

## THE BATTLE OF CONVOY BX-141

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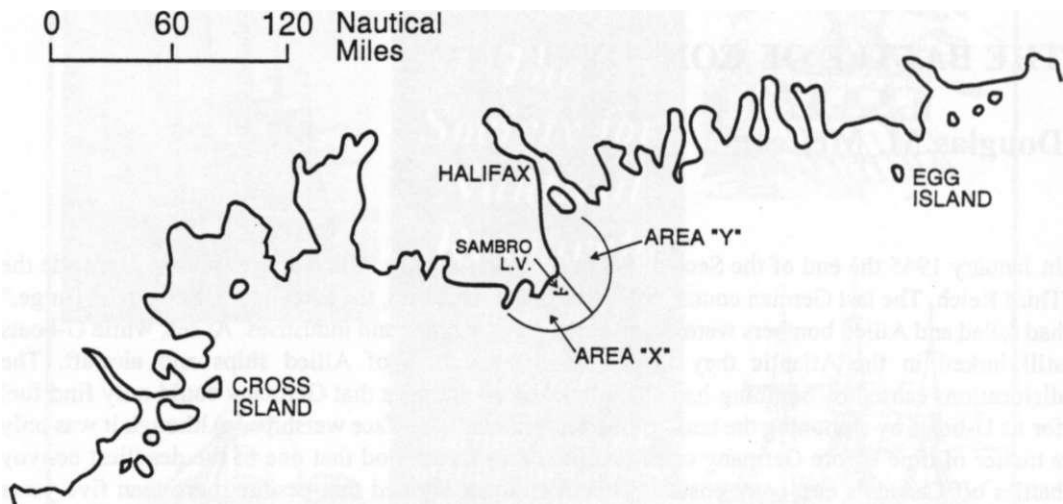
In January 1945 the end of the Second World War was near as Allied armies poised to invade the Third Reich. The last German counteroffensive in the Ardennes, the so-called "Battle of the Bulge," had failed and Allied bombers were devastating German cities and industries. At sea, while U-boats still lurked in the Atlantic they faced growing numbers of Allied ships and aircraft. The dislocations caused by bombing had so diminished oil supplies that Germany could only find fuel for its U-boats by siphoning the tanks of the few remaining surface warships.<sup>1</sup> Although it was only a matter of time before Germany collapsed, it was in this period that one of the deadliest convoy battles off Canada's east coast ensued. This clash demonstrated that despite more than five years of wartime experience and the bravery of the sailors of the Royal Canadian Navy (RCN), the defence of Canada's most important Atlantic port was still in certain respects unsatisfactory.

The RCN grew from a tiny force of six destroyers and five minesweepers in 1939 to a fleet of hundreds by 1945.<sup>2</sup> These ships were manned by crews that had spent countless hours learning their new skills. Yet despite the size and growing expertise of the RCN, problems remained. One of the most serious was that training procedures were still rudimentary in advanced areas of naval warfare.<sup>3</sup> As well, despite its size the RCN did not have enough ships to defend Halifax adequately, in part because it had sent the majority of its best-trained and equipped anti-submarine (ASW) escorts across the Atlantic.<sup>4</sup> The gap was also a function of the extreme climatic and oceanographic conditions off the port in winter.

The attack on the Boston-to-Halifax (BX) convoy 141 underscores the state of the RCN near the end of the war, as well as the demanding nature of Nova Scotian waters. Three merchantmen in the convoy were torpedoed on 14 January 1945 southeast of Chebucto Head, just a dozen miles from the sanctuary of Halifax harbour. Their escort, which comprised local escort force ships and Support Escort Group (EG) 27, energetically attempted to destroy the predator, *U-1232*. While they eventually drove off the U-boat, the damage was done. The escorts never detected their elusive opponent and the failure to destroy *U-1232* caused considerable frustration to the ships' companies and authorities ashore.

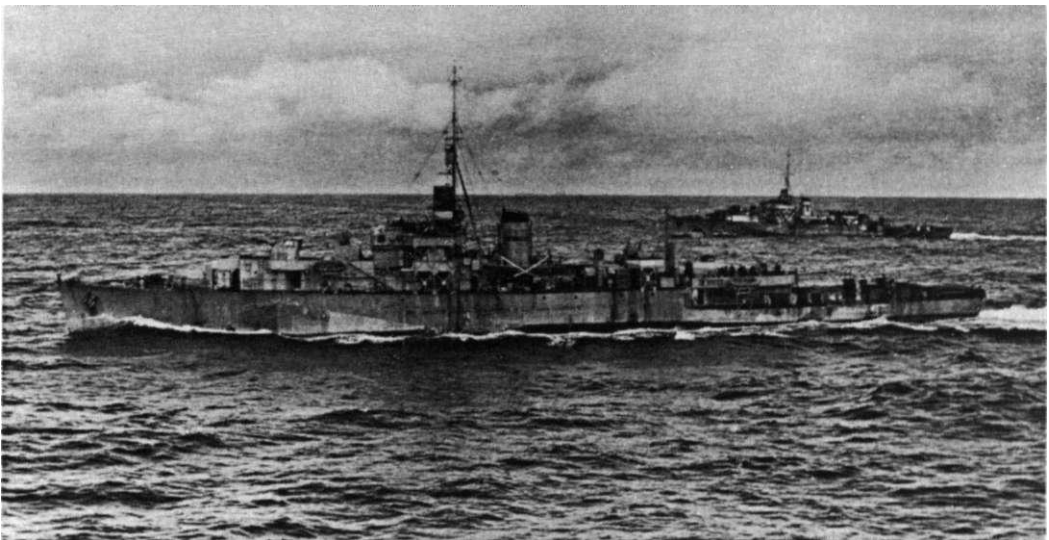
This daring attack was part of the German "inshore offensive" that began in the late summer of 1944. Prevented from employing wolfpack tactics by successful Allied countermeasures, U-boats resorted to "static" strategies, lurking around focal points for shipping, such as narrow channels and off busy ports, while awaiting an opportunity to ambush vessels and then to withdraw furtively.<sup>5</sup> These tactics relied on stealth, skill and luck. The requirement for stealth, a result of overwhelming Allied ASW strength, was facilitated by the introduction of the schnorkel, which allowed U-boats to recharge their batteries and renew their air supplies without surfacing. Although its use resulted in barely tolerable conditions aboard submarines that were already cramped and uncomfortable, without it "static" tactics would have been impossible.

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*Figure 1:* Nova Scotia Coastline near Halifax, January 1945.

*Source:* Courtesy of the author.



*Figure 2:* HMC Ships *Coaticook* and *Lasalle*, off Halifax on a rare day of good weather, December 1944.

*Source:* National Archives of Canada, S2869R.

