and an operational (corps to combined-arms army) level, but not at a strategic (front or larger) level. According to the Soviets, only a landing by a force at least the size of a motorized rifle division can have a significant impact on the course of a front or army operation.

They assume that about four merchant ships would be needed to carry the one motorized rifle regiment slated for followup operations in the Black Sea area. An estimated 12 to 14 merchant ships would be required to lift the equipment of a motorized rifle division, while the bulk of the troops probably would be carried by passenger ships. Using space requirements as expressed in a Soviet document, the equivalent of at least 60 cargo ships of the Soviet merchant marine would be needed to transport the equipment of a combined-arms army.

\* A Soviet combined-arms army consists of about four divisions (three motorized rifle divisions and one tank division) and supporting units, totaling about 60,000 men and 1,200 medium tanks.

Soviet sealift capabilities would depend on a variety of factors including warning time, ship types and availability, and port capacities. Merchant ships could be used for sealift near the USSR and to differing degrees outside home waters. About 990 Soviet merchant ships have a potential for use as military support units. Their total cargo area is about 3.5 million square meters, giving them a theoretical lift capacity for the equipment of about 60 motorized rifle or tank divisions.

- 30 ships have a roll-on/roll-off capacity, permitting fast loading and offloading of wheeled and tracked vehicles (important in congested ports).
- 590 ships have a heavy-lift boom of 40 tons or more, making them self-sufficient in unloading heavy cargo such as medium tanks.
- 600 ships have speeds of at least 14 knots, useful for long-distance operations.
- Approximately 30 percent of these ships normally are found in home waters; however, only about 10 percent of these are the larger, more capable long-distance ships.

About 70 passenger ships, with a peacetime capacity of roughly 25,000 passengers, could be used to carry troops. Wartime capacity would be approximately eight times as high, or the equivalent of the personnel of about 20 divisions. Not all of these ships would be in home waters at any one time. Major cargo ships particularly useful for long-distance sealift would be less likely to be in home waters than smaller ships of the merchant fleet. Some ships would need to have commercial cargo unloaded or to be specially equipped for military operations, while others would be used for nonmilitary functions.

Nevertheless, it appears that adequate Soviet merchant sealift would be available for likely landings in the NATO area, even if such landings were to occur during the first few days of a general Pact offensive. In the Pacific the Soviets would have enough ships normally available to transport an entire division, but probably would not have enough to transport a combined-arms army to, say, Japan

Improvements in the Soviet merchant fleet will further enhance its lift capabilities in the next few years. The Soviets have continued to acquire roll-on/roll-off ships, used extensively for arms deliveries to the Third World.

The offloading of heavy cargo from roll-on/roll-off ships or any other current Soviet merchant ships requires the use of a port or lighters. The Soviets do not appear to be developing an expeditionary port, but they are experienced in creating floating piers from pontoons. Such piers have been used to create a temporary port. In addition, the Soviets have used them to create berthing for Soviet ships in small Third World ports.

Soviet capabilities to offload cargo at sea will improve somewhat upon the receipt of two Seabee barge transporter ships being built in Finland for commercial use near shallow Soviet ports. Each of these large ships could lift the equipment of an entire motorized rifle or tank regiment and offload its amphibious vehicles directly into the water. Other light cargo could be shuttled to the shore on the ship's barges and then offloaded on the beach by truck cranes. Heavy equipment, including medium tanks, could be offloaded by small conventional landing craft or by Lebed air-cushion vehicles carried on the ship's open deck. The Seabee is not designed for amphibious landing operations, however, and is not comparable in overall capability to a large assault ship.

#### *Wartime Shortcomings*

writings have revealed a variety of weaknesses in the Soviet amphibious forces which could adversely affect their ability to conduct successful wartime assault operations. The evidence indicates that insufficient attention is being paid to training amphibious forces and to developing antimine equipment for clearing straits and landing channels and for overcoming antilanding barriers and defenses. Some articles assert that the first and most important fleet task at the beginning of a war will be the disruption of enemy minelaying operations, because the existence of sea mines could lead to the aborting of planned assault landings.

Another problem noted in Soviet writings is the inadequate attention being given to achieving air superiority and providing air support to ground forces on the battlefield. The Soviets acknowledge the possibility of having an inadequate number of aircraft available for air cover and close air support of major amphibious landings in a NATO-Warsaw Pact war because of other commitments in support of the front. Failure to attain air superiority and sea control of the western Baltic, especially in conventional war, would almost certainly cause the Pact to reconsider the feasibility of its planned amphibious operations. If the amphibious assaults were canceled, Pact planners would also have to decide whether any airborne operations could be conducted independently.

[redacted]

The Soviets might also have problems providing adequate ASW protection for amphibious task forces, because Soviet ASW forces have poor submarine detection capabilities. To compensate for short detection ranges, a large number of Soviet ASW ships, submarines, and aircraft would be needed to protect landing operations designed to secure the straits in the Baltic and Black Seas and in the Pacific.

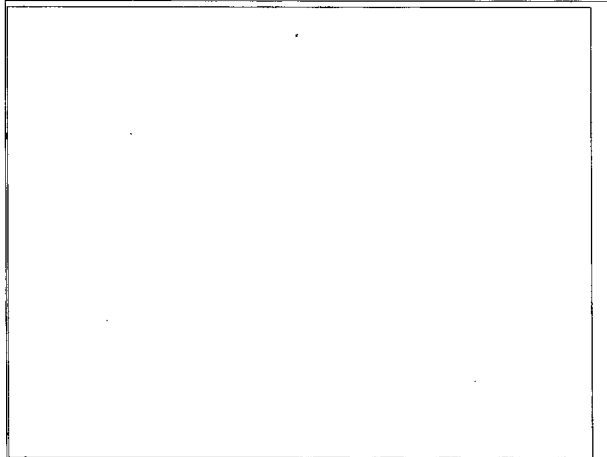
Classified writings [redacted] also regularly indicate a major problem with coordination among the combined-armed forces that would conduct Pact amphibious warfare. Even within each Soviet force there appears to be a strong tendency toward independence and isolation of each group during landings.

#### Soviet Naval Presence and Capabilities in Distant Areas

The Soviet armed forces do not maintain units designated as intervention forces, nor do their military writings describe intervention as a basic military mission. In fact, their writings generally reflect a lack of interest in putting forces ashore to fight in distant areas. Available classified writings focus almost entirely on the wartime mission of the Soviet armed forces on the Eurasian landmass in a NATO-Warsaw Pact war. Those forces that have the potential to be

used in distant areas—airborne troops and amphibious forces—are treated as adjuncts of the ground forces by most authors.

[redacted]



Soviet leaders do, however, appreciate the political value of having naval forces in forward areas. In recent years the Soviets have stationed amphibious ships in waters far from the USSR, particularly in politically sensitive areas such as the Mediterranean Sea and the Indian Ocean. The Soviet press has praised the Navy for "strengthening friendship, protecting state interests, and deterring Western initiatives." Favorable propaganda was made of the salvage operations in Bangladesh and the clearing of mines from the Gulf of Suez with the help of a helicopter carrier. Such naval assistance could not have been carried out as effectively by the USSR 15 years ago.

The regular amphibious ship presence began in the Mediterranean in 1967, the Indian Ocean in 1969, and West African waters in 1971, after a continuous presence of other general purpose naval forces was established. The number of Soviet amphibious ship-days in distant areas has remained relatively constant since 1970, as decreases in the Mediterranean have been offset by increases in other areas (see figure 10 in appendix B). A temporary increase in ship days occurred in 1978 because amphibious ships were used to provide logistic support to Ethiopia during its war with Somalia.

[redacted]

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Four Soviet amphibious ships with small naval infantry contingents are normally deployed in distant areas—two in the Mediterranean, one in the Indian Ocean, and one in West African waters. They appear to serve primarily logistical and political functions. Soviet landing ships frequently have delivered special Soviet cargo to client states, sealifted troops and equipment to Third World countries, and evacuated Soviet citizens and equipment. On one occasion, naval infantry reportedly constructed facilities ashore for Soviet and Third World use.

Naval activities involving amphibious forces have included "show-the-flag" port calls, with naval infantry rendering honors ashore, and patrols in local waters of Third World countries such as Guinea to show support for local governments faced with external or internal threats. Amphibious ships have also been used to improve the security of Soviet merchant shipping and to train foreign military forces. Apart from one unconfirmed report of some Soviet naval infantry being put ashore in Guinea to deter rioting in Conakry, these forces have not been reported being used ashore for military purposes.

