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The Loss of HMCS *Clayoquot*

Lieutenant-Commander Doug McLean

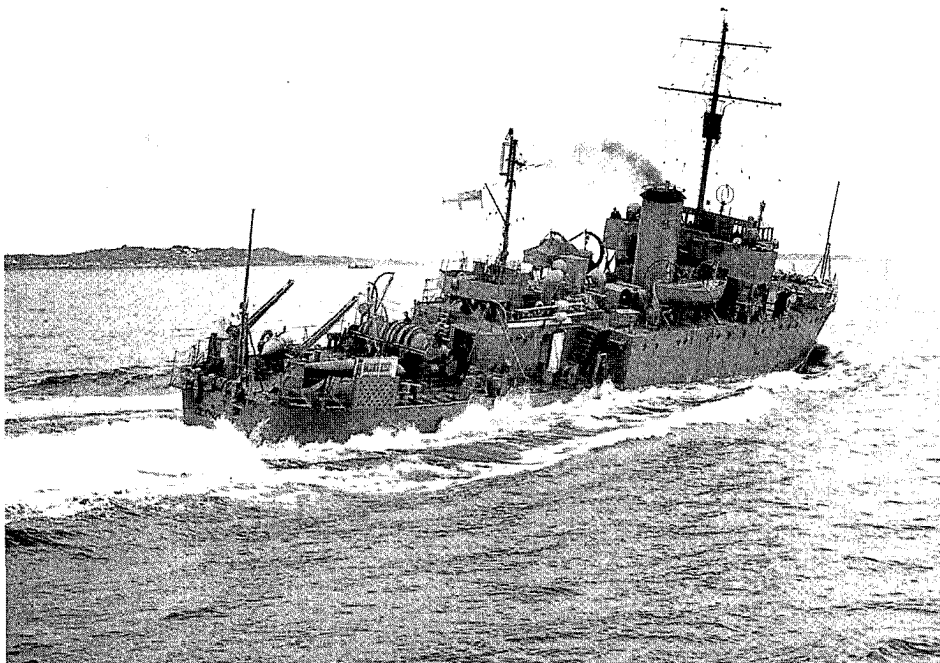
The torpedo struck without warning. HMCS *Clayoquot* was returning from an anti-submarine sweep in the approaches to Halifax harbour when its stern rose into the air, mangled by the detonation of a German T-5 acoustic homing torpedo. The men aboard felt two concussions, the second likely being depth charges stored on *Clayoquot*'s stern set off by the torpedo. Whatever the details, the explosions were devastating for the small Bangor class minesweeper.¹ A grainy photograph of the doomed ship shows the stern blasted vertical, the ship listing to starboard. *Clayoquot* lasted barely ten minutes after being hit, just long enough for all but eight of her crew to escape. The worst fate befell two young officers trapped in the port forward cabin. These men called out through a port hole for axes to chop their way to freedom, but all the axes were underwater.² The merciless sea closed around them as the ship vanished.³

A German U-boat lying a few short miles off Canada's coast claimed *Clayoquot*. Though the war was drawing to an end in late 1944, these dangerous predators still roamed the seas in significant numbers. The Canadian warship became another victim in a what was known as the U-boat's inshore offensive.⁴ This had started modestly during the late summer and fall of 1944, and one of the U-boat's operating areas was off Canada's east coast. The renewed onslaught did not raise shipping losses to the levels experienced in the dark days of 1942, but the unexpected success of U-boats after their crushing defeat in 1943 nonetheless caused concern. German submarines exercised their deadly craft with initially modest success in Canada's coastal waters in late 1944.

U-boats were certainly no strangers to the east coast. In 1942 they inflicted serious losses on traffic in the Gulf of St Lawrence, sinking twenty-two vessels in that year alone.⁵ On 9 September 1942 the Canadian government went so far as to close the Gulf to transatlantic shipping.⁶ The small number and poor quality of Canadian surface escorts available in Canadian waters, a result of the commitment of most of the RCN's modest strength to trans-Atlantic convoys, contributed to that German success.⁷

The Royal Canadian Air Force had a more pervasive presence in Canadian coastal waters during this period. Training airfields in the Maritimes contributed to the large number of patrolling aircraft. An aggressive campaign by the RCAF hindered and harassed the U-boats in 1942, almost holding them in check by forcing them to dive repeatedly, but the RCAF lacked the skill and equipment to destroy sufficient U-boats in 1942 to force them to break off the campaign. Although short of the equipment required for night operations, the RCAF's frequent appearance and occasional attacks significantly reduced the mobility of the U-boats. Unfortunately, this availed little when the U-boats were sitting close inshore in choke points where shipping had to pass. The deadly harvest of ships in the Gulf of St. Lawrence was a good indication of the formidable damage that could be inflicted by a small number of U-boats, even when badgered by frequent air patrols.⁸

The RCN expected a renewal of the German onslaught in 1943 and made what preparations it could.⁹ Fortunately, events in other parts of the Atlantic were the main focus of German effort in the first half of 1943



Two views of HMCS Clayoquot:

Left: Near Esquimalt, B.C. shortly after her commissioning, ca. October 1941.

NAC PA 157582

Right: During working-up exercises off Pictou, N.S. in July 1943.