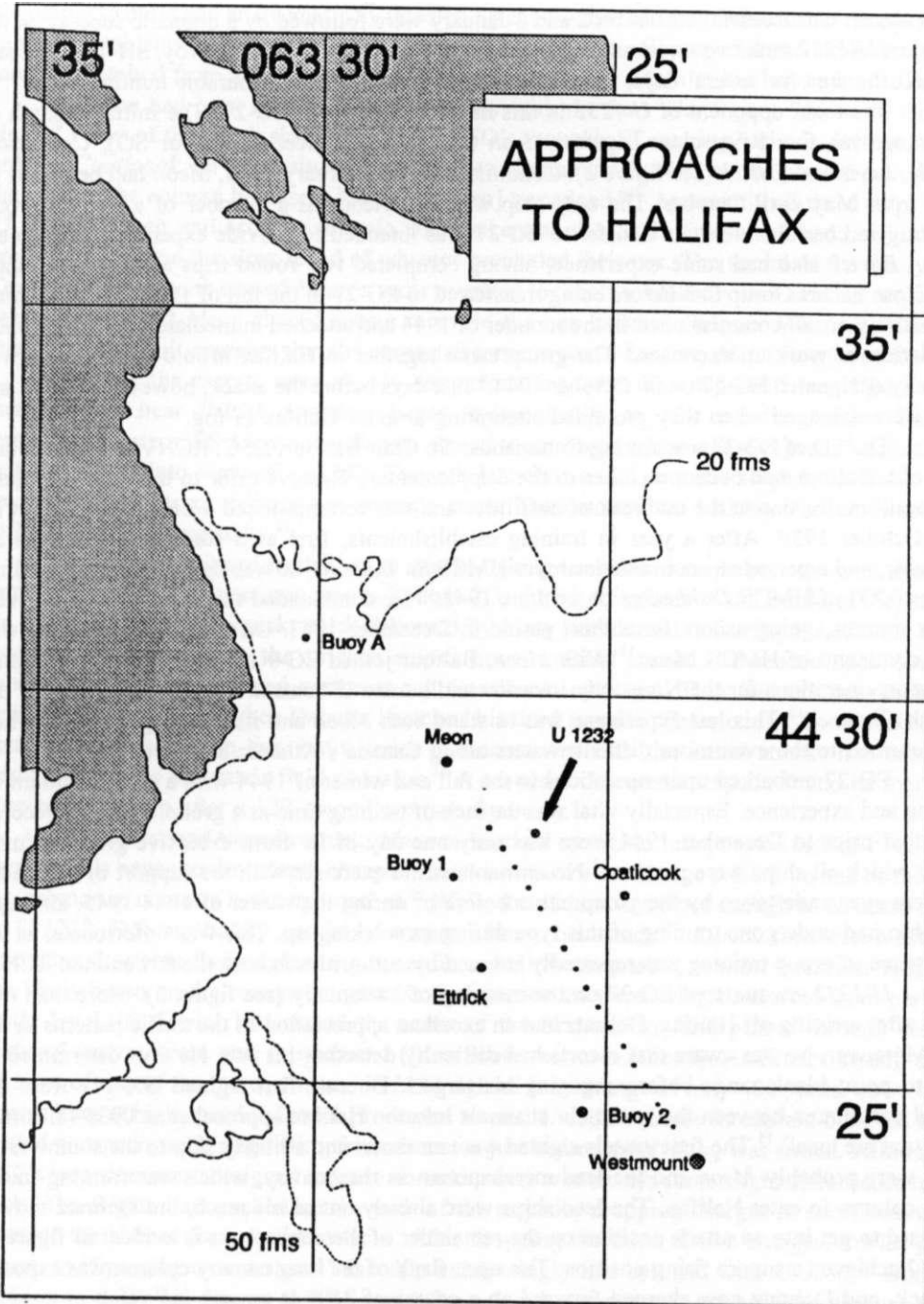


Figure 3: Situation just before U-1232 began its attack on convoy BX-141.

Source: Courtesy of the author.

*U-1232* arrived off Halifax on 31 December 1944 (see figure 1). Its commander, *Kapitanleutenant* Kurt Dobratz, spent several days becoming familiar with the area before attempting an attack. Unsuccessful sorties on 2 and 3 January were followed by a dramatic success on the 4th, when *U-1232* sank two merchantmen in the small Sydney-to-Halifax convoy, SH-194. The sub then left the area for several days, fully intending to return to this favourable hunting zone.<sup>6</sup>

The main opponent of *U-1232* in this next encounter was EG-27. The initial strength of the group was five River-class frigates: *Meon* (the Senior Officer's Ship, or SO), *Coaticook*, *Lasalle*, *Levis* and *Ettrick* (see figure 2). Commissioned in February 1944, *Meon* had been part of EG-9 from May until October. The only ship with experience as a member of a support group operating in coastal waters, its transfer to EG-27 was intended to provide experience to the new group.<sup>7</sup> *Ettrick* also had some experience, having completed two round trips across the Atlantic with Close Escort Group C-3 before being transferred to EG-27 in the fall of 1944. The remaining three ships were all commissioned in the summer of 1944 and attached immediately to EG-27 upon completion of work-up exercises.<sup>8</sup> The group came together in Halifax in mid-October and was officially designated EG-27 on 20 October 1944.<sup>9</sup> Just days before the attack, however, *Lasalle* and *Levis* were damaged when they grounded attempting to enter Halifax in fog.

The SO of EG-27 was Acting/Commander St. Clair Balfour, DSC, RCNVR. Twenty-nine years old, Balfour had been a member of the Supplementary Reserve prior to the war. He joined the Hamilton division at the outbreak of hostilities and was commissioned a Lieutenant, RCNVR, on 9 October 1939. After a year in training establishments, first as a student and later as an instructor, and a period at sea in the destroyer HMCS *St. Laurent*, he was appointed Commanding Officer (CO) of HMCS *Lethbridge* on 16 June 1943.<sup>10</sup> He commanded this Flower-class corvette for six months, going ashore for a short period in December 1943. On 7 February 1944 he was given command of HMCS *Meon*.<sup>11</sup> With *Meon*, Balfour joined EG-9 in April 1944, participated in support operations for the Normandy invasion and hunted U-boats in the difficult waters of the English Channel.<sup>12</sup> This last experience was to stand both *Meon* and its CO in good stead when they returned to the even more difficult waters along Canada's Atlantic seaboard.

EG-27 embarked upon operations in the fall and winter of 1944 with a bare minimum of training and experience. Especially vital was the lack of training time as a group: available records show that prior to December 1944 there was only one day of far from extensive group training during which all ships were present.<sup>13</sup> No anti-submarine exercises with the support of a friendly sub were ever undertaken by the group either before or during the winter of 1944-1945, although each ship had undergone training of this type during its working-up. This was unfortunate, as the importance of group training was repeatedly stressed by authorities in both the RN and the RCN.<sup>14</sup>

*U-1232* encountered EG-27 on the morning of 14 January (see figure 3). More than two weeks after arriving off Halifax, Dobratz had an excellent appreciation of the traffic patterns in the area. Moreover, he was aware that escorts had difficulty detecting his sub. He thus determined to close to point blank range before engaging his targets. Dobratz first sighted BX-141 from his normal patrol area between the two main channels into the Halifax approaches at 0935 (all times in the text are local).<sup>15</sup> The first vessels sighted were an escort and a liberty ship to the southwest.<sup>16</sup> These were probably *Meon* and the lead merchantman in the convoy, which was forming into a single column to enter Halifax. The lead ships were already out of his reach, but Dobratz moved westward to get into an attack position on the remainder of the convoy. As is evident in figure 1, *U-1232* achieved a superb firing position. The open flank of the long convoy column was exposed to attack, and Dobratz now charged forward on a course of 210° to engage it."

The first torpedo, a T3a contact type, was launched at the third ship in the column, SS *British Freedom*, at 1035, one hour after the first sighting. Fired from only 700 yards, it struck near the stern of its target forty-eight seconds later. Only the ships immediately adjacent realized

there had been an attack, since the explosion was not dramatic despite its force. While the stricken ship emitted a small cloud of smoke, the noise was muffled by the weather—moderate winds beginning to build and an overcast sky threatening snow—and the smoke was at first thought related to minor problems in the engine room. It was only about six minutes after the explosion that the message, flashed from ship to ship by visual signal, reached *Meon* at the head of the column.

*Meon* had been communicating visually with the Port War Signal Station at Chebucto Head.<sup>18</sup> News of the attack abruptly ended the SO's thoughts of entering harbour; instead, Balfour ordered *Coaticook*, on the starboard flank of the column, and *Ettrick*, on the port, to join *Meon* at the head of the column because a "ship [had been] torpedoed."<sup>19</sup> Apparently all three ships of EG-27 streamed their anti-acoustic torpedo noisemakers at about this time; none had been deployed previously because the slow speed of advance precluded their use. The sound of the decoys from *Ettrick* and *Coaticook* caused *Meon's* asdic operator to report mistakenly that another torpedo had been detected and *Meon* altered course to avoid the non-existent weapon. When the plot of its manoeuvre made it apparent that the suspected torpedo was a consort, *Meon* re-entered the fray.<sup>20</sup>

While the escorts were slowly comprehending what had happened (see figure 4), the merchantmen near *British Freedom* began independently to take evasive action. The ship immediately astern, SS *Martin van Buren*, altered to starboard and increased speed,<sup>21</sup> a manoeuvre that brought it into view of *U-1232*. The sub launched a T-5 acoustic torpedo at 1041; eighty seconds later it struck *Martin van Buren's* stern. The convoy that had been so close to safety suffered its second casualty.<sup>22</sup>

*U-1232* continued its deliberate attacks, taking ten minutes to prepare the next shot. This demonstrated a trait uncommon among U-boat COs during this phase of the Battle of the Atlantic; the usual pattern was a quick attack followed by hasty withdrawal.<sup>23</sup> During the lull the escorts continued to converge on the stricken ships: *Meon* reversed course and headed back down the column, while *Ettrick* moved northeast and *Coaticook* southwest. They had not yet reached the immediate area at 1052 when Dobratz launched his third torpedo. The victim, SS *Athelviking*, had been the seventh ship in line, but a series of manoeuvres after the initial attacks had brought it inadvertently into Dobratz's field of vision.<sup>24</sup> A second T-5 acoustic torpedo found its mark near *Athelviking's* stern after a 127-second run (see figure 5).