During crises, the augmentation and operations of Soviet amphibious forces have seemed more related to arms deliveries, contingency evacuations, and Soviet signals of concern than to actual readiness to go ashore or to support an intervening landing force. Only during the most critical periods of the Middle East wars, when Soviet client states have been faced with defeat and Soviet airborne forces have been placed on alert, has there seemed to be potential for Soviet intervention. But even in these cases most amphibious ships sent to the area were loaded with military aid for Third World countries and did not carry naval infantry to bolster Soviet intervention capabilities.

Although the Soviet Navy has not yet forcibly intervened in a Third World crisis, it has attempted during the last decade to restrict Western actions by its presence in some crisis situations. Soviet naval forces present during these crises were apparently configured to constrain Western initiatives and had very limited intervention capabilities. During the 1973 Middle East war, they escorted Soviet merchant convoys carrying supplies to Arab countries. Moreover, on at least two occasions Soviet naval forces have loitered off foreign

coasts in a form of "gunboat diplomacy" to support diplomatic efforts to obtain the release of Soviet merchant seamen or fishermen.

In the most recent cases of Soviet military support, during the Angolan civil war, the Ethiopian-Somali war, and the recent Chinese incursion into Vietnam, naval units were present as a reminder of Soviet commitment. Soviet involvement in these events reflects a willingness to commit military advisers to aid selected governments and "liberation" movements in conflict situations. At the same time, past Soviet involvement reflects a reluctance to send Soviet forces into frontline combat situations. The participation of Soviet naval personnel in an internal conflict would be a marked departure from present Soviet military policy.

Although Soviet amphibious forces have been developed thus far to project power ashore on the periphery of the USSR, they could also be used to intervene in distant areas under certain circumstances. Many countries, for example, have carried out small-scale landings for limited objectives in peacetime in an effort to protect economic and diplomatic interests and to influence the political climate in developing countries. With some augmentation by other naval combatants and auxiliaries, Soviet amphibious forces could even undertake assault operations against light opposition in many areas of the Third World. Limited seaborne tactical air support could be provided by the carrier-based Forgers. An amphibious task force might also receive tactical air support from neighboring countries, possibly by Soviet land-based aircraft deployed there.

#### *Intervention To Protect Property and Personnel*

Soviet amphibious forces could be used to secure the safety of personnel or property during periods of civil strife in a foreign country. Soviet landing ships have been used for unopposed evacuations, in Cyprus and Egypt for example, but naval infantry have not been landed.

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Amphibious forces could also be used in combat operations to free Soviet personnel or property seized by another country, much as US forces were used to recapture the merchant ship Mayaguez near Kampuchea in 1975. Thus far, Soviet naval forces have not been involved in a similar situation, although Soviet warships have indulged in gunboat diplomacy when crews of Soviet merchant ships have been detained abroad.

At present, the Soviets have a limited capability to land naval infantry to protect, extricate, or evacuate threatened Soviet nationals or property if diplomatic maneuvers failed and the risks of significant opposition were slight. The new amphibious assault ships and the Kiev-class aircraft carriers would be useful for such operations and could counter limited opposition. The Kiev's ASW helicopters, despite their small capacity, could be used with Forger escorts to support the evacuation of some Soviet personnel in an emergency.

#### *Intervention To Bolster Existing Governments*

Direct intervention to restore order and political stability often grows out of an initial presence established to protect property and personnel. In such an instance intervention has the political objective of propping up a government threatened by violent opposition, or of restoring order so a new and acceptable government can be established.

This type of limited intervention usually occurs at the invitation of the beleaguered government, and when the potential opposition is not large and lacks effective air or naval capabilities. A group of marines, amphibious landing craft, and usually a helicopter carrier have been used by Western forces for such operations.

In all such interventions in the postwar period, the intervention force met virtually no opposition from air or sea during the landing phase of the operations. In 1965, for example, about 500 US Marines landed by helicopter in the Dominican Republic to secure an

airfield and evacuate personnel. Shortly thereafter, as the political factions continued fighting, 22,000 US troops were airlifted into Santo Domingo at the request of the foundering leadership. The United Kingdom achieved similar objectives in Tanganyika in 1964 when, at the request of the government, about 600 Royal Marines from an ASW helicopter carrier quickly suppressed a mutinous military group by conducting a surprise landing at night. Some additional forces were later landed ashore after control of the main harbor was secured.

The Soviet Navy presently has some capability to carry out this type of limited intervention in conjunction with airborne forces. Some amphibious ships are available with naval infantry that could land ashore and secure an airfield or port for the subsequent delivery of additional troops. The limited availability of additional modern amphibious assault ships and aircraft carriers limits Soviet options and inhibits quick reactions. The Soviets could place troop helicopters on the Kiev-class aircraft carrier or Moskva-class helicopter carrier, but they apparently have not practiced doing so.

Soviet activity during the Middle East wars has suggested a willingness to commit—or at least threaten to commit—token military forces to prevent the defeat of a client state. A token force of an airborne division or an amphibious contingent would be too weak to alter the outcome militarily of a major Arab-Israeli conflict, but such forces could make a difference in a lesser conflict between two warring Arab states. In either case, Soviet forces of this size would demonstrate the USSR's commitment, allow the Soviets to interpose themselves between the protagonists, and perhaps induce an end to hostilities. Depending on the circumstances, such interventions could be ill advised, because lightly armed Soviet forces might be outnumbered and outgunned, and Soviet prestige would suffer a major blow if one of their combat units were defeated while intervening in a distant state.

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### **Amphibious Assault Capabilities Under Combat Conditions**

While Soviet forces could, under certain circumstances, undertake assault operations against light opposition, their capabilities to conduct opposed landings against significant opposition are poor. Even with substantial augmentation, it is doubtful that a Soviet amphibious task force could carry out a forced landing abroad against heavy opposition because of the lack of adequate sea-based tactical air support and heliborne assault lift capability, the absence of sufficient naval gunfire support, and the vulnerability of air and sea lines of communication. Moreover, the Soviets lack experience in integrating all of the complex facets of an assault beyond the Eurasian littoral. [ ]

#### *Air Cover, Air Support, and Heliborne Assault Lift Capability*

The Soviets would have severe problems in providing naval air cover or air support for a major opposed amphibious landing overseas. Soviet shipborne air defenses and aircraft, even with the addition of two Kiev-class carriers and destroyers equipped with surface-to-air missiles, probably would be inadequate to protect an amphibious assault force from determined attack by Western carrier- or land-based aircraft. Many countries of the world, even less developed ones, have fighter aircraft at least equal in quality to—and in greater quantity than—the Kiev's Forgers. [ ]

Large numbers of fighters and fighter-bombers would be required to support a major intervention. Current Soviet land-based fighters and fighter-bombers lack an airborne refueling capability and would require a secure airfield in the Third World to support the transit of Soviet amphibious forces overseas and to provide air support during an actual landing. Soviet access to such airfields—or receipt of tactical air support from friendly countries—could be tenuous and dependent on the location and circumstances of intervention. [ ]

While Soviet combat aircraft could fly to some Third World countries close to the USSR, they could be vulnerable during extended overwater flights for which Soviet fighter units apparently have not trained. In preparation for such extended flights, the Soviets would have to acquire overflight rights, arrange for refueling stops, and secure a forward staging area. Alternatively, Soviet fighters could be disassembled and brought in by air or sea transport, but this would take time. [ ]

The Navy also lacks adequate numbers of ships that can handle assault-capable helicopters, and it has a shortage of naval transport helicopters as well. Its two Moskva-class ASW helicopter carriers could carry on deck some larger assault-capable Hip helicopters, as did the Leningrad during minesweeping operations in the Gulf of Suez, but because of limited deck capacity this would not be an effective way to transport helicopters for operational assaults in distant areas. Although the Kiev could carry more helicopters on deck than the Moskva, the same storage and maintenance constraints would apply. At present, Soviet carriers—the Kiev class—could carry only about a half dozen assault helicopters on deck because none of these helicopters have folding rotors like the Hormone. The rotors could be removed and later remounted, but this would place a constraint on their operational use. The new Rogov-class amphibious ship probably will be able to store and operate three to six small Hormone helicopters. [ ]

The Kiev might be able to accommodate some assault helicopters below decks, but not conveniently and only at the expense of its Forger and Hormone complement. Hound and Hip transport helicopters, and perhaps even Hind gunships, might fit diagonally on the Kiev's larger elevator, but only with their rotors removed. The larger Hook helicopter, [ ]