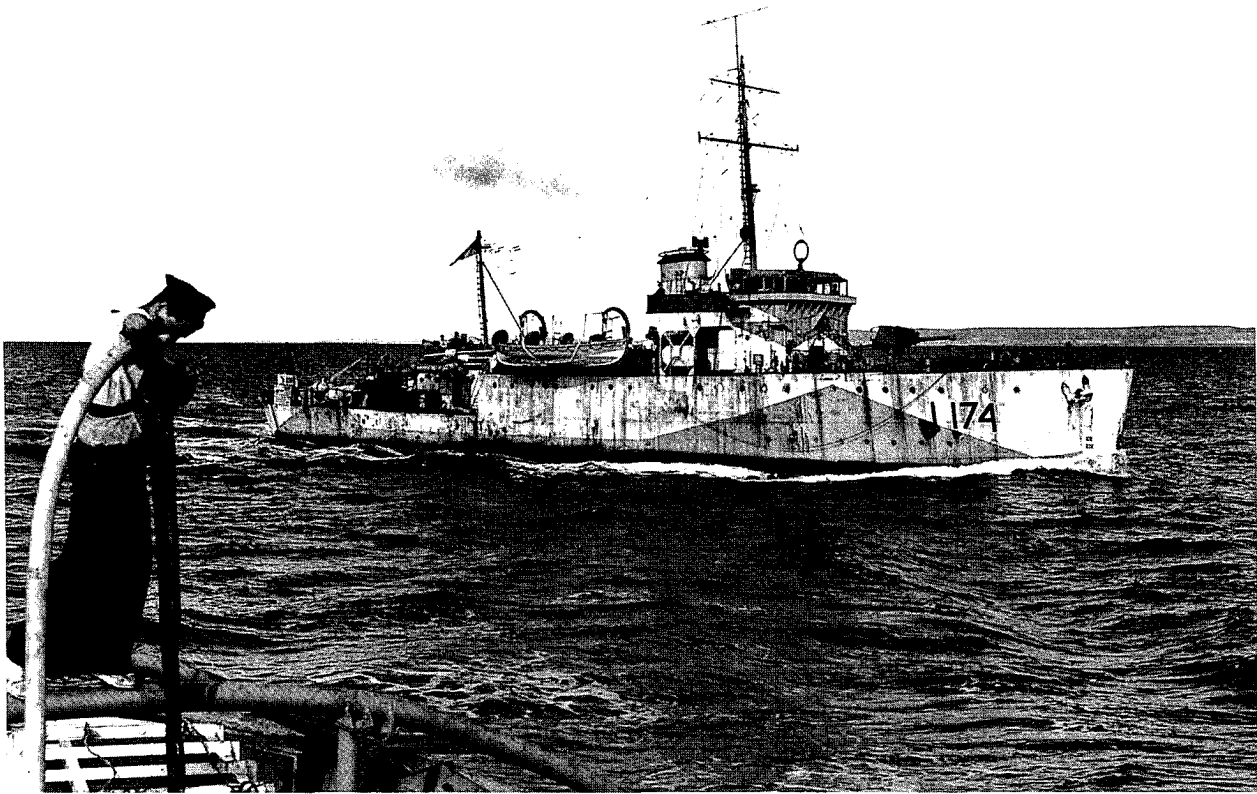
Photo by G.A. Milne, NAC PA 116969

and by the second half successful Allied countermeasures made German efforts to operate across the Atlantic far more difficult. The most important new measures leading to this success were increasingly accurate and specific intelligence that allowed U-boats to be hunted during their transits with deadly result and more and deadlier antisubmarine aircraft, equipped with better radar.

These developments made travelling on the surface at any time perilous for U-boats. This dramatically reduced U-boat mobility, and generated concern in the German submarine fleet about rising to the surface at any time. While surface travel might seem unnecessary for such vessels, the truth was that U-boats were far from true submarines, and were designed for only limited submerged operations. Their electric batteries held a modest charge, and could propel U-boats for only short periods at low speeds underwater. If operated at minimum speed, or conserved by resting on the bottom, a U-boat under

duress might last almost two days before being forced to re-charge and renew its air supply. Normally, however, a U-boat had to spend a minimum of three to four hours on the surface every day to keep its batteries charged.

Faced with the need to reduce their exposure to the surface, the Germans responded by adopting a Dutch invention: the schnorkel. Little more than two small tubes which allowed air to be drawn into the boat and exhaust vented, the schnorkel permitted U-boats to recharge their batteries and, after a fashion, renew their air supply without surfacing. It could be raised hydraulically when the U-boat was at periscope depth, allowing the diesel engines to operate at moderate speeds. U-boats using schnorkels could continue their underwater transit at speeds averaging five knots. Although automatic valves prevented seawater from entering in rough weather, any disruption in the air supply threatened



disaster if the crew could not either bring the schnorkel head above the surface immediately or switch back to battery power.¹⁰ Whenever the sea rose over the top of the tube, an intense vacuum arose in the boat as the diesel engines sucked air from the interior of the vessel to feed their combustion. There was another drawback in that the use of diesels while schnorkelling also drowned out sounds from outside the boat, with sometimes fatal results when Allied escorts literally stumbled on to them.¹¹

Schnorkel use resulted in barely tolerable conditions aboard submarines that were already cramped and uncomfortable. Without it, however, the U-boats were too exposed to the ubiquitous searching radar beams of now plentiful Allied anti-submarine aircraft and surface escorts. Hunting now became a matter of lurking in wait for shipping to pass, with discomfort traded for the stealth necessary to survive. These new tactics became known to the Allies as 'static' tactics.¹²

Schnorkel-fitted U-boats first appeared in significant numbers in the summer of 1944. Operations against the Allied invasion of Normandy proved that only U-boats equipped with schnorkels could now survive.¹³ It also became apparent that some success might be gained if schnorkel boats operated in the shallow waters near shipping lanes as shallow water provided a very difficult environment for asdic or sonar.¹⁴

The first schnorkel U-boats began to enter Canadian waters in the late summer of 1944.¹⁵ *U-802* and *U-541* managed to reach the Gulf of St. Lawrence, but then sank but one merchant ship between them. Their harassment by the RCN and RCAF was augmented by the efforts of U.S. Navy aircraft carrier "hunter-killer" groups, which were skilled in stalking U-boats in transit across the Atlantic. *U-802* had, in fact, been fortunate to survive two brushes with the USS *Bogue* escort carrier group en route to Canadian waters.¹⁶ In October a third U-boat, *U-1223*,

attacked a Gulf of St. Lawrence convoy, blowing the stern off—but not sinking—the frigate HMCS *Magog*. Eighteen days later the same U-boat damaged SS *Fort Thompson* with a torpedo. This record of minor successes continued later in November when another wave of three U-boats arrived in Canadian waters. On the night of 24/25 November *U-1228* sank the corvette HMCS *Shawinigan* off Port aux Basques, Newfoundland, while *U-1230* sent a merchant ship to the bottom in the Gulf of Maine on 3 December.¹⁷

These results barely justified the intense effort required to send these U-boats across a hostile ocean. While the RCN and RCAF deserve some credit, a lack of skill and daring in these U-boats contributed to their poor performance. New U-boats, one in mid-December and the second at the end of the month, soon demonstrated what determined U-boats, aggressively handled, could accomplish. In a few short weeks these submarines would account for five merchant ships, damage a sixth, and sink HMCS *Clayoquot*.¹⁸

The encounter between HMCS *Clayoquot* and *U-806* well illustrates a typical naval engagement during this period of the shipping war. The action occurred in shallow waters, in daylight, and in a focal point where shipping had to pass. The approaches to the port of Halifax were seldom targeted by U-boats in the early part of the war, and even when the inshore offensive began U-boats generally steered clear of the RCN's main base. This changed dramatically on 21 December, when a U-boat revealed its presence close off Halifax harbour by torpedoing and damaging the Liberty ship SS *Samtucky*. Although the Operational Intelligence Centre at NSHQ had correctly reported that several U-boats were operating in the Canadian coastal zone, none were considered to be off Halifax.¹⁹ Indeed, naval authorities initially believed that the damage to *Samtucky* came from a mine.²⁰ Examination of the ship, however, revealed that it had been the victim of a torpedo attack.²¹ The Commander-in-Chief Canadian Northwest Atlantic (CINCCNA), Rear Admiral L.W. Murray, RCN, countered with increased patrols, and it was on one of these that HMCS

Clayoquot was sunk within sight of Chebucto Head.

