

Comment

Inhospitable Sea II. The Black Sea. the role of the Russian and Ukrainian navies and the widening war, October 2022 to mid-July 2023

This comment piece is based entirely on open sources
Professor Chris Bellamy

Prime target

In the previous issue of *IJMCS* (Vol 2 No 2 September 2022) I published a comment piece entitled 'Inhospitable Sea' The Black Sea and the role of the Russian Navy in the Russia-Ukraine War to mid-September 2022' (pp. 23-62). On p. 33 I noted that the Crimean Bridge, across the Kerch Strait from mainland Russia to annexed Crimea which had opened in 2018 was.

'... an obvious target for the Ukrainians as Russia's wider war on Ukraine grinds into its fifth month – and the Russians know it. However, the Ukrainian armed forces still do not have the means reliably to strike the \$3.6 billion, a steel-and-concrete bridge which is crucial to the reinforcement and resupply of Russian forces in Crimea, as well as being highly symbolic. 'The Kerch Strait Bridge is targeting number one for the Ukrainian armed forces,' Ukrainian major general Dmitry Marchenko said in June 2021. 'This is not a secret either for their military or for our military. Neither for their civilians nor our civilians. It will be the number-one target for hitting,'¹ However, the bridge is way out of range of the MLRS and HIMARS supplied to Ukraine by the UK and US. Manned aircraft and long-range drones such as the newly developed Ukrainian Sokil (Falcon)-300 drone, the first version of which has a range of 1,000 km (540 nm) could reach the bridge, but the massive Russian air defences make it a very hard target. Submarine attacks are very rare, but the only way of seriously damaging the bridge would seem to be the use of special forces. The other problem is political. The Russians have claimed Crimea as their own since 2014, and the bridge itself links Crimea with mainland Russia. Attacks on Russian territory would provoke enormous Russian anger and probably an even more disproportionate response.'

The Russian newspaper *Novye Izvestiya* had, on 13 September 2021, underlined its importance and obvious potential vulnerability as a key target.²

On Saturday 8 October 2022, that very lucrative and high priority target status was demonstrated. Spectacularly. At 06:07 hours local time (three hours ahead of GMT), the day after Putin's 70th birthday, a massive explosion and fire hit the bridge's north-western section almost exactly halfway between the north-west end of the Tuzla Island section and the elevated 'navigation arch' section (see figures 1 and 2). The Russians almost immediately blamed a terrorist truck bomb attack, which had somehow also ignited some fuel tankers on a train standing on the parallel rail link, lying to the south of the motorway (see the two graphics in Figures 1 and 2).³

¹ David Axe, 'In 2014, Russia's Black Sea Fleet Was Aging and Weak: Today, It Can Fire Cruise Missiles at Kiev', *Forbes*, 21 December 2021, <https://www.forbes.com/sites/davidaxe/2021/12/21/in-2014-russias-black-sea-fleet-was-aging-and-weak-today-it-can-fire-cruise-missiles-at-kiev/?sh=1a0e5d01766c> (accessed 13 September 2022).

² Sergey Kron, 'Question of the Day: How Reliably Is the Crimean Bridge Protected from Possible Attacks by Ukraine?', *Novye Izvestiya*, 13 September 2021, <https://en.newizv.ru/news/army/13-09-2021/question-of-the-day-how-reliably-is-the-crimean-bridge-protected-from-possible-attacks-by-ukraine> (accessed 13 September 2022).

³ I first saw the story at about 07.00 on Al Jazeera English News. My account is based on Peter Conradi, 'Bridge blast opens up Crimea', *Sunday Times*, 9 October 2022, p. 1 (splash). See also https://www.dailymail.co.uk/news/breaking_news/article-11293851/Massive-explosion-destroys-key-bridge-linking-Crimea-Putins-Russia.html and Paul Adams, BBC in Kyiv, Crimean bridge: Who - or what - caused the explosion? - BBC News. <http://www.bbc.co.uk/news/world-europe-63192757>.

Figure 1. The attack on the Crimean Bridge 8 October 2022. Source author (adapted and redrawn), and detail from satellite shot courtesy Maxar Technologies.

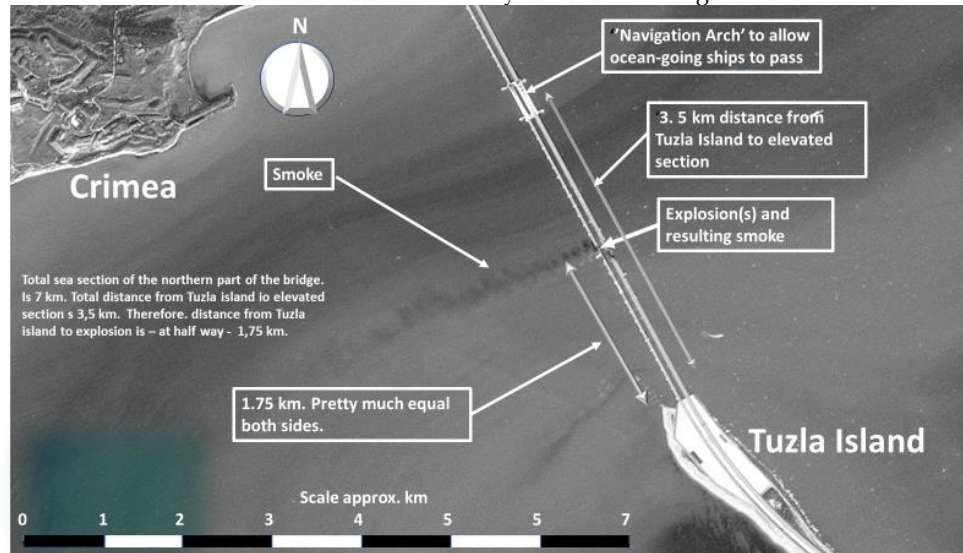
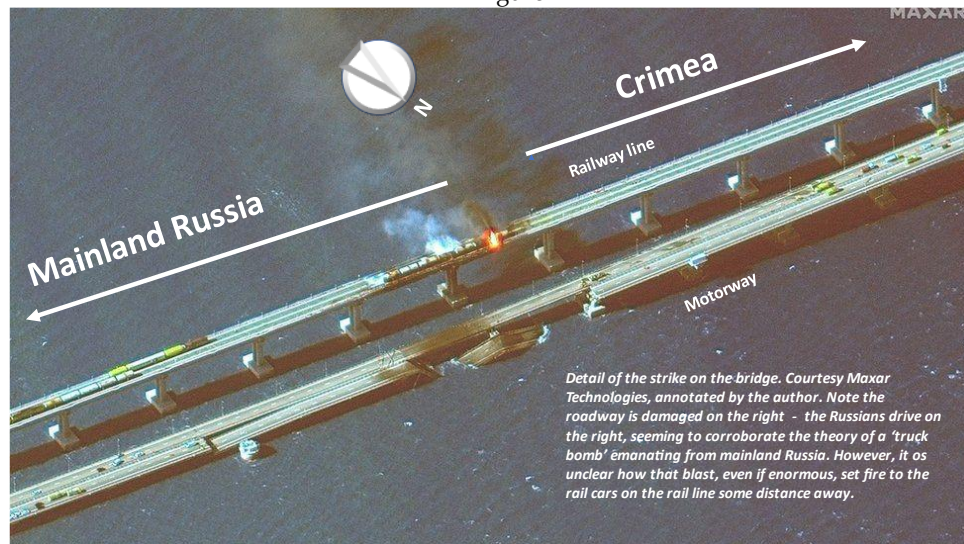


