REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. REPORT DATE *(DD-MM-YYYY)*	**2. REPORT TYPE**	**3. DATES COVERED** *(From - To)*
29-04-2015	Master of Military Studies Research Paper	September 2014 - April 2015

4. TITLE AND SUBTITLE

Russia's Amphibious Forces in the Context of Power Projection and Coastal Operations: Strengths and Vulnerabilities

5a. CONTRACT NUMBER
N/A

5b. GRANT NUMBER
N/A

5c. PROGRAM ELEMENT NUMBER
N/A

6. AUTHOR(S)

Boyles, Jay E., LCDR, USN

5d. PROJECT NUMBER
N/A

5e. TASK NUMBER
N/A

5f. WORK UNIT NUMBER
N/A

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

USMC Command and Staff College
Marine Corps University
2076 South Street
Quantico, VA 22134-5068

8. PERFORMING ORGANIZATION REPORT NUMBER
N/A

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)

N/A

10. SPONSOR/MONITOR'S ACRONYM(S)
N/A

11. SPONSOR/MONITOR'S REPORT NUMBER(S)
N/A

12. DISTRIBUTION / AVAILABILITY STATEMENT

Approved for public release; distribution is unlimited.

13. SUPPLEMENTARY NOTES

N/A

14. ABSTRACT

Russia may use its amphibious ships and naval infantry as a tool of national power, most likely in the Black Sea, in support of coercion of its neighbors and the potential seizure of territory in order to advance national objectives. Russia's growing military capability and ability to project power have led to an increased readiness to use military force on its periphery in support of national objectives and perceived interests. Russia has a history of using its amphibious ships and naval infantry as a means of supporting high-priority military operations, as far back as the Second World War and continuing through Soviet times and into the post-Soviet era and the present day. This tool of national power, however, has its limitations and vulnerabilities. There are opportunities to work with Russia's neighbors to guard against Russia's current and projected amphibious capability, and to take advantage of its relative weakness in this area. In seeking to limit Russian military adventurism and territorial expansion, low-cost options exist for U.S. and NATO policy makers to bolster the coastal defense capabilities of Russia's neighbors and dissuade Russia from using periphery seacoasts as avenues of approach.

15. SUBJECT TERMS

Russia, Antiaccess Area Denial, (A2/AD), Amphibious Operations, Coastal Operations

16. SECURITY CLASSIFICATION OF:			**17. LIMITATION OF ABSTRACT**	**18. NUMBER OF PAGES**	**19a. NAME OF RESPONSIBLE PERSON**
a. REPORT	**b. ABSTRACT**	**c. THIS PAGE**			Marine Corps University/Command a
Unclass	Unclass	Unclass	UU	30	**19b. TELEPHONE NUMBER** *(include area code)* (703) 784-3330 (Admin Office)

United States Marine Corps
Command and Staff College
Marine Corps University
2076 South Street
Marine Corps Combat Development Command
Quantico, Virginia 22134-5068

MASTER OF MILITARY STUDIES

RUSSIA'S AMPHIBIOUS FORCES IN THE CONTEXT OF POWER PROJECTION AND COASTAL OPERATIONS: STRENGTHS AND VULNERABILITIES

SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF MILITARY STUDIES

LCDR JAY E. BOYLES, USN

AY 14-15

Mentor and Oral Defense Committee Member: Richard F. DiNardo
Approved: [signature]
Date: 29 April 2015

Oral Defense Committee Member: CHRISTOPHER S. STOWE
Approved: [signature]
Date: 29 APRIL 2015

Executive Summary

Title: Russia's Amphibious Forces in the Context of Power Projection and Coastal Operations: Strengths and Vulnerabilities

Author: Lieutenant Commander Jay Boyles, United States Navy

Thesis: Russia may use its amphibious ships and naval infantry as a tool of national power, most likely in the Black Sea, in support of coercion of its neighbors and the potential seizure of territory in order to advance national objectives. There are, however, opportunities for the U.S. and Allied nations to work with Russia's neighbors – such as Ukraine and Georgia – to guard and defend against Russia's current and projected amphibious capability, and to take advantage of its relative weakness in this area.

Discussion: Russia's growing military capability and ability to project power have led to an increased readiness to use military force on its periphery in support of national objectives and perceived interests. Russia has a history of using its amphibious ships and naval infantry as a means of supporting high-priority military operations, as far back as the Second World War and continuing through Soviet times and into the post-Soviet era and the present day. Russia may use this tool of national power again, most likely in the Black Sea, in support of coercion of its neighbors and the potential seizure of territory in order to advance national objectives. This tool of national power, however, has its limitations and vulnerabilities. There are opportunities to work with Russia's neighbors – such as Ukraine and Georgia – to guard and defend against Russia's current and projected amphibious capability, and to take advantage of its relative weakness in this area.

Conclusion: In seeking to limit Russian military adventurism and territorial expansion, a number of relatively low-cost options exist for U.S. and NATO policy makers to bolster the coastal defense capabilities of Russia's neighbors, and dissuade Russia from using heretofore-vulnerable periphery seacoasts as avenues of approach.

DISCLAIMER

THE OPINIONS AND CONCLUSIONS EXPRESSED HEREIN ARE THOSE OF THE INDIVIDUAL STUDENT AUTHOR AND DO NOT NECESSARILY REPRESENT THE VIEWS OF EITHER THE MARINE CORPS COMMAND AND STAFF COLLEGE OR ANY OTHER GOVERNMENTAL AGENCY. REFERENCES TO THIS STUDY SHOULD INCLUDE THE FOREGOING STATEMENT.

