

The Last Murmansk Convoys, 11 March-30 May 1945

David Syrett

German forces attacked Allied convoys for northern Russia until the very end of World War II. Even though the country was being overrun in March and April 1945, U-boats continued to oppose convoys carrying supplies by sea around northern Norway to Murmansk in Russia.¹ Perhaps this was natural, for northern Norway was the one place where the German navy had the forces to continue major operations. Using communications intelligence, the Allies estimated that the enemy had twenty operational submarines based in the area supported by perhaps as many as one hundred aircraft.² The Allies countered this threat by providing strong escorts for the convoys.

On 11 March 1945 Convoy JW-65 sailed from the Clyde for Murmansk escorted by the cruiser HMS *Diadem*, escort carriers HMS *Campania* and *Trumpeter*, and a number of destroyers and other vessels. As JW-65 approached the Bear Island Passage the threat of attack increased. Indeed, the preceding convoy (JW-64) had been set upon by the German Air Force [GAF] north of Norway and several ships had been sunk or damaged beyond repair by schnorkel-equipped U-boats.³ The Allies, who had been reading coded command radio communications to and from U-boats since December 1942, were well aware of German intentions and submarine deployments.⁴ In fact, on 5 March 1945 they decoded a radio message from Captain (U/B) Northern Waters informing his forces of the intent to attack JW-65 off Murmansk.⁵ The Germans considered attacks on such convoys as "an important relief to the eastern front in its important struggle" and believed that fitting schnorkels to U-boats "renders possible effective convoy attacks from unobserved stable dispositions close to the shore, even when daylight is continuous."⁶ On 13 March, six U-boats glided through Andfjord headed for the Kola Inlet.⁷ Meanwhile, having "indications" that an Allied convoy was steaming towards the Bear Island Passage, Captain (U/B) Northern Waters designated seven subs as the Hagen group to intercept it.⁸

Allied intelligence was able to fathom German intentions even when it did not have current information from decrypted radio messages. Officials believed, for instance, that JW-65 would not be intercepted before reaching the approaches to Kola Inlet because "there is no evidence of any U-boats likely to be met earlier on the route." Nonetheless,

The Northern Mariner/Le Marin du nord, IV, No. 1 (January 1994), 55-63.

if the convoy were overflown by a GAF reconnaissance plane, there was a possibility that it might be attacked by U-boats.⁹

JW-65 did not cross 60° N. until 1300A on 14 March in order to avoid GAF reconnaissance aircraft from Trondheim. On 15 March a GAF plane passed south of the force, and although FW-200 reconnaissance aircraft flew missions on 14 and 15 March north of Scotland and west of Norway across the suspected course of JW-65, nothing was sighted.¹⁰ It was not until the morning of 17 March that the Germans had firm information from intercepted Allied radio traffic that a force had passed through the Bear Island Passage. The U-boats off Kola Inlet were ordered to report any "clues" of the approach of JW-65 as well as any increase in air activity.¹¹ At 1056 on 17 March, Captain (U/B) Northern Waters ordered twelve U-boats of the reinforced Hagen group to take up stations by 2400 on 18 March to contest the approaches to Murmansk.¹²

On 18 March Captain (U/B) Northern Waters, based upon an analysis of Allied radio traffic, estimated that JW-65 had passed through Bear Island Passage and was now in the Barent Sea. He also noted that there was no radio communication from carrier-based aircraft, which led to the speculation that JW-65 might attempt to enter Murmansk after dark.¹³ The next day he informed his U-boats that radio traffic analysis showed that Russian aircraft and ships were mounting anti-submarine operations in Kola Inlet, thus indicating the imminent arrival of an Allied convoy. At 0856 on 20 March, he advised his commanders that JW-65 was expected in Kola Inlet "within the next 24 hours."¹⁴ At 1047, he notified them that JW-65 was entering Murmansk.¹⁵

JW-65 passed Bear Island on 17 March and turned southeast towards the Kola Inlet. There was no contact with the enemy except for a "doubtful" sighting of a U-boat by a carrier-based plane. Knowing that its entrance into Murmansk would be contested by U-boats, the convoy commander ordered that no flight operations be conducted by the two escort carriers to "conserve" aircraft. At 0545A on 20 March, HMS *Trumpeter* and *Campania*, the cruiser HMS *Diadem*, and the destroyers HMS *Scorpion* and HNorMS *Stord* were detached to remain beyond 70° N. to conduct air support operations for the convoy.