Figure 2



Russia was quick to suggest this was a truck bomb but did not say who orchestrated it. Putin accused Ukraine of attacking the bridge in an 'act of terrorism'. According to the BBC, security camera footage released on social media showed a truck - allegedly from the Russian city of Krasnodar, an hour's drive from the crossing - moving west across the bridge at the time of the explosion. Russian officials named a 25-year-old Krasnodar man, Samir Yusubov, as the owner of the truck, and said an older relative, Makhir Yusubov, was the driver.

However, according to the BBC, close examination of the footage seems to show that the truck had nothing to do with the explosion. The footage shows a huge fireball erupting just behind - and to one side - of the truck as it begins to climb an elevated section of the bridge.⁴

The BBC correspondent in Kyiv thought the speed with which the truck bomb theory started to spread in Russian circles was suspicious. It suggested the Kremlin preferred an act of terrorism to a more alarming possibility: that this was an audacious act of sabotage carried out by Ukraine. In my view, blaming some dissident movement emanating from southern Russia (Krasnodar) and thereby undermining potential dissidents could well be preferable to admitting a very successful special forces strike on a Russian prestige target. At the time this issue of the *Journal* goes to press we cannot anticipate the verdict.

The BBC interviewed a former British Army explosives expert. Speaking on condition of anonymity, he said 'I've seen plenty of large vehicle borne IEDs [improvised explosive devices] in my time. This does not look like one.' A more plausible explanation, he said, is a massive explosion below the bridge - probably delivered using some kind of clandestine maritime drone. 'Bridges are generally designed to resist downwards loads on the deck and a certain amount of side loading from the wind. They are not generally engineered to resist upward loads. I think this fact was exploited in the Ukrainian attack.'⁵

The BBC report showed a twenty second clip from a security camera. Four to five seconds in, a large white truck passes over as something that looks like the bow wave of a small boat appears next to one of the bridge supports. At six seconds the screen goes blank, and then the picture shows a huge orange and yellow explosion.

The British explosives expert told the BBC that the Ukrainians had been developing the concept for using such remotely controlled or maybe autonomous vessels for years. If that was how Ukraine managed to attack the Kerch Bridge, hundreds of miles from Ukrainian-controlled territory, then it was one of Kyiv's most ambitious operations so far. However, the BBC report added that 'apart from a few whispers in the capital, no-one is confirming the theory.'⁶

However, the Ukrainians supported the Russian explanation that that the explosion was started by a truck bomb and said that the explanation should be sought in Russia. In spite of that, and the initial report tracing the truck's origins to Krasnodar, Putin blamed the Ukrainians for 'terrorism', and the following day launched a series of missile and drone attacks in revenge for the cutting of the great Crimean bridge.⁷ The attack on the bridge and Russian revenge could well be the beginning of a further bloody escalation.

Just prior to publication there was another attack on the bridge, underlining its great logistic and symbolic importance. At around 03.00 hrs on Monday morning, 17 July, a married couple were killed, and their teenaged daughter wounded in an attack on the bridge. Traffic along the 19km-long road and rail bridge was halted for six hours, following reports of multiple explosions.⁸ The explosions occurred in virtually the same place as those the previous October, just south of the elevated 'navigation arch'.

Russia's antiterrorism committee later said that on 17 July the bridge had been hit by two maritime drones in what appeared to be separate explosions⁹ A spokesman for Ukraine's security service, Artem

⁴ Adams, *Ibid.*

⁵ *Ibid.*

⁶ *Ibid.*

⁷ *Ibid.*

⁸ [Crimea bridge attack: Everything to know about the Kerch bridge as critical Russian supply line attacked | The Independent](#); [What We Know About the Crimea Bridge Attack - The New York Times \(nytimes.com\)](#)

⁹ Both *Ibid.*

Dekhtiarenko, crowed about the attack without saying directly that it was conducted by Ukrainian forces, in keeping with Kyiv's policy of deliberate ambiguity about strikes on Russian-held territory.¹⁰

Drone boats (USVs) debut

Whether a USV was responsible for cutting the bridge the first time or not, it seems certain USVs were responsible for the second attack within less than a year. Evidence of the existence of 'drone boats' (Uncrewed Underwater and Surface Vehicles (UUVs and USVs)), had emerged in September 2022. On 21 September images on Russian social media showed a black unmanned USV the size of a large kayak (see Figure 3) A kayak, or maybe (see below), a jet-ski. The craft had washed up near Sevastopol). The Russians examined it and then towed it out to sea and blew it up.

The key parts of the Ukrainian drone boat are illustrated on the same photograph, which was disseminated in social media, shown in Figure 4, and in H H Sutton's developed illustration shown in Figure 5.

Figure 3. The drone boat (USV) beached off Sevastopol on 21 September 2022.