Acknowledgements

I owe sincere thanks go to Dr. Richard DiNardo of Marine Corps University, and Mr. Marshall Newman, Department of the Navy for their extensive help and invaluable assistance in researching and preparing this paper. My greatest thanks go to my wife, Elizabeth, for her patience and encouragement during the research and writing process.

Russia's Amphibious Forces in the Context of Power Projection and Coastal Operations: Strengths and Vulnerabilities

Introduction/Thesis:

As the U.S. sought to turn its attention in this decade to the Asia-Pacific region while compelled to remain engaged in the Middle East, Russia has risen in both its assertiveness and its military power, regaining its importance to U.S. national security interests. In the "Putin era" between 2000 and 2014, Russia regained national aggressiveness in its periphery, as rising global oil prices enabled increased defense spending and national confidence.

Russia's growing military capability and ability to project power to its periphery have led to an increased readiness to use military force in support of national objectives and perceived interests. Military adventures – increasingly alarming to Russia's neighbors, former Soviet and Warsaw Pact countries, and the U.S. – have included invasions of Georgia (in 1993 and 2008) in support of separatist movements, and the wholesale seizure of Crimea and operations within eastern Ukraine in 2014-15. These offensive operations have been of an expeditionary nature, and have included amphibious operations as an instrument of hard power within of a strategy of rapid envelopment and seizure of key terrain and infrastructure. All of this has been done in the context of a continued drive for military organizational reform, modernization, and procurement, as a result of perceived enduring shortcomings in military capability, particularly after the 2008 war in Georgia. As part of the support to this effort, it stands to reason that Russia invest in greater quantity and quality of expeditionary forces, including in its

amphibious capabilities, if not for actual offensive operations then at least as a "fleet in being" to coerce while effectively precluding combat.

In 2014, however, Western sanctions punishing Russia for its annexation of Crimea, combined with a rapid descent in global oil prices, have placed significant budgetary pressures on Russia's Ministry of Defense. Russia's military has also sought to deal with the continuing fallout from the 2010 "New Look" military reform initiatives, as well as the budgetary, logistical, and manpower strains of a sustained high-readiness military situation in the vicinity of Ukraine. These pressures, along with challenges within the industrial base, are forcing difficult decisions within Russia's Ministry of Defense with regard to force structure, procurement, and modernization priorities. These decisions will affect Russia's expeditionary and amphibious forces, in the form of decisions on amphibious ship procurement and prioritization of readiness levels for surface combatants, naval infantry units, and coastal units.

Despite systemic and economic challenges, Russia under President Vladimir Putin and those like him will continue to assert Russia's national power through military means. These assertions on behalf of perceived or supposed national interest will utilize a range of conventional and asymmetric hard-power tools including proxy groups and special operations forces (SOF); conventional military units – land, sea, and air – as well as other methods. However, Russia's military will remain strained and vulnerable to overextension. Its amphibious forces are no exception (perhaps even more strained, due to their historically lower priority in Russian defense resource allocation).

In the midst of these challenges, therefore, there are opportunities to work with Russia's neighbors – such as Ukraine and Georgia – to guard and defend against Russia's current and projected amphibious capability, and to take advantage of its relative weakness in this area. In seeking to limit Russian military adventurism and territorial expansion, a number of relatively low-cost options exist for U.S. and NATO policy makers to bolster the coastal defense capabilities of Russia's neighbors, and dissuade Russia from using the heretofore-vulnerable sea coasts of its neighbors as avenues of approach. The strategy for building these countries' navies ought to involve deterring Russian naval aggression, creating doubt in Russian military planners' minds as to such operations' potential success, and making any successful operation prohibitively expensive in terms of operating cost, manpower casualties, or ship losses/damage. This paper will focus on the Black Sea as a region in which amphibious power projection is a significant element of military power. Specifically, it will offer recommendations on U.S./Allied response to Russian amphibious force construct, particularly with regard to defense of Ukrainian sovereignty.

Discussion:

Historical Context: Amphibious Roots in the Second World War

Russia's modern military history includes a number of instances of sea-based power projection, although this has never been a primary means for Russia – a mostly land-based power – to project national power into its periphery.

Nonetheless, Russia has repeatedly shown the ability to use the sea as maneuver space and a medium through which to project military power, usually in "flanking" amphibious attacks supporting main land efforts.

The most pronounced example of this was the Second World War, in which – according to Soviet records – the USSR's armed forces conducted approximately 114 amphibious operations, including nine major ones, involving a total of more than 300,000 naval infantry and Red Army troops. All of the Soviet naval activities and landings were closely related to adjacent ground operations. While none of the landings approached the size of major U.S. amphibious operations during the war (what the Soviets called "strategic" landings), the average size of a Soviet amphibious assault was approximately 3,000 men, supported by about 20 ships and 90 (ground-based) aircraft.[1] The majority of the landings and the greatest number of troops landed were in the Black Sea Fleet region (including the Azov and Danube Flotillas).[2] In these operations, the Black Sea Fleet had no special landing craft, and used a variety of commercial vessels for their operations, resulting in great inefficiency and loss of life; Soviet naval leaders criticized this practice extensively after the war.[3]