As the second torpedo struck, *Meon* ordered all escorts to "adopt scare tactics."<sup>25</sup> All three naval vessels began to drop depth charges. *Coaticook* used a ten-charge pattern on one of the many non-submarine contacts in the approaches.<sup>26</sup> While the pattern was close enough to be heard clearly by *U-1232*, Dobratz boldly continued to press home his attack.<sup>27</sup> *Ettrick* followed a different procedure, dropping five single charges, set for a shallow submarine, at short intervals. This tactic was likely based on the reasonable premise that the attacks were being conducted from periscope depth. By 1100 *Ettrick* had closed the scene of the first attacks, and passed through the now confused convoy from port to starboard (from southwest to northeast). As *Ettrick* swung around the stern of one of the merchantmen, *U-1232* sighted it at a range of only 400 yards, bows on and approaching at high speed.<sup>28</sup> *Ettrick* proceeded toward *U-1232* because its captain believed he had sighted a torpedo track originating from that area just before *Athelviking* was struck. Although *U-1232's* torpedoes were designed to leave no wake, there was always some slight disturbance in their wash. The frigate backtracked up the path of the torpedo, dropping charges at short intervals to dissuade the U-boat from further attacks. After dropping the third of five charges, *Ettrick* gave a "heave as if passing over a shoal:" the ship unknowingly had collided with *U-1232*? Dobratz's decision to delay his dive so that he could fire a fourth torpedo was almost fatal because the U-boat had only reached 13.5 metres depth when *Ettrick* passed over.<sup>30</sup> *U-1232* suffered significantly: its attack periscope was smashed, the underwater target tracking system and *Hohentwiel* radar set were damaged, and there was minor structural injury to the conning tower (see figure 6).<sup>31</sup>

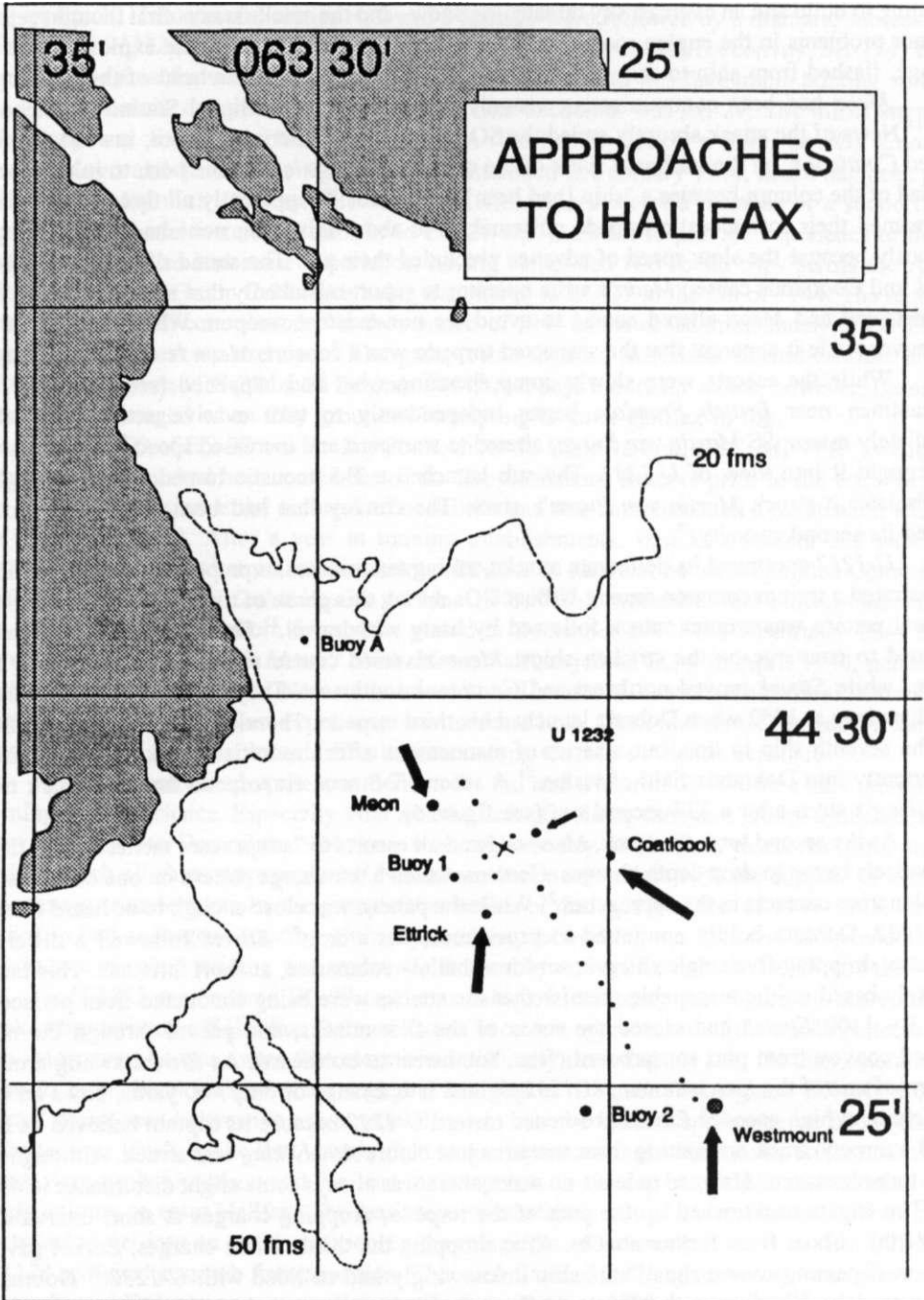


Figure 4: Situation just after first ship, SS *British Freedom*, was struck by first torpedo.

Source: Courtesy of the author.