¹⁰ NYT *Ibid.*

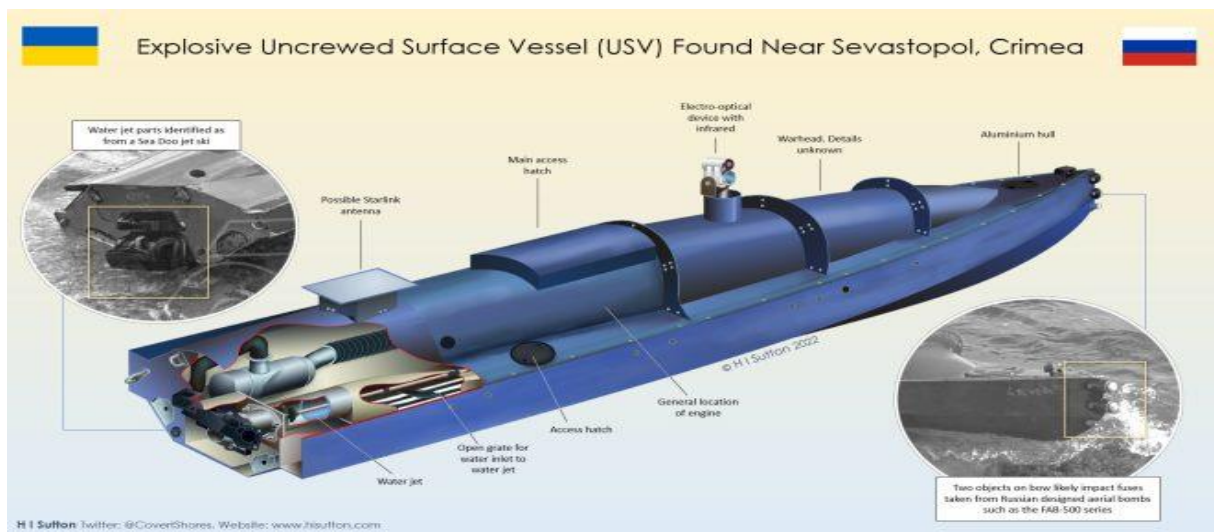
Figure 4. Same photograph, annotated



Future Ukrainian USVs may have a much longer operational range – 400 nautical miles – and heavier warheads of up to 400 lb. (also reported as 200 kg. Technically, 400 lb. equates to 184,3 kg, but that is not far off.)

. In the latter of these two diagrams, (inset, top left) Sutton identifies the water jet – or, at any rate, the ports for that powers the USV as from a commercial Sea-Doo jet ski. As Figure 6 from the latest Sea-Doo catalogue shows, these jet skis are widely available on the commercial market.¹¹

Figure 5. More developed analysis on the 21 September 2022 drone boat. Analysis by H H Sutton *Covert Shores* [drone boats images sevastopol naval](#). [Bing images](#)



¹¹ Sea-Doo 2023: Personal Watercraft and Sea Scooter

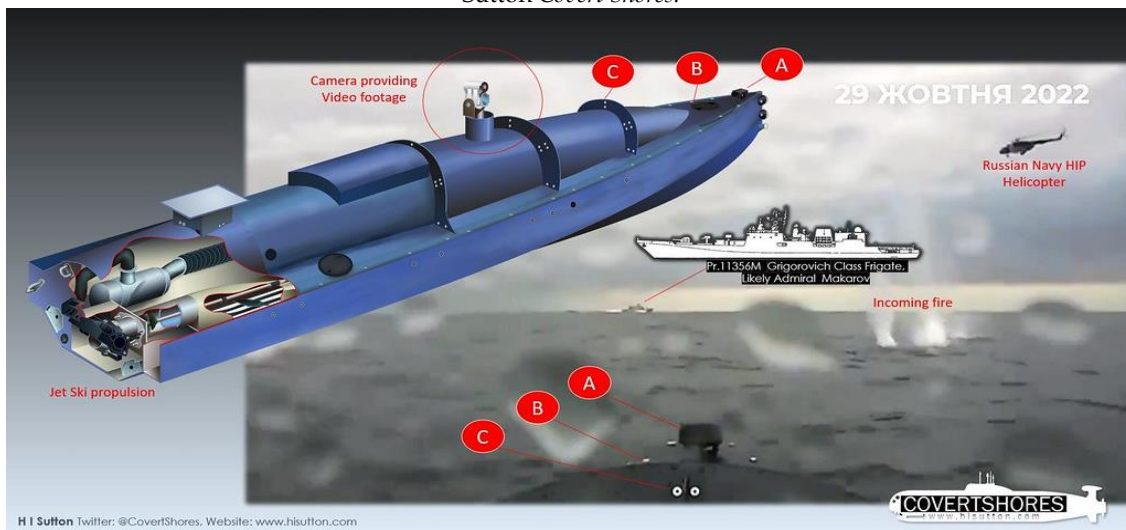
Figure 6. The commercial Sea-Doo jet-ski. The similarity in shape to the Ukrainian USV is notable



There were further reports of USV use soon after

Very soon afterwards came the first attack on the Crimean Bridge (see above) and then, on 29 October 2022, an attack on the Black Sea Fleet in Sevastopol. At 04:20 on October 29, a strong explosion sounded, after which several more "claps" were heard. Videos began to circulate in 'Telegram channels' showing black smoke over Sevastopol and explosions could be heard. Even Russia admitted it was a massive attack, saying that nine UAV drones and seven USV drone boats were fired and one warship damaged.¹² As usual in this war of words Ukraine initially declined to comment but later said that 16 drones (confirming the Russian statement about nine UAVs and seven USVs) were used and that three Russian warships including the Black Sea Fleet flagship *Admiral Makarov* were damaged. A *Covert Shores* reconstruction of the drone boat attack based on film taken from a Ukrainian drone boat is shown in Figure 7.

Figure 7 attack on what is believed to have been the Admiral Makarov frigate am 29 October 2022. Analysis H H Sutton *Covert Shores*.



¹² 'Massive' drone attack on Black Sea Fleet - Russia - BBC News Hugo Bachega in Kyiv and James Gregory in London, Massive' drone attack on Black Sea Fleet - Russia Published 29 October 2022. <https://nextth.city/ukrainewar/black-sea-gamechanger-in-ukraine-russia-war-kyiv-s-kamikaze-drone-boats-used-in-sevastopol-attack>

Shortly after the attack, on 11 November 2022, *Business Insider* reported that Ukraine was 'Crowdfunding' a new fleet of perhaps 100 drone boats, and that for USD 250,000 donors could name one - presumably after themselves. The article featured pictures of some of Ukraine's USVs (see Figure 8). Donors are requested to use the official Ukrainian fundraising platform UNITED 24.¹³

Mykhalio Fedorov, the deputy prime minister of Ukraine, argued that the naval drones are a cost-effective means of altering the balance of power in the Black Sea after Ukraine lost most of its navy when Russia annexed Crimea. Kyiv hopes to build a fleet of 100 such vessels. "Small and fast, they are capable of successfully attacking Russian ships worth hundreds of millions of dollars, fulfilling their key objective – to force these ships to stay at the bay because of the fear of being hit," he said.¹⁴

Figure 8. Another 'dark fleet' – some of Ukraine's drone boats (USVs).¹⁵



On 24 May 2023 there was a further report of an attack on a Russian warship, not close to Crimea, or other occupied parts of Ukraine but further out in the Black Sea. Closer to Istanbul than Sevastopol. The Russian MoD broadcast film purportedly showing the drone boat being eliminated. Ukrainian media showed a successful hit on a Russian warship effectively blowing it out of the water. A judicious analysis by the BBC's veteran Defence and Security Correspondent Frank Gardner cautioned against taking either side for granted and about being mesmerised by the information way. If Ukraine had launched this attack

¹³ Charles R. Davis Nov 11, 2022, 10:16 PM GMT [Ukraine Launches Crowdfunding Effort for Explosive Drone Boats \(businessinsider.com\)](https://www.businessinsider.com)

¹⁴ Ibid.