Many of the most notable and largest amphibious operations of the war occurred in the Black Sea region, where the USSR enjoyed rare naval superiority for the duration of the war. Ironically, several of the most prominent operations took place on the Crimean Peninsula, in several of the same places that Russian troops would seize from Ukraine in 2014. The Kerch-Feodosiya landings in December 1941 and January 1942, on the eastern side of Crimea, were designed to relieve the siege

of Sevastopol, and involved the landing of more than 40,000 men. The Feodosiya landing ultimately failed, and eventually the Soviets were forced to evacuate the Kerch Peninsula, but the size of the landing was significant and allowed the Soviets to hold a lot of ground for several months.[4] The Soviets were not done with Crimea, however; on 1-2 November 1943, almost 30,000 men landed at Kerch again and at nearby Eltigen. The landings involved more than 200 ships, under the command of future chief of the Soviet Navy Admiral Sergey Gorshkov. The landing at Eltigen was ultimately defeated, but the Soviets were able to hang onto the Kerch Peninsula until the eventual retaking of Crimea from the Germans in May 1944.[5]

The Soviets considered Kerch-Eltigen a classic example of what they came to call an "operational" scale landing, in which a regimental-sized force of specially-trained "naval infantry" would first assault the beach and then establish a beachhead, and then follow-on waves or echelons of ground troops at the division level would exploit the beachhead while the naval infantry reembarked and departed in preparation for the next landing. During and after this period, other categories for landings were "tactical" (battalion-sized or slightly larger) and "reconnaissance" or "sabotage" landings (battalion-sized or smaller).[6] By the end of the war, air superiority had become essential, and airborne operations were a component of many operations.[7] The Soviets were learning how to conduct amphibious operations, just as much as the U.S. was learning the same thing in both theaters of the war. In the case of the U.S., however, there were better opportunities early on to learn, in terms of more permissive operating environments (such as Operation TORCH in North Africa, and initial landings against the Japanese in the

Pacific), prior to much larger operations such as those on the European mainland, the Philippines, and Okinawa. The U.S. also had numerous opportunities to train and rehearse amphibious landings, whereas the Soviets learned "live".

An important development in amphibious operations for the Soviets was the establishment of the School of Amphibious Operations during the war. This school was devoted to improving and teaching all aspects of amphibious landings.[8] Additionally, the Soviets drew a number of lessons from the landings after the war:

- The value of preparation of the landing areas by fires;
- The duration of the landing should be as brief as possible;
- The landing force must be flexible and maneuverable;
- The faster the tempo of the landing, the better;
- Rapid reinforcement of the lodgment is essential;
- Coordinated airborne landings are critical to success;
- Logistical and other combat support requirements are invaluable.[9]

One important theme of note is that the Soviet naval infantry conducted a number of flank attacks along the Black Sea coast (in what is now western Ukraine) to slow the advance of the invading Germans in 1941, and again conducted a number of landings on the German right flank as the Soviets pushed them out of the Black Sea region in 1944. For the current Russian government narrative of the Kiev government as "fascists" (like the Nazi Germans and in allusion to Ukrainian sympathizers during the war), the evocative image of naval infantry landing on the coasts of "fascist-controlled" Ukraine is powerful indeed.

Historical Context: Doctrinal Development During The Cold War Years

Following the conclusion of the war, the naval infantry was reduced in size and subordinated to other elements within the Soviet Navy, possibly even being disbanded in the mid-1950s before being reconstituted in the Gorshkov-era growth of the mid-1960s.[10] One possible reason for this is that during the Khrushchev era, the predominant focus of Soviet military development and investment was in the field of nuclear weapons and their delivery systems.

In the Brezhnev era of the 1960s and 1970s, conventional forces again received their due. As a part of this, Admiral Gorshkov (Navy chief from 1956 to 1985) carried out a large-scale expansion of the Soviet Navy, transforming it from a coastal defense force into a global, blue-water navy. While Gorshkov was primarily a proponent of using submarines to project naval power, he recognized the role of surface combatants, amphibious ships, and naval infantry to project Soviet power during low-intensity conflicts, and to support ground operations during major war.[11] As a result, he rebuilt the Soviet Navy's naval infantry, and used lessons learned from the Second World War to develop it into a competent fighting force. During Gorshkov's naval expansion program, the naval infantry grew to a force of 20,000, and amphibious ships maintained as a separate force in each fleet – Northern, Baltic, Black Sea, and Pacific –became integral and routine parts of the Soviet Navy's deployments to seas far from the USSR, including service in the Mediterranean Sea and Atlantic and Indian oceans.[12] The amphibious force was capable of launching efforts in support of larger ground campaigns, and the naval infantry was dedicated to operating in support of a front or theater commander in

waters contiguous to the USSR or Warsaw Pact nations. The U.S. Defense Intelligence Agency assessed that the Soviet Navy's naval infantry was a "sizeable, well-equipped, and apparently well-trained amphibious fighting force". [13]

Designed primarily for offensive operations, the Soviet Navy's tasks included securing the maritime flank of the ground forces, exerting pressure on the enemy's maritime flank and his depth of disposition, and preventing the arrival of his reinforcements.[14] One of the most important tasks was to conduct naval landings in support of Soviet troops' offensive actions along the coast. It is believed that the amphibious and naval infantry forces, in a war against NATO, would conduct operations against the following countries in support of Soviet ground forces:

- Northern Fleet – Norway
- Baltic Fleet – West Germany, Nordic countries
- Black Sea Fleet – Turkey

Late Cold War Soviet/Warsaw Pact doctrine delineated between:

- "Operational landings" – division-sized or larger; must by nature include ground forces due to the relatively small size of each Soviet fleet's naval infantry, even at its largest. This type of landing probably would not be feasible today due to the small size of Russian naval infantry, ground forces, and number of amphibious ships. It was believed during the Cold War that the primary role of Soviet naval infantry was to conduct operational landings.[15]

- "Tactical landing" – composed of anything from a reinforced company-sized to reinforced regiment-sized element. The object of this type of landing was to seize or destroy important facilities in enemy's depth;

wipe out rear bases and logistics support areas; establish a blocking position; prevent defenders from withdrawing or being reinforced; seize naval bases, coastal installations, airfields.[16] Tactical naval landings were presumed to be the most common during Soviet times, due to geography, force structure, amphibious ships' range, and doctrine.