At first the weather was unfavourable for aircraft, but it later improved enough to permit patrols over JW-65 while it passed through Kola. Although no U-boats were sighted, the aircraft dropped depth charges "in the general area of the convoy to keep the U-boats down."¹⁶ Nevertheless, *U-995* torpedoed the merchantman *Horace Bushnell*, which was beached never to be salvaged, and the sloop HMS *Lapwing* and merchant ship *Thomas Donaldson* were sunk by torpedoes, probably from *U-968*. After the merchantmen and their escorts entered Murmansk, HMS *Trumpeter*, *Campania*, and *Diadem*, along with their escorts, also came in. In the meantime *U-997* was damaged by depth charges and forced to return to Norway.¹⁷ In the confusion, "the U-boats apparently did not notice that the escort carriers had entered the port; as a result, the subs were ordered at 0045 on 21 March to search for them to the north."¹⁸

The problem now confronting the Allies was how to get the return convoy, RA-65, safely out of Murmansk. Conversely, the Germans had the task of inflicting maximum

casualties on RA-65's ships. Thus, the Hagen U-boats were ordered to take up stations by 2400 on 21 March at the harbour entrance. This order was decoded by the Allies at 1629 on 21 March. Captain (U/B) Northern Waters "assumed" that RA-65 would sail from Murmansk on 23 March. From the movements of Russian anti-submarine aircraft near Kola Inlet and increased radio activity, he concluded at 1513 on 23 March that RA-65 "will start soon." Hence at 1214 on 24 March, the U-boats were ordered, after RA-65 had passed them off the entrance to Kola Inlet, to proceed "at once" for Bear Island Passage to again attempt to intercept the convoy.¹⁹

RA-65 sailed from Murmansk on 24 March. HMS *Diadem*, *Campania*, and *Trumpeter* departed in advance of the main body to provide air cover for the merchantmen. Although the weather prevented carrier air operations until after 0735A, no U-boats were encountered and only a few High Frequency Direction finder (HF/DF) bearings were obtained from several U-boats to the west. Nonetheless, air patrols were flown around RA-65 on 26 March to prevent U-boats from getting ahead of the convoy into an attacking position.²⁰

In the event, RA-65 most likely escaped because the U-boats were ineffectively positioned to the west. *U-313* obtained some hydrophone bearings and radioed headquarters that the convoy had sailed; and *U-986* reported sighting two carriers, some destroyers, and a number of carrier-borne aircraft. It was also reported that the convoy was sailing a course of 30° at fifteen knots.²¹ As a result, at 0005 on 25 March Captain (U/B) Northern Waters directed nine subs of the Hagen group to proceed at "maximum speed" to set up a patrol line in Bear Island Passage to attempt again to intercept RA-65. At the same time they were informed that "operation of our own aircraft is envisioned."²²

On 25, 26 and 27 March, BV-138 reconnaissance aircraft searched Bear Island Passage for RA-65 because the Germans believed that RA-65 might have passed through the Passage. But because of the "convoy's remarkable radio silence," its passage west of 25° E. could not "be clearly established." The Hagen U-boats were thus ordered to move "west unobserved."²³ Although radar on the ships of RA-65 picked up GAF aircraft, the convoy was not sighted. Captain C.B. Alers-Hankey, commander of HMS *Campania*, thought that the planes were flying parallel track searches and that one had passed first in front and then just astern of the convoy. "It is incredible," he concluded, "that this aircraft at least did not sight the outer screen." GAF planes again appeared on radar on 28 March, but radio transmissions showed that they still failed to sight the convoy.²⁴

RA-65 had made good its escape. At 1657 on 29 March, Captain (U/B) Northern Waters abandoned the search and ordered six subs to return to Norway for refuelling and rearming.²⁵ Several hours later, U-boats off the Faroe Islands were warned of RA-65's approach. After the event, Captain (U/B) Northern Waters thought that even though his subs made 300 miles per day against moderate seas, they failed to intercept the convoy because they had not detected its departure from Murmansk promptly. Moreover, to avoid attack from the GAF, RA-65 had maintained radio silence and thus denied the Germans a timely source of intelligence.²⁶