U-806 carried out both attacks. Commanded by *Kapitan zur See* Klaus Hornbostel, it was on its first and only operational patrol. Her crew was typical of many U-boats at this stage of the war, lacking submarine experience in many cases and on their first naval patrol of any kind in a surprising number of instances. Hornbostel, though a naval officer with surface warfare experience, had never previously been on an actual U-boat patrol. His Executive Officer was a former minesweeping officer, and his Non-Commissioned Officer (NCO) navigator was a former army signalman. Only in some of the vital technical NCO positions did Hornbostel possess experienced U-boat men, and their presence was critical. The crew received all the individual specialist courses required, and were then welded into a unit by training together in *U-806*, but the lack of experience could only detract from their chances of success. Still, Germany's increasingly desperate situation allowed no more time and the boat left Kiel, Germany, on 14 October 1944.²²

On its way across it spent a short period in mid-Atlantic monitoring the weather, hazardous duty at this stage of the war as it required frequent use of a radio to report observations.²³ On 13 November *Befehlshaber der U-boote* (U-boat Command Headquarters, hereafter BdU) ordered *U-806* to head for the Nova Scotian coast. Hornbostel's destination became Halifax on 30 November after further direction from BdU. After a voyage of 4,400 miles the boat arrived off Halifax on 13 December.²⁴

Once off the port Hornbostel spent over a week lurking, becoming familiar with the area before attempting to strike at a convoy entering the port. The numerous navigational aids found off Halifax, especially the anchored Sambro lightship, greatly assisted German submariners in getting their bearings, but the difficulty of operating submerged, restricted to slow speeds made their task formidably difficult. Despite patient preparation, *U-806*'s first effort achieved only

marginal success as two separate salvos were required when the convoy, in order to navigate the harbour entrance safely, altered course away from the submarine's first pair of torpedoes. Only one torpedo of the second salvo of two hit, damaging SS *Samtucky*. *U-806* failed in another attempt on 22 December, expending three more torpedoes in a fruitless effort against what Hornbostel saw as a standard freighter escorted by a "zig-zagging

found himself well positioned to intercept the Boston bound convoy XB 139 as it left Halifax during the forenoon. A complex situation developed as this action began, which resulted in HMCS *Clayoquot* presenting, unintentionally, a threat which *U-806* could not ignore. Two convoys were leaving Halifax at about the same time, XB 139 of 12 merchant ships, and HJF 36, consisting of the troop transport *Lady Rodney* escorted by the



The crew of *U-806* prior to her operational cruise of 1944. Note the schnorkel by the rear of the conning tower.
CFPU PMR 82-100

Flower class corvette." Of the three torpedoes fired only one appeared to function properly, the second failing to leave its tube, while the third went out of control after leaving its tube.²⁵

The U-boat's persistence and growing familiarity with the shipping routes in the Halifax approaches were finally rewarded two days later. On 24 December Hornbostel

corvette HMCS *Fennel* and the minesweeper HMCS *Burlington* (see figure 1).²⁶ The relative position of the two convoys is not readily apparent from the records, and that shown in the figure is an estimate. The log of *U-806* indicates that the U-boat never saw the troop transport, but sighted one of her escorts. Hornbostel spotted the long column of merchantmen in convoy XB-139 threading its way out of Halifax harbour, though, and

proceeded northwest to intercept. The U-boat had been loitering in its normal patrol area near the Sambro Light Vessel (not shown in this figure, but just off the bottom right of the chart). The intercept probably took place at four to five knots: slow underwater speed severely limited "old" U-boats, like *U-806*, a Type IX C/40. This constrained advance prevented Hornbostel from intercepting the convoy before its escorts could take station. The three escorts—the frigate HMCS *Kirkland Lake*, and the minesweepers HMC Ships *Clayoquot* and *Transcona*—had left the harbour earlier that day to conduct an anti-submarine sweep along the convoy's intended path, a direct consequence of the attack on *Samtucky* just three days previously. They were all returning to rendezvous with the convoy, on a course of 330° speed 11-12 knots, in a line abreast formation, 2000 yards between ships, inadvertently overtaking the slower *U-806* in its attempt to reach convoy XB 139.

