

## **"A USEFUL LOT, THESE CANADIAN SHIPS:" THE ROYAL CANADIAN NAVY AND OPERATION TORCH, 1942-1943'**

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Like other amphibious animals we must come occasionally on shore: but the water is more properly our element, and in it...as we find our greatest security, so exert our greatest force.

Bolingbroke, *Idea of a Patriot King* (1749)

The Royal Canadian Navy (RCN) corvettes that supported the Allied landings in North Africa beginning in November 1942 achieved substantial success. This little-known story is important, for the Canadian warships gave outstanding service at a time when the fortunes of the main RCN escort forces in the north Atlantic had dropped to their nadir. Problems resulting from overexpansion and overcommitment had, as has been fully documented in recent literature, raised grave doubts about the efficiency of Canadian escorts.<sup>2</sup> What has yet to be properly acknowledged was that the operations of RCN ships in the Mediterranean and adjacent eastern Atlantic areas during these same months of crisis demonstrated that given an opportunity Canadian escorts could match the best.

On 25 July 1942, after months of high-level discussions concerning the strategic direction of the war, Allied leaders agreed to invade North Africa in a campaign named Operation Torch, rather than immediately opening a second front in Europe. On 27 August 1942 the First Sea Lord signalled Vice-Admiral P. W. Nelles, Chief of the Naval Staff (CNS), "that Admiral Cunningham's [Naval Commander Expeditionary Force] Chief of Staff, Commodore R. M. Dick, would be visiting him in Ottawa with some information." The material proved to be an outline of Operation Torch, along with a request that the RCN provide escorts for the operation. "No firm request with respect to numbers was made of the RCN; it was simply asked to do what it could." The request put the RCN in a difficult position. The problem facing Naval Service Headquarters (NSHQ) was to determine the number that could be made available, while at the same time maintaining adequate protection for north Atlantic convoys. Despite the fact that the RCN was experiencing serious maintenance problems, and that the fleet required new equipment and refits to meet existing commitments, the RCN continued to assume new responsibilities.<sup>3</sup> To obtain the necessary escorts for Torch it had to strip the Pacific coast of five corvettes and close the St. Lawrence to ocean shipping.<sup>4</sup> Canada accepted major reductions in its home defences to contribute to the Allied cause.

On 9 September 1942, Nelles signalled the Admiralty that the request for assistance had been approved by the Cabinet War Committee, on condition that the ships "be returned to Canada at the earliest convenient date and not later than February of next year." The Admiral expressed the hope "that the ships would give a good account of themselves." The following day, the

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Admiralty thanked NSHQ for its assistance, promising "to try and give [the] ships a good place in [the] front row of stalls."<sup>8</sup>

In all, sixteen Canadian and one British corvette in RCN service were loaned to the RN. It has been suggested that the RCN surrendered its best corvettes at a time when its fortunes in the north Atlantic were at their nadir.<sup>9</sup> Of the sixteen ships assigned to Torch, ten were from the original 1939-1940 building programme and six were from the revised Flower Class programme of 1940-1941. It was only the corvettes constructed in the latter programme that featured important improvements such as the extended foc'sle. In any event, all the ships had to undergo significant modifications for Torch. Before leaving Halifax most were fitted with four twenty-millimetre Oerlikons to counter the air threat expected in the Mediterranean. After arrival in the UK in October, they were also fitted with improved Type-123D asdic and Type-271 radar.<sup>10</sup> Congestion in British ports delayed the work, however, and only HMC Ships *Louisburg*, *Prescott*, *Woodstock*, *Weyburn* and *Lunenburg*, as well as HMS *Nasturtium* of the Twenty-Fifth Canadian Escort Group (CEG), were ready to sail with the first Mediterranean convoy."

The amphibious component of Torch comprised landings at Algiers and Oran inside the Mediterranean, as well as at Casablanca on the Atlantic coast. The expedition was therefore divided into three groups. In addition to escort task forces, there was a powerful covering force (Force "H") of battleships, battlecruisers, carriers, light cruisers and destroyers. The threat to the invasion was twofold: air forces and submarines. Prior to Torch, the Axis had approximately 940 combat planes and nineteen U-boats in the Sea and another twelve on patrol west of Gibraltar.<sup>12</sup> Four days before the Allies landed, Admiral Karl Doenitz, Commander of Germany's U-Boat arm (*Befehlshaber der Unterseeboote*, or *BdU*), ordered an additional six submarines into the Mediterranean.<sup>13</sup>

The most important convoys for Operation Torch were the assault convoys designated K M. They were divided into KMF (United Kingdom-Mediterranean-Fast) and KMS (United Kingdom-Mediterranean-Slow) and sub-divided further into sections for either Algiers (A) or Oran (O).<sup>14</sup> The first Torch convoy escorted by RCN corvettes was KMS-2, comprising fifty-two ships escorted by EG-40 (Escort Group), EG-43 and HMC Ships *Louisburg*, *Woodstock* and *Prescott*. The convoy sailed from Loch Ewe on 25 October 1942, bound for Oran and Algiers. Along with the assault convoys KMS-1 and KMF-1, which sailed around the same time, KMS-2 was routed far out to sea along longitude 26° West.<sup>15</sup> Despite this evasive course, enemy aircraft and U-boats made several chance sightings of the various convoys, but fortunately the main body of U-boats (Group Battleaxe) was preoccupied in attacking the homeward-bound convoy SL-125 west of the Canaries. This allowed the Torch convoys to pass through the Straits of Gibraltar unmolested.<sup>16</sup> When KMS-2 made the passage on the morning of 10 November, *Louisburg*, *Woodstock* and *Prescott* were detached and proceeded to Gibraltar. During the next five days the three corvettes carried out various local escorts before joining EG-40 on 15 November to escort MKS-1(x) back to the UK.

