

Russian Military Operations in Ukraine in 2022 and the Year Ahead

Dara Massicot

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Observations of Russian Military Operations in Ukraine in 2022 and the Year Ahead

Testimony of Dara Massicot¹
The RAND Corporation²

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One year has passed since Russia launched its full-scale invasion against Ukraine. This grim anniversary offers a moment to reflect on the past year of war, discuss the current status of the fighting, and consider what the future holds. Since launching its invasion, the Russian military has inflicted severe damage on Ukrainian cities and critical infrastructure. Russian forces stand accused of committing war crimes and crimes against humanity. Despite the odds, Ukrainian forces have defended their lands, and Russia has retreated from northern and southern Ukraine on multiple occasions. One year of fighting has been taxing on the Ukrainian military, which is now largely dependent on weapons provided by the West. The Russian army is severely damaged. However, the Kremlin's intentions for Ukraine remain aggressive, yet downsized from the maximalist aims at war start. Russia has recently launched a renewed offensive in the Donbas using brute-force tactics as it tries to exhaust Ukrainian positions. This testimony will reflect on the past 12 months of war, discuss the current Russian offensive, and outline different contingencies in the year ahead.

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Reflections on the Past Year of War

On the eve of Russia's February 2022 invasion of Ukraine, Russian military forces were believed by most to have the upper hand. Nearly 200,000 troops had amassed at the border.³ Western support at the time was centered on the provision of small arms, Stinger anti-aircraft missiles, and Javelin anti-tank weapons. U.S. officials, speaking off the record in January 2022, said they were preparing to support a Ukrainian insurgency if the government failed and the military was overpowered.⁴ The Ukrainian government declared a state of emergency only one day in advance of the invasion.⁵ As a result, many analysts assumed that if Russian forces used their advantages wisely, it would be very difficult for Ukrainian forces to withstand for long. Why the Russians did not prevail—why they were instead stopped in their tracks, routed outside major cities, and put on the defensive—has become one of the most important questions in both U.S. foreign policy and international security more broadly.

The answer has many components, and no single factor explains the outcomes we see today. On the Russian side of the equation, Moscow's invasion plan was created by a small group and was riddled with faulty assumptions, arbitrary political guidance, and planning errors.⁶ The war plan's design and objectives departed from Russian military strategy principles and even previous operations in Ukraine and Syria.⁷ Russia's war plan undercut many of its advantages—in the air in particular—and amplified its problems or disadvantages from the outset. The invasion used multiple lines of attack with no follow-on force available. This tethered the military to operational objectives that were overly ambitious for the force allocated to it, particularly because of the known or endemic structural problems of the Russian force, such as a lack of manpower for a task of this magnitude or how the army had been deliberately dismantled 15 years ago from the type of force needed to wage a large, protracted land war.⁸

Even though Russia's war plans were deliberately disclosed by the United States as part of a "prebunking" policy and published in the Ukrainian and Western press, the plan was not widely disseminated to Russia's military until the last minute.⁹ It is now known that Russia's war plan was hidden for operational security reasons from key stakeholders and many rank-and-file soldiers until a few days or hours in advance, in some cases. In the days (or, in some cases, day)

³ "Russia Has Massed up to 190,000 Personnel in and Near Ukraine, U.S. Says," *Reuters*, February 18, 2022.

⁴ Helene Cooper, "U.S. Considers Backing an Insurgency If Russia Invades Ukraine," *New York Times*, January 14, 2022.

⁵ Pavel Polityuk and Maria Tsvetkova, "Ukraine's Parliament Approves State of Emergency," *Reuters*, February 23, 2022.

⁶ Dara Massicot, "What Russia Got Wrong: Can Moscow Learn from Its Failures in Ukraine?" *Foreign Affairs*, February 8, 2023.

⁷ Massicot, 2023.

⁸ Samuel Charap, Dara Massicot, Miranda Priebe, Alyssa Demus, Clint Reach, Mark Stalczyński, Eugeniu Han, and Lynn E. Davis, *Russian Grand Strategy: Rhetoric and Reality*, RAND Corporation, RR-4238-A, 2021, <https://www.rand.org/t/RR4238.html>.