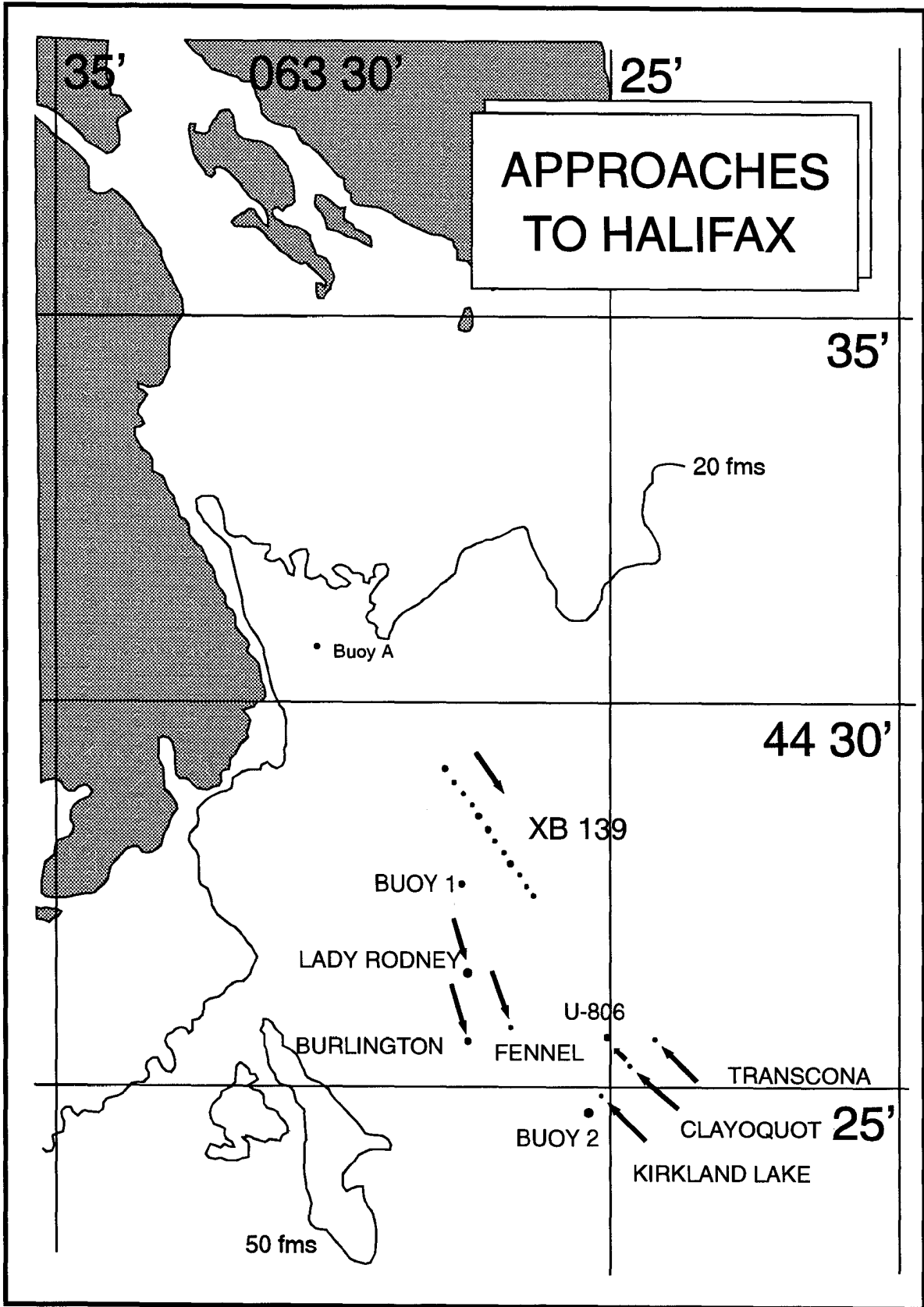
The attack occurred just after the moment shown in the figure. Hornbostel apparently struck in response to a change in course and speed by HMCS *Clayoquot*, the closest escort. *Clayoquot* had, in fact, altered to take up its assigned station on XB 139, an order signalled by the Senior Officer in *Kirkland Lake*. This sudden change, when less than 1000 yards from *U-806*, suggested that *Clayoquot* had detected the U-boat and intended an attack. Faced with a rapidly closing escort, Hornbostel hurriedly fired an acoustic homing torpedo from his stern tubes, and then dove to 50 metres to avoid the danger of the torpedo homing back onto the submarine. This torpedo struck *Clayoquot* after only 69 seconds, equating to a run not greater than 900 yards.²⁷

The appearance of these three escorts disrupted the attack by *U-806* on XB 139. By the time the distracted U-boat returned its attention to the convoy the first ship was within 300 yards, too close to attack with torpedoes. Hornbostel quickly shifted to a more distant merchant ship and fired a second acoustic torpedo. During this brief period between the two attacks—about ten to fifteen minutes—both the submarine and the convoy

maintained their initial courses: the first northwest and the latter southeast. Meanwhile the escorts reacted to the hit on *Clayoquot* by immediately streaming their anti-acoustic torpedo decoys and searching aggressively for the submarine. One of the escorts of HJF 36, *Fennel*, joined in the search for *U-806* while the second, *Burlington*, escorted the troop transport back into Halifax harbour. Convoy XB 139 turned around after the second attack by *U-806*. The submarine's second torpedo detected the decoy streamed by *Transcona* and detonated harmlessly in that ship's wake. *U-806* heard the explosion, but did not realize the fruitless result, attributing the absence of "breaking up noises" usually heard as a torpedoed ship begins to sink to the noise of the convoy passing overhead.²⁸ *U-806* also decided that discretion was in order with escorts apparently everywhere and, continuing on its course to the northwest, came to rest on the bottom in 68 metres of water in the vicinity of Buoy 1.²⁹

While Hornbostel and his crew crossed their fingers, the men of *Clayoquot* did their best to survive the harsh Atlantic. Two clear thinking seaman used axes to chop the falls of *Clayoquot's* whaler, allowing its use. All of the ship's carley floats were also released. In addition, most of the crew were able to don lifejackets during the brief minutes before *Clayoquot* took her final plunge. The result was that, except for those unfortunate few trapped or killed in the initial explosions, everyone was able to scramble into the cold water. HMCS *Fennel*, appreciating that men exposed to the frigid waters could not last long, rushed to pick up survivors. Launching her own whaler, she was able to pick up 3 officers and 72 sailors in short order. This episode was the high point of the day, and demonstrated a good standard of seamanship. The result was that the death toll was kept to eight men, when the cold waters might well have been expected to claim more.³⁰

The attack by *U-806* demonstrated both the advantages and disadvantages faced by U-boats operating in shallow coastal waters. By prowling in focal areas of shipping, such as channels just outside harbours, aggressive captains could hope to ambush shipping. On



the other hand, focal areas were inevitably closely watched by escorts. Even if the anti-submarine patrols had problems locating U-boats in the difficult acoustic conditions often found in shallow water, their presence had a deterrent effect. *Clayoquot* never detected the U-boat that sank her, nor did her consorts, and the search that ensued was equally unsuccessful.³¹ Nonetheless, the attack had achieved little. The small success of sinking one minor escort scarcely repaid the immense effort required to send a submarine on a patrol which, in the case of *U-806*, lasted over four months.³²

Operations in shallow, defended waters imposed constraints on U-boats which tended to limit their results. Unable to surface because of the threat of numerous escorts and the ever present danger of radar-equipped aircraft, the U-boat could only proceed submerged at slow speed. Worse, the poor and sometimes misleading acoustic conditions in shallow water forced the U-boat to rely on visual information for targeting data.³³ This required the exposure of a periscope with the attendant risk that it might be sighted by the escorts concentrated in the area. Although a periscope is a difficult object to spot, U-boat commanders knew that many eyes were searching for his one small periscope, while his were the only eyes that the U-boat had available. There can be little doubt that the desire to avoid exposing a periscope more often than necessary contributed significantly to the caution displayed by many U-boats. The exceedingly limited and fragmentary information that submerged U-boats could gather about the rapidly changing situation around them largely explains how *U-806* could miss sighting the large troop transport that must have passed close to her and how the adventitious alteration of course by *Clayoquot* could be mistaken for a threat.