Probably from a knowledge of the cycles of JW and RA convoys and an analysis of Allied radio traffic, Captain (U/B) Northern Waters expected that the next Allied convoy to northern Russia would be in Bear Island Passage on 21 April. To intercept it, on 17 April he established the Faust group, comprising four U-boats.²⁷ In the next several days four additional subs sailed through Andfjord to join them.²⁸ The German plan, contained in a number of orders, called for the Faust group to be joined by five U-boats already at sea and to form a patrol line off Kola Inlet. Because Soviet aircraft had made several sightings of U-boats in the region, the subs were directed to "schnorkel more subtly."²⁹

By deploying the Faust U-boats close to the coast, the Germans again intended to attack a convoy as it approached Murmansk. At 1335 on 22 April, the U-boats were warned, apparently on the basis of radio traffic analysis, that anti-submarine vessels were off Kola Inlet. At 1347, *U-481* heard explosions "in the north and the south." On 23 April, the subs were again cautioned to "take care in the smooth seas. Soviet air is repeatedly reporting submerged boats." In addition, the U-boats had to "reckon" with Allied anti-submarine operations to clear Kola of German attackers. Indeed, several hours later *U-716*, while at periscope depth, was attacked with depth charges and badly damaged by four Russian escorts. The next day this U-boat was again damaged and was constantly overflown by Soviet Catalina aircraft; the captain reported that he was returning to base. On 24 April the Faust group was informed that it should "reckon on the arrival of the convoy today or tomorrow morning." The subs were ordered to fire torpedoes at the hydrophone bearings of Allied ships. The U-boats at 1848 were told that eight Soviet destroyers had put to sea, apparently to meet the convoy. At 1200 on 25 April, *U-711* sighted the Allied ships.³⁰

On 16 April 1945 at 2359B Convoy JW-66, consisting of twenty-six merchantmen, had sailed from the Clyde for northern Russia. Its escort, commanded by Rear Admiral A. B. Cunninghame Graham, RN, comprised the cruiser HMS *Bellona*, the escort carriers HMS *Vindex* and HMS *Premier*, six destroyers, four corvettes, and a sloop. At 1300 on 19 April, JW-66 was joined by three destroyers, four corvettes, and sixteen Russian submarine chasers from the Faroes.³¹

Initial contacts with the enemy proved spurious. At 2130 on 19 April HMS *Oxlip* attacked what turned out to be a "non-U-boat contact." At 2142 HMS *Zodiac* made a radar contact which faded at a range of three miles and subsequently was judged to be a whale. For the next several hours additional radar contacts were obtained "but nothing more hostile than rain squalls materialized." The next day, however, several more serious contacts were made. At 1010 an aircraft was detected on radar at a range of nineteen miles, but it disappeared after nine minutes. On 21 April another plane was picked up by radar on HMC S *Huron* bearing 146° at a range of thirty-two miles. HMS *Vindex* vectored in three Wildcats to intercept, but the contact was lost at 0752.³²

On 21 April at 0950 the Russian submarine chasers began to be refuelled by the tankers *Black Ranger* and *Laurel-wood*. Even though the Russian vessels were "taking green seas over their forecastles" all went smoothly and the operation was completed by

1300 the next day. The destroyers HMCS *Iroquois*, HMS *Zeogter* and HMCS *Huron*, as well as the corvette HMS *Oxlip*, were also refuelled that day. Throughout 22 April aircraft from HMS *Premier* and HMS *Vindex* flew around the convoy and at 1955 a Swordfish aircraft was "ditched" when its rocket-assisted take-off gear failed. The crew, however, was picked up by the escort. The day ended with HMS *Oxlip* attacking a sonar contact, which was lost, with depth charges. By 1200 on 23 April, JW-66 had reached 73° 27' N. 18° 57' E. in the Bear Island Passage north of Norway.³³

On 24 April the convoy steamed southeast towards Kola Inlet. At 0026, HMS *Zodiac* obtained an HD/DF bearing at 126° on a U-boat radio transmission. An aircraft was dispatched but found nothing. Throughout 24 April visibility was poor and the convoy was escorted as well by Russian anti-submarine aircraft. Between 1600 and 1700 a number of HF/DF bearings showed a number of U-boats about twenty-five miles ahead of JW-66.³⁴