⁹ Mykhaylo Zabrodskiy, Dr Jack Watling, Oleksandr V Danylyuk and Nick Reynolds, *Preliminary Lessons in Conventional Warfighting from Russia's Invasion of Ukraine: February – July 2022*. Royal United Services Institute, November 30, 2022.

before the invasion, junior and mid-grade commanders pieced together simultaneously intricate yet unworkable orders.¹⁰ This decision led to a series of preventable errors in command and control, deconfliction issues, and logistical bottlenecks. These mistakes, and other force employment errors (for example, emphasizing speed over proper route clearance) led to heavy losses of equipment and personnel in the opening weeks of the war.¹¹

The Kremlin appears to have made multiple assumptions that caused it to be overconfident in its war plan, such as assuming that (1) the Ukrainian government and military would not strongly resist or be able to resist for long, (2) Russia's network of collaborators inside Ukraine would be able to administer a puppet government (nearly 700 were arrested),¹² and (3) Russia's troops would be greeted as liberators (despite its clandestine polling to the contrary).¹³ Senior Russian officials, when confronted by their U.S. counterparts three months prior to the war, conveyed in these closed settings that they believed the West's support would not be strong enough to make a difference.¹⁴

This set of Russian mistakes then collided with the Ukrainian will to fight and Western weapons, intelligence, training, and planning support. The Ukrainian learning curve has been steep: Through experimentation, Ukrainian forces have been able to keep Russian forces off balance. The Ukrainian Armed Forces have shown creativity in their planning: for example, targeting Russian air bases and the Black Sea Fleet.¹⁵ Ukraine is benefiting more from external support from partners abroad than is Russia.

The Russian military cannot be considered wholly incompetent or incapable of adaptation. The Russian military has been able to correct some of its mistakes by controlled withdrawals, downsizing its objectives, and adding mobilized personnel to address the mismatch between ends and means at the invasion's outset. It has made battlefield adjustments and rectified early problems: in one example, adjusting its electronic warfare assets, and it has been regularly jamming Ukrainian military communications and drones since last summer.¹⁶ Russian forces have been firing 20,000 rounds of artillery per day at times, although western intelligence officials have noted publicly in late 2022 that its stockpiles are beginning to run low.¹⁷

¹⁰ Zabrodskyi, Watling et al, 2022.

¹¹ Massicot, 2023.

¹² Greg Miller, Catherine Belton, "Russia's Spies Misread Ukraine and Mised Kremlin as the War Loomed," *Washington Post*, August 19, 2022.

¹³ Greg Miller, Catherine Belton, "Russia's Spies Misread Ukraine and Mised Kremlin as the War Loomed," *Washington Post*, August 19, 2022.

¹⁴ Michael Schwartz, Anton Troianovski, Yousur Al-Hlou, Masha Froliak, Adam Entous and Thomas Gibbons-Neff "Putin's War," *New York Times*, December 16, 2022.

¹⁵ Leo Sands, "Saky Airfield: Ukraine Claims Crimea Blasts Responsibility after Denial," *BBC*, 7 September 2022.

¹⁶ David Axe, "Russia's Electronic-Warfare Troops Knocked Out 90 Percent Of Ukraine's Drones," *Forbes*, December 24, 2022.

¹⁷ *The Economist*, "Is Russia Running out of Ammunition?" December 20, 2022.

The Russian military has sustained staggering losses: Senior U.S. officials place Russian casualties at well over 100,000.¹⁸ The army has lost thousands of pieces of armored equipment (around half of its prewar tanks in active service, for example) and several squadrons of fighter jets (which amounts to 6–8 percent of its total) and helicopters, Western officials say Russia has expended a large proportion of its precision strike munitions and artillery shells.¹⁹

For those who have studied the Russian military for a long time, some aspects of it, such as the army, airborne, and special forces, have sustained so much damage that, as a force, they are becoming unrecognizable from one year ago, but they still fight. This damage is systemic and severe and, since summer 2022, has hindered the Russian military's ability to make large territorial gains.