[ ] could only be transported on deck, however. Single Hip and Hook helicopters have landed on the Kiev, but apparently only to provide logistic support. [ ]

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*Logistic Support*

The Soviet Navy also lacks an adequate logistic force to support the deployment of large amphibious task forces to distant areas. Refueling operations would cause some delay to ships in transit because the majority of Soviet oilers are not equipped for alongside refueling. The lack of specially designed naval ships for the logistic support of assault landings would force the Navy to rely on unarmed merchant ships to support sustained fighting ashore. Thus, large convoys might be required to transport the follow-on ground troops and fuel, food, ammunition, and weapons. To unload the ships, a secure port would have to be available or created. Nonetheless, a sufficient number of merchant ships could be made available to support, however ineffectively, a major intervention on a few days' notice. [ ]

*Sea Control and Gunfire Support*

The Soviets probably would find it difficult to establish the sea control necessary to protect the amphibious task force as well as subsequent resupply convoys. In particular, Soviet escort ships probably would not be adequate to protect the convoys from attacks by submarines. The Soviets' open-ocean ASW capabilities are poor, and not enough escorts are being built to overcome this basic deficiency. The limitations in the Soviets' ability to clear mine barriers, as reflected in their writings and operations, could also be a factor in interventions abroad. [ ]

Another constraint on Soviet amphibious capabilities for opposed intervention would be inadequate naval gunfire support. Despite the likely introduction of some new gun cruisers in the next few years, the Soviet force of primary gunfire support ships is aging and is expected to decline further in number. [ ]

*Command and Control*

The Soviet Navy does not have large, specially configured amphibious command and control ships, but some cruisers and support ships have the capability to perform communication services and command functions for landing operations in distant areas. They are outfitted with the most modern Soviet equipment for long-range communications with Moscow and for short-range, tactical communications with ships, sub-

marines, and aircraft. Special command staff personnel could be brought aboard to supervise the landing operations. [ ]

Coordination among combined forces, however, could be a serious problem during landing operations. Within the Soviet forces, there appears to be a strong tendency toward independence and isolation in each group [ ] landings. Such coordination problems caused by a lack of training in local waters would be greatly exacerbated during the conduct of a major operation far from the USSR. [ ]

*Prospects for the Future*

Soviet naval intervention capabilities in distant areas and amphibious assault capabilities near the USSR will improve during the next 10 years as additional modern amphibious ships, aircraft carriers, and other warships join the fleet. Although designed primarily for wartime missions against NATO, these forces would also be suited for intervention in distant areas under limited combat conditions. Soviet capabilities to conduct amphibious landings against heavy opposition are not likely to improve significantly, however, unless the Soviets make changes in ship procurement practices and naval operating strategy. [ ]

Soviet writings since the late 1960s reflect increased interest in how Western naval forces have been used in an intervention role as well as an awareness of the effectiveness of such forces in local waters. While these discussions suggest that the Soviets are weighing the possibilities for developing similar capabilities, it does not appear that they have yet made a commitment to do so. [ ]

Efforts to improve the Navy's strategic forces will almost certainly continue to take priority over other naval programs, such as the construction of amphibious assault ships. The Soviets probably will continue to build strategic strike submarines into the early 1980s, and programs to improve the Navy's antisubmarine warfare capabilities are also likely to have a high priority. [ ]

Nevertheless, the Chief of the Soviet Navy, Admiral Gorshkov, in recent writings seems to be ascribing more strategic importance to amphibious operations. In the past the Navy appears to have had its greatest success in getting funding for platforms that perform primarily strategic offensive or defense roles, and he may have had this in mind in his recent writings. If Gorshkov is arguing for the acquisition of additional amphibious forces, and even if he is successful, it still would be many years before the Soviet Navy had a significant capability to project power ashore against strong opposition in distant areas. Until such an eventuality, the Soviets probably will continue their current practice of supporting operations in distant areas through surrogate forces without direct Soviet military involvement. [ ]

#### *Aircraft Carriers*

The one change having the most potential for markedly altering Soviet capabilities to project naval power to distant areas would be the development of attack carriers and associated high-performance fighter and strike aircraft. The acquisition of the initial units of such a force by the late 1980s would greatly improve Soviet capabilities for opposed intervention. [ ]

Although the Soviets since World War II have consistently played down the value of aircraft carriers in a general war because of their reputed vulnerability to attack, they recently have praised the role of these ships in local wars. They view Western attack carriers as the foundation of the fleet in local wars and note that the ships can be used in limited conflicts in various parts of the world. At the same time, Soviet writers have shown interest in the concept of using small carriers for localized conflicts and as early as 1972 pointed out that technological advances make it possible to build v/STOL aircraft which would reduce the cost of building and operating carriers. [ ]

The Soviets probably will increase their carrier force beyond the four Kiev-class ships currently active or under construction, but it is unclear whether they will begin construction of a larger, Western-style attack carrier. Experience with the Kiev may convince them of the need to build a larger, better designed ship and to add conventional aircraft to the carrier air force to increase its range, payload, and air defense capability. Forger operations have already demonstrated Soviet

interest in using carrier aircraft for fleet air defense and antishipping and ground attacks. If the Soviets also are seriously concerned with providing air defense and close air support for landing forces in distant areas, they will have to produce traditional attack carriers with conventional aircraft. In this regard, some senior Soviet naval officers, in conversations with their US naval counterparts, have given the impression that proposals for such ships are actually under discussion within the naval hierarchy. [ ]

If the Soviets continue to use the v/STOL carrier concept, a Kiev follow-on could improve Soviet sea-based air capabilities, although not as much as would a catapult-equipped attack carrier. The improvements would result from the enlargement of the v/STOL aircraft force as well as refinement in the aircraft itself. If the Soviets proceeded as in previous aircraft development programs, a supersonic v/STOL could begin to enter the service by the mid-1980s. [ ]

#### *Helicopter Carriers*

There is no clear indication that the Soviets intend to develop a large helicopter carrier for assault operations, although such a ship could be of major benefit for operations supporting the maritime flanks as well as for projecting power abroad. Soviet writings praise Western amphibious ships, which they consider an integral part of an intervention force. The Soviets especially envy the West's latest amphibious assault ships—the helicopter assault landing ships (LHAAs)—because they can carry both landing craft and helicopters. [ ]

In addition, Soviet writers, including Gorshkov, for many years have acclaimed the advantages of ship-based helicopters for conducting rapid vertical-envelopment assaults. One author, in a classified 1968 article, specifically called for Soviet construction of helicopter carriers for use in amphibious landings. [ ] The Soviets have asserted that helicopter carriers are essential for modern amphibious operations. [ ]

Table 5

Projected Order of Battle and Lift Capacity  
Of Primary Soviet Amphibious Ships, 1978-88

Ship class	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Ivan Rogov LPD	1	1	2	2	2	2	3	3	3	3	4
Alligator LST	14	14	14	14	14	14	14	14	14	13	13
Ropucha LST	10	13	16	18	19	20	20	20	20	20	20
Polnochny LSM	52	51	50	48	46	44	38	32	26	20	15
New Class LST <sup>1</sup>	—	—	—	—	—	—	1	3	5	7	9
Total ships	77	79	82	82	81	80	76	72	68	63	61
Total lift <sup>2</sup>	6.04	6.44	7.16	7.41	7.52	7.63	7.99	8.18	8.40	83.7	8.89

<sup>1</sup> Probably to be built in Poland and to displace about 5,000 tons, slightly more than the Ropucha LST.

<sup>2</sup> Total lift is expressed in the number of naval rifle regiments the ships can lift.

*Amphibious Ships*

Soviet amphibious capabilities to conduct interventions overseas, as well as assaults on the periphery of the USSR, will improve but will still remain constrained by limitations in the landing force itself. The current construction of larger amphibious ships will increase overall Soviet amphibious lift capabilities by about 50 percent (see table 5) and will facilitate the routine maintenance of somewhat larger naval infantry contingents in distant areas.

*Surface-Effect Vehicles*

The Soviets have been producing assault hovercraft for a number of years and recognize that the speed of these craft make them relatively invulnerable to many antilanding defenses. The threat of Western mining in the Baltic and Turkish straits areas, and the desire for quick, shore-to-shore surprise assaults, could lead the Soviets to build a much larger air-cushion vehicle than the 200-ton Aist-class ACV. Soviet writings have discussed the possibility of using large ACVs for coastal and overseas cargo transport and have noted Western references to the possible construction of 5,000-ton ACVs for amphibious landings. The Soviets have continued to produce traditional hovercraft while testing other surface-effect vehicles which might have an assault application.