¹⁵ Ibid.

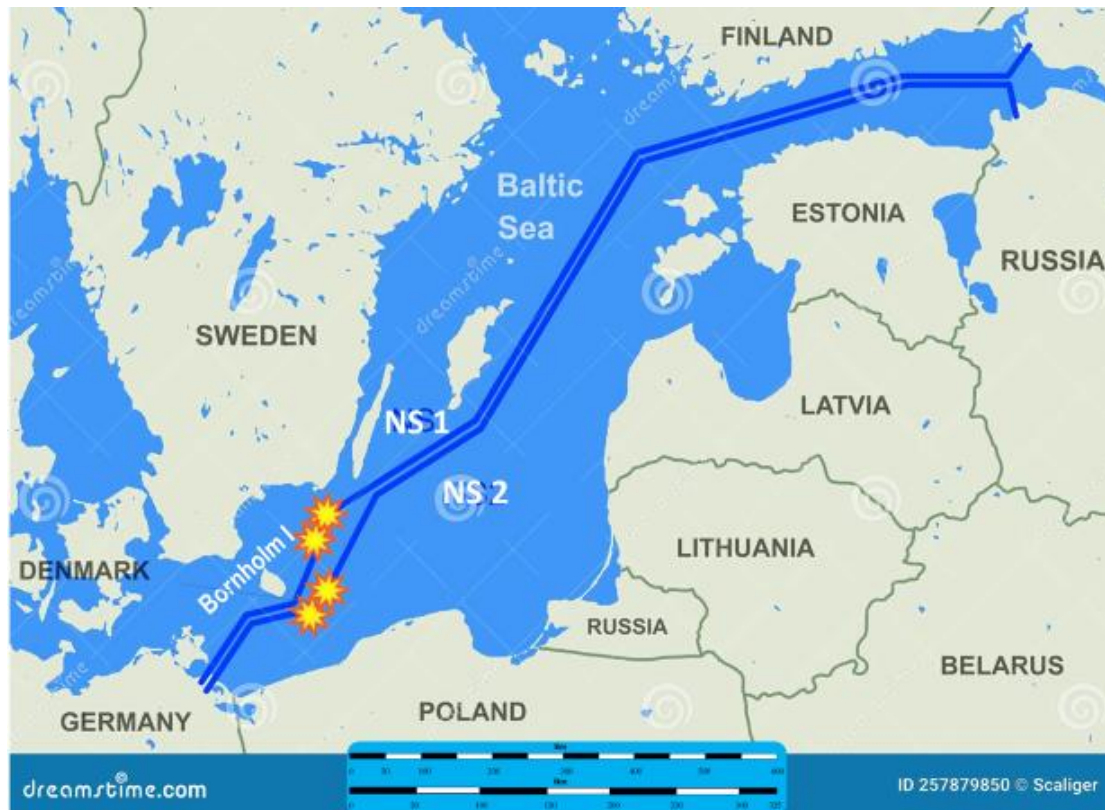
so far beyond the immediate war zone. It would be a significant escalation of the conflict and widening of the war zone¹⁶

But that widening had already started.

The Baltic and the attack on Nordstream 1 and 2.

The first and most spectacular expansion of the war was probably the attack on the Baltic 1 and 2 pipelines, able to carry oil from Russia to Germany. It took place on 26 September 2022 after our previous issue (Vol. 2, No. 2) had already just gone to press. On that day, a series of obviously clandestine bombings and subsequent underwater 'gas leaks' occurred on both natural gas pipelines (see Figure 9). Both pipelines had been built to transport natural gas from Russia to Germany through the Baltic, and are majority owned by the Russian state-owned gas company, Gazprom. The perpetrators' identities and the motives behind the sabotage remain debated at the time of writing.

Figure 9. Nordstream 1 and 2 pipelines and the location of the attacks off Bornholm (Denmark) on 26 September 2022. Source [Nord stream 1 and 2 attacks maps - Bing images](#), annotated and adapted by the author, including scale. As a rough guide, the distance from the eastern shore of Sjaelland (Zealand) island to Bornholm Island is about 200 km (107 nm).



¹⁶ [Was Russian warship attacked by Ukrainian drone boats in the Black Sea? - BBC News 24 May 2023](#). Russia's Defence Ministry claims it has foiled a Ukrainian sea drone attack on a Russian warship in the Black Sea

Prior to the leaks – or sabotage - the pipelines had not been operating because of disputes between the EU and Russia after the Russian invasion of Ukraine but were filled with natural gas. On 26 September at 02:03 local time (CEST – GMT + 1), an explosion was detected originating from Nord Stream 2; a pressure drop in the pipeline was reported and natural gas began escaping to the surface southeast of the Danish island of Bornholm.¹⁷ Danish monitoring equipment detected a seismic event equivalent to 500kg of TNT. At about the same time. A drop in pressure was recorded in Nord Stream 2, the southerly of the two parallel pipelines designed to transport Russian gas under the Baltic Sea. Seventeen hours later, the same occurred to Nord Stream 1, resulting in three separate leaks northeast of Bornholm. All three affected pipes were rendered inoperable; Russia has confirmed one of the two Nord Stream 2 pipes is operable and is thus ready to deliver gas through Nord Stream 2. The leaks occurred one day before Poland and Norway opened the 'Baltic Pipe', running through Denmark, bringing in gas from the North Sea, rather than from Russia as the Nord Stream pipelines do – or did.¹

The Russians soon claimed that a unit of "British specialists" was involved in the "terrorist act in the Baltic Sea" the UK Ministry of Defence responded, saying Russia was "peddling lies on an epic scale". After that attack, Russia ended its participation in the Black Sea Grain Initiative (see above and previous issues). For four days after that attack, whoever was to blame, grain ships continued to sail from Ukraine despite the Russian announcement. Before these events, Ukraine had warned about possible Russian plans to withdraw from the agreement (see below).¹⁸