U-806 lay silently on the bottom to avoid detection using a regular U-boat tactic often employed since the summer of 1944.³⁴ The RCN's search for *U-806* in the wake of the attack on *Clayoquot* leaves no doubt that bottoming tactics were anticipated.³⁵ An assessment passed just hours after the search began read: "If submarine bottomed after

firing, which is probable, he will try to clear the area tonight on schnorkel."³⁶ The command of this search first lay in the hands of the senior naval officer on the scene, in this case the commanding officer of HMCS *Kirkland Lake*, Commander N.V. Clark, RCN. A few hours later, however, the training commander of the port of Halifax, Commander Aubrey, RN, arrived to take charge. This event has been characterized by some Canadian historians as "the kind of RN assumption of superiority that really galled."³⁷ On the other hand, the uncertain state of tactical anti-submarine doctrine in Canadian waters which characterizes this period perhaps suggests that sending out an officer with the most up-to-date information on tactical procedures was perhaps a prudent step. At about the same time as Commander Aubrey arrived the ad hoc group of ships was designated group W-12.

The change of command did not alter the tactics. The initial reaction, as already discussed, was to deploy decoys against acoustic torpedoes and to search aggressively at moderately high speeds. This gave little chance of locating the submarine, because the racket produced by the acoustic decoys interfered severely with asdic. But, the object was less detection than deterrence in this phase, and in this the escorts were successful. Hornbostel judged it prudent to keep his periscope down after his parthian shot. During this period the ships concentrated on sweeping the area near the torpedo attacks.

The next phase of the search began after the convoys had returned to the safety of Halifax harbour. A small group of ships—the average number being three—stayed in the vicinity of the torpedo attacks while additional ships dispatched out of Halifax were placed on a growing perimeter designed to contain the submarine and prevent its escape. The plan bears a close resemblance to one forwarded by Lieutenant-Commander Plomer on 7 November 1944.³⁸ Reflecting the current state of uncertainty with respect to RCN tactical doctrine he observed that in the event of a submarine search in shallow water "there is no [suitable] search plan laid down in A.C.I.s [Atlantic Convoy Instructions]." He

went on to comment that “in a few instances recently had some form of search been available in various escort groups, that could immediately be carried out, the chances of detection would have been immeasurably increased.” The area plan which accompanied Plomer’s memorandum was a combination of plans developed earlier in the war, the first called observant, and the second a square search. This combination called for a group to send two ships to search in the vicinity of a possible U-boat, the example in the proposed plan being near a torpedoed ship, while the remaining ships began a square search outside of the two inner ships. The suggested dimensions of the two searches were two miles for observant and six miles for the square search, although the size of the square search depended on the possible “furthest on position” of the U-boat. The RCN would still be searching for a standard tactical doctrine for inshore ASW when the war ended.³⁹

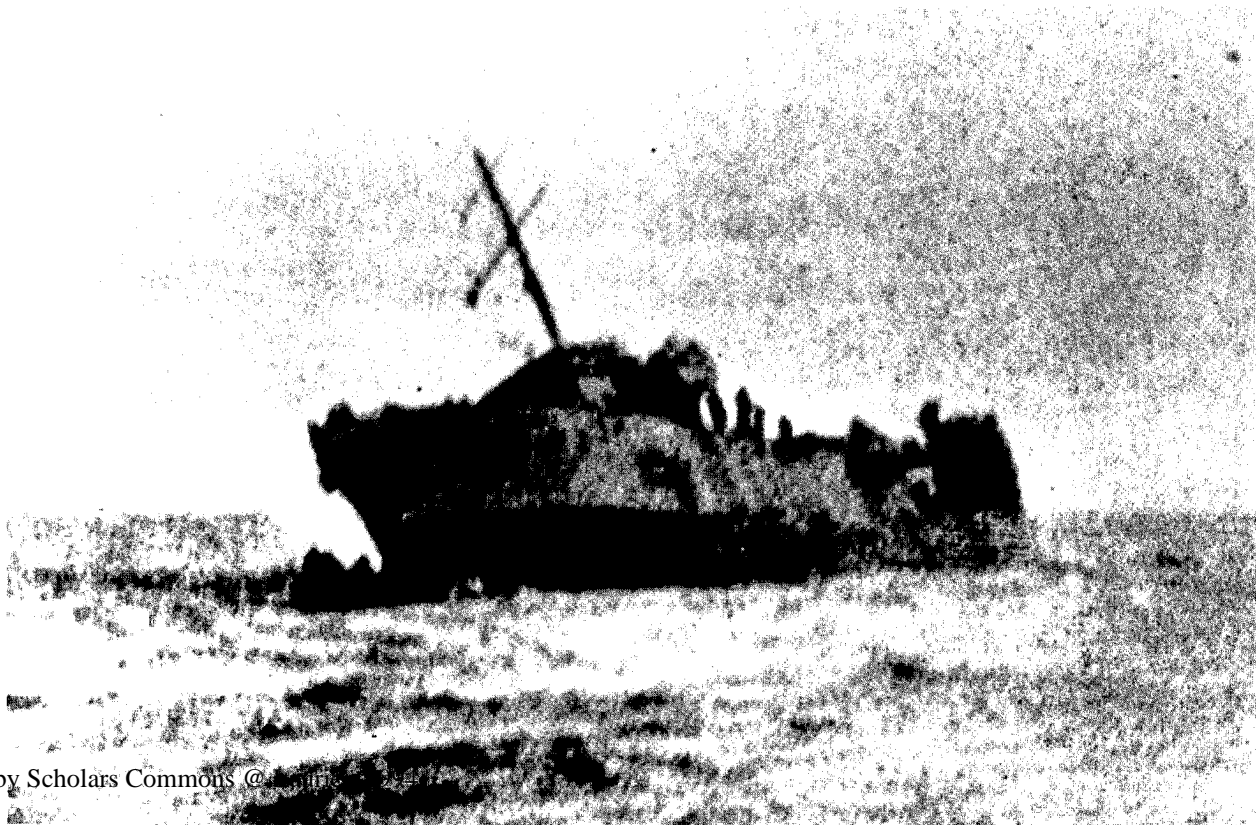
The whole search plan was oriented on Sambro Light Vessel for ease of navigation. The search perimeter gradually expanded from 2 nautical miles in radius, ordered at 1445 local time,⁴⁰ to 5 miles at 1523 local.⁴¹ Finally, after sunset, some nine and a half hours after the first torpedo attack, the

perimeter became 10 miles, an area that encompassed the position where *U-806* still lay quietly on the bottom. Commander Aubrey had indicated his intention to adopt this larger perimeter several hours earlier, but delayed for reasons unknown.⁴² Ships patrolling the perimeter proceeded at equally spaced intervals at 12 knots, with their acoustic decoys streamed. They were further directed to carry out a listening sweep with their hydrophones after every second active “sweep,” with the hope of detecting the noisy diesel engines of the U-boat if it began to schnorkel. Inside the perimeter *Kirkland Lake* and two other escorts continued a deliberate search at slow speed concentrated on the area immediately around the position of the initial attacks. This style of search was commonly employed to find a bottomed submarine.⁴³

This plan contained the essential elements necessary to counter the tactics available to *U-806*. The initial reaction successfully thwarted the threat to convoy XB 139. The ensuing search was designed both to cut off any escape by the submarine and to search the most likely locations for a bottomed submarine. Perimeter patrols by ships proceeding at the moderately high speed of

HMCS Clayoquot minutes before sinking.