From previous experience, as well as from decryption intelligence and radio traffic analysis, the Allies knew that there were a number of U-boats off the entrance to Kola Inlet and that JW-66 would most likely have to force its way into Murmansk. The five ships of the 19th Escort Group had been sent ahead to meet the convoy off the entrance to Kola Inlet. At 1130B on 25 April, after sweeping the approaches with sonar, the escorts met JW-66 and patrolled to the eastward until it had passed.³⁵ Screened by aircraft patrolling its flanks and dropping sonar buoys in front, JW-66 entered Murmansk while its escorts attacked sonar contacts and dropped depth charges at random. Twenty-six sonar contacts were attacked, including several mistaken assaults on fish, and more than 400 depth charges were expended by British warships. Significantly, there were no attacks on Allied ships during the operation. Indeed, only *U-711* reported sighting JW-66 as it approached. Although *U-363* was attacked by escort vessels and reported encountering strong anti-submarine patrols, it saw "no evidence" of an Allied convoy.³⁶

On 26 April there were twelve U-boats off Kola awaiting the departure of the return convoy to Britain.³⁷ At 1817, Captain (U/B) Northern Waters ordered *U-711* and *U-295* to proceed "immediately at maximum speed" to a point southwest of Bear Island to intercept it and directed the other subs to report its departure at once. The next day, he informed the Faust U-boats that there was a "delay in the return convoy" and that the GAF planned to send a reconnaissance aircraft over Murmansk.³⁸

The problem that confronted the Allies was again how to get the return convoy past Kola Inlet. Cunninghame Graham decided to try to trick the U-boats into thinking that RA-66 was departing on the night of 27/28 April. The Russians were requested to turn on a number of lights and to send anti-submarine vessels into the inlet to drop depth charges between 0001 and 0100, while the British warships sent dummy radio messages as if they were sailing. The senior British naval officer in northern Russia also sent bogus radio signals.³⁹ But the ruse apparently did not work, for at 1255 on 28 April the Faust group was warned by Captain (U/B) Northern Waters that there were "signs of departure of convoy. 'Faust' is to remain unobserved until there is a worthwhile shot."⁴⁰ The next day, at 1955, the subs were informed that RA-66 had apparently sailed, for there was a

"striking amount of W/T from Polyarnoye [Russian naval base on the Kola peninsula near Murmansk] in the morning of 29." The U-boats were directed, after RA-66 had sailed, to proceed "at top" speed to attempt to intercept the convoy southwest of Bear Island.⁴¹

JW-66 finally sailed from Murmansk on the night of 29 April. The ships of the 19th Escort Group were sent ahead to sweep Kola Inlet. The four escorts proceeded in line abreast formation, 3000 yards apart, searching for U-boats. At 1856B, HMS *Loch Insh* obtained a sonar contact at a range of 780 yards at 65°. The British frigate turned towards the target and at 1900B attacked with a squid. Thirty seconds later *U-307* surfaced and was taken under gunfire by HMS *Loch Insh*, *Loch Shin*, and *Cygnets*. At 1903B, *U-307* sank stem first. After the survivors were picked up, the ships continued their sweep.⁴² At 1935B there was a huge explosion under the bridge of HMS *Goodall*, which had been torpedoed by *U-968* with an acoustic homing torpedo that detonated its magazine. HMS *Goodall* did not sink immediately and HMS *Honeysuckle* and *Farnham Castle* were able to rescue seventeen survivors. The wreck was later sunk with gunfire by HMS *Anguilla*.⁴³

Just before being torpedoed, HMS *Goodall* had obtained a sonar contact and was preparing to attack. At about the same time, HMS *Loch Shin* made sonar contact with the same target, which was attacked with a squid. HMS *Anguilla* then attacked with depth charges. After a third attack was made by HMS *Cotton*, oil and wreckage were seen on the surface, marking the end of *U-286*.⁴⁴