- "Diversionary landings" – any size, but probably small; intended to destroy, disrupt, and distract enemy forces

- "Reconnaissance-sabotage landings" – self-descriptive, but in U.S. Marine Corps doctrinal terminology, an amphibious raid.[17]

According to contemporary Soviet and Warsaw Pact doctrine, the amphibious fleet was intended to transport naval infantry for the initial assault wave (more than likely to be battalion-sized) of a larger landing force, and possibly a follow-on wave of ground force units, with Soviet merchant marine ships transporting subsequent ground forces.[18] The landing ship detachment (the composition of which varied widely based upon the size of the force to be transported) would move from the embarkation area to the landing objective area under a screening force composed of surface ships, missile/torpedo craft, minesweepers, and aircraft. There was also usually a detachment of fire support ships, for naval gunfire support. The spotting team for the gunfire, as well as air support controllers, would normally embark with the landing battalion commander.[19]

At the end of the Cold War, the naval infantry and amphibious force had a well-developed body of organization and doctrine, which would form the basis for the successor force of the Russian Federation Navy (RFN). Even in exercises conducted

today, the basic organization, tactics, techniques, and procedures resemble that developed in the Soviet era, primarily the 1940s-1970s.

Post-Soviet Years

In the post-Soviet era, Russia's amphibious forces languished for many years, along with the rest of the RFN and the Armed Forces in general. The loss of the Gdansk shipyards in Poland, in which many of Russia's amphibious ships had been built (most notably the most modern class of LST, the *Ropucha* class), was a blow to Russia's ability to produce its own amphibious ships (although even during Soviet times, when Gdansk was available, shipyard space was limited). Many of Russia's amphibious ships lapsed into disrepair, most notably the three large *Ivan Rogov*-class LPDs, which fell completely out of serviceability and were eventually stricken. Naval infantry, while remaining a relatively well-trained and fit fighting force, became less practiced in amphibious landings and were used more in a general-purpose light infantry role, in Chechnya, former Soviet republics, and elsewhere. This progressed to the point that in 1995-7, after the disastrous 1994 Chechnya campaign, the naval infantry was included in a reform effort known as the "Mobile Forces Concept", in which certain highly-mobile and high-readiness units (such as elite paratrooper units) would be used for short-notice contingencies and regional crises.

The one exception to the dearth of amphibious operations during this period was during the Georgian civil war in 1993. During Russia's intervention in the fall of 1993, naval infantry from the Black Sea Fleet landed at the Georgian port of Poti

(then controlled by separatist Abkhaz forces friendly to Russia), unopposed. The operation was technically an amphibious reinforcement of separatist forces, as well as a non-combatant evacuation operation.[20]

During the Putin era, however, a number of readiness and modernization efforts have been funded through Russia's State Armaments Program. Existing forces' readiness levels have been raised, including that of the amphibious fleet and the naval infantry.

There have been two recent Russian military operations in which amphibious forces have played a somewhat significant role: Georgia 2008, and Crimea 2014. Both are informative in the indications they offer as to potential future Russian employment of amphibious forces.

In the case of Georgia, the peripheral nature of the conflict, particularly for the Black Sea Fleet's amphibious forces, was a significant advantage. Among other military preparations observed during the summer of 2008, the prepositioning of key elements of the Black Sea Fleet suggests that the invasion was planned well in advance.[21] Indeed, the Black Sea Fleet had been participating in the operational-strategic exercise KAVKAZ 2008, which many observers have stated closely resembled training for an invasion of Georgia. The exercise ended on 2 August, yet the ships remained at sea instead of returning to their homeports.

The Black Sea Fleet task force was led by the cruiser *Moskva* and the destroyer *Smetlivy*, along with amphibious ships carrying naval infantry and airborne troops from Novorossiysk, as well as support ships. The amphibious force, according to Georgian government reporting after the conflict, was composed of the

Ropucha-class LSTs *Tsesar Kunikov* and *Yamal*, and the *Alligator*-class LST *Saratov*, carrying two battalions of naval infantry and some paratroopers.[22] The force carried by these three ships could not have been larger than approximately 1100 personnel, unless gross overloading occurred. Subsequent Russian statements have indicated that larger landing ships (such as the planned *Mistral* LHA) would have enabled transport of larger numbers of troops for quicker and more effective landings.