Following the USV attacks, UAV attacks and further attacks using British supplied Stormshadow missiles, the Russians started withdrawing their high-value naval forces from Sevastopol, where their coordinates were well known to the Ukrainians. These included drone attacks on Sevastopol harbour in the early morning of 22 March 2023. From the Russian side, the Russians had built up layered defences in the air, on land, and at sea around the harbour in Sevastopol, and especially at its entrances. These had become more elaborate after repeated drone attacks of increasing sophistication.¹⁹

Debate about who exactly blew up the Nordstream 1 and 2 pipelines continues up to the time of this issue's publication at mid – July 2023. In early July Associated Press released a report from Berlin that Investigators had found traces of undersea explosives in samples taken from a yacht that was searched as part of a probe into last year's attacks on the Nord Stream gas pipelines.²⁰ European diplomats told the United Nations Security Council.

The diplomats said the investigation has not yet established who sabotaged the pipelines, which were built to carry Russian natural gas to Germany, or whether a state was involved.

The attack, which happened as Europe attempted to wean itself off Russian energy sources following the Kremlin's full-scale invasion of Ukraine, contributed to tensions that followed the start of the war. The source of the sabotage has been a major mystery. Denmark, Sweden, and Germany have been investigating the 26 September attack, and the Danish Foreign Ministry tweeted a letter Tuesday 11 July from the three

17 Bornholm is important in the Soviet - Russian - Baltic context . It was occupied by Germany during World War II . It became the base for massive coastal defence guns to seal the relatively narrow routes into and out of the main Baltic Sea. It lay east of the Oder - Neisse line , the boundary between modern Poland and Germany, (As can be seen in Figure 9), and that agreed between the western allies and Soviet Russia at Potsdam (17 July to 2 August 1945). On 8-9 May 1945, after heavy bombing, the Russians occupied Bornholm. However, uncharacteristically, the Russians left the island after less than a year, on 5 April 1946. The fact that it was allied territory and productive negotiations between the Russians and the Danish Royal family ensured that the Russians departed. And they did so with a relatively good record. Only one rape was recorded on this territory of their (still) western allies. I am grateful to Professor Caroline Kennedy for her insights and research on this intriguing anomaly.

18 [Putin's navy flees Ukrainian port in panic after Storm Shadow missile attack on harbour \(msn.com\)](#) Latest 3 June 2023

19 *Ibid.*

20 [Associated Press](#) [Traces of explosives found in yacht in Nord Stream sabotage investigation, diplomats say \(msn.com\)](#) Wednesday 12 July 2023

countries' U.N. ambassadors to the president of the Security Council with information on their activities so far.

Officials cautioned in March over media reports that a pro-Ukraine group was involved in the sabotage. German media reported then that five men and a woman used a yacht hired by a Ukrainian-owned company in Poland to carry out the attack, and that the vessel set off from the German port of Rostock.²¹

At the time of publication, the mystery is unresolved.

The Black Sea Grain Initiative

Following worldwide concern about global food shortages and rocketing prices, the Black Sea Grain initiative was signed on 22 July 2022 by Ukraine, Russia and brokered by Turkey and the United Nations,²². Before Russia's invasion of Ukraine on 24 February 2022, Russia and Ukraine provided a quarter of the world's grain, mostly to the developing world. As we noted in the previous issue, Russia also embarked on a PR campaign, particularly in Africa, to reassure the developing world that it cared about the red horse of war and the white horse of conquest leading to the black horse of famine.²³

The Grain Initiative was extended a number of times, the last time on 17 May 2023, but only for two months. On 11 July 2023 Reuters reported that the deal allowing Ukraine to export grain via the Black Sea would expire on 17 July and that, with Moscow saying it saw no grounds for an extension, there were fears it might collapse. On 17 July 2023 the deal came to an end.²⁴ The consequences of that will be examined in the next issue.

Ukraine was a major producer of grains and oilseeds and the interruption to its exports at the outbreak of war pushed global food prices to record highs. The current deal, agreed in July 2022 some five months after the war started, helped to bring down prices and ease a global food crisis.

Ukraine grain has also played a direct role with 725,200 tonnes or 2.2% of the supplies shipped through the corridor used by the United Nations World Food Programme (WFP) as aid to countries such as Ethiopia, Somalia, and Yemen.

Assuming that the Black Sea Grain Initiative ends, as seems probable, prices for some staple foods would likely rise but the situation is better than in the months after the war started due to improved supplies of grain from other producers such as Argentina and Brazil.

Under the pact to create a safe shipping channel, Ukraine had been able to export 32.9 million tonnes of agricultural products, including 16.9 million tonnes of corn and 8.9 million tonnes of wheat. Russia had repeatedly said it saw no reason to extend the deal. It said commitments made to remove obstacles to Russian food and fertiliser exports had not been fulfilled. Moscow's demands had included the reconnection of Russian Agricultural Bank (Rosselkhozbank) to the SWIFT payment system. Other demands included the resumption of supplies of agricultural machinery and parts, lifting restrictions on insurance and reinsurance, the resumption of the Togliatti-Odesa ammonia pipeline and the unblocking of assets and the accounts of Russian companies involved in food and fertiliser exports. Before the conflict, Ukraine was exporting roughly 25 to 30 million tonnes of corn a year, mostly through the Black Sea, and 16 to 21 million

²¹ *Ibid.* July 11, 2023:30 PM GMT+1

²² [BBC Ukraine war: Last grain ship leaves Odesa as deal deadline looms - BBC News](#) Ukraine war: Last grain ship leaves Odesa as deal deadline looms Published 17 hours ago [16 July 2023]

²³ The Bible, Revelation of St John, 6,5-6.6.

²⁴ Nigel Hunt and Jonathan Saul, [Explainer: What happens if Black Sea grain corridor deal is not extended?](#) | Reuters 11 July 2023

tonnes of wheat. The capacity to ship grain through the Black Sea under the pact has been limited by the inclusion of only three ports.²⁵

The Reuters report contained a link giving a full breakdown of the countries and quantities exported:²⁶

Moscow's demands had included the reconnection of Russian Agricultural Bank (Rosselkhozbank) to the SWIFT payment system. Other demands include the resumption of supplies of agricultural machinery and parts, lifting restrictions on insurance and reinsurance, the resumption of the Togliatti-Odesa ammonia pipeline and the unblocking of assets and the accounts of Russian companies involved in food and fertiliser exports.²⁷

Ukraine's ports were blocked until the agreement was reached in July last year and it is unclear if it will be possible to ship grain now Russia is withdrawing from the pact.