The Soviets are developing a series of wing-in-ground-effect vehicles (WIGs) which have been in design and development since the mid-1960s. A total of three of these airplane-like vehicles have been produced since the first and largest, which the West dubbed the Caspian Sea Monster, was observed in 1967. This 300-foot vehicle is much larger than the biggest transport aircraft and only slightly smaller than some destroyers. Testing of the vehicles ceased in 1974-75 but recently resumed. A smaller WIG, about the size of a Boeing 747, is equipped with a hinged nose, apparently to facilitate cargo transfer.

The intended mission of the WIGs is unclear. ASW has been the role most often ascribed to them in classified Soviet naval publications but they were called "landing ships." In addition, Khrushchev, in the mid-1960s, reportedly stated that the USSR was developing a ship capable of "jumping over bridges" while carrying hundreds of troops. Some Soviet articles in the early 1970s also predicted the advent of a surface-effect vehicle with a 200-knot speed to perform various naval and amphibious warfare missions.

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If the Soviet WIGs eventually become operational and are included in the amphibious force, their high speed (up to 250 knots) and large cargo capacity could prove valuable in conducting rapid assaults or raids near the USSR. Their range, which probably is less than that of conventional transport aircraft, would limit their use in distant areas. They could carry a large number of troops, but most heavy equipment such as tanks would still have to be carried in ships.

#### Summary

There is little reason to believe at this time that the USSR has decided to alter its traditional naval strategy and build a navy with a force projection capability similar to that of the US Navy. Nor is there any expectation that the primary focus of Soviet military programs will shift from preparations for war with NATO. In order to put together an adequate amphibious assault force that could afford attrition in a major opposed intervention abroad, the Soviets probably would have to combine their amphibious ships and naval infantry assets from the various fleets. This seems unlikely because such an action would all but eliminate their capabilities to support the maritime fronts should a NATO-Warsaw Pact war erupt.

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### Appendix A Development of Soviet Amphibious Forces Since World War II

Soviet naval infantry forces, which numbered upwards of 500,000 troops during World War II, were all but disbanded in the postwar period. The Soviets believed that nuclear arms had made traditional amphibious landings by naval assault forces obsolete and that such landings as were still necessary could be accomplished by airborne forces or by ground forces equipped with amphibious vehicles. Since that time there has been a gradual reemergence of the Navy's amphibious assault capabilities, marked by three phases of amphibious ship construction and an expansion of the naval infantry forces to its current size of some 10,000 to 12,000 troops (see table 6).

The first phase of Soviet amphibious ship construction occurred in the early 1950s, before the rebirth of the naval infantry, when the Soviets produced numerous small landing craft (LCMs) and began the construction of some medium-size ships (LSMs). These ships, based on World War II designs with limited lift and oceangoing capabilities, were apparently intended to function in a logistics role as well as to transport ground forces.



Table 6

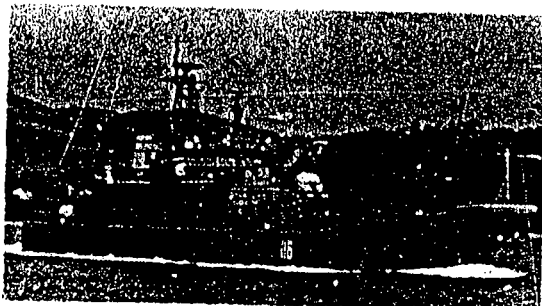
#### Soviet Amphibious Ships and Craft: Construction Chronology

	Ship/Craft	Full-Load Displacement	Length (meters)	Production Period
<b>First Phase</b>	T-4/A-3 LCU	93/60	20/17	1952-60
	MP-2 LSIL	600	56	1955-60
	MP-4 LSM	760	56	1955-59
	MP-10 LCU	280	50	1958-62
	MP-6 LSV	1800	71	1958-61
	MP-8 LSM	1000	75	1958-61
	SMB-1 LCU	335	48	1959-67
<b>Second Phase</b>	Polnocny LSM	770-1100	73-81	1962-73
	Alligator LST	5800	113	1965-76
	Vydra LCU	750	55	1967-72
	Gus LCPA	27	21	1969-78
	AIST LCUA	250	46	1970
<b>Third Phase</b>	Lebed LCMA	86	25	1973
	Ropucha LST	4400	113	1973
	Ivan Rogov	13,000	158	1973

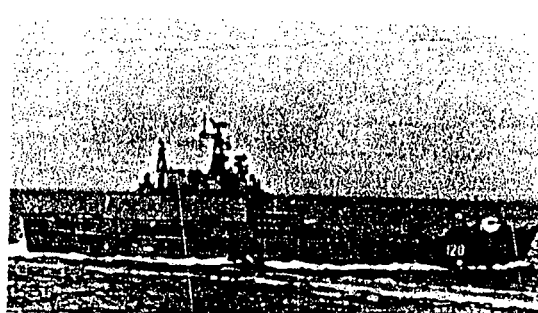


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Figure 5



Ropucha tank landing ship



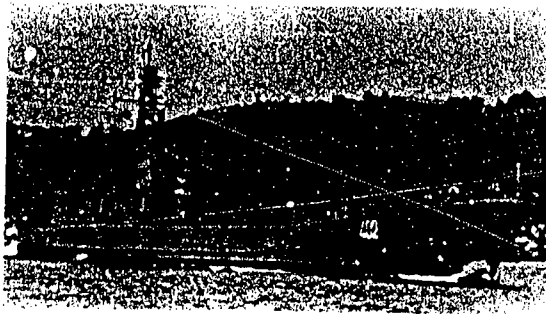
Ivan Rogov amphibious transport dock

- Built in Poland; a much enlarged version and successor to the Polnocny, optimized for assault operations.
  - Although called an LSM by the Soviets, the Ropucha is designated an LST by the West because of its size.
  - Drive-through capability, but upper deck not designed for cargo storage.
  - Apparently more habitable than the Alligator, with more balanced capability for carrying troops and vehicles.
  - Proven internal lift of 13 medium tanks or 24 amphibious tanks and smaller vehicles.
  - Could carry about 300 troops, but no indication as yet as to actual size of contingent on distant deployments.
  - Armament includes 57-mm anti-aircraft/anti-ship guns and 140-mm barrage rocket launchers.
  - Endurance: 3,500 nm at maximum speed of 16 knots.
- First unit became operational in 1978; second unit is to be operational by 1981.
  - Drive-through capability; floodable well deck for up to three Lebed- or Gus-class air-cushion vehicles (ACVs).
  - Has been tested with those ACVs which can rapidly ferry small groups of assault forces or combat engineers to shore.
  - About 40 percent more lift capacity than Alligator; probably could transport an entire Soviet battalion landing team reinforced with a tank or rifle company near the USSR, or a somewhat smaller force to distant areas. Inclusion of ACVs would reduce ship's maximum lift capacity to that of a battalion landing team.
  - Four landing pads, each marked for one helicopter. Covered causeway and hangar at stern can accommodate three to six small Hornet utility helicopters but not the larger troop transport helicopter.
  - Armament includes 76-mm anti-aircraft/anti-ship gun, four 23-mm anti-aircraft Gatling guns, an SA-N-4 point defense SAM launcher, and a 122-mm barrage rocket launcher.
  - Better suited than the Alligator for distant deployments because of larger size, better habitability, and underway replenishment capability.
  - Endurance: 8,000 nm at maximum speed of 18 knots.