The task force's mission was twofold: to land Russian troops in the separatist region of Abkhazia, and to seize and destroy Georgian naval facilities. In an incident claimed by Russia at the time and now regarded as factual, four Georgian patrol boats sortied from Poti to attack the approaching Black Sea Fleet task force, and *Nanuchka*-class corvette *Mirazh* and *Grisha*-class corvette *Suzdalets* sunk at least one and possibly two Georgian ships.[23] Beyond this sortie, Georgia's navy and coast guard took no other actions to defend against Russia's seaborne blockade and assault.[24]

On 10 August, Russian naval infantry landed at the port of Ochamchira in Georgia's separatist Abkhazia region, in an amphibious reinforcement of separatist forces, and troops from the 7th Airborne Division were landed in Abkhazia's coastal capital of Sukhumi. The naval infantry and airborne troops then spread out along the Abkhaz coast and down to the port city of Poti in Georgia proper.[25]

Following the Georgia war, the Russian Federation Navy took part in a number of large, operational-strategic level exercises, most notably ZAPAD (West) 2009 and 2013, and VOSTOK (East) 2014. There was an amphibious element to both exercises. In the case of ZAPAD 2009, there was an actual amphibious landing

(albeit small-scale) conducted at Khmelovka in the Kaliningrad region. The most recent amphibious exercise in western Russia was ZAPAD 2013, in which Baltic Fleet naval infantry executed a surface and heliborne beach assault in Kaliningrad, albeit on a small scale and in near-perfect daylight conditions.[26] One important aspect about these exercises was that several of them involved the movement of ships (and possibly naval infantry personnel) from one fleet area or Joint Strategic Command to another. It is entirely possible that during a crisis scenario or the lead-up to a major operation, that naval infantry forces, and amphibious ships, could move into the Black Sea – and become subordinate to the BSF – from another fleet area and Joint Strategic Command.

In 2014, the operations against the Ukrainian region of Crimea were extremely easy for the BSF, as they were already present, in Sevastopol and Novorossiysk. The intelligence for the region was easy to collect. The Ukrainian forces literally were next-door neighbors of the BSF, so intelligence preparation of the operational environment was not difficult. The proxy/SOF component of the operation was significant. The placement of SOF and proxy forces into key locations ensured the success of the conventional military operation.

There are believed to have been several amphibious landings in and around Crimea during the active phase of the operation, at both Kerch and Feodosiya on eastern Crimea. One landing, by a *Zubr*-class hovercraft, was reported in Feodosiya on the southern coast of Crimea, on 3 March. Russia also quickly seized control of the Kerch Straight, which separates eastern Crimea from mainland Russia (less than a 2nm gap), on 1 March. The entire operation occurred within the span of just over a

week – from the night of 22-23 February to 3 March – following the removal of Ukraine's president, Viktor Yanukovych.

The Black Sea Naval Balance of Power Today

The current condition of Russia's amphibious fleet, despite the period of post-Soviet decline and heavy recent use, is that of a highly capable force, with substantial combat power, and is a significant element of Russia's military power. The Black Sea Fleet's amphibious element consists of the 197th Assault Ship Brigade, composed of three *Alligator*-class LST and Four *Ropucha*-class LST. Meanwhile, the naval infantry force is moving towards more air assault operations as opposed to surface landings. They also continue to be used as rapidly deployable light infantry.[27] The BSF's naval infantry consists of the 810th Independent Naval Infantry Brigade. The fleet's attack aviation consists of 27 Su-24 FENCER aircraft and several assault helicopters, in addition to a number of transport helicopters.[28]

Of note, the "Zubr" (NATO designator: POMORNIK) landing craft air cushion (LCAC) is manufactured at the "More" shipyard in Feodosiya, Crimea – now under Russian control. If the Russian Navy decides to keep the production line open there, many more large "Zubr" LCACs (each vehicle capable of carrying either a tank platoon, a mechanized naval infantry company, or a full infantry battalion on foot) could be produced. The LCACs operate independently of landing ships over relatively short distances, but nonetheless have a range of more than 200nm at 55kts.[29]

By contrast, Ukraine's functional navy – both before and after the seizure of Crimea – is negligible, with a small naval infantry force (heavily employed in the fighting in the separatist regions of Donetsk and Luhansk) and virtually no amphibious or coastal defense capability.

Future Capabilities and Scenarios

There are several future scenarios in which Russia may feel it necessary to act military within its periphery, and within which it may make use of its amphibious forces:

- A renewed push against Ukraine, to connect Crimea to Russia or the separatist regions by land, and perhaps to connect Crimea with the Transdniestrian region.

- A second conflict within Georgia, with Western powers backing one side, could involve additional amphibious raids and landings on the Black Sea coast.

- A reinforcement of pro-Russia elements in Belarus in the event of a regime collapse or "color revolution" could include an amphibious reinforcement of Kaliningrad or show of force near Eastern European countries deemed to be supporting revolutionary forces.

- Regime collapse or civil conflict in North Korea could lead to a non-combatant evacuation from Chongjin or the establishment of a security zone in northeastern North Korea, to control refugee flow and to forestall any U.S./South Korean intervention.

- An intervention in a Baltic nation on behalf of Russian minority. Russia's Baltic Fleet is poised to conduct amphibious raids and seizures, striking from its base in the Kaliningrad exclave. This is the least likely possibility, and Russia would undertake it only to forestall permanent basing of NATO troops.

It is the Ukraine scenario – in which Russian Black Sea Fleet amphibious forces could exploit Ukraine's "soft coastal underbelly" – that bears further consideration. It appears to be both the most immediate conflict at hand, and one in which Russia has already shown that it is willing to use its military – including its navy – in an offensive role.