CFPU PMR 83-305



12 knots with acoustic decoys deployed was perhaps questionable, but since their main job was containment, a reasonable argument can be made for a higher search speed and a noisy decoy. Certainly the decoys greatly reduced the danger of additional escorts sharing *Clayoquot's* fate. Details concerning the ships doing the deliberate search inside the perimeter are scanty, but it would appear that they conducted the search at a lower speed since several detections and attacks were made on what turned out to be non-submarine contacts. One of these contacts was in fact the wreck of *Clayoquot*, which suffered the indignity of being depth charged before it was identified. In fact, expenditure of ammunition quickly became one of the concerns of the searching ships because so much ordnance was discharged on false contacts. Despite the apparent extravagance of such an approach, it was completely in keeping with current tactics. The escorts, moreover, used echo sounders to attempt to verify contacts as either submarine, wreck, or bottom features. When the escorts passed over top of a contact the echo sounder would produce a trace or "picture," which indicated the length and height of the bottom contact, sometimes even exposing the tell tale conning tower of a submarine. The escorts also endeavoured to establish the identity of bottom contacts by comparing their positions with that of known wrecks. In short, the escorts followed current procedures to the best of their ability. Yet the warships were unsuccessful and *U-806* escaped.

The U-boat had slowly moved out of the area after resting on the bottom for twelve hours, hovering just above the bottom at low speed. *U-806's* log records that at least six escorts passed directly overhead, but made no contact.⁴⁴ The fact that such "detection opportunities" occurred demonstrated the tactical validity of the search plans employed. Indeed, *U-806's* log describes the search as so tightly organized that "... despite evasive action, there was no way to avoid them passing over the boat at times."⁴⁵ The failure to make a detection may have been the result of inattention in the searching ships, inadequate training of operators, or of difficult water conditions.

The last explanation is the most likely. Water conditions off Halifax in winter are notoriously poor and a submarine remaining close to the bottom presented a very difficult target. Cold winter weather caused this, as the frigid air cooled the water at the surface to near freezing temperatures. As a result, water temperature increased with depth in the winter, which caused sound to be bent upward as it travelled through the water. Finding U-boats near the bottom in these conditions was extremely difficult. In better conditions, such a search might well have been successful. This is not to say that the search was unflawed. The almost complete lack of group organization among the escorts greatly hampered operations. *Kirkland Lake*, for example, had to use the most primitive forms of communication to overcome the incompatible codes and equipment carried aboard the diverse vessels.⁴⁶ It is also clear that the search plan was based on the most convenient and expedient procedure available, likely because the Senior Officer did not believe that a more sophisticated approach was possible. The extension of the containment perimeter appears to have been more the result of improvisation than careful planning, reflecting the ad hoc arrival of reinforcements rather than calculation of the U-boat's likely escape speeds.⁴⁷ Nonetheless, essentially effective and correct actions had prevented the submarine from sinking merchant shipping, and allowed it to escape only by pushing both its crew and its capabilities to the limit. The fact that *U-806* did not dare raise its schnorkel to renew its air supply for a period of over 40 hours, approaching its design limits, demonstrates the concern which the escorts had instilled in its commander. This was perhaps the best that could be expected given the water conditions off Halifax and the somewhat ramshackle organization of ships.

One of the two Support Escort Groups in Canadian waters at the time, EG 27, played a minor role in this episode. This was because the group, returning from a convoy they had escorted well out to sea, did not reach the Halifax area until nearly 24 hours after the attack.⁴⁸ Initially intended to search the bottom in the area of the torpedo attack, the



Survivors from the HMCS Clayoquot being picked up by the HMCS Fennel.

CFPU PMR 83-368

situation had changed so much by the time EG 27 arrived that this plan was dropped. The report of a submarine sighting seventy-five miles south of Halifax by an RCAF aircraft on 25 December confused the search for *U-806* as well.⁴⁹ This caused EG 27 to be diverted to the new datum before it even reached the area where *Clayoquot* had been torpedoed. The location and time of sighting made it plausible that the submarine sighted could have been *U-806*, although Canadian authorities recognised the possibility that there could be a second submarine in the area. German records confirm that neither *U-806* nor the second U-boat operating close in to Halifax harbour—*U-1231*—were responsible for the sighting report.⁵⁰ Whatever the actual nature of the sighting, whether U-boat or whale, the search off Halifax was much reduced in intensity. In fact, the ad hoc group specifically designated to search for *U-806*, W-12, conducted one more sweep of the Halifax approaches after returning from their futile dash out to investigate the aircraft report and returned to harbour late on the

26th.⁵¹ EG 27 spent time futilely searching for the submarine reported by the aircraft and then conducted several more searches in the Halifax area. The group finally returned to Halifax harbour for several days alongside on 29 December, 1944, as the fruitless search for *U-806* ground to a halt.

The attack was the last aggressive activity for *U-806* in Canadian waters, and the U-boat began its return transit on 4 January 1945.⁵² Its efforts had sunk only one ship, a Canadian Bangor class minesweeper, and damaged one merchantman. Its audacious probing of the entrance to Halifax harbour demonstrated the potential for submarine operations in this difficult area and the comparative futility of anti-submarine efforts in the face of atrocious water conditions. Within weeks of *U-806*'s departure, *U-1232* sank two ships just east of Halifax on 4 January 1945 and then three more merchantmen on 14 January within a stone's throw of where *U-806* had lain on the bottom to avoid detection, transforming potential into reality.⁵³

The encounter between *U-806* and the RCN on 24 December is hardly unique. It does stand, however, as an excellent example of the "state of the art" in anti-submarine warfare near the end of the Second World War. It was a groping battle between opponents who could only gain momentary glimmers of the location of their prey, resulting in brief and violent episodes of death and destruction. The difficult conditions under which both sides laboured helps to explain the inconclusive outcome. The lack of sufficient completely trained ships and, especially, trained *groups* of ships bears on the lack of success achieved by the Royal Canadian Navy in this contest. It might be said that this battle demonstrates that despite the passage of over five years of war and the stubborn bravery of the RCN's sailors, the defence of Canada's most important east coast port remained unsatisfactory.