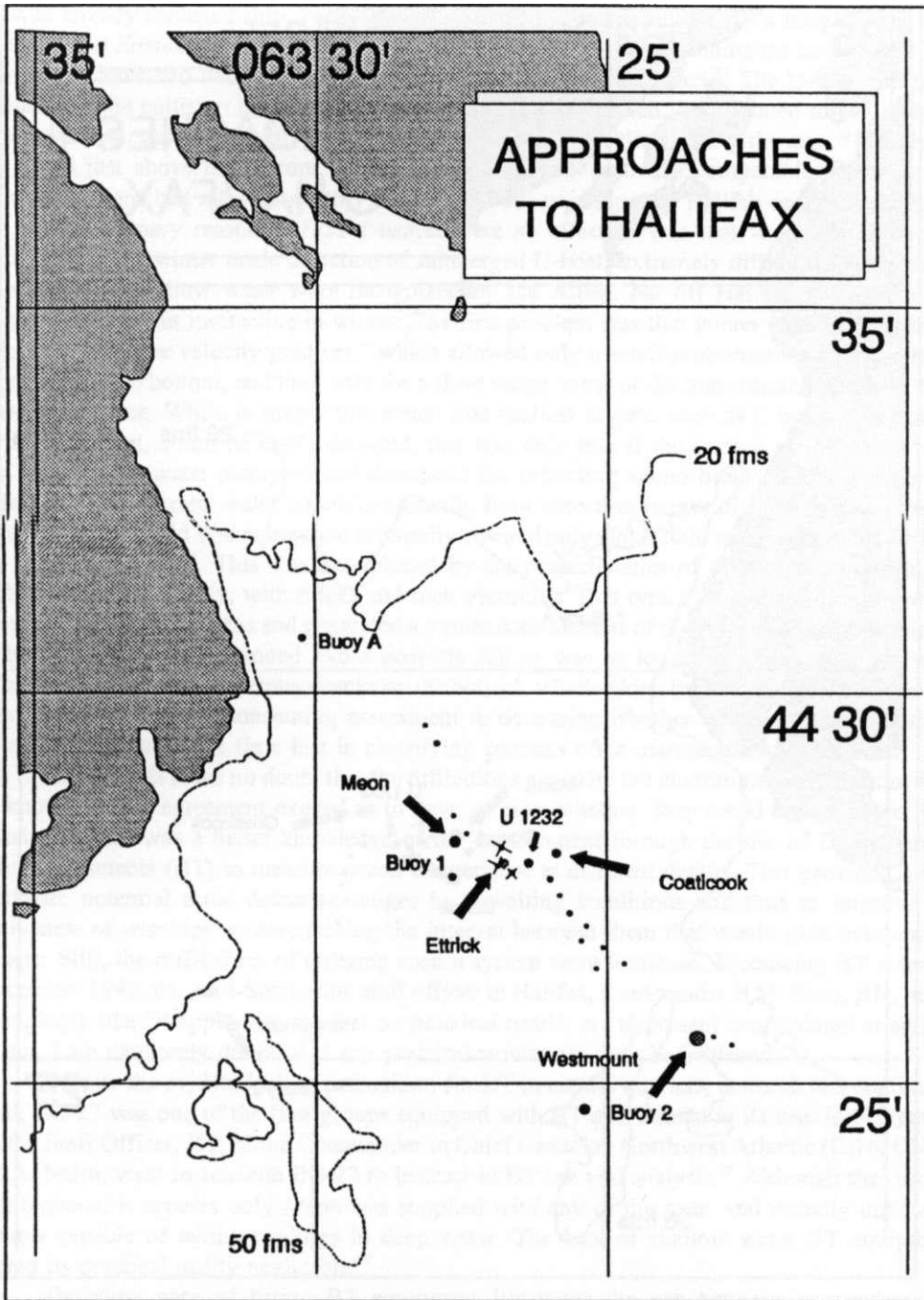


Figure 5: Situation shortly after third torpedo struck SS *Athelving*.

Source: Courtesy of the author.

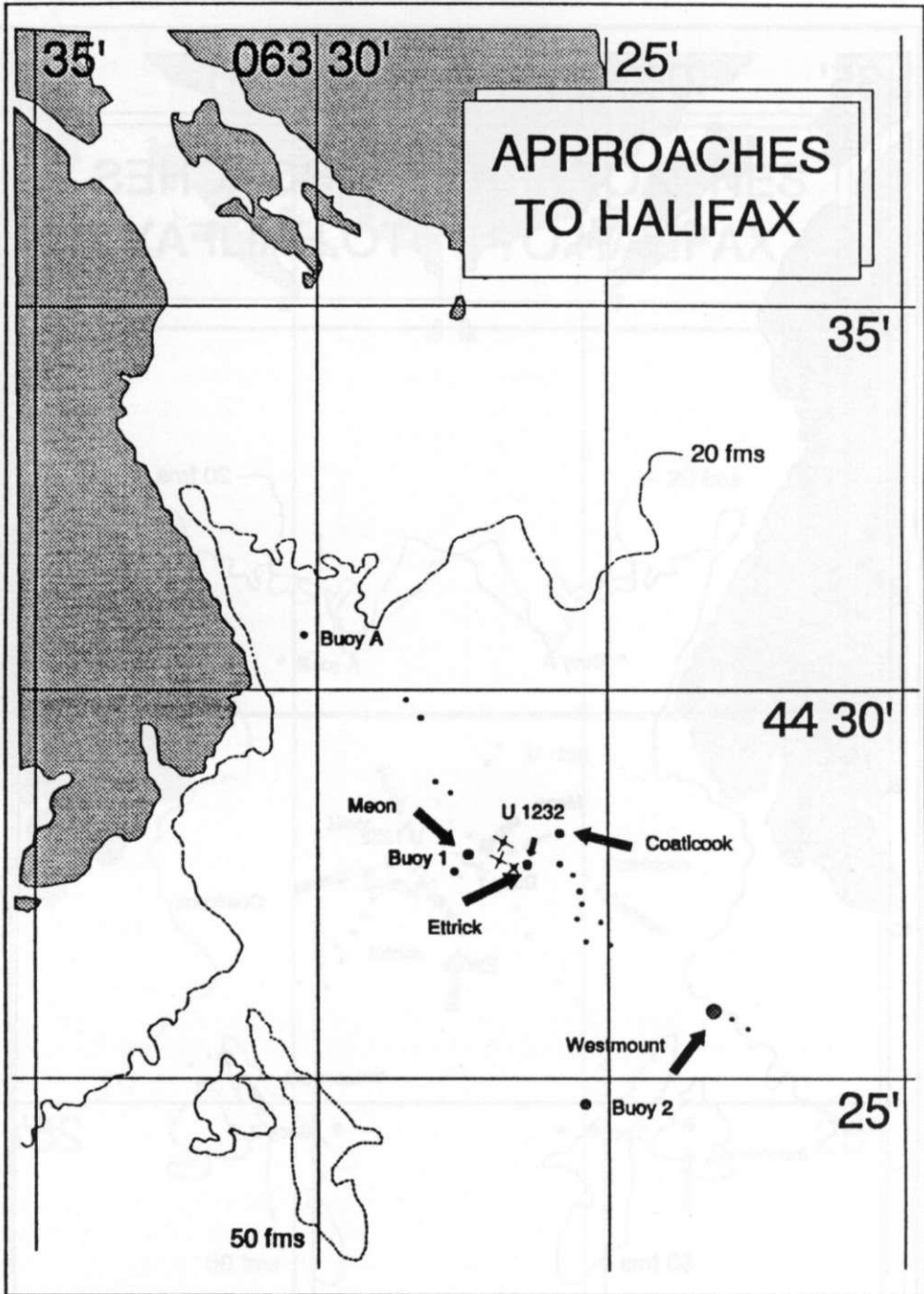


Figure 6: Collision between HMCS Ettrick and U-1232.

Source: Courtesy of the author.



The fourth and final torpedo launched by *U-1232* just before the collision did no damage, either because it was faulty, the ships were too close for the torpedo to activate and arm, or it struck an already damaged ship. Partly by luck, *Ettrick* had disrupted the sub's fourth attack. It is also likely that *Ettrick's* actions ended any intention Dobratz had of continuing the assault, although he must still have had two loaded torpedoes available in the stem tubes.<sup>32</sup> The U-boat continued its dive after the collision but did not settle on the bottom. Instead, it continued to run south or south-southwest, passing directly under the shattered convoy while clearing the area.<sup>33</sup> Moving at slow speed just above the bottom, it was a poor target for asdic. A comparable manoeuvre in similar conditions had allowed another U-boat (*U-806*) to escape off Halifax on 24 December.

The primary reason *U-1232's* tactics were so effective was that water conditions off Halifax during the winter made detection of submerged U-boats extremely difficult. The obstacles to discovery in shallow water were recognized by the Allies, but off Halifax local variations rendered asdic all but ineffective in winter. The first problem was that winter climatic conditions produced a "positive velocity gradient," which allowed only a small proportion of an asdic beam to penetrate to the bottom, and then only for a short range; most of the transmission was bent back toward the surface. While in theory this meant that shallow targets, such as U-boats operating at less than 200 feet, could be easily detected, this was only true if the surface of the ocean were calm, since rough water disrupted and dissipated the refracting sound beams. Calm weather off Halifax in winter is rare: water conditions usually limit detection ranges to a fraction of normal. Because Second World War equipment ordinarily covered only 1000-2000 yards, ranges off Halifax were very short indeed. This was exacerbated by the characteristics of the ocean bottom in the Halifax approaches—rocky, with ridges and rock pinnacles. This type of bottom in shallow water gave strong, confused returns and generated a tremendous amount of noise when asdic transmitted. The bottom noise often sounded like a possible sub or was so loud that it drowned out valid echoes. There were also numerous wrecks on the bottom, which added further complications. Every contact demanded a time-consuming assessment to determine whether it was a U-boat or some long-abandoned hulk. The time lost in classifying contacts often disrupted search patterns.