A Renewed Offensive

Russian leaders are preparing for a protracted conflict. To replace lost personnel, Russia mobilized 300,000 men last September.²⁰ They were hastily trained, and their skill sets are highly variable. To replace equipment losses, the military is withdrawing older equipment from strategic reserves, as it has from the war's outset.²¹ The Kremlin has increased defense budgets and ordered accelerated production of some military equipment.²²

By October 2022, it appeared that Russian forces inside Ukraine were moving to the defensive after the appointment of General Sergey Surovikin as overall commander of the special military operation.²³ After retreating from the Kherson and Kharkiv regions, Russia assumed a defensive stance on the ground, building a network of defensive positions, trenches, and minefields, while it launched missiles at critical Ukrainian infrastructure and tried to exhaust Ukrainian air defenses from a distance.²⁴ Such a strategy could have given damaged and depleted Russian forces time to regroup, regenerate, train, and deploy 300,000 mobilized forces while complicating Ukrainian counteroffensives.

However, this was apparently not a satisfactory way forward for the Kremlin. By January, Putin demoted Surovikin, despite him having no obvious cause to be relieved, and replaced him

¹⁸ Howard Altman, "Ukraine Situation Report: Russian Casualties 'Significantly Well over 100k' Says Top U.S. General," *The War Zone*, January 20, 2023.

¹⁹ Brad Lendon, "Russia May Have Lost Up to Half of Its Operational Tank Fleet in Ukraine, Monitoring Group Says," *CNN*, February 9, 2023; Stijn Mitzer, "List of Aircraft Losses During the 2022 Russian Invasion of Ukraine," *Oryx*, March 20, 2022.

²⁰ Mary Ilyushina, "Russia Defense Minister Says Mobilization Complete with 300,000 Summoned," *Washington Post*, October 28, 2022.

²¹ Ihor Mykhylenko, "Аналіз запасів танків РФ на базах зберігання за Уралом [Analysis of Russian tank stocks at storage bases in the Urals]," Ukrainian Military Center, August 22, 2022, <https://mil.in.ua/uk/blogs/analiz-zapasiv-tankiv-rf-na-bazah-zberigannya-za-uralom/>.

²² *Reuters*, "Russia to Spend \$600 Billion on Defense and Security by 2025," September 23, 2022.

²³ Mike Eckel, "Surovikin's Down, Gerasimov's Up: Russia's War On Ukraine Pivots Into Politics," *RadioFreeEurope*, January 12, 2023.

²⁴ Phil Stewart and Idrees Ali, "Russia Trying to Exhaust Ukraine's Air Defenses, Pentagon Official Says," *Reuters*, November 19, 2022.

with General Valeriy Gerasimov, the Chief of the General Staff, who oversaw the disastrous initial invasion plan.²⁵ In making this move, the Kremlin had clearly decided that an offensive approach—even with shaky forces and depleted equipment—was preferable to a defensive one. Within a few weeks of his appointment, Gerasimov ordered localized assaults in Donetsk, Luhansk, and Zaporizhzhia, ostensibly to bring these regions under full Russian occupation and to keep Ukrainian forces occupied and unable to break away to begin a counteroffensive.²⁶

However, Russia’s forces were ill-equipped for an offensive and needed more time to train and aggregate strike power with armored assets. Russian forces are attacking in several areas at present, near such towns as Bakhmut and Vuhledar, among others.²⁷ The tactics are crude. Any finesse or operational art in their doctrine has given way to brute force and repetitive attacks. The Russians are using repetitive armored assaults in some areas and human waves of “storm” troops elsewhere.²⁸ In other words, they use infantry to draw fire from defending Ukrainian forces, exposing Ukrainian positions that can then be targeted by Russian artillery and a second wave of better trained Russian troops.

With continued Ukrainian resistance and Western support, Russia’s gains so far have been minimal and the losses steep, although it is early. Ukrainian forces claim that Russian casualties are in the hundreds per day, at rates not seen since the early weeks of the invasion.²⁹ Newly mobilized Russian troops, knowing they are being used as cannon fodder, have even made public appeals to officials to be spared.³⁰ Even with mobilization, judging from the Russian military’s performance in the new offensives to date, it appears that the losses of trained crews, noncommissioned officers, junior officers, logisticians, and other specialists who were casualties of the war’s early days have reduced the Russian military’s combat effectiveness on the offensive.