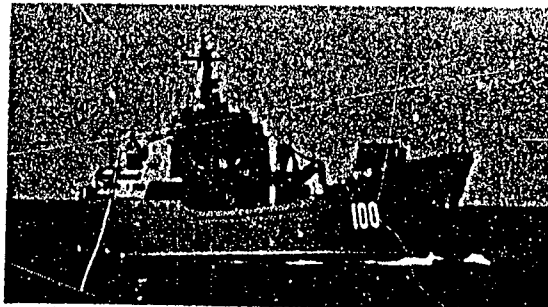
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## Soviet Amphibious Ships



Polnocny medium landing ship



Alligator tank landing ship

- Built in Poland. Variants differ in length, displacement, lift, and equipment.
- Some of the 68 built for the USSR have been put in reserve or transferred to Third World countries.
- Primarily a vehicle carrier, with proven internal lift of five to six medium tanks.
- Because of small size, lack of troop berthing, and limited seaworthiness, Polnocnys apparently carry fewer than 50 naval infantrymen when operating outside home waters. Most deployments are to the eastern Mediterranean.
- Armament includes 140-mm barrage rocket launchers for shore bombardment, 30-mm antiaircraft guns, and—on some recent units—SA-7 short-range surface-to-air missiles.
- Lacks drive-through capability; open deck is not designed for storing cargo.
- Endurance: 900 nm at maximum speed of 18 knots.
- Merchant marine design with drive-through capability. Beaching when fully loaded is limited by deep draft.
- Sufficiently large and seaworthy for long ocean voyages.
- Proven internal lift of 22 medium tanks or assorted amphibious tanks and vehicles.
- Additional 20 vehicles could be carried on the open deck, but such loading would constrain beaching. In practice, fewer than half this number are on deck.
- Soviets claim ship has capacity of 527 naval infantrymen (that is, a battalion landing team), but poor ventilation and crowding would make such a complement impractical for long voyages. In practice, deployed Alligators normally appear to carry 100 to 200 troops, although as many as 300 have been reported aboard.
- Armament includes 57-mm and—on some ships—25-mm anti-aircraft guns; 122-mm barrage rocket launchers on more recently constructed units and some refitted units; and short-range SAMs and light antiaircraft guns on naval infantry vehicles stored on deck.
- Endurance: 9,000 nm at maximum speed of 16 knots.

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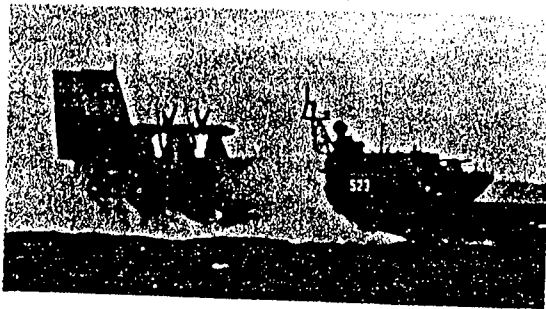
## Soviet Amphibious Assault Air-Cushion Vehicles

Figure 6



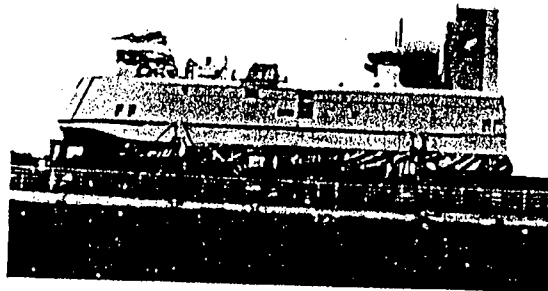
Gus personnel air-cushion landing craft

- Unarmed personnel carrier; no capability to transport vehicles or equipment.
- Carrying 25 troops, the maximum observed disembarking, the Gus can travel an estimated 200 nm at 45 knots. It may be able to carry as many as 50 troops for shorter distances.
- Production apparently has ended. The larger, more capable Lebed is probably the successor to this class.



Aist utility air-cushion landing craft

- Largest military air-cushion vehicle in the world.
- Drive-through capability; estimated to be able to transport four amphibious tanks and about 55 men 100 nm at 60 knots or a single medium tank and about 110 men 375 nm at 60 knots.
- Armed with two 30-mm antiaircraft guns.
- First Soviet ACV to participate in a major amphibious exercise (May 1975). Serves in an initial assault role ahead of the landing ships.



Lebed mechanized air-cushion landing craft

- Drive-through vehicle deck with environmental cover.
- Carrying two amphibious tanks and 25 troops, it can travel at 60 knots for an estimated 260 nm.
- Sole armament consists of a small-caliber machinegun.
- Apparently designed to operate from the Ivan Rogov LPD, but may be used in other roles.

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[redacted]

ability to operate over water, ice, or land. According to the Soviets, the use of a few fast ACVs would permit small groups of combat engineers or assault forces to be rapidly moved to shore and inserted deeper and along a wider front than before. The Soviets have also pointed out that one of the greatest advantages of surface-effect craft is that they can overcome the beach interface problems associated with conventional landing craft. [redacted]

A decision on Soviet policy for amphibious warfare apparently was made in 1962 in the context of a major debate covering overall Soviet military strategy, evidently stimulated by the Cuban missile and Berlin crises. Soviet naval writers called for the development of fast, specialized landing craft to carry heavy combat equipment and troops and lamented the demise of the naval infantry. The Soviet high command evidently was dissatisfied with the downgrading of traditional forces in favor of nuclear forces. It was decided that the naval infantry—specialized troops with a traditional first-wave assault role—were needed on a permanent basis, along with a force of landing ships. The revitalization of Soviet amphibious forces was already under way when it was publicly announced in May 1963. [redacted]

The expansion in the size of naval infantry forces was roughly paralleled by a second phase of amphibious ship development. Starting in 1962, the USSR began to acquire ships of post-World War II design with modest lift and oceangoing capabilities. In this phase of construction, the Pact produced the Polnocny-class LSMs and Alligator-class tank landing ships which today form the nucleus of the Soviet amphibious ship inventory. [redacted]

Late in this second phase of construction, the USSR also began developing various surface-effect landing craft. Thus far the Soviets have produced only air-cushion vehicles for amphibious operations. Surface-effect vehicles have an inherent advantage over displacement craft in terms of speed, relative invulnerability to torpedoes and mines and, in most cases,

The third and current stage in the evolution of the Soviet amphibious force began in 1973. In this phase the Soviets began to acquire modern amphibious assault ships of the Ropucha and Ivan Rogov classes. These ships probably were designed in the mid-to-late 1960s to meet the growing needs of the revitalized naval infantry and to provide enlarged follow-ons to the Polnocny LSM and Alligator LST, which have significant limitations for both peripheral and distant operations. The addition of these ships will significantly improve the USSR's capability for handling amphibious assault forces and could support some expansion of the naval infantry. [redacted]

#### *Organization of Naval Infantry Forces*

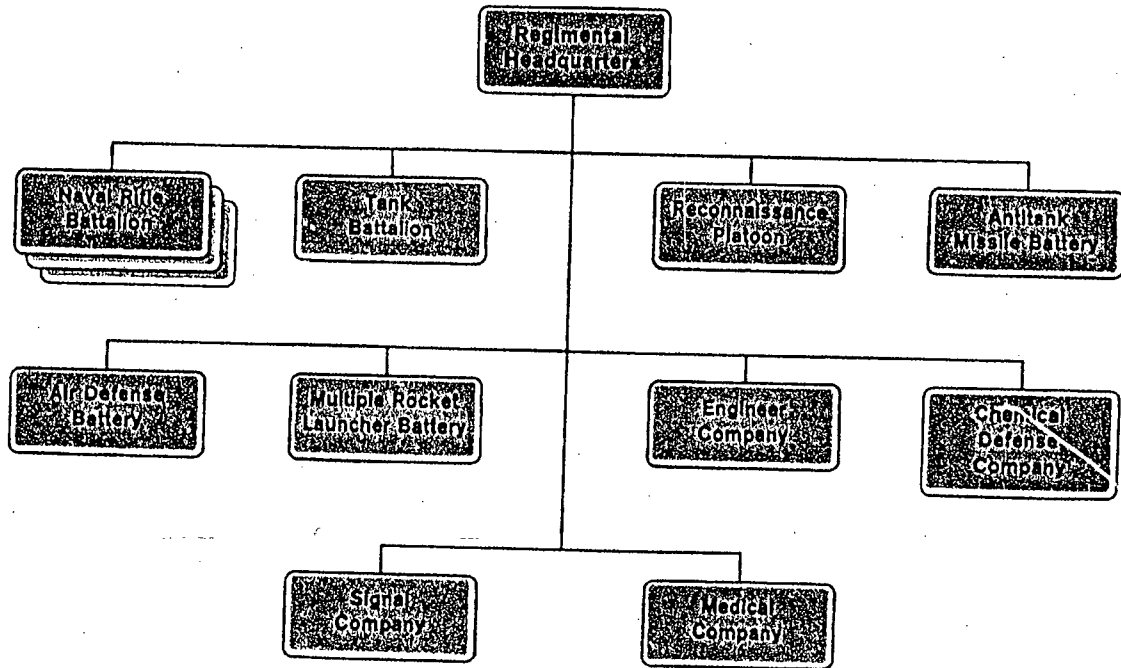
Naval infantry elements currently are attached to each fleet and are operationally subordinate to the fleet commander. They report to him through a deputy fleet commander, responsible for both coastal defense and naval infantry matters, who carries the title "Chief, Coastal Missile and Artillery Troops and Naval Infantry" and has under him a commander of each of these forces. While the deputy fleet commander's duties probably are primarily administrative and planning in nature, they encompass combat training unique to the particular fleet area and may also include an operational role in some cases. Overall planning and administration—including personnel management, general combat training, standardization of equipment, and preparedness—for both the naval infantry and the coastal defense forces is handled by the chief of

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### Naval Rifle Regiment

Estimated strength: 1,900 men

Figure 7



one of the directorates at Naval Headquarters, Moscow. This position—Assistant Commander for Coastal Missile and Artillery Troops and Naval Infantry—is currently filled by Major General P. Ye. Mel'nikov. Both the coastal missile and artillery troops and the naval infantry also may have a separate commander, subordinate to Mel'nikov, in Moscow.