The records leave no doubt that the difficulties posed by the environment off Halifax were well known.<sup>34</sup> Less agreement existed as to how, or even whether, they could be overcome. One method proposed was a better knowledge of the environment through the use of Bathythermographic instruments (BT) to measure ocean temperature at different depths. This provided a way to estimate potential asdic detection ranges in prevailing conditions and thus to improve the effectiveness of warships by determining the interval between them that would give overlapping coverage. Still, the difficulties of utilizing such a system were immense. Discussing BT research in December 1943, the Anti-Submarine staff officer in Halifax, Commander P.M. Bliss, RN, noted disparagingly that "it appears to me that no practical results are at present being aimed at and, in addition, I am extremely doubtful if any practical results can ever be achieved."<sup>35</sup>

Despite the evident lack of enthusiasm for BT in certain quarters, research had continued. Indeed, EG-27 was one of the first groups equipped with BT and trained in its use. In November 1944 the Staff Officer, BT, of the Commander in Chief Canadian Northwest Atlantic (CINCCNA), Lt. R.A. Nairn, went to sea with EG-27 to instruct in BT use and analysis.<sup>36</sup> Although the records are ambiguous, it appears only *Meon* was supplied with any of the gear, and initially only with apparatus capable of taking readings in deep water. The lack of shallow water BT equipment rendered its practical utility negligible.<sup>37</sup>

The slow pace of fitting BT equipment illustrates the gap between conception and implementation in the RCN at this late stage of the war. In fact, by the end of the war in Europe only three EGs had been so equipped.<sup>38</sup> Yet even if shallow water instruments had been available, the advantage provided would have been minimal. Conditions in shallow water are notoriously

variable, changing rapidly both with time and location because of tidal influences and local currents. A further complication is that measurement of temperature alone is not always enough to predict acoustic conditions accurately. Salinity variations and the influence of ocean bottom characteristics must also be calculated. The techniques of asdic range prediction were incapable of dealing with all these variables in any practical way, and therefore the BT knowledge possessed by EG-27 was of very limited value in shallow water.

Meanwhile, at 1102, *Meon* ordered EG-27 to adopt a search plan known as "Observant."<sup>39</sup> EG-27 executed it expeditiously. The plan was based on a navigational marker, in this case Buoy 2, just to the southeast of the attacks, to assist the escorts. The selection of a prominent navigational feature to centre the search was timely, for sleet and snow soon reduced visibility to zero and the ships were forced to plot their search by radar for the remainder of the day.<sup>40</sup> The object of "Observant" was to establish a square search around the expected location of a U-boat. This operation continued in the immediate area of the torpedo attacks for approximately one hour.

During this initial period of about an hour and one-half after the first attack, the remaining ships of the convoy entered harbour. HMCS *Westmount*, a minesweeper of the local escort force stationed at the rear of the column, directed one of the merchant ships through the eastern shipping channel and then returned to join the search and the attempt to salvage the torpedoed vessels.<sup>41</sup> Meanwhile, shore authorities began dispatching ships to assist in the search. Less than thirty minutes after *Meon* learned of the first attack, the corvette HMCS *Napanee* and minesweeper HMCS *Border Cities* were ordered to "act under EG 27's orders."<sup>42</sup> At 1139 the frigates HMCS *Strathadam* and *Buckingham*, already at sea, were directed to "proceed with dispatch" to the Halifax approaches and follow the orders of EG-27's SO.<sup>43</sup> Although many ships were eventually involved, the number searching at any one time was seldom more than six, especially during the critical first hours.<sup>44</sup> Engineering defects and the need to attend to other tasks, such as escorting convoys in and out of harbour, limited the searching force. The additional ships were a mixed blessing, for while they helped to extend the search they created command and control problems.

Approximately one hour after the last attack, Balfour decided to split his forces to guard against the U-boat's escape while continuing to search in the immediate vicinity. This sound tactical division eased the command and control problem and enabled newly-arrived ships to assist. The three ships of EG-27 were to sweep along the submarine's possible escape routes, while *Westmount* was instructed to take charge of escorts in the area of the attacks, continue searching, and assist the tugs coming out of Halifax to locate the torpedoed ships.<sup>45</sup>

The expanded search ordered at 1214 and executed two minutes later deserves special notice. *Meon*, *Coaticook*, and *Etrick* formed up in line abreast at 3000-yard intervals. Their initial course was 245 degrees at ten knots with acoustic decoys still streamed.<sup>46</sup> The formation and search speed represented compromises. Asdic worked best at slow speeds and without interference from the acoustic decoy. But a search at slow speed stood little chance of intercepting an escaping sub, while the deadly effect of acoustic torpedoes, specifically designed for use against escorts, meant that failure to stream decoys in the presence of an aggressive opponent was foolhardy. Decoys were not required at speeds below seven or above twenty-four knots,<sup>47</sup> but a slow speed would allow the submarine to escape and frigates could not exceed twenty knots. The choice of a 3000-yard interval also represented a compromise. Given the short asdic ranges probable in the conditions, a 2000-yard interval would probably have been more effective, but would have required more ships. The absence of *Levis* and *Lasalle* meant that additional escorts would have had to come from outside EG-27. Yet any delay to integrate more ships would have been counterproductive. The decision to start immediately, using the best ships available to do a complicated expanding sweep along the U-boat's possible escape routes, was sensible in the circumstances (see figure 7). That the SO was aware of these compromises is suggested by his subsequent actions in ordering smaller intervals

and low speeds without decoys during deliberate searches for a bottomed U-boat. In the immediate aftermath of the attack, when time was crucial, a slow and deliberate search was not a good option.

The tactical publications available to Balfour at the time of the attack were less than comprehensive. Officially, US Navy (USN) tactics to counter inshore U-boats were to be adopted in Canadian waters, but not until early February 1945, when Naval Service Headquarters (NSHQ) directed all RCN ships to use the "retiring search plans" published in the USN's Fleet Tactical Publication 223A.<sup>48</sup> Still, the SO appears to have been aware of the trend, for he based his "expanding spiral" search plan on the USN model.<sup>49</sup> Shore authorities also later tacitly endorsed the broad front adopted in the expanding search. "The sweep on a broad front with a zigzag," concluded the Director of the Tactical Unit at Halifax in March 1945, "offers greater chances of detection."<sup>50</sup> The tactical decisions taken in the search for *U-1232* were therefore entirely consistent with the best thought of the day, and actually anticipated official publication of these procedures. Indeed, this action provides an excellent example of tactical anti-submarine methods in transition.

A reconstruction of the paths of *Meon*, *Coaticook* and *Etrick* compared with the track of *U-1232* shows that sometime between 1216 and 1300 the search ships and the sub should have passed in close proximity. In other words, the search succeeded in placing the ships in a position where they might have detected their prey. That no detection took place was probably the result of poor acoustic conditions. *U-1232's* intelligent use of the environment made the escorts' task all but impossible except when the submarine was near the surface. Even *Etrick*, which had achieved a range of zero in her collision with the submarine, had not detected the U-boat with asdic.

The reason that Balfour chose the correct initial search course (southwest) is not entirely clear from the records. Nonetheless, he appears to have made a sound analysis of the information available. Three factors likely influenced his decision. The first was that the area to the southwest of the attack—the Sambro Ledges—was known to contain the most difficult asdic conditions in the Halifax approaches. Because intelligence reports suggested that a U-boat had been in the area for several weeks, it was reasonable to assume that its captain would be aware of this and try to escape in that direction. The second consideration was that the SO believed incorrectly that the sub had fired from southwest and therefore reasoned that the boat would escape in that direction so as not to close with the escorts. This belief may seem incongruous in light of *Etrick's* collision with the U-boat to the northeast, but the implications of the collision do not appear to have been fully comprehended until quite some time after the actual event. Finally, Balfour was likely aware that Close Escort Group C-4, which was returning to Halifax from the northeast, had been directed to conduct a search from Egg Island to the harbour mouth as it returned. This meant that a submarine evading to the northeast would face an organized search sweeping toward it.<sup>51</sup> Yet another consideration was the fact that the tide was ebbing at the time of the attacks and an escaping submarine would prefer to proceed with rather than against the tide. The records available suggest that neither the U-boat commander nor his Canadian opponents considered this last factor.<sup>52</sup>

*Meon*, *Coaticook* and *Etrick* conducted their expanding search in a spiral that covered the probable furthest position of the escaping sub. From southwest their search altered to south and then southeast, ending at about 1700 some thirteen miles south of Sambro Light Vessel.<sup>53</sup> By this time the probability area had grown extremely large, for even at three knots the U-boat could have travelled anywhere within an eighteen mile radius, and the chance of detection in the poor acoustic conditions with indifferent sensors had become negligible. Balfour broke off the search shortly after 1700 and the three frigates headed north to the area where the ships were first torpedoed.<sup>54</sup>

Meanwhile, *Westmount* had been struggling to organize both the search for a bottomed U-boat and the salvage of the stricken ships. Neither task went smoothly in the abysmal weather. The first torpedoed ship, *British Freedom*, sank near Number One Buoy at 1359. The tugs, working in low visibility and increasing winds, managed to get one of the ships under tow, but this was

parted accidentally by one of the escorts leaving harbour to join the search. Re-establishing the tow in deteriorating weather conditions proved impossible. In the end *Athelving* sank and *Martin van Buren*, which drifted ashore near Sambro Ledge, became a total loss.<sup>55</sup> The search also took considerable time to organize, and although Balfour informed the CINCCNA in his report at 1500 that "*Westmount, Oakville, Goderick and Napanee* were conducting line abreast search" in the vicinity of the U-boat's original attacks, this does not appear to have been the case until about 1700. Prior to this the search had been by individual ships at best. Nevertheless, once organized the search for the sub was conducted in the prescribed manner. *Westmount* and her consorts—which, despite Balfour's report were usually only two in number—proceeded at seven knots at intervals of 2000 yards on north/south courses, combing the area repeatedly. Acoustic decoys were not deployed. *Westmount* and her consorts continued this search while EG-27 returned from the south.