The Royal Canadian Navy grew from a tiny force of six destroyers and five minesweepers at the start of the war to a fleet of hundreds of ships by 1945.⁵⁴ These ships were manned by crews that were becoming accustomed to the rigours of the sea and most of whom had spent countless hours learning their new naval skills. Despite the size and growing experience of Canada's navy, many shortfalls remained. One of the most serious was that training procedures were still rudimentary in advanced areas of naval warfare.⁵⁵ As well, despite the size of the RCN, there were not enough ships available to adequately defend Canada's most important east coast port, due to the dispatch of the majority of its best trained and equipped ASW escorts across the Atlantic.⁵⁶ The harsh conditions typical off Halifax in the winter, conditions which were more extreme both climactically and oceanographically than those found in the British littoral, contributed to the poor results.

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 Canadian

escorts were in keeping with the best tactical thought of the day, and such procedures might well have been rewarded with success in better conditions.

While the environment was possibly the major reason for the RCN's failure, significant shortcomings were evident in Canada's naval defences. The lack of organized groups has already been remarked upon. Further, those groups that were available suffered from a lack of advanced training, most prominently in the important area of group training. The best example of this is the record of one of the few specialized groups intended specifically for prolonged ASW searches: EG 27. One ship—*Meon*—in this group was well experienced, and many of the officers and men in all the ships were veterans of the Battle of the Atlantic, but the newly-organised group spent only one day between its formation and the search for *U-806* in group training. The lack of training contributed to the failure to find the U-boat, and does not bespeak a well organized naval establishment. The effort to improvise a large navy from almost nothing had produced large quantities of ships, but resulted in escorts of uneven quality. In short, the RCN still had far to go, despite the great strides taken.

NOTES

1. Particulars of HMCS *Clayoquot*:

Standard displacement:	672tons
Speed:	16.5 knots
Dimensions:	180' X 28.5' X 10' (mean)
Complement:	6 officers, 77 other ranks
Machinery:	Steam Reciprocating engines
Number of Shafts:	2
Armament:	one 4-inch gun (main) one 2-pdr aft (secondary) 2 Depth Charge throwers 4 Depth Charge chutes 40 Depth Charges carried

Derived from Ken Macpherson, *Minesweepers of the Royal Canadian Navy 1938-1945* (St Catherines, Ontario: Vanwell Publishing Ltd, 1990), p.19; and "Brief History of HMCS *Clayoquot*," prepared by Naval Historical Section 21 January 1963, Director General History (DG Hist) NHS 8000 "*Clayoquot*," p.3.

2. A more detailed account of what transpired aboard HMCS *Clayoquot* when the torpedo struck can be found in Michael L. Hadley, *U-boats against Canada* (Kingston & Montreal: McGill-Queen's University Press), pp.261-263. Hadley's account provides good details of the entire incident between U-806 and HMCS *Clayoquot* between pages 256 and 270. This account, however, offers significantly different interpretations of the tactics of the RCN during the encounter than that presented by Hadley.
3. "Brief History of HMCS *Clayoquot*," prepared by Naval Historical Section 21 January 1963, DG Hist NHS 8000 "*Clayoquot*," pp.25-26.
4. For an overview of the inshore offensive, see D. McLean, "Confronting Technological and Tactical Change: Allied Antisubmarine Warfare in the Last Year of the Battle of the Atlantic," *Naval War College Review*, Vol XLVII, Number 1, Sequence 345, Winter 1994, pp.87-104.
5. Marc Milner, "Inshore ASW: The Canadian Experience," in W.A.B. Douglas, ed. *The RCN in Transition* (Vancouver: UBC Press, 1988), p.147.
6. Tony German, *The Sea is at Our Gates: The History of the Canadian Navy* (Toronto: McClelland & Stewart, 1990), p.120.
7. J. Schull, *Far Distant Ships* (Ottawa: King's Printer, 1950), p.122.
8. Milner, pp.147-148.
9. Milner, pp.148-149.
10. E. Rossler, *The U-boat: The Evolution and Technical History of German Submarines*. (Annapolis, Maryland: Naval Institute Press, 1981), p.198.
11. One such incident occurred on the night of 20 March, 1945 when HMCS *New Glasgow* collided with U-1003, which led to the eventual loss of the U-boat. "Report on the Interrogation of Survivors of U-1003," DG Hist, 1650-U-1003.
12. Admiralty Message C A/S O Number 6, to large distribution, 271816Z October 1944, National Archives of Canada (NAC) Record Group (RG) 24, 83-84/167, Vol.2616, File 16121-5 Vol.2.
13. John Terraine, *Business in Great Waters: The U-boat Wars, 1916-1945* (London: Leo Cooper, 1989), pp.646-647.
14. Gunter Hessler, *The U-boat War in the Atlantic, 1939-1945* (London: HMSO, 1989), Section 456. In notes this book will refer to the section cited as this will avoid the complex pagination present in this book.
15. W.A.B. Douglas, *The Creation of a National Air Force: The Official History of the Royal Canadian Air Force, Volume II* (Toronto: University of Toronto Press, 1986), p.597.
16. William T. Y'Blood, *Hunter Killer* (Toronto: Bantam Books, 1992), pp.252-253. U-1229, en route to the coast of Maine at the same time, was less fortunate. Planes from USS *Bogue* sank her on 20 August 1944.
17. *RCAF Vol.II*, pp 598-603.
18. A brief summary of the depredations of U-806 and U-1232 can be found in German, pp.178-179.
19. *RCAF Vol.II*, pp.604.
20. Hadley, pp.257-258.
21. *RCAF Vol.II*, pp.604.
22. Hadley, pp.251-252.
23. Hadley, p.252. The destruction of U-248 on 16 January 1945, by a group of U.S. ships tasked to find and destroy weather reporting U-boats, well illustrates the dangers of the duty. See David Syrett, "Weather-Reporting U-boats in the Atlantic 1944-45: The Hunt for U-248," *American Neptune*, Vol 52, No 1, Winter 1992, pp.16-24.
24. *RCAF Vol.II*, p.604.
25. Log of U-806, entry for 2200 on 22 December 1944, DG Hist, SGR II 257.
26. As was the case for all Halifax convoys, the exit occurred during daylight hours - the records are not clear, but the RCN apparently never deliberately sailed convoys at night in this period, as the Royal Navy did. The advantage of sailing at night was that a submerged U-boat could then see very little from its periscope, and therefore few attacks occurred during the hours of darkness in the last nine months or so of the war. For example, the January, 1945, RCN-RCAF Monthly Operational Review noted on its first page that "...in the present phase of inshore U-boat operation, torpedo attack is to be mainly expected by day." An example where the RN attempted to move convoys back and forth across the English Channel in the hours of darkness can be found in Senior Officer EG 9 to Commander in Chief Western Approaches, Report of Proceedings for the period 1 April 1945, to 26 April 1945, dated 26 April 1945, DG Hist, NHS 8440 EG 9, CS 165-20-EG 9. See particularly 3 through 20 April.
27. Log of U-806, DG Hist, SGR II 257; and Hadley, *U-boats*, p.261.
28. Log of U-806, 1446 on 24 December, DG Hist, SGR II, p.257.
29. Hadley, *U-boats*, p.264.
30. This account of the rescue is derived from Report of Proceedings - Convoy HJF 36 and account of the Rescue of Survivors of HMCS *Clayoquot*, submitted by HMCS *Fennel*, DG Hist, NHS 8000, HMCS *Clayoquot*.
31. *Ibid*, p.261ff.
32. Hadley, *U-boats*, pp.251 & 252 provides a succinct description of U-806 and indicates the date that the submarine departed on patrol: 14 October 1944. The date U-806 returned to Germany, 27 February 1945, is found in a DG Hist monograph on page 43, also by Hadley, DG Hist SGR II 258, "U-boat Encounter Off Halifax: The Sinking of HMCS CLAYOQUOT."
33. BdU War Diary, 3 December 1944, DG Hist, 79/532 Vol.10.
34. Admiralty Monthly Anti-Submarine Reports, July 1944, DG Hist Conference Room, D 780; M66; 1944; July-December.
35. It should be noted here that this interpretation directly contradicts that offered by Hadley in his book *U-boats Against Canada*, who wrote concerning the search for U-806 that: "...Canadians simply did not expect a U-boat to operate in such shallow waters. They certainly did not expect it on the bottom of the Halifax approaches route. The conventional Allied wisdom held that U-boats escaped to deeper water after an attack." (p.266).