RA-66, followed by the escort carriers HMS *Premier* and *Vindex* and the cruiser HMS *Bellona*, cleared Kola at 0200 on 30 April. There were a number of contacts with what were thought to be U-boats and a large number of attacks were carried out by the escorts, none of which had any result. After leaving Kola, many HF7DF bearings to the southward were obtained but there was no indication that the convoy was being shadowed by U-boats.⁴⁵

With the departure of RA-66 Captain (U/B) Northern Waters cancelled the orders to pursue and ordered his U-boats to move offshore at economical speed. The next day those in need of repairs and rearmament returned to base. On 1 May, GAF reconnaissance aircraft shadowed RA-66. On 2 May the U-boats were informed of the death of Hitler, and at 1350 on 5 May, they were ordered to end operations against the Allies.⁴⁶

Although the war was over, the Allies sent one more convoy to Murmansk. JW-67 sailed from the Clyde on 12 May escorted by the destroyers HMS *Onslow* and *Obdurate* along with the 4th and 9th Escort Groups. The convoy was later joined by the carrier HMS *Queen* and the destroyers HMS *Offa* and *Oribi*. An escort was provided because it was not known at departure if all U-boats would abide by the terms of the surrender. Meanwhile, on 16 May at 62° 30' N. 04° 05' W. the 9th Escort Group was detached to escort fifteen U-boats from Norway to Scotland to surrender. After an uneventful passage, JW-67 arrived in Murmansk on 20 May. Three days later RA-67 sailed homeward, arriving in the Clyde on 30 May.⁴⁷

The last battles of World War II over Murmansk convoys were in some respects similar to the campaign waged by U-boats in British coastal waters during 1944-1945. U-

boats, equipped with schnorkels, once again hid in shallow water, thus avoiding detection by sonar and radar.⁴⁸ But the battles off Kola were different from those in British waters because there were many more U-boats and ships involved. In the coastal campaign, single U-boats usually attacked individual Allied ships; in the battles off Murmansk wolf packs attacked Allied convoys.

Both sides benefitted from communications intelligence. The Allies knew of U-boat deployment from decryption intelligence and radio traffic analysis, while the Germans, from their knowledge of Allied convoy cycles and radio traffic analysis, were aware of the approximate arrival times. Thus, the battles around Kola Inlet in the last weeks of World War II were not a surprise to either side. Nevertheless, in four arrivals and departures — JW-65/66 and RA-65/66 — the Germans only managed to destroy two merchantmen and two escorts.⁴⁹ This was an acceptable loss rate for the Allies and must be considered a failure for the Germans.

There were several reasons for this low casualty rate. Each encounter between the Allies and the U-boats lasted only a matter of hours — the time required for a convoy to depart or enter Kola Inlet — giving the U-boats only limited opportunities to attack. The Allies, knowing of U-boat deployments off Kola, used extremely strong escorts to force their way into and out of Murmansk. Further, even though the GAF did shadow some convoys, German U-boats and aircraft proved incapable of pursuit or of mounting a sustained attack. In the final analysis, the German navy could not prevent the Allies from shipping supplies to the Soviets through the port of Murmansk.

NOTES

* David Syrett received his doctorate from the University of London and is presently a professor of history at Queens College, CUNY. He has written four books on naval history and his articles have appeared in *American Neptune*, *Mariner's Mirror* and others.

1. Cf. Public Record Office [PRO], DEFE 3/743, intercepted 0939/22/4/45 decoded 2035/24/4/45.
2. PRO, ADM 223/21, U-Boat Situation, weeks ending 5 March and 2 April 1945; PRO, ADM 223/50, Disposition of German Aircraft in Norway, 13 April 1945.
3. S.W. Roskill, *The War at Sea* (4 vols., London, 1054-1961), III, 256-258.
4. F.H. Hinsley, *et al.*, *British Intelligence in the Second World War* (3 vols., London, 1987-1988), II, 547.
5. PRO, DEFE 3/741, intercepted 1930/1/3/45 decoded 1529/5/3/45.
6. *Ibid.*, 3/742, intercepted 1642/6/3/45 decoded 0555/15/3/45.
7. The six U-boats were *U-307*, *U-692*, *U-363*, *U-716*, *U-968*, and *U-997*. *Ibid.*, intercepted 0215/13/3/45 decoded 0818/20/3/45.
8. The seven U-boats that comprised the Hagen group were *U-617*, *U-968*, *U-997*, *U-307*, *U-631*, *U-363*, and *U-992*. *Ibid.*, intercepted 1449/13/3/45 decoded 0600/19/3/45.
9. PRO, ADM 223/20, U-boat Trend, September 1943 to May 1945.
10. PRO, ADM 217/533, "Report of Proceedings for the Period 12th March 1945 to 30th March 1945 Inclusive, Escorting Convoys JW-65 And