At 2320 Balfour formally took over the search for a bottomed submarine.<sup>56</sup> Six ships were now formed up abreast at 2000-yard intervals, steaming north and south at seven knots with decoys recovered in a five-mile radius around Buoy Two. The search continued the rest of the night in terrible conditions. In the early morning hours Close Escort Group C-4 swept in from the northeast, increasing the congestion and confusion in the approaches and contributing to what a participant later recalled as a "highly exhausting night."<sup>57</sup> In addition to careful asdic scrutiny, Balfour conducted random depth charge drops and employed other ruses in an attempt to cause the U-boat to betray itself. Although futile, they demonstrated that the group employed every possible tactic.

In particular, EG-27 exhibited a sound knowledge of the various classification techniques available to determine if a contact might be a U-boat. Some of these were simply common sense, such as the use of weapons to bring debris to the surface. Debris would identify the source of the bottom echo as either an old wreck or a recently destroyed U-boat. Another surprisingly difficult technique was to attempt to obtain an echo sounder trace of the shape and size of a contact to see if it were a submarine. The great challenge of this method lay in the need to pass directly over the contact on a course parallel to its orientation. If this were achieved, the length and height of the various sections of the contact were displayed on the recorder trace, including the distinctive profile of the conning tower on all U-boats. The difficulty of finding the direction in which the contact was lying is perhaps evident, but steering to pass directly over it was equally trying. Tides, currents and winds caused a ship to drift in relation to an immobile contact on the bottom, and could only be overcome by a high standard of seamanship. The technique of scanning a bottom contact to find its profile had been advanced to an art form among RN and RCN ships employed around the UK. It is difficult to judge the proficiency of EG-27 in this manoeuvre from the records available, but an assessment of competent (but not expert) seems fair, since expertise would have required more practise and training than the group had received. The group also plotted contacts to compare its position with those of known wrecks. This demanded care, precision and time because navigational aids off Canada's east coast did not include the new precision radio navigation system—GEE—that was available around the UK. This disadvantage was offset to some extent by the fact that the group was operating close to the buoy system off Halifax, which provided ready reference marks.

Using all possible techniques, the augmented EG-27 searched the immediate vicinity of Buoy Two throughout the 15th and for most of the 16th. Meanwhile, EG-16 conducted a similar search to the northeast on 15 January, before taking convoy SC-165 out of Halifax the next day. In the late afternoon of 16 January EG-27, which now numbered six ships, conducted a slow search westward along the coast, covering the area from Sambro Island to Cross Island inside the fifty fathom line. Its procedure was the same as that employed for a bottomed submarine off Buoy Two: ships proceeding at seven knots at 2000-yard intervals without decoys deployed. After completing this sweep, the ships returned to the Halifax approaches and started patrolling that familiar area.<sup>58</sup>

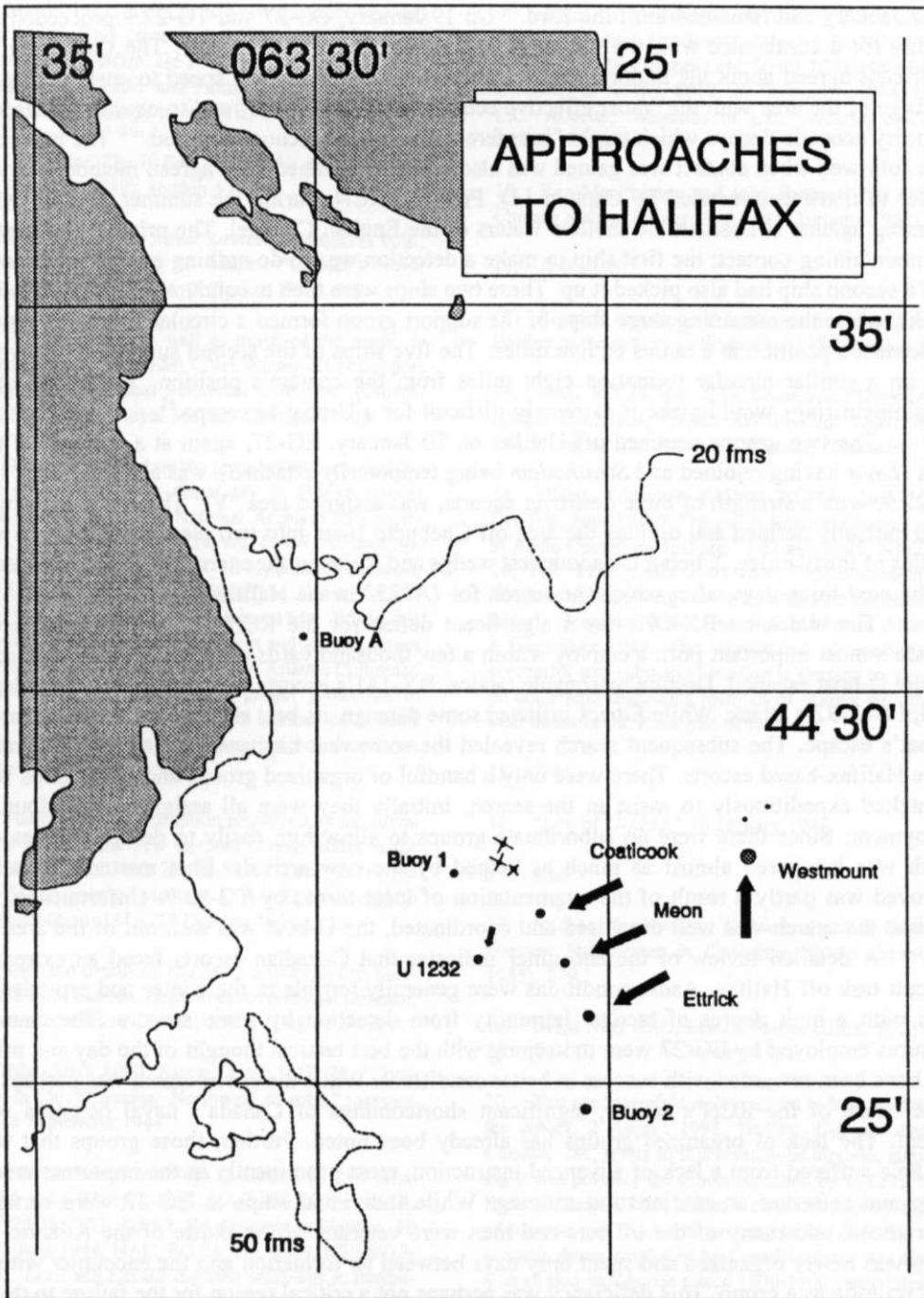


Figure 7: Initial Phase of Expanding Search by EG-27 for U-1232.

Source: Courtesy of the author.

An American "killer" group, Task Group (TG) 22.9, had in the meantime been diverted from escorting an Argentinian-to-Norfolk convoy to assist EG-27. It arrived in the Halifax approaches on 17 January and remained until the 23rd.<sup>59</sup> On 19 January, EG-27 and TG-22.9 proceeded into Halifax for a conference with the CINCCNA, Rear-Admiral L.W. Murray. The Canadians and Americans agreed about the importance of a methodical search at slow speed to ensure complete coverage of the area with the "most effective echo ranging techniques" and to obviate the need to use noisy acoustic decoys which might "interfere with the weak echoes detected."<sup>60</sup> The procedure to be followed when contact was gained was also carefully planned. The agreed method was very similar to that recommended by Captain J.D. Prentice, RCN, during the summer of 1944 while operating against U-boats in the shallow waters of the English Channel. The prime consideration was maintaining contact; the first ship to make a detection was to do nothing except hold contact until a second ship had also picked it up. These two ships were then to conduct slow and deliberate attacks, while the remaining three ships of the support group formed a circular formation around the contact's position at a radius of five miles. The five ships of the second support group would take up a similar circular formation eight miles from the contact's position. These concentric containment rings would make it extremely difficult for a U-boat to escape.<sup>61</sup>

The two groups searched off Halifax on 20 January. EG-27, again at a strength of five ships (*Levis* having rejoined and *Strathadam* being temporarily attached), was assigned Area "X." TG-22.9, with a strength of three destroyer escorts, was assigned area "Y." These two areas were geographically defined and divided the area off Chebucto Head into two pie-shaped wedges with a radius of thirty miles, X being the southwest wedge and Y the northeastern. Operations continued for the next three days, after which the search for *U-1232* in the Halifax approaches ended.