This comment did not apply in December 1944. The change in German tactics, and the Allied recognition of that change, had occurred at least five months before. The "conventional Allied wisdom" Hadley refers to had last been published in the spring of 1944, and changed well before the time of U-806's attack on *Clayoquot*.
36. HMCS *Kirkland Lake* to Ships in Company, 242040Z December 1944, NAC RG24 Vol.11,111, File 55-2-1/542.

37. German, pp.178-179, and Hadley, p.265.
38. Memorandum entitled "Area Search" from Director of the Tactical Unit, Dockyard, Halifax to Captain (D) Halifax, 7 November 1944, but should read 7 December 1944 (enclosure is dated 29 November 1944), NAC RG24 Vol.11022, File D023-2-1.
39. D. McLean, "The Development of Canadian Tactical Ideas and Doctrine during the Second World War," Conference Paper, October 1993, Halifax, Nova Scotia.
40. *Kirkland Lake* to Group, 241745Z December 1944, NAC RG24 Vol.11,111, File 55-2-1/542.
41. LITERATE to ALL LITERATES, 241823Z December 1944. LITERATE was the voice code word for the Senior Officer in charge of the anti-submarine search for *U-806*, and All Literates referred to all ships assigned to the search. These records are transcripts of the verbal messages passed between ships during the search, held in NAC RG24 Vol.11,111, File 55-2-1/542.
42. The message indicating Aubry's intentions was sent at 242040Z (1740 Local) December 1944. The execution signal was sent out at 242251Z, and received for at 242312Z (2012 Local). NAC RG24 Vol.11,111, File 55-2-1/542.
43. *Kirkland Lake* to GROUP, 241825Z December 1944; *Kirkland Lake* to Ships in Company, 242040Z December 1944; *Kirkland Lake* to Commander in Chief, Canadian Northwest Atlantic, 250054Z December 1944, NAC RG24 Vol.11,111, File 55-2-1/542.
44. Log of *U-806*, DG Hist, SGR II p.257.
45. Log of *U-806*, DG Hist SGR II p.257.
46. Hadley, *U-boats*, p.267.
47. *U-806* considered the rate at which the search expanded quite accurate. Her Log recorded that: "Since the sub had not been detected by nightfall, the search was resumed in circles around the site of the attack. These circles were then extended commensurate with a fairly well calculated submerged running speed." (DG Hist, SGR II p.257).

In fact, the search expanded considerably slower than it should have, but the overall result was effective because *U-806* waited so long to move again after bottoming. The delay meant that the search perimeter actually encompassed the boat's position before it escaped.
48. *Audette Memoirs*, p.22, DG Hist Collection.
49. *RCAF Vol.II*, p.604.
50. Log of *U-806*, DG Hist, SGR II p.257.

Log of *U-1231*, DG Hist 85/77. *U-1231* spent 24 & 25 December, the day of and the day after the sinking of *Clayoquot*, patrolling ten to twenty miles east of Halifax harbour, well clear of the reported sighting by the aircraft.
51. Minute, "Remarks of the Senior Officer of W-12," dated 30 December 1944 in DG Hist NHS 8000: HMCS *Clayoquot*.
52. Date for the commencement of *U-806*'s return transit derived from a copy of *U-806*'s track chart, provided to the author by Dr. Michael Hadley of the University of Victoria.
53. For a detailed description of *U-1232*'s attack on 14 January 1945, see D. McLean, "The Battle of Convoy BX-141," *The Northern Mariner*, III, No. 4, October 1993, pp.19-35.
54. G.N. Tucker, *The Naval Service of Canada, Volume 2* (King's Printer: Ottawa, 1952), p.21; and M. Milner, "Canada's Naval War," *Acadiensis*, Vol XII, No 2, Spring 1983, p.162.
55. This argument, as well as this paper, is derived from the author's *The Last Cruel Winter: RCN Support Groups and the U-Boat Schnorkel Offensive*, Unpublished MA Thesis, Royal Military College, Kingston, March 1992.
56. NAC, RG 24, Vol 11464. This policy, based on the sound assessment that the major U-boat threat in the near future lay in British coastal waters, is well summarized in a memorandum from Acting/Captain D.K. Laidlaw, Director of the Operations Division at Naval Service headquarters, to the Assistant Chief of the Naval Service on 21 November 1944. 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," but argued that the small number of U-boats usually present in Canadian waters did not warrant an increase in defensive strength.

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