In the ongoing fighting between Ukrainian forces and pro-Russian separatists and their Russian allies, one scene of fighting along the front is Ukraine's industrial port city of Mariupol on the coast of the Sea of Azov. Ukraine fears that a Russian/separatist offensive along this coast, to include taking the city of Mariupol, would continue to the southwest, for the purpose of linking Russia by land with its seized territory in Crimea.[30] If Russia were to make a concerted effort in the Sea of Azov, it could move its forces north through the Kerch Strait (both sides of which it now controls), and land a force in the exposed rear of Ukrainian forces fighting for control of Mariupol. Even a small, tactical-sized beach landing, perhaps supported by heliborne troops from Crimea or even paratroop drops (all in keeping with longstanding Soviet/Russian amphibious doctrine), could have a major impact on the ability of Ukraine to defend its remaining sovereign coastline between Russia and Crimea. Additionally, there are fears in Ukraine and elsewhere that Russia may

seek to expand its control of Ukraine's coastline all the way to the Romanian border, in a reconstitution of the 18th-century domain of "Novorossiya".

Nonetheless, the problem with such amphibious actions would be one of logistical sustainment. Russian forces would have to rapidly seize airfields and port facilities, and begin flying in supplies and using commercial ships to bring supplies into seaports; otherwise, the existing LSTs of the initial landing force would be severely stretched in their ability to make even short runs from the landing areas back to Sevastopol and Novorossiysk, load up sustainment supplies (particularly ammunition, fuel, and food) and return to the landing sites or follow-on locations. The operation is conceivable, yet potentially fraught with risks and potentially exploitable.

In its present form, Russia will continue to operate its fleet of LSTs. However, these ships will face significant readiness issues in the near future due to aging hulls and heavy usage in the Mediterranean Sea supporting Russian aid to Syria.[31] The chief of the Ukrainian Navy, Rear Admiral Andriy Tarasov, has expressed the view that "the Russians aren't capable of launching a major amphibious assault", but could conduct small-scale, tactical landings.[32]

However, if Russia procures the *Mistral*-class LHD, it will have the ability to project significantly more power simultaneously. If one of the ships is based in the Black Sea Fleet at Sevastopol or Novorossiysk – or even if it is based in another fleet and then moved into the Black Sea during a time of increased tensions – the Russian Navy would have the ability to put an entire battalion of naval infantry on the beach in a matter of hours – by surface and by helicopter – using a single ship.

At present, Russia's Black Sea Fleet is in an interesting position. The headquarters port of Sevastopol, now surrounded by Russian-controlled territory for the first time in 24 years, is a natural jumping off point. The base of Novorossiysk is nearby and in close proximity to the Ukrainian coast. Therefore, Russia could theoretically undertake a small- to medium-scale amphibious operation – or series of operations – with relative ease. Alternatively, Russia could keep its amphibious fleet in a state of high readiness, to act as a "fleet in being", poised to deter or coerce neighbors' actions.

However, in the current economic and political environment, Russia's military may not be able to withstand the strain of maintaining a high state of readiness for its conventional forces (strategic nuclear forces will always receive first priority) in multiple theaters, in response to stressing activities on the part of perceived adversaries. High tensions in the Caucasus, Central Asia, the Russian Far East, the Baltic, or the northern regions may cause strains on military readiness that may pressurize the ability of Russia to operate in support of its objectives on the Ukrainian Front. It may also cause strains to military cohesion and civil-military relations. There also could be significant opposition or push-back by other countries in the Black Sea region – Romania, Bulgaria, and Turkey could all invest more in naval capabilities if Russia becomes significantly stronger at sea in that area.

One pressure point for the Russian Navy is its position in the Black Sea. While the Black Sea Fleet now enjoys exclusive control of Crimea, its position is geographically isolated. Moreover, Russia has very little other naval infrastructure on the Black Sea coast (with the exception of the base at Novorossiysk) and is

isolated from the rest of Russia's naval infrastructure. Support has to be brought in by sea.

Conclusions/Policy Recommendations

In acknowledging that amphibious lift and assault are potential areas of weakness for Russia, the next step is to determine how this weakness can be exploited by those who wish to preserve Ukraine's sovereignty. Reinforcement of Ukraine's navy in certain capabilities would at the very least, dissuade Russia from continuing to use the BSF in an offensive role, particularly in conducting amphibious raids and assaults, and at best, put increased pressure on Russia to resource its Black Sea Fleet, and thus overextend itself.

In examining the options for Ukraine to essentially start over with its navy, there is a useful example of a relatively weak power seeking to preserve a long coastline in the presence of a much larger adversary is a somewhat unlikely candidate: Iran. The principles of Iran's coastal defense – conducted primarily by its asymmetric Revolutionary Guard Corps Navy – include passive defense (including camouflage, concealment, and deception), decentralization, destabilization (deter and create doubt of success and casualties in the enemy's mind), and capitalize on favorable geography. Small fast-attack craft (FAC) and fast inshore attack craft (FIAC) figure prominently in this plan, as do coastal surveillance and strike networks. [33]

Ukraine could replicate and use the "Iran model" to call Russia's bluff if the Russian Navy were to be used as a "fleet in being" (using the fleet to coerce while effectively precluding combat), or to actively oppose a Russian offensive action.

Using this model as a basic point of departure, what then does an effective coastal defense network for Ukraine look like? The answer lies in two forms for policy makers: non-lethal aid, and lethal aid.