The basic naval infantry unit is the naval rifle regiment (see figure 7), which is similar in organization to a ground forces motorized rifle regiment. For amphibious assaults, the naval infantry regiment would be divided into reinforced naval rifle battalions or battalion landing teams (see figure 8). A commando platoon of combat swimmers and parachutists appar-

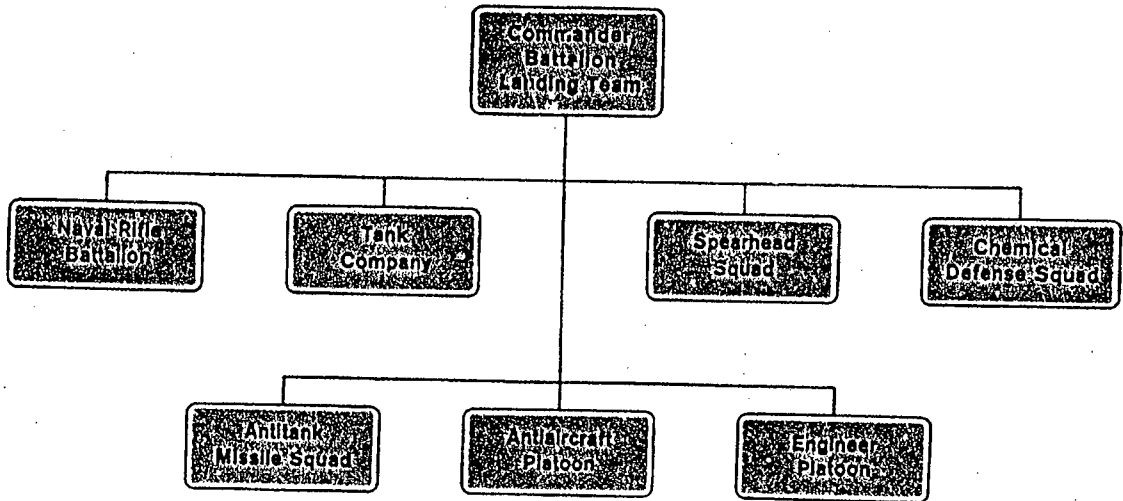
ently complements the naval rifle regiment, either as an independent entity or as part of the regiment's reconnaissance element.

Six naval infantry rifle regiments have been identified in the USSR—one in each Western fleet and three in the Pacific. The regiments in the Baltic and Black Seas, and one of the three in the Pacific, appear to be at strength and active. The less active regiments in the Northern and Pacific Fleets may not be fully manned, and at least one of the two relatively inactive units in the Pacific is apparently manned at a cadre level. The Soviets apparently plan to fill these understrength

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Representative Naval Infantry Battalion Landing Team


Figure 8




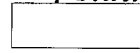
Three battalion landing teams can be formed per regiment, using the rifle battalions as nuclei. The strength (about 520 men in this example) and composition of landing teams may vary.



regiments with naval infantry reservists during wartime, although the number of such reservists and their training status are unknown. 

In addition to these regiments, several smaller units may exist in the Baltic and Black Sea Fleets, possibly for base defense. In the Pacific Fleet, which has the largest naval infantry force, there is a skeletal division structure, including an active tank regiment (see figure 9). In addition, army units with some amphibious assault training experience are located in the Caspian Sea and in the Northern Fleet area, and possibly in the Black and Baltic Seas. 

The naval infantry is lightly armed compared to Soviet ground force units and would be generally dependent on other forces for naval gunfire, air cover, and close air support to overcome significant opposition, particularly by armored forces. The major equipment observed in a naval infantry regiment is shown in table 7. A representative battalion landing team might have about 70 medium and light tanks and armored personnel carriers as well as other vehicles. 



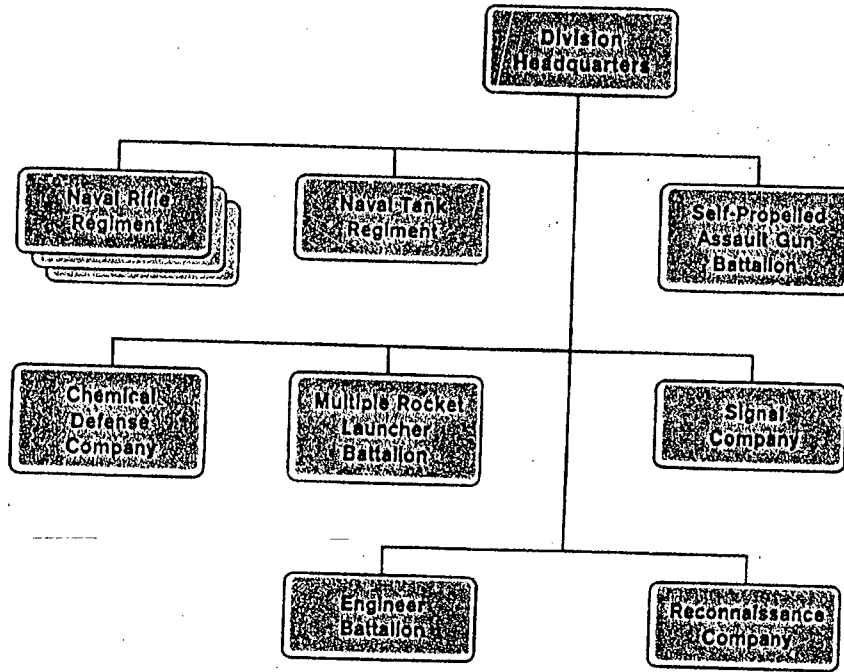
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**Pacific Fleet Naval Infantry Division**

Estimated current strength: 4,000-5,000 men

Estimated wartime strength: 8,000 men

Figure 9



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Table 7

Major Pieces of Equipment of a Naval Rifle Regiment

Equipment	Totals
120-mm mortar	3
BM-21 truck-mounted multiple rocket launchers	6
ZSU-23/4 self-propelled antiaircraft guns	4
BRDM-2 scout cars with SA-9 SAMs	4
BRDM scout cars with antitank guided missiles	6-9
PT-76 light amphibious tanks and T-54/55 medium tanks	26-33
BTR-60 P/PB armored personnel carriers	27-34
BRDM/BRDM-2 scout cars	5-6
BRDM-RKH scout cars for chemical reconnaissance	2
K-61/PTS tracked amphibious transporters	4
BTR-50 P/PU armored personnel carriers	4-6
PKP amphibious trailers	2-3
MTU tank-launched bridges	1
ARS-12 decontamination trucks	2
ARV tank recovery vehicles	1-2
BAT/BAT-M heavy artillery tractor bulldozers	1
Truck-mounted cranes	1
PMR trailer-mounted minelayers	1

Most of the naval infantry's armored vehicles are amphibious. The unit's equipment is less modern and sophisticated than that of the more heavily armed Soviet ground units, which could be landed after the naval infantry if a major land battle were to be conducted ashore. The predominant naval infantry "tank," the light amphibious PT-76, is basically an armored personnel carrier with a small gun. Unlike the US Marines, the naval infantry lacks transport and gunship helicopters, attack aircraft, and field artillery.