Additional war risk insurance premiums, which are charged when entering the Black Sea area, would go up and shipowners could prove reluctant to allow their vessels to enter a war zone without Russia's agreement. Insurance industry sources said that cover arrangements could alter quickly. War risk insurance policies need to be renewed every seven days for ships, costing thousands of dollars.²⁸

The Caspian Sea

As the war expanded in the Black Sea and had potentially catastrophic global implications, the narrower land war also had wider impact. Iran has been supplying drones to Russia and Russia is running short of ammunition. Under the principle of 'my enemy's enemy is my friend', Iran, long hostile to the west, has been supplying ordnance to Russia including drones and ammunition from its own arsenals to Russia whose own military systems Iran also uses.

In September 2022 *Lloyd's List* reported that gaps in AIS coverage (see above) indicated that Iran was using another 'dark' route to ferry munitions across the landlocked Caspian to Russia,²⁹ Analysis of *Lloyd's List* Intelligence AIS vessel tracking data shows that around 50 ships made the journey via the Caspian Sea in July, up from 30 in June. However, there is also a suspected increase in shipments being made that are not being tracked by AIS.

The *Lloyd's List* analysis showed that AIS gaps occurring in the Caspian Sea were unusually high, totaling 440. Some had been recorded in August. The *Lloyd's list* tracking is reproduced in Figure 10.

²⁵ *Ibid.*

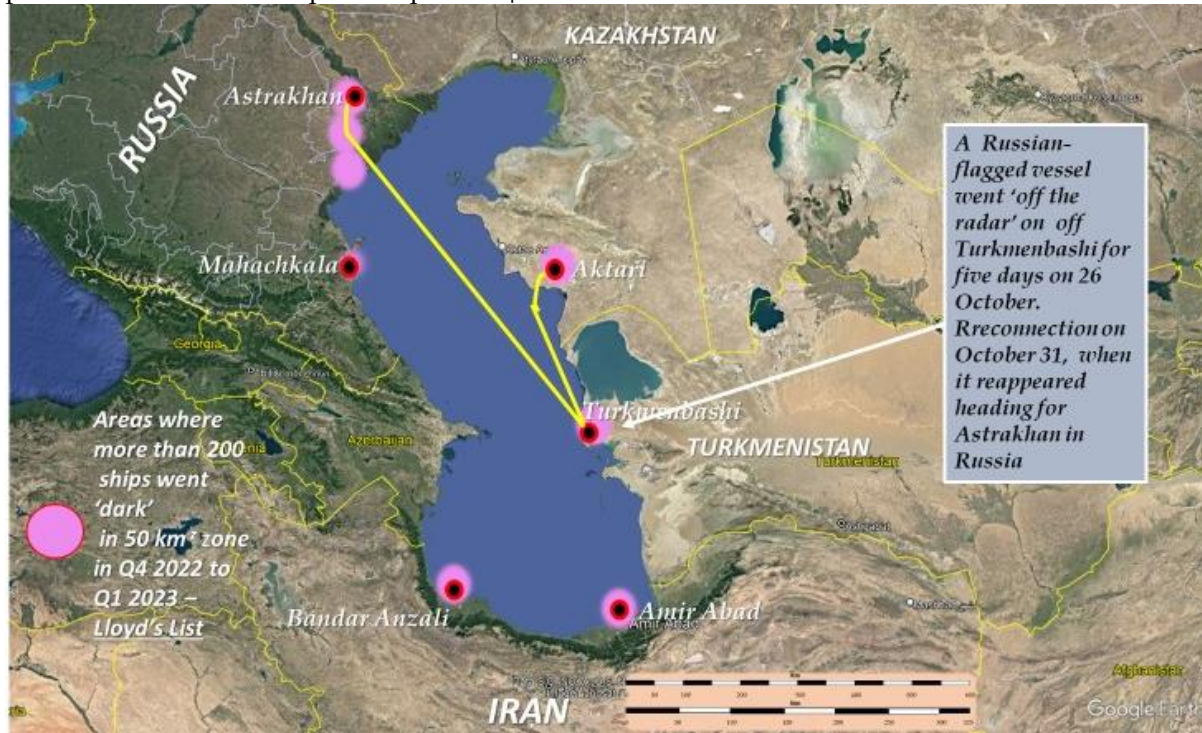
²⁶ See <https://www.un.org/en/black-sea-grain-initiative/vessel-movements>. *Black Sea Grain Initiative | Vessel Movements | United Nations* To 16 July 2023

²⁷ *Ibid.*

²⁸ *Ibid.*

²⁹ [https://www.lloydslistintelligence.com/knowledge-hub/data-storytelling/vessel-ais-gaps-linked-to-suspected-russia-iran-arms-trade#:~:text=Seaborne%20trade%](https://www.lloydslistintelligence.com/knowledge-hub/data-storytelling/vessel-ais-gaps-linked-to-suspected-russia-iran-arms-trade#:~:text=Seaborne%20trade%20)

Figure 10. AIS 'dead zones' and probable routes from northern Iran across the Caspian Sea. Source Google Earth adapted and modified by the author based on [Lauren Kent](#) and [Salma Abdelaziz](#), CNN Updated 12:34 AM EDT, Fri May 26, 2023 Iran has a direct route to send Russia weapons -- and Western powers can do little to stop the shipments | CNN



The figures do not include AIS gaps below the threshold of 30 hours. There are several reasons for ships to switch off AIS, including transmission or safety issues, but it is commonly used as a tactic to obfuscate journey origins and destinations, as well as other illicit activity, as noted above. There had been a particularly sharp rise in September 2022.³⁰

On 26 May 2023 CNN further reported that there had been continuing cases of suspicious 'dark' activities in the Caspian.³¹ "There is no risk to Iranian exports in the Caspian Sea because of the bordering countries – they don't have the capability or motive to interdict in these sorts of exchanges," said Martin Kelly, lead intelligence analyst at the security company EOS Risk Group. Azerbaijan, Turkmenistan and Kazakhstan, all former Soviet republics, are the other nations with ports on the Caspian Sea.³² The Iranian ports of origin, intermediate stops and AIS dead zones and the routes to Russia are again shown in Figure 10.

The best way to transport large quantities of heavy goods like ammunition is by sea. Because the Caspian is a lake between Iran and Russia with friendly countries either side, nothing can be done to stop it.