- RA-66;" PRO, DEFE 3/742, intercepted 0016/14/3/45 decoded 0555/19/3/45; intercepted 0701/15/3/45 decoded 1915/16/3/45.
11. PRO, DEFE 3/742, intercepted 0948/17/3/45 decoded 0200/18/3/45.
12. The twelve U-boats were *U-310, U-318, U-668, U-313, U-992, U-617, U-968, U-997, U-307, U-631, U-363* and *U-711*. *Ibid.*, intercepted 1056/17/3/45 decoded 0155/18/3/45.
13. *Ibid.*, intercepted 1015/18/3/45 decoded 0423/19/3/45; intercepted 1252/18/3/45 decoded 1755/19/3/45.
14. *Ibid.*, intercepted 1324/19/3/45 decoded 0412/20/3/45; intercepted 1552/19/3/45 decoded 0455/20/3/45; intercepted 0856/20/3/45 decoded 1403/20/3/45.
15. This information was apparently obtained from an analysis of intercepted radio traffic from British carrier-borne aircraft. *Ibid.*, intercepted 1047/20/3/45 decoded 1744/30/3/45.
16. "Report of Proceedings for Period 12th March 1945 to 30th March 1945."
17. *Ibid.*; Jurgen Rflhwer, *Axis Submarine Successes, 1939-1945* (Annapolis, 1983), 212. The Germans claimed in this action to have sunk three merchant ships of 22,000 gross registered tons (grt) and two destroyers, as well as to have damaged an additional five ships. PRO, DEFE 3/742, intercepted 1135/24/3/45 decoded 1757/24/3/45; intercepted 0315/21/3/45 decoded 0726/21/3/45.
18. PRO, DEFE 3/742, intercepted 0045/21/3/45 decoded 0655/21/3/45.
19. PRO, DEFE 3/742, intercepted 1036/21/3/45 decoded 1629/21/3/45; intercepted 1138/21/3/45 decoded 1612/21/3/45; intercepted 1513/23/3/45 decoded 0558/24/3/45; intercepted 1242/24/3/45 decoded 1750/25/3/45.
20. "Report of Proceedings for Period 12th March 1945 to 30th March 1945."
21. PRO, DEFE 3/742, intercepted 1528/24/3/45 decoded 0801/25/3/45; intercepted 1919/24/3/45 decoded 1820/25/3/45.
22. The nine U-boats were *U-307, U-631, U-968, U-617, U-313, U-668, U-992, U-363, U-711*; *Ibid.*, intercepted 0005/25/3/45 decoded 1706/25/3/45.
23. *Ibid.*, intercepted 1025/25/3/45 decoded 1848/25/3/45; intercepted 1412/26/3/45 decoded 1908/26/3/45; intercepted 0023/27/3/45 decoded 0827/29/3/45; intercepted 0414/27/3/45 decoded 0827/29/3/45; intercepted 1425/27/3/45 decoded 0445/29/3/45.
24. "Report of Proceedings for Period 12th March 1945 to 30th March 1945."
25. The six were *U-992, U-711, U-668, U-313, U-968* and *U-631*. PRO, DEFE 3/743, intercepted 1657/28/3/45 decoded 0505/1/4/45.
26. *Ibid.*, intercepted 0016/29/3/45 decoded 1525/30/3/45; intercepted 0910/6/4/45 decoded 1330/9/4/45.
27. The four subs were *U-363, U-631, U-286* and *U-313*. *Ibid.*, 3/743, intercepted 1920/17/4/45 decoded 1155/19/4/45.
28. These were *U-481, U-716, U-968, and U-427*; *ibid.*, intercepted 0340/18/4/45 decoded 1438/19/4/45; intercepted 0755/21/4/45 decoded 1137/22/4/45; intercepted 1941/21/4/45 decoded 2032/24/4/45.
29. *Ibid.*, intercepted 1000/21/4/45 decoded 1205/22/4/45; intercepted 2157/21/4/45 decoded 2029/24/4/45.
30. PRO, DEFE 3/743, intercepted 1335/22/4/45 decoded 1958/24/4/45; intercepted 1347/22/4/45 decoded 1959/24/4/45; intercepted 1054/23/4/45 decoded 2054/24/4/45; intercepted 1247/24/4/45 decoded 0711/28/4/45; intercepted 1539/24/4/45 decoded 0604/28/4/45; intercepted 1848/24/4/45 decoded 0711/28/4/45; intercepted 2314/25/4/45 decoded 0817/26/4/45.