Amongst the many options for non-lethal aid, the U.S. could provide the Ukrainian navy with a number of capabilities for increased coastal defense and ultimately deterrence:

- Establishment of a "coast watchers" program – this military-led coastal surveillance program would partner with volunteer citizens in and around their communities. It could also be a "reserve" program by which non-military aged males could serve in a part-time watchstanding capacity, on shore and at sea.

- Battlespace awareness – Coastal radar, electronic surveillance systems and tactical signals intelligence interception capabilities, such as collection and direction finding of push-to-talk radio transmissions.[34]

- Riverine and coastal boats – such as the CB90/Riverine Command Boat and Mark VI Patrol Boat, both produced by U.S.-based SAFE Boats[35], or other craft and ships – would be good additions to Ukraine's capabilities, both in inland and intracoastal waterways (such as the various bays and inlets around Crimea and the Sea of Azov), and coastal/littoral regions on the Black Sea. Such boats could later be armed, either by the U.S. or Ukraine, with crew-served weapons, guns, and missiles.

- Personal equipment, spare parts, marine radios, navigation radars, and other marinized equipment

- Training: Small boat handling, navigation, tactics, combat casualty care, gunnery, etc.

For all of these initiatives, training would have to be extensive, professionalization would need to be one of the end goals, and most importantly care would have to be taken to extensively vet personnel in order to avoid subversion by Russian (or pro-Russian) elements. Conscripts would make a poor choice for this force, so the manpower costs – for active-duty as well as for well-trained reserves – would be significant.

General Martin Dempsey, Chairman of the Joint Chiefs of Staff, recently stated that it is time to consider provide lethal to Ukraine. [36] Such lethal aid for the Ukrainian navy could include:

- Armed boats, such as the ones listed above, configured for intercepting and ambushing approaching landing forces. Again, professionalization and training for boat crews would be key elements to an attack-boat initiative.

- Coastal defense cruise missiles, either the U.S. Harpoon missile in coastal configuration, or other missiles designed to counter landing forces.

- Anti-aircraft missiles such as the Stinger, for countering heliborne landing forces.

- Ammunition for the most commonly used Ukrainian weapons (probably to be purchased from Eastern European countries which have not yet made the switch to NATO-standard munitions).

Additionally, if policy makers wish to contemplate a more aggressive course of action, consideration should be given to small, coastal-based assets that:

- Have the ability to threaten interdiction of resupply to Crimea;

- Are able to land troops as part of an attempt to deny/disrupt Russian activity/sovereignty in areas of Ukraine and Georgia that Russia occupies.

Counterarguments

One counter to this position is that a boost to Ukraine's coastal defense is not necessary, because the Russian Navy is on the edge of implosion anyway.

Defense analyst David Axe argues that the Russian Navy is "on the verge of collapse", on the edge of a sharp decline in ship count and combat power, due to large industrial shortfalls rooted in decades-old problems.[37] Axe argues that problems in maintaining shipbuilding, repairs, and spare parts are leading to a looming readiness shortfall that will prevent the Russian Navy from deploying in any significant numbers within the next decade.

This is a mischaracterization of the state of Russia's navy. The ability to conduct long-range deployments may indeed be limited in the coming years, but Russia's immediate concerns are in its periphery, and it will be much easier to have the ability to maintain "local" operations as opposed to long-range, even with the challenges of the industrial base.

This can be countered by the view that, if the Russian Navy is indeed on the verge of collapse, then it cannot be bad to give the Ukrainian Navy an edge in the balance of power anyway. Arguments about the possibility of Ukrainian revanchist

tendencies aside, it would still be good to have Ukraine in an even more dominant position to defend its shores against the Black Sea Fleet.

From a policy perspective, some would advise against the provision of lethal – or even non-lethal – aid to Ukraine's military. Such caution generally falls into several camps:

- Ukraine's military and government are unreliable partners (rife with corruption), and we do not know what they would do with the assistance we provide them (i.e. take aggressive actions against Russia that we would not sanction);

- Ukraine's military and government are infiltrated by Russian intelligence or at least vulnerable to exfiltration of data, and thus any technology transfers to Ukraine would eventually pass to Russia;

- Aiding Ukraine might unnecessarily provoke Russia and lead to an escalation of the crisis.

Against this, the argument can be made that, if no action is taken, and if indeed Russia does continue in its aggression against Ukraine, that an escalation would be bound to happen, as opposed to only the possibility of one if Russia were to counter a U.S./NATO strengthening of Ukraine's defenses. Additionally, technology would have to be chosen carefully, and recipients carefully vetted, to guard against corruption, misuse of U.S. military aid, and infiltration.

Above all, care must be taken to avoid provoking Russia. Training of Ukrainian naval and coastal defense personnel must occur quietly, partly in Ukraine but largely in neighboring countries (such as Romania and Bulgaria), as well as in the

United States. A training aid program – particularly one that set up a large "reservist" force – could make great use of Ukraine's extensive and global network of merchant mariners. These professional sailors are experienced and knowledgeable in maritime skills, and moreover have plausible reasons to travel abroad for work (where in fact they would receive combat training). If properly vetted, these "untouchables" could become the backbone of a new Ukrainian naval defense force.

Conclusions

Russia's amphibious forces – particularly those in the Black Sea Fleet – have remained a strong and vital part of Russia's military force throughout recent history and a variety of conflicts. Despite numerous resource challenges, they will continue to be a key component of Russian joint military doctrine and force employment for the foreseeable future. However, the forces' under-resourcing will constitute a weakness that U.S. and Allied decision makers can exploit in the form of naval aid to Ukraine's coastal defenses, in order to deter Russia from taking further aggressive action along Ukraine's Black Sea coast.