Despite such diminished capacity, the Russian command shows a high tolerance for losses and continues to push its troops forward, prepared or not. The Russian military has shown a staggering indifference to the lives of its personnel during this war, in a sad tradition that extends

²⁵ Mike Eckel, “Surovikin’s Down, Gerasimov’s Up: Russia’s War on Ukraine Pivots into Politics,” *Radio Free Europe/Radio Liberty*, January 12, 2023.

²⁶ “Russian Army Chief Says Focus Is Now on Liberation of Donetsk,” *Moscow Times*, December 22, 2022.

²⁷ Isobel Koshiw, “Ukrainians Blow Up Bridge in Bakhmut Amid Reports Russia Closing In,” *The Guardian*, February 14, 2023.

²⁸ Erin Snodgrass, “Satellite Photos Show Carnage in Vuhledar Where Russian Losses Are Mounting Amid Ukrainian Defense,” *Business Insider*, February 13, 2023; Andrew E. Kramer, “‘Our Losses Were Gigantic’: Life in a Sacrificial Russian Assault Wave,” *New York Times*, February 13, 2023.

²⁹ Kramer, 2023.

³⁰ Leonid Volkov [@leonidvolkov], “Другими словами, надежды Путина и его генералов на то, что мобилизованные помогут переломить ситуацию на фронте и позволят снова осуществлять наступательные действия — несбыточны. Ну и хорошо. 6/6 Еще пара видео для комплекта: <https://t.me/mobilizationnews/8517> [In other words, the hopes of Putin and his generals that the mobilized will help turn the tide at the front and allow offensive actions to be carried out again are unrealistic. Well, good. 6/6 A couple more videos for the kit: <https://t.me/mobilizationnews/8517>],” Twitter post, February 13, 2023, <https://twitter.com/leonidvolkov/status/1625070658634887169>.

back decades to the Soviet period.³¹ Russian military leaders show little ability or interest to correct this issue.

However rudimentary, the method has brought some success. Russian shelling in some areas occurs around the clock. Some Ukrainian positions, such as Bakhmut, are under serious and mounting pressure.³² Russian forces are also attacking near Kreminna, where the situation is described by Ukrainian officials as tough.³³ Missile strikes by the Russian Air Force, meanwhile, continue to chip away at Ukrainian air defenses.

Outlook

President Putin is certainly digging in for the long haul, and the Russian military, although wounded, is still fighting. Sustained high-intensity, high-attrition combined-arms warfare is extraordinarily difficult and resource-intensive. Russia and Ukraine now have more recent experience with this type of fighting than any other countries in the world.

Russian military leaders are thinking about force regeneration, although their announced plans are aspirational if not outside their grasp for many years. In December, the Russian Defense Minister announced plans to enlarge Russia's force structure by creating new army units and increasing the size of the military to 1.5 million.³⁴ It was widely known that, prewar, when the Russian military was considered a trusted institution, it had known manning problems.³⁵ It is unlikely that Russia will be able to expand to that number in the next few years, short of multiple rounds of mobilization, expanding conscription, or recent efforts to incorporate separatist proxy forces in Donetsk and Luhansk into the Russian army officially.³⁶ There is no reliable data at present about Russian recruiting levels into professional enlisted service, and retention is frozen due to ongoing "stop loss" guidance in effect since fall 2022: Contracts for professional enlisted will continue until the end of the mobilization period, which has no formal end date as of February 2023.³⁷

Russia still has untapped manpower (Russian officials say 25 million) and could call for another mobilization this year or next.³⁸ There remains a stockpile of armored equipment in strategic reserves (such as older tanks, artillery, and fighting vehicles) that likely number in the low thousands, based on prewar estimates. However, that equipment is in various states of

³¹ Dara Massicot, "The Russian Military's People Problem: It's Hard for Moscow to Win While Mistreating Its Soldiers," *Foreign Affairs*, May 18, 2022.