³⁰ Ibid.

³¹ By [Lauren Kent](#) and [Salma Abdelaziz](#), CNN Updated 12:34 AM EDT, Fri May 26, 2023 [Iran has a direct route to send Russia weapons -- and Western powers can do little to stop the shipments | CNN](#)

³² Ibid.

The North Sea. Critical infrastructure

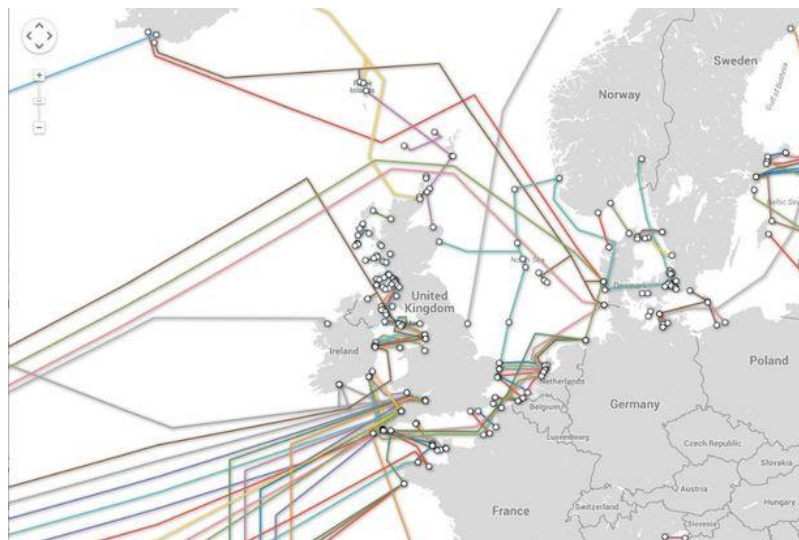
For western countries, the most worrying aspect of the widening war is the Russian threat to the critical infrastructure on which all developed countries depend, especially undersea cables and renewable energy. Both are vulnerable to Russian attack at sea.

In October 2020, allied (NATO) defence ministers saw a confidential report on the vulnerability of transatlantic undersea cables. Sometimes called the “world’s information super-highways,” undersea cables carry over 95 percent of international data. In comparison with satellites, subsea cables provide high capacity, cost-effective, and reliable connections that are critical for our daily lives. There are approximately more than 400 actives worldwide covering 1.3 million kilometres (700,000 nautical miles).³³

The need to protect undersea cables was covered under the heading of boosting national resilience.³⁴ After the October meeting of NATO defence ministers, and in the months after, NATO Secretary General Jens Stoltenberg stressed the need for the alliance to monitor and protect this critical infrastructure. However, despite the proliferation of public statements underlining the importance of protecting them, collective action to enhance their security has so far been lacking. A number of measures could be taken by allies to effectively protect subsea cables harnessing the full potential of their bilateral cooperations, NATO, and the European Union, in close coordination with the private sector.

Figure 11 shows submarine cables in the area around UK in 2015. Although this map is slightly old, it shows the concentration of subsea cables around the UK, which has not changed much. A regularly updated map of subsea cables can be found at [Submarine Cable Map 2022 \(telegeography.com\)](https://www.telegeography.com/submarine-cable-map-2022)

Figure 11. Source [This robot fixes the internet when an undersea cable breaks - Mirror Online](https://www.mirror.co.uk/news/technology-internet/this-robot-fixes-the-internet-when-an-undersea-cable-breaks-276484) Olivia Solon 20 Feb 2015



Alarm heightened in November 2022 when a Russian ‘spy’ ship allegedly stopped at a wind farm off the coast of the UK to gather intelligence for potential sabotage, according to an investigation. Subsequent

³³[briefing_79_nato_defence_ministers_meeting.pdf \(natowatch.org\)](https://www.natowatch.org/briefing_79_nato_defence_ministers_meeting.pdf). Dr Ian Davis. Nato Watch briefing paper 79 26 October 2022.

³⁴ *Ibid.*, pp. 5-6; Colin Wall and Pierre Morcos. *Invisible and Vital: Undersea Cables and Transatlantic Security (csis.org)*. Centre for Strategic and International Studies (CSIS) 11 June 2021.

analysis of data suggests the vessel entered the Moray Firth area in Scotland for a few days from November 10 last year, and then stopped at the Seagreen wind farm near Aberdeen.

A joint investigation by public broadcasters in Denmark, Norway, Sweden, and Finland suggested Russia has a fleet of vessels disguised as fishing trawlers and research vessels in the North Sea. The report was released on 19 April 2023.³⁵

The report says Russia has a fleet of vessels disguised as fishing trawlers and research vessels in the North Sea. There is no reason to doubt it and the Russians have form in this area. The ships carry underwater surveillance equipment and are mapping key sites for possible sabotage. The BBC understands that UK officials are aware of Russian vessels moving around UK waters as part of the programme. A Danish counter-intelligence officer says the sabotage plans are being prepared in case of a full conflict with the West while the head of Norwegian intelligence told the broadcasters the programme was considered highly important for Russia and controlled directly from Moscow. The broadcasters said they had analysed intercepted Russian communications which indicate so-called ghost ships sailing in Nordic waters which have turned off the transmitters so as not to reveal their locations.³⁶

The report focusses on the Russian ship *Admiral Vladimirsky*. Officially, this is an *c*, or underwater research vessel. But the report alleges that it is in fact a Russian spy ship, and, again, that is utterly credible. The documentary uses an anonymous former UK Royal Navy expert to track the movements of the vessel in the vicinity of seven wind farms off the coast of the UK and the Netherlands on one mission.

Figure 12. The *Admiral Vladimirsky*. Source BBC.