[1] Buffardi, Louis, *The Soviet Naval Infantry*, Defense Intelligence Report, Defense Intelligence Agency, Washington, DC, 1980, p. 1.
[2] Nargele, Dominik, "The Soviet Naval Infantry, an Evolving Instrument of State Power", (Dissertation), Georgetown University, Washington, DC, 1983, p. 83.
[3] Nargele, pp. 90-91.
[4] Ibid., pp. 99-106.
[5] Ibid., pp. 127-131.
[6] Buffardi, 1980, p. 13.
[7] Nargele, 1983, p. 87.
[8] Ibid., p. 171.
[9] Ibid., p. 175-6.
[10] Buffardi, 1980, p. 1.
[11] Nargele, 1983, pp. 180-82, 209-10.
[12] Ibid., pp. vii-ix.
[13] Buffardi, 1980, p. vii.
[14] Vego, Milan, Soviet Naval Tactics, U.S. Naval Institute Press, Annapolis, MD, 1992, pp. 284-87.
[15] Buffardi, 1980, p. 13.
[16] Vego, 1992, p. 288.
[17] Ibid., p. 288-89
[18] Buffardi, 1980, pp. vii, 25.
[19] Vego, 1992, pp. 299-304.
[20] Interview with senior Russian Navy analyst from the U.S. Department of the Navy, 23 April 2015.
[21] Asmus, Ronald, *A Little War That Shook the World: Georgia, Russia, and the Future of the West*, New York, MacMillan, 2010, p. 166.
[22] Cohen, Ariel and Robert E. Hamilton, *The Russian Military and the Georgia War: Lessons and Implications*, U.S. Army Strategic Studies Institute, Carlisle, PA, 2011, p. 41.
[23] Cohen and Hamilton, 2011, pp. 41-2.; Purported combat footage recorded by Russian Navy sailors, accessed at https://www.youtube.com/watch?v=tMhPGqUxN5w on 12 April 2015.
[24] Cohen and Hamilton, 2011, pp. 10-12.
[25] Asmus, 2010, p. 180.
[26] Red Star News, video "ZAPAD-2013", accessed at https://www.youtube.com/watch?v=PStiZjerAIM on 12 April 2015.
[27] "Jane's Sentinel Security Assessment - Russia And The CIS: Navy", IHS Jane's, 3 March 2015.
[28] Jane's, 3 March 2015.
[29] "Десантный корабль "Зубр" проект 12322" ["assault ship 'Zubr' Project 12322"] on the website of shipbuilding firm "Almaz", http://www.almaz.spb.ru/index.php?module=product&sub=aircush&tema=zubr, accessed on 13 April 2015.
[30] Chernov, Mystyslav, "Clashes rage in Ukrainian town, making mockery of truce," Associated Press, 23 March 2015.

[31] Saul, Jonathan, "Exclusive: Russia steps up military lifeline to Syria's Assad – sources" Reuters news agency, 17 January 2014, accessed at http://www.reuters.com/article/2014/01/17/us-syria-russia-arms-idUSBREA0G0MN20140117 on 12 April 2015.
[32] Ukraine Today news website, "Ukraine Navy Chief: Russia's got enough forces to attack Ukraine from the sea", 28 March 2015, accessed at http://uatoday.tv/news/ukraine-navy-chief-russia-s-got-enough-forces-to-attack-ukraine-from-the-sea-418324.html on 12 April 2015.
[33] "Iran's Naval Forces", Office of Naval Intelligence, 2009, pp. 8-9, 22-23.
[34] Website for Digital Receiver Technology, Inc.: "Products", http://www.drti.com/products.htm, last accessed on 12 April 2015.
[35] "Military" page, SAFE Boats corporate website, accessed at http://www.safeboats.com/boats/military/ on 13 April 2015.
[36] Ryan, Missy. "Top U.S. general says it is time to consider arming Ukrainian forces", Washington Post, 3 March 2015, accessed at http://www.washingtonpost.com/world/national-security/top-us-general-says-it-is-time-to-consider-arming-ukrainian-forces/2015/03/03/aa68dade-c1d6-11e4-ad5c-3b8ce89f1b89_story.html on 12 April 2015.
[37] Axe, David, "The Russian Navy Is on the Verge of Collapse," post on blog *War is Boring*, 18 January 2015, last accessed at https://medium.com/war-is-boring/the-russian-navy-is-on-the-verge-of-collapse-b0ce344ebf96 on 12 April 2015.

Bibliography

Asmus, Ronald. *A Little War That Shook the World: Georgia, Russia, and the Future of the West.* New York: MacMillan, 2010.
Buffardi, Louis. *The Soviet Naval Infantry.* Washington, DC: Defense Intelligence Agency, 1980.
Cohen, Ariel, and Robert Hamilton. *The Russian Military and the Georgia War: Lessons and Implications.* Carlisle: U.S. Army Strategic Studies Institute, 2011.
Nargele, Dominik. *The Soviet Naval Infantry, an Evolving Instrument of State Power.* Washington, DC: Georgetown University, 1983.
Office of Naval Intelligence. *Iran's Naval Forces.* Washington DC: Office of Naval Intelligence, 2009.
Vego, Milan. *Soviet Naval Tactics.* Annapolis: U.S. Naval Institute Press, 1992.