31. PRO, ADM 199/1339, f. 38. The destroyers were HMS *Zephyr*, HMS *Zest*, HMS *Zodiac*, HMS *Zealous*, HMCS *Huron*, HMS *Offa*. The corvettes were HMS *Allington Castle*, HMS *Bamborough Castle*, HMS *Alnwick Castle*, HMS *Farnham Castle*. The sloop was HMS *Cygnets*. The destroyers that joined on 19 April were HMS HNorMS *Stord*, HMCS *Haida*, and HMCS *Iroquois*. The corvettes were HMS *Lotus*, HMS *Oxlip*, HMS *Honeysuckle*, and HMS *Rhododendron*. PRO, ADM 199/1339, f. 14.
32. PRO, ADM 199/1339, ff. 15, 39, 40.
33. PRO, ADM 199/1339, ff. 4 and 15-16.
34. *Ibid.*, f. 16.
35. The five ships were HMS *Loch Shin*, *Loch Insh*, *Cotton*, *Goodall*, *Anguilla*. *Ibid.*, ff. 73-74.
36. *Ibid.*, ff. 17-18, 42-43; PRO, DEFE 3/743, intercepted 2314/25/4/45 decoded 0817/26/4/45; intercepted 1359/26/4/45 decoded 2005/28/4/45.
37. These were *U-427*, *U-313*, *U-481*, *U-286*, *U-968*, *U-287*, *U-307*, *U-711*, *U-997*, *U-363*, *U-295* and *U-931*; PRO, DEFE 3/743, intercepted 0854/26/4/45 decoded 1250/26/4/45.
38. *Ibid.*, intercepted 1817/26/4/45 decoded 2047/28/4/45; intercepted 2128/27/4/45 decoded 2312/1/5/45.
39. PRO, ADM 199/1339, ff. 27-28.
40. PRO, DEFE 3/743, intercepted 1255/28/4/45 decoded 1222/1/5/45.
41. *Ibid.*, intercepted 1955/29/4/45 decoded 0832/1/5/45.
42. A squid was a mortar-like weapon which fired bombs, set to go off at a predetermined depth, ahead of the attacking vessel. PRO, ADM 199/1339, f. 79.
43. PRO, ADM 199/1339, ff. 80-81, 142-143; ROhwer, *Axis Submarine Successes*, 241.
44. PRO, ADM 199/1339, f. 19.
45. *Ibid.*, ff. 20-21.
46. PRO, DEFE 3/743, intercepted 0534/1/5/45 decoded 0009/2/5/45; intercepted 1346/1/5/45 decoded 0507/7/5/45; intercepted 1840/1/5/45 decoded 0447/7/5/45; intercepted 0031/2/5/45 decoded 1136/4/5/45; DEFE 3/744, intercepted 1350/5/5/45 decoded 1834/7/5/45.
47. The 4th Escort Group comprised HMS *Bentinck*, *Byard*, *Drury*, and *Bazely*. The 9th Escort Group consisted of HMS *Matane*, *Loch Alvie*, *Nene*, *Monnow*, and HMS *St. Pierre*. PRO, ADM 223/20, ff. 4 and 5; ADM 217/236, "Report of Proceedings. Narrative of Events, Convoy JW-67; Captain(D), 17th Destroyer Flotilla to Director Anti U-boat Division, Admiralty, 29 May 1945."
48. Cf. PRO, ADM 223/20, ff. 33-37, 39-42.
49. The merchantmen were *Horace Bushnell* and *Thomas Donaldson*; the warships were HMS *Lapwing* and *Goodall*.