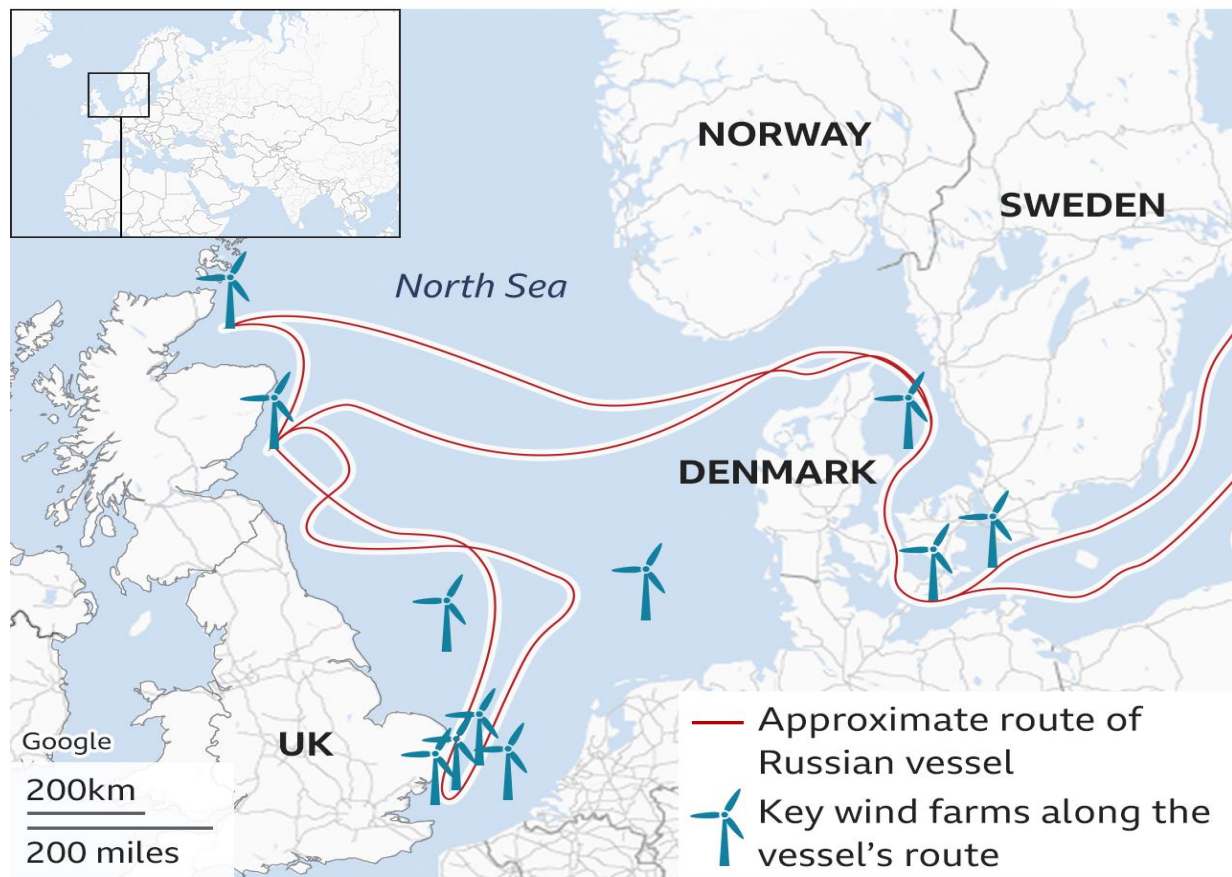


The same ship was that spotted off the Moray Firth in November. Its course this time took it close to numerous windfarms. See Figure 13.

³⁵ [Ukraine war: The Russian ships accused of North Sea sabotage - BBC News](#) By Gordon Corera Security correspondent, BBC News 19 April 2023

³⁶ Ibid.

Figure 13, One voyage of the Admiral Vladimirsky. Source Mark Galeotti, 'The Admiral Vladimirsky passed several offshore wind farms', Putin's Shadow War, via BBC.



Source: Putin's Shadow War

BBC

In the Kattegat area off Denmark, Danish filmmakers approached the *Admiral Vladimirsky* as close as they could - a few hundred metres - but were warned off by the presence of armed guards. The encounter was filmed with commentary by the Danish crew, who observed that they were being watched by two men on the deck, but the Russians did not aim their rifles at them.³⁷

There has been much Russian activity in the area monitored by Danish, Norwegian, Swedish, Finnish, and Dutch observers. On 10 November and seen about 30 nautical miles east of Lossiemouth, home to the RAF's Maritime Patrol Aircraft fleet before heading slowly west.

It is understood that UK officials are aware of Russian intent to conduct what is known as undersea mapping, including using boats that move around in UK waters.

If there are specific threats against the UK these would be investigated, but sources declined to say what activity might have been looked at so far.

³⁷ Danish reporters see armed men on Admiral Vladimirsky - BBC News 19 April 2023

Figure 14. Are they armed? Yes, they are. Source Daily Telegraph.



Conclusion – the widening war

Since September 2022, the Ukraine war has widened significantly. And all that widening has been at or under the sea. In this comment piece, we have seen two attacks on Russia's beautiful, vital and symbolic Crimean Bridge in October 2022 and July 2023. One of these may have been and the second almost certainly used maritime drones – whether Uncrewed Underwater Vessels (UUVs) or Uncrewed Surface Vessels (USVs – 'drone boats') is not clear, but Ukraine has put out an appeal for donations to buy more. For USD 250,000 you can have your name on one or put someone else's. The reported attack on a Russian warship far from Crimea and occupied Ukraine and closer to Istanbul marked a widening of the war in the Black Sea. The attacks on the Nordstream I and 2 pipelines on 26 September 2022 marked a dramatic escalation of the war in the Baltic, as far west as the Danish Island of Bornholm. One of the few more positive aspects of the war – the Black Sea Grain Initiative, agreed on 22 September 2022 sadly ended on 17 July 2023. I shall examine the consequences in the next issue. The war also widened to the east, where the Caspian Sea provides a passage for Iranian munitions to reach Russia, with countries still friendly to Russia unwilling to intervene. And, finally, the war – or preparations for its extension – have nearly reached our own shores in the North Sea with Expeditionary Oceanographic Ships like the *Admiral Vladimirsky* clearly mapping critical infrastructure – undersea cables and wind farms.

Although the war on the ground is still confined to Ukraine, its course ominously mirrors that of two world wars that preceded it. Uncrewed Air, Surface and Underwater vessels have shown themselves to be very versatile in all three dimensions of earthbound conflict and have been employed with considerable success. In that sense, their widescale debut mirrors the appearance of aircraft and submarines in the 1914-18 Great War. For the moment, after the land war and air attacks on cities mirrors the opening eight-month period of the Second World war, until the attacks on France, Belgium and the Netherlands. What in the UK was called the 'phoney war'. I recall a line from the excellent British 1958 film Dunkirk. Two minutes into the film, the principal characters are having a drink in the Queen's Head pub. A sailor returned from sea service, who has spent days in a lifeboat and lost fingers to frostbite, on hearing the phrase, is angered. No

it's not. It may be a "phoney war" to you but it's not to all the boys at sea. Never has been.' Russia's proxy war with the west is perhaps at a similar stage