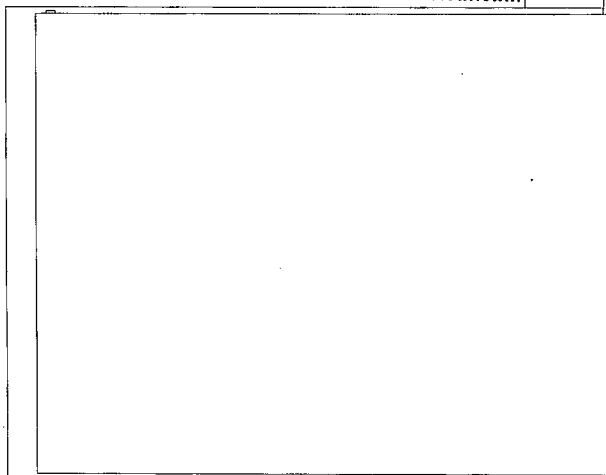
### Appendix B

## History of Soviet Amphibious Ship Presence Overseas

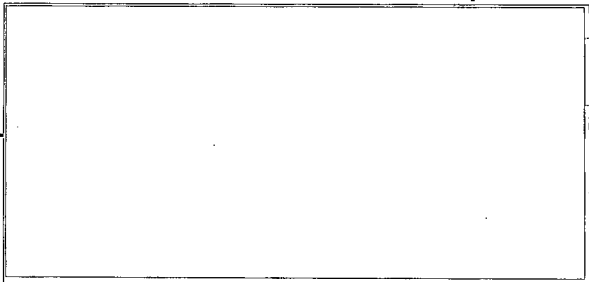
### Mediterranean Sea

#### Early Presence

The Soviets' first deployment of an amphibious force in a distant area occurred in the Mediterranean in June 1967. An Alligator-class tank landing ship left the Baltic Fleet three days before the outbreak of the Arab-Israeli Six-Day War, but did not reach the eastern Mediterranean until three days after the war had ended. Three additional amphibious ships later joined this ship in the eastern Mediterranean.

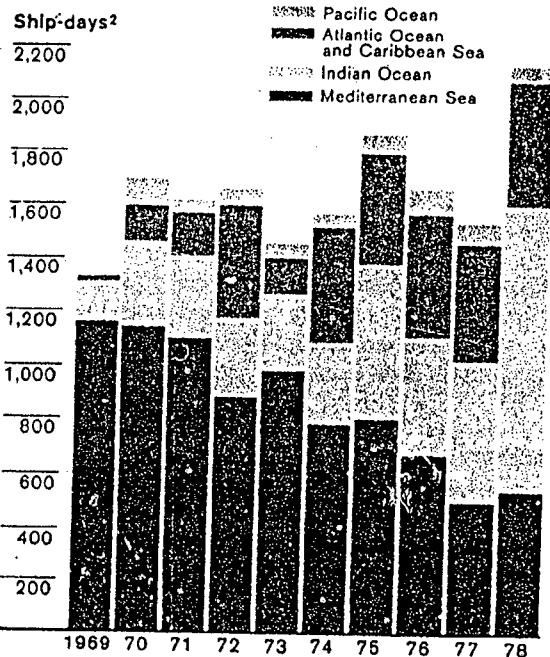


After the war, the Soviets maintained a larger, permanent naval force in the Mediterranean. The amphibious presence normally included an Alligator-class LST and two Polnocny-class LSMS accompanied by a destroyer. The LST had about 30 to 40 troops aboard.



### Operations of Soviet Amphibious Ships in Distant Waters, 1969-78<sup>1</sup>

Figure 10



<sup>1</sup> Data prior to 1969 were unavailable. No significant Soviet amphibious operations in distant areas occurred until 1967, however, when an amphibious force presence was initiated in the Mediterranean.

<sup>2</sup> One ship present one day equals one ship-day.



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The amphibious force spent most of its time at Port Said, Egypt, or near Syrian waters until the October 1973 war.

The composition and size of the Soviet amphibious force in the Mediterranean in the late 1960s, in part, was related to the mission of training Egyptian and Syrian forces which were being equipped with Soviet vehicles and landing craft but lacked any major amphibious lift capability. Soviet naval infantry advisers trained Egyptians at Port Said and possibly Syrians at Latakia in the use of amphibious vehicles and tanks.

*Amphibious Task Force*

In late 1969 and early 1970, the Mediterranean Squadron

escorting and apparent interdiction of amphibious convoys

the Soviets subsequently used amphibious groups with naval escorts to deliver supplies and equipment to Syria.

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[REDACTED]

When Soviet amphibious ships are in the Mediterranean, they normally stay at anchor off Cyprus with a frigate nearby. The lack of access to a support facility in the area and requirements to maintain units elsewhere off West Africa and in the Indian Ocean probably account for reduced force levels. The Mediterranean Squadron's overall combatant levels have been reduced since 1976, concomitant with the reduced Soviet influence and access to some Arab nations. [REDACTED]

On 25 October, following the alerting of US forces, the Soviets began assembling a group of three surface combatants and two amphibious ships north of Port Said and the Suez Canal while the Egyptian 3rd Army was being defeated at the southern end of the Canal. This contingency force remained in the area until the crisis peaked on 29 October. Both of the amphibious ships probably had been involved in arms deliveries to Syria and most likely did not have many naval infantry on board. This presence probably was intended to demonstrate Soviet support of Egypt, to encourage the West to accept a cease-fire, and to evacuate Soviet personnel and equipment if the need arose. [REDACTED]

[REDACTED]

Two Soviet amphibious ships redeployed to the Mediterranean with a total of 200 to 300 naval infantry on deck a day after the crisis peaked on 29 October. These ships carried the only sizable naval infantry contingent observed during the crisis. Admiral Alekseyev told [REDACTED] that there were only 500 Soviet naval infantry in the Mediterranean during the crisis. This amphibious assault contingent was not large enough to counter superior Israeli forces, even if combined with a Soviet airborne force. [REDACTED]

Atlantic Ocean

*Early Presence*

The routine presence of amphibious ships in West African waters began in September 1971. An Alligator-class LST joined a destroyer and oiler on patrol off Conakry, Guinea, ostensibly to help protect the Toure regime. The ships spent most of their time in port in Conakry and occasionally anchored near the presidential palace at Toure's request, but they also visited other ports [REDACTED]

*Presence Since 1973*

Following the October War, the normal force initially was reduced to two LSMs which were stationed at Mersa Matruh along the northwest coast of Egypt. Since the loss of access to Mersa Matruh in early 1975, the amphibious presence at times has consisted of two LSMs or a single LST. During some periods, such as the recent Ethiopian-Somali war, the Soviets have not kept an amphibious ship in the Mediterranean. [REDACTED]

[REDACTED] One unconfirmed report indicated that some naval infantry and armored vehicles were placed in defensive positions ashore to deter possible revolts by the Conakry populace because of a food shortage. [REDACTED]

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*Crisis Reactions*

Amphibious ships have been used only once during a crisis in the Atlantic area. During the Angolan civil war in November 1975, Moscow sent the Alligator-class LST from Conakry to the Gulf of Guinea to help protect Soviet merchant ships delivering arms to Angola. Subsequently the Soviets diverted a cruiser, a destroyer, and a cruise missile submarine to the Atlantic to protect Soviet and Cuban shipping to Angola and to deter Western naval involvement.<sup>2</sup> After the arrival of the additional units, the landing ship returned to Conakry, and its naval infantry contingent constructed an aviation fuel depot to be used for the continuing Soviet airlift to Angola.

*Recent Presence*

In the wake of the Angolan crisis, the total number of Soviet naval ships off West Africa increased to almost a dozen ships. By mid-1978, however, it dropped back to five to seven ships, a level that has been maintained since. Throughout this period, an Alligator LST has remained the only amphibious ship in the contingent. With the end of the intensive supply effort to Angola, Soviet naval presence in the area has again centered on Conakry, in spite of some tension between the Soviets and the Guinean Government, and the loss of access to Conakry Airfield for TU-95 Bear D reconnaissance flights.

<sup>2</sup> Although the Soviets probably deemed confrontation with the United States unlikely, US naval activity in the Atlantic during January and February 1976 was at a seasonal high. Carrier task groups transiting to and from the Mediterranean and a 30-ship training exercise (which included a nuclear aircraft carrier) in the Caribbean may have caused Moscow some apprehension. In addition, South African naval ships were patrolling along the southern coast of Angola.

*Indian Ocean*

*Early Presence*

In September 1969, more than a year after Soviet naval activities in the Indian Ocean began, an Alligator-class LST deployed to the area for the first time and established a routine presence. The Soviets did not change the composition or use of their amphibious forces during the Indo-Pakistani War in 1971 nor the Middle East war in 1973. The primary operational use of Soviet amphibious ships has been for various logistic or sealift operations on behalf of Moscow's clients. Such activity has occurred in peacetime and during times of conflict in the littoral states.