³² Isobel Koshiw, "Ukrainians Blow Up Bridge in Bakhmut Amid Reports Russia Closing in," *The Guardian*, February 14, 2023.

³³ "Russia Has Focused All Its Efforts on Kreminna Direction," *Espresso TV*, February 17, 2023.

³⁴ "Russian Military Announces Plan to Expand, Create New Units," Associated Press, December 21, 2022.

³⁵ Charap et al., 2021; Michael Kofman and Rob Lee, "Not Built for Purpose: The Russian Military's Ill-Fated Force Design," *War on the Rocks*, June 2, 2022.

³⁶ "ISW: Russia Formally Integrates Proxy Militias from Eastern Ukraine into Russian Military," *Kyiv Independent*, February 21, 2023.

³⁷ Zoya Sheftalovich, "Full Text of Putin's Mobilization Decree—Translated," *Politico*, September 21, 2022.

³⁸ "Kremlin Denies That Mobilisation Decree Allows a Million to Be Enlisted," *Reuters*, September 22, 2022.

disrepair: Much of it has been sitting in open storage for many years, and some of it is beyond repair and has been stripped for parts. Russia has already been drawing down on this equipment since summer 2022. Without mobilizing even more men and pulling battalion sets of equipment from the reserves, it is my assessment that another attack on northeastern Ukraine, such as the Kharkiv region, would be difficult. Another attack on Kyiv seems well beyond the ability of Russian forces for years, or could be put off indefinitely, in my opinion.

The outcome of the war is highly contingent on multiple factors related to sustainment, force regeneration, and availability of western support to Ukraine. In addition, there are several potentially disruptive events that could alter the dynamics of the war in ways that could benefit Russia or Ukraine. Russia could make changes to its operational approach: for example, the training and creation of multiple armored units in Russia from reserves that could add strike power, although there is no publicly available evidence to suggest that this is happening. Should Russia be able to exhaust Ukrainian air defenses, perhaps through the use of Shahed drones or persistent missile salvos, the Russian Air Force could be reintroduced to the war at a larger scale, a possibility that could be damaging to Ukrainian forces. There could be changes to outside support for either Ukraine or Russia. Just as more-advanced equipment for Ukraine would alter dynamics, the possibility of lethal aid from China to fill critical gaps for Russia would also affect the conflict, depending on what was provided.³⁹ One side could be exhausted before the other, perhaps through failed offensives that would leave its overall position weaker. Russian military morale is poor, but there are no signs of uncontrolled collapse along the front line, nor are there signs that collective protests are close to occurring inside Russia. Russia could decide to horizontally or vertically escalate and accept greater risks of direct conflict with NATO. So far, Russia has not escalated kinetically outside the boundaries of Ukraine, even as the Kremlin increasingly seeks to frame this war as an existential one for Russia with its rhetoric.⁴⁰ Russia has so far been unable or unwilling to interdict Western aid to Ukraine, but it is a risk that Russia could overcome this problem.

In conclusion, Russia's combat potential is diminished due to the number and type of losses it has sustained in the first year of the war. Russia is trying to overcome these deficits with mobilization and brute-force tactics. Defending against the renewed Russian offensive is taking a toll on Ukrainian forces, and Russia is actively digging in with fortifications, trenches, and minefields to make it costly for Ukraine to liberate more territory moving forward.

For now, Putin shows no signs of abandoning this war. He seems willing to sacrifice the lives of Russian men and mortgage Russia's future to achieve his goals. For Ukraine, in need of urgent and sustained support, it is a deadly commitment. Ukraine outclasses Russia with intelligence, surveillance, and reconnaissance (ISR); tactical adaptation; will to fight; and force employment. It does this organically and with Western weapons, training, and intelligence support. The

³⁹ Samuel Horti and James Landale, "Ukraine War: Blinken Says China Might Give Weapons to Russia," *BBC News*, February 19, 2023.

⁴⁰ Guy Falconbridge, "Russia's Putin issues new nuclear warnings to West over Ukraine," *Reuters*, February 21, 2023.

capabilities of both sides are being worn down, and Ukraine will need continued and predictable support as Russia digs deep into its reserves.