The attack on BX-141 was a significant defeat for the RCN at the very doorstep of Canada's most important port: a convoy within a few thousand yards of sanctuary lost three ships and the U-boat escaped. Despite reasonable tactics, BX-141's escorts did not more than modestly disrupt *U-1232's* attack. While *Ettrick* inflicted some damage, its best efforts could not prevent the U-boat's escape. The subsequent search revealed the somewhat haphazard organization of many of the Halifax-based escorts. There were only a handful of organized groups and while ships were dispatched expeditiously to assist in the search, initially they were all assigned to Balfour for deployment. Since there were no subordinate groups to allow him easily to delegate duties, the search was hampered almost as much as helped by the new arrivals. That matters eventually improved was partly a result of the augmentation of local forces by TG-22.9. Unfortunately, by the time the search was well organized and coordinated, the U-boat was well out of the area.

A detailed review of the encounter indicates that Canadian escorts faced an extremely difficult task off Halifax. Asdic conditions were generally terrible in the winter and provided U-boats with a high degree of tactical immunity from detection by sonic sensors. The counter-measures employed by EG-27 were in keeping with the best tactical thought of the day and might well have been rewarded with success in better conditions. While the environment was perhaps the major cause of the RCN's failure, significant shortcomings of Canada's naval defences were evident. The lack of organized groups has already been noted. Further, those groups that were available suffered from a lack of advanced instruction, most prominently in the important area of group and refresher or continuation training. While individual ships in EG-27 were certainly experienced, and many of the officers and men were veterans of the Battle of the Atlantic, the group was newly organized and spent only days between its formation and the encounter with *U-1232* training as a group. This deficiency was perhaps not a critical reason for the failure to thwart the U-boat, but it does not bespeak a well-organized naval establishment. The effort to improvise a large navy from almost nothing had produced large numbers of ships, but the quality of the escorts was still terribly uneven. In short, the RCN still had far to go, despite its great strides.

## NOTES

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1. G. Hessler, *The U-Boat War in the Atlantic, 1939-1945* (London, 1989), section 478.
  2. G.N. Tucker, *The Naval Service of Canada* (2 vols., Ottawa, 1951), 21; and M. Milner, "Canada's Naval War," *Acadiensis*, XII, No. 2 (Spring 1983), 162.
  3. This argument, as well as much of the essay, is derived from my "The Last Cruel Winter; RCN Support Groups and the U-Boat Schnorkel Offensive" (Unpublished MA Thesis, Royal Military College, 1992).
  4. This policy, based on the sound assessment that the major near-term U-boat threat lay in British coastal waters, is summarized in National Archives of Canada [NAC], Record Group [RG] 24, vol. 11464, Acting/Captain D.K. Laidlaw, Director of the Operations Division, Naval Service Headquarters [NSHQ] to Assistant Chief of the Naval Service, 21 November 1944. While this memorandum recognised that "escort and support forces available in the Canadian North West Atlantic Command are inadequate and cannot give proper protection to convoys," it argued that the small number of U-boats usually present in Canadian waters did not warrant an increase in defensive strength.
  5. "Static" was the description employed by the Royal Navy to describe the new German U-boat tactics in the fall of 1944; NAC, RG 24, 83-84/167, vol. 2616, file 16121-5/2, Admiralty Message C A/S O Number 6 to large distribution, 1816, 27 October 1944.
  6. Dates and details of *U-1232's* activity in this paragraph are from Canada, Department of National Defence, Directorate of History [DHist] 85/77, "Log of *U-1232*."
  7. DHist, NHS 8000, Escort Group [EG] 27, "Commander in Chief Canadian Northwest Atlantic," message 0012, 28 September 1944.
  8. *Meon* conducted work-ups at Halifax, 21-26 February 1944 and 6-22 April 1944; NAC, RG 24, vol. 6914, NSS 8970-381/103. *Ettrick* did the same at Halifax, 30 May-30 June 1944; NAC, RG 24, vol. 6914, NSS 8970-381/102. *Levis* and *Lasalle* did their work-ups in Bermuda at HMCS *Somers Isles* in September 1944, while *Coaticook* prepared at the same location in September/October 1944; NAC, RG24, vol. 6913, S8970-381/27 [*Levis*]; RG 24, vol. 6913, S8970-381/24 [*Lasalle*]; and RG 24, vol. 6912, S8970-381/11 [*Coaticook*].
  9. DHist, NHS 8440, EG-9, vol. 1, Commander in Chief Canadian Northwest Atlantic [CINCCNA] to NSHQ, 250026, October 1944; DHist, NHS 8440, EG-27, CINCNA to NSHQ, 0012, 28 September 1944; DHist, L.C. Audette, "Memoirs of L.C. Audette, ex-CO of HMCS *Coaticook*," 13.
  10. Ken MacPherson and John Burgess, *The Ships of Canada's Naval Forces 1910-1985* (Toronto, 1985), 194.
  11. *Ibid.*, 195.
  12. Personal biographical details are from Cdr. St. Clair Balfour to the author, 10 September and 7 October 1991.
  13. NAC, RG 24, vol. 7219, *Coaticook*, "Deck Log of HMCS *Coaticook*;" NAC, RG 24, Vol 7509, *Meon*, "Deck Log of HMCS *Meon*;" Audette, "Memoirs."
  14. DHist, Admiralty (ADM) 205/44, Anti-U-Boat Division, Naval Staff, "Notes on Support Group Tactics in Asdic Operations Inshore," 1 March 1945; NAC, RG 24, vol. 11575, file F-01-18-0, "Memorandum on Methods of Improving the Anti-Submarine Capability of Escorts Operating in the Canadian Northwest Atlantic," 8 December 1944. The importance of teamwork to successful anti-submarine warfare is stressed in virtually all documents discussing methods of dealing with the U-boat threat in the latter part of the war.
  15. *Ibid.*
  16. "Log of *U-1232*," 14 January 1945.
  17. *Ibid.*
  18. Michael L. Hadley, *U-Boats Against Canada: German Submarines in Canadian Waters* (Montréal, 1985), 279.
  19. DHist NHS 8000, EG-27, Senior Officer [SO] EG-27 to EG-27, 1041, 14 January 1945.
  20. This account of *Meon's* reaction is from Balfour to the author, 2 August 1991. Hadley, *U-Boats Against Canada*, 281, refers to this mysterious torpedo, suggesting it was possibly the fourth launched by *U-1232*. Cdr. Balfour's candid letter makes it clear that *Meon's* reported torpedo was not directly related to *U-1232*. The anti-acoustic decoy employed by Canadian ships was simply a small sled-like device towed 1000-1500 yards astern of the ship. Two steel bars were contained in this sled, which "chattered" as water passed between them. The concept was that the acoustic torpedo would hopefully "hear" the racket produced by the decoy and steer toward it rather than toward the noise of the ship's propellers.