In 1977, during the Ethiopian-Somali war, the Soviets augmented the Indian Ocean Squadron—particularly its amphibious and escort ship contingent—to support and protect seaborne deliveries of military equipment and to show full backing for Ethiopia. The amphibious force did not appear to be reinforced to bolster Soviet intervention capabilities. One LST and one LSM transited the Suez Canal to join the one Soviet LST normally present in the area. These units helped South

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Yemeni and Ethiopian landing ships transport military supplies and Ethiopian troops from Assab to beleaguered Massawa. The ships also shuttled arms from Aden to Assab. Another LST entered the Indian Ocean from the Pacific but did not support the operations in the Red Sea. It appeared to assume the duties of the one LST normally in the area, such as conducting port visits and operating with some naval infantry aboard.

Landing ships were needed for seaborne deliveries because they could load and offload supplies at the beach near Assab's congested ports, and they were better suited for the wartime conditions at Massawa. While the amphibious ships shuttled supplies, a Soviet destroyer and four frigates were used to patrol the area in support of the sealift, and to protect Soviet passenger ships carrying Cuban troops.

Since the end of the Ethiopian-Somali war, there has been a reduction in the number of amphibious and other ships in the Indian Ocean, but shuttle operations continued and Soviet amphibious ships have apparently participated in the development of facilities on Dahlac Island near Massawa.

#### *Recent Presence*

The landing ship is part of the Soviet Indian Ocean Squadron, which in recent years normally has included some 18 ships: one or two destroyers, two frigates, two minesweepers, one LST, one diesel torpedo attack submarine, and various support ships. The amphibious ship, like most ships in the squadron, usually comes from the Pacific Fleet and stays in the Indian Ocean for seven to nine months. Periodically Soviet amphibious ships transferring from the Western fleets to the Pacific operate with the squadron. Such deployments accounted for most of the 1975-76 increase in amphibious ship-days in the Indian Ocean.

The amphibious ship has usually been with other ships of the squadron, either at anchor or in port in the northwestern portion of the Indian Ocean. Amphibious ships regularly visited the Soviet naval complex at Berbera and also called at Aden, as well as ports in southern Somalia and elsewhere along the littoral. Since the loss of access to Somalia, the amphibious contingent has visited Aden and the Ethiopian ports of Assab and Massawa more frequently, but much of this activity has been associated with the sealift of arms for Ethiopia.

#### *Pacific Ocean*

Until early 1979, when a pair of Soviet Alligator LSTs were deployed to Vietnam, amphibious ship activity in the Pacific had been limited to transits and occasional circumnavigations of the Japanese islands. The Alligators shuttled up and down the Vietnamese coast, transferring troops and equipment to reinforce Vietnam's defenses in the north against China.

The only amphibious exercise activity in the Pacific, outside of Soviet home waters, occurred during Okean-75. An Alligator LST, accompanied by two frigates and a support ship, deployed to the open ocean for a few days before reentering the Sea of Japan, simulating a Western carrier or amphibious task force.

### Appendix C

#### Readiness and Availability of Soviet Amphibious Ships

Accurate information on overhaul and readiness is more difficult to obtain for Soviet amphibious ships than it is for major surface warships. [redacted]

[redacted] There is, however, a limited amount of information on these units and their availability for deployment. [redacted]

#### Overhaul

Soviet landing ships have relatively simple engineering plants and electronics, and consequently are easier to repair or overhaul than a major surface combatant. They are driven by marine diesels which are easily accessible from the tank deck. Thus, there is no need to disrupt weather deck areas to gain access to engineering spaces. [redacted]

[redacted] In addition, amphibious ships can probably receive extensive repairs at or near their berth. They probably need only to be placed in a shipyard drydock to have their bottoms scraped and inspected and their screws, shaft supports, and rudders repaired. [redacted]

The limited information available suggests that the duration of overhaul for amphibious ships is normally shorter than the seven months to two years required for major surface combatants. Amphibious ships apparently are overhauled in each of the fleet areas and in [redacted]

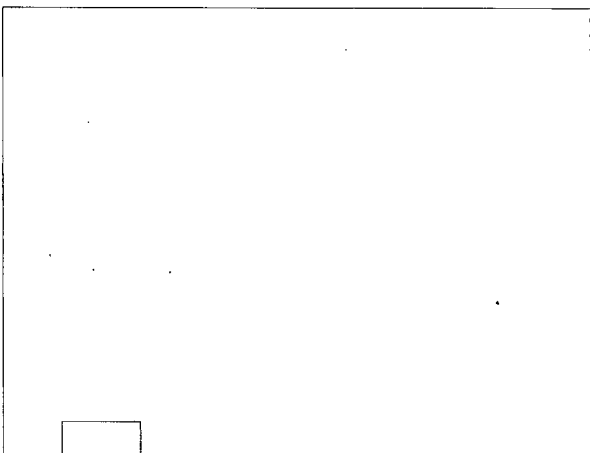
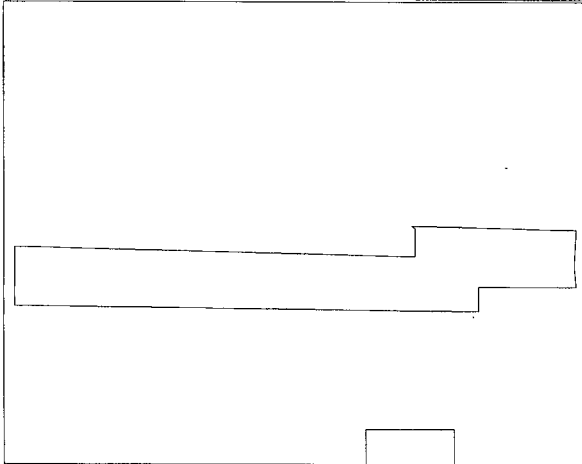
the Caspian Flotilla in a period of about four months to a year. In addition, some Soviet Polnocnys from the Northern, Black Sea, and probably Baltic Fleets have returned to Polish shipyards for repairs lasting about six months to a year. [redacted]

While it is not possible to determine the interval between overhauls on amphibious ships as a whole, it probably varies from a few years to six or seven years, as it does for major surface ships. In one known case, involving a Polnocny from the Black Sea Fleet that was repaired in Poland, the overhaul occurred after an interval of about two years and followed three deployments in the Mediterranean. [redacted]

#### Readiness

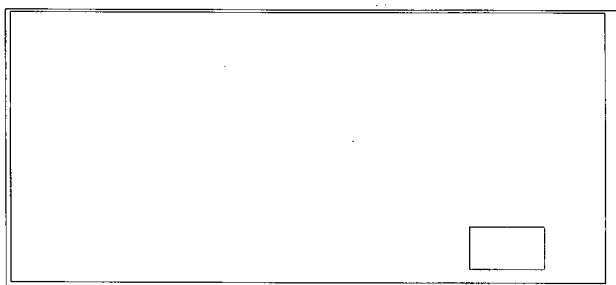
Normally, four Soviet amphibious ships are deployed in distant areas. The number has increased during periods of tension, and deployment areas have varied. The normal deployment level has not changed since 1970, even though the size of the Soviet amphibious force capable of deployment in distant areas has increased by about a third. Five percent of the amphibious force is maintained outside home waters compared with about 10 percent of the major surface force. [redacted]

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Some indications of amphibious ship readiness can be gleaned from Soviet naval operations. During the October 1973 Middle East war, the Black Sea Fleet deployed three (75 percent) of its Alligator tank landing ships to the Mediterranean. In addition, the Fleet supplemented its two Polnocnys in the Mediterranean with three more, for a total of 30 percent of its LSMS. Overall, 40 percent of the Black Sea Fleet amphibious ship inventory was involved in deployments to the Mediterranean. Although none of the augmentations occurred until more than a week after the beginning of the fighting, the LST augmentation may have been the maximum possible at the time, as an additional LST—a Baltic Fleet unit—was brought in from operations off Conakry. There is no evidence, however, that the LSM augmentation was a maximum effort.



**Overall Availability**

In summary, it appears that the Soviets probably could have at least 75 percent of their larger amphibious ships available for deployment in a few days, including those already deployed in distant areas. The percent of available Polnocny LSMS probably would be lower, but with the addition of newer classes of ships to the amphibious force, Soviet reliance on the Polnocny is decreasing.

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