21. Audette, "Memoirs," 29.
22. "Log of *U-1232*," 14 January 1945.
23. W.A.B. Douglas, *The Creation of a National Air Force* (Toronto, 1986), 603, discusses the caution displayed by U-boat commanders in Canadian waters in the latter part of the war. A further indication that Dobratz was particularly aggressive is indicated by the reaction in Germany to his success. Karl Doenitz, head of the German navy, personally recommended to Hitler that Dobratz receive the Knight's Cross; delighted with the sinkings, Hitler agreed instantly. *Ibid.*, 610; see also Hessler, *The U-Boat War*, section 473. The relative failure of U-boats to locate targets during the inshore offensive was the source of many comments in the *BdU War Diary* during this period. A good example is DHist 79/532, "*BdU War Diary*," X, 661, Experiential Radio Message No. 165, 6 October 1944.
24. Audette, "Memoirs," 29; "Log of *U-1232*," 14 January 1945.
25. DHist NHS 8000, EG-27, SO EG-27 to EG 27, 1054, 14 January 1945.
26. "Deck Log of HMCS *Coaticook*," 14 January 1945.
27. "Log of *U-1232*," 14 January 1945.
28. *Ibid.*
29. DHist, NHS 8000, EG-27, SO EG-27 to CINCCNA, 0226, 18 January 1945. Balfour indicated that *Etrick* had reported a possible collision with the U-boat "an hour or so after the incident took place;" Balfour to author, 2 August and 7 October 1991. The first surviving message to mention the collision was not sent until several days later, and the following messages indicate that all the consequences were not completely assessed until at least six or seven days had passed.
30. Submarine depths are recorded from the bottom of the keel. The distance from the bottom of a Type IX C/40 keel to the top of its conning tower is 9.6 metres; E. Groner, *German Warships 1815-1945* (3 vols., Annapolis, 1991), II, 68. River-class frigates draw 3.9 metres; Macpherson and Burgess, *The Ships of Canada's Naval Forces*, 91. Together, these total 13.5 metres, which would indicate that the bottom of the frigate and the conning tower of the submarine would have barely touched.
31. "Log of *U-1232*," 14 January 1945.
32. While the number of torpedoes available to *U-1232* at the end of the attack is not clear from the records, a review of the U-boat's log indicates that prior to the collision approximately thirteen torpedoes had been expended, eleven forward and two aft. Type IX C/40 U-boats had two torpedo tubes aft, and it seems unlikely that no reloads were available. It seems reasonable to suggest that at least some torpedoes remained at the end of the attack. Further, during the attack on SH-194, *U-1232* had sunk one ship with a stern shot. It thus seems reasonable to assume that if *U-1232* had not been effectively engaged more of BX-141 might have been sunk.
33. "Log of *U-1232*" indicates a "southerly" course shortly after the attack. A more precise 220° appears in the log some two hours after the attack.
34. NAC, RG 24, 83-84/167, vol. 2616, file 16128-1/1, Acting/Commander D.L. Raymond, RN, Director of Warfare and Training, to Assistant Chief of the Naval Staff, 19 October 1944, "Asdic Conditions in the Gulf and off the Nova Scotia Coast in the Winter." This memorandum was produced in anticipation of U-boat activity off Halifax during the winter of 1944-1945 and stated bluntly in its preamble that "in the light of previous experience it is extremely probable that A/S conditions in the Gulf and off the Coast will be very poor during the winter months due to a severe positive temperature gradient." See also NAC, RG 24, vol. 11026, file CNA 7-16, "Minutes of BT Conference Held at NSHQ," 18-21 December 1944.
35. NAC, RG 24, vol. 11026, file CNA 7-16, Captain (D), Halifax, minute on SO(AS), "Gaspé's Report on Asdic Conditions in the Gulf," 17 December 1943, cited in Marc Milner, "Inshore ASW: The Canadian Experience," in W.A.B. Douglas (ed.), *The RCN in Transition* (Vancouver, 1988), 152-153.
36. NAC, RG 24, vol. 11026, file CNA 7-16, CINCCNA to A/S School Cornwallis, 1515, 19 November 1944.
37. In Balfour to author, 7 October 1991, the SO did not recall that his ship had been fitted with bathythermographic equipment, although he did recollect that *Meon* was provided with a receiver for GEE navigational transmissions. This suggests that bathythermography did not have a memorable impact on actual RCN anti-submarine operations in 1945.
38. DHist 182.013, "RCN-RCAF Monthly Operational Review," February-May 1945.
39. DHist, NHS 8000, EG-27, SO EG-27 to EG-27, 1102, 14 January 1945.
40. Audette, "Memoirs;" "Deck Log of HMCS *Coaticook*," 14 January 1945.



41. NAC, RG 24, vol. 7998, "Deck Log of HMCS *Westmount*," 14 January 1945.
42. DHist, NHS 8000, EG-27, Captain (D) Halifax to HMCS *Border Cities*, *Napanee*, EG-27 and CINCCNA, 1407, 14 January 1945.
43. DHist, NHS 8440, EG-27, CINCCNA to HMCS *Strathadam* and HMCS *Buckingham*, 1439, 14 January 1945. The records do not indicate the exact positions of these ships when the orders were dispatched, although they were at sea somewhere off Halifax, probably within fifty miles of the harbour.
44. The motor launches controlled by the Commander of the port of Halifax, which were also used in this search, will not be specifically discussed in this essay. The chance of these vessels detecting a submerged submarine and conducting a successful attack were slight in the harsh environment.
45. DHist, NHS 8000, EG-27, SO EG-27 to EG-27, 1216, 14 January 1945; SO EG-27 to *Westmount*, 1510, 14 January 1945.
46. DHist, NHS 8000, EG-27, SO EG-27 to EG-27, 1214 and 1216, 14 January 1945.
47. As Allied intelligence was aware, the T-5 Gnat acoustic torpedo travelled at 24.5 knots while searching and actually slowed to around twenty-two knots once it began to home because of the way in which the homing mechanism operated. A speed of twenty-four knots made a hit by the T-5 very unlikely. At the slow speed of seven knots, the acoustic noise emitted by a ship was considered low enough that the T-5 would have to be aimed with remarkable accuracy for a hit to occur. In addition, acoustic decoys were almost ineffective because they produced very little sound at low speed. A complete discussion of anti-Gnat procedures can be found in *Admiralty Monthly Anti-Submarine Review* (September-December 1945), 53-63.
48. NAC, RG 24, 83-84/167, vol. 2616, file 16121-5/3, NSHQ to large number of Addressees, 1630, 10 February 1945.
49. The fact that the SO of EG-27 followed "the latest tactics as developed by the USN" was revealed in Balfour to author, 2 August 1991. It was only after this was revealed that other evidence demonstrating the degree to which RCN tactical procedures in Canadian waters were influenced by the USN was discovered.
50. NAC, RG 24, 83-84/167, vol. 2616, file 16121-5/3, Director of the Combined Tactical Unit to Captain (D) Halifax, 2 March 1945, Report on "Suggested Policy on A/S Sweeps in Coastal Waters."
51. The actual message from CINCCNA to C-4 to conduct this search is not in the records. However, the answering message from C-4 to CINCCNA, sent in the early afternoon of 14 January 1945, clearly indicates CINCCNA's intent, and the timing is such as to suggest that the SO of EG-27 was either aware of this development or could surmise that it would occur.
52. High tide in Halifax harbour occurred at approximately 0800 on the day of the attack, with low tide coming at about 1500. Consequently, the tidal stream would have been ebbing both at the time of *U-1232's* attack and for several hours thereafter. The actual current caused by the tide in the area of the attacks would have been slight, probably less than half a knot, and the direction would have been roughly southerly. While the surface ships would not have noticed the tidal stream appreciably, *U-1232* with its slow submerged speed might have been affected enough that a southerly course was selected at least partly on the basis that its escape would be assisted by the tide. Tidal influence would have diminished as the sub moved away from the coast. Tidal information was obtained for the author from the Canadian Hydrographic Service by the Directorate of Geographic Operations at National Defence Headquarters.
53. DHist, NHS 8000, EG-27, SO EG-27 to *Strathadam*, 1931, 14 January 1945; EG-27 to CINCCNA, 2219, 14 January 1945.
54. The reason that the search was abandoned is not entirely clear from the records. Commander Balfour remembers that he was ordered back to the scene of the attack by "a signal from Operations." Balfour to the author, 7 October 1991.
55. Hadley, *U-Boats Against Canada*, 282.
56. DHist, NHS 8000, EG-27, SO EG-27 to "All Ships under *Westmount*," 0220, 15 January 1945. The message was a simple "I am taking over now."
57. Audette, "Memoirs," 30.
58. DHist, NHS 8000, EG-27, CINCCNA to SO EG-27 1615, 16 January 1945; "Notes from a Report to NSHQ" (evidently drafted by SO EG-27, n.d. but sometime after 19 January 1945).
59. DHist, NHS 8000, EG-27, CINCCNA to EG-27, 2119, 17 January 1945.
60. NAC, RG 24, vol. 11938, file NS 8100-1, "Conference between US ASW units and EG-27," 19 January 1945.
61. *Ibid.*