The intervention of both German and Italian subs came too late to endanger the initial landings and by 11 November the Allies had secured the main ports. Nevertheless, Admiral Cunningham announced that "Our task is not finished. We must assist the Allied armies to keep up the momentum of the assault."<sup>17</sup> The warning was timely. Knowing the Allies' intentions, Doenitz was convinced that U-boats "should be able to work effectively against the subsequent follow-up landings and against the supply line."<sup>18</sup> By mid-November he had approximately twelve submarines operating west of Gibraltar, as well as another twenty-five inside the Mediterranean. In addition, Italy dispatched ten subs to operate off North Africa soon after the invasion began.<sup>19</sup> Insuring the safe and timely arrival of succeeding convoys in the face of this opposition and swelling Axis air power was the main task of the RCN corvettes. The next convoy escorted by Canadian corvettes was KMS-3, which comprised fifty-five ships escorted by HMC Ships *Weyburn*

and *Lunenburg* and HMS *Nasturtium* as part of EG-37. Leaving Londonderry on 11 November, the passage was uneventful until early on 20 November, when *U-413* and *U-519* sighted KMS-3 and KMF-3 west of Cape St. Vincent. *BdU* ordered U-boats to attack both convoys.<sup>20</sup>

Four hours later, the U-boats were in position. At 0900, HMS *Campion* made contact with a U-boat and altered course to attack. HMS *Black Swan*, the Senior Officer (SO) of the group, increased speed and headed toward the enemy. Five minutes after the initial contact, and before *Campion* attacked, a torpedo hit the starboard side of *Prins Harold*, the leading ship in the starboard column. One minute later a second torpedo exploded against the net defence of *Ocean Pilgram* and thirty seconds thereafter a third torpedo struck the stem of *Grange Park*, the leading ship in the ninth column.<sup>21</sup> Soon a fourth torpedo crossed the starboard side of the convoy, drawing heavy fire from the surrounding merchant ships. The SO later noted that "it was fortunate that no surface vessel was hit."<sup>22</sup>

At 0934, the Canadian corvette *Lunenburg*, on the port beam of the convoy carrying out an asdic sweep, observed what appeared to be the feather of a periscope 400 yards off its starboard bow. As the ship approached the wash disappeared and a depth charge pattern set to fifty feet was dropped on the last known position of the suspected U-boat. *Weyburn* soon joined the hunt, but neither corvette made further contact.<sup>23</sup> At 0944, the SO ordered the escorts to sweep back on a reciprocal course to hunt for the U-boat. Of the three escorts conducting anti-submarine (A/S) sweeps on the starboard side of the convoy, only *Myosotis* and *Black Swan* carried out any attacks. While this was underway, the remaining escorts were ordered to sweep astern and then rejoin. There were no further contacts and as soon as the escorts resumed their stations the convoy shaped course for the Straits of Gibraltar, passing into the Mediterranean without incident.

During the entire engagement—which lasted a little more than an hour—the SO was of the opinion that only one U-boat had made contact. Indeed, he noted somewhat sarcastically, "there has been no opportunity for interrogation but in the absence of other evidence of a second U-boat, it would appear probable that *Lunenburg* attempted to ram a torpedo which had so far missed everything, and he may be congratulated on his failure."<sup>24</sup> In fact five U-boats—*U-413*, *U-519*, *U-103*, *U-185* and *U-263*—were in contact with KMS-3. *U-263* and *U-519* were damaged by surface escorts during the A/S attack, forcing them to abandon the chase.<sup>25</sup> Both *U-103* and *U-185* were unable to press the attack because they had to dive deeply to evade the air and surface escorts.<sup>26</sup> The convoy lost two merchant ships during the engagement as well as one RAF Catalina flying boat, which was mistakenly downed by the merchant ships.

The escorts turned their charges over to local escorts on 21 November. The Canadian corvettes, which had been ordered to continue with the convoy to Oran, had to put into Gibraltar—*Lunenburg* to repair its asdic and radar; *Nasturtium* to exchange its depth charge pistols; and *Weyburn* to refuel. They overtook the convoy as soon as the necessary repairs and refuelling had been completed. Arriving off Oran late on 23 November, the convoy came under attack by torpedo aircraft. It remains unclear whether any damage was done to either the merchantmen or the escorts. The following day the three corvettes left Oran with a Gibraltar convoy. Having completed this assignment, they relieved three RN corvettes of EG-36 and formed part of the Gibraltar Escort Force, escorting local follow-up convoys in the western Mediterranean.<sup>27</sup>

By the end of November the assault phase of Torch was successfully completed. The Allies had captured and established bridgeheads in Morocco, Algiers, Oran, Bougie and Bone. The Axis forces, however, were able to recover quickly from the initial setback, and thousands of German and Italian troops were ferried into Tunisia from the Italian mainland. In addition, the *Luftwaffe's* strength in the Mediterranean increased by 12 December to 1220 aircraft, operating from Sicily, Sardinia, Tunisia and the south of France. German and Italian subs continued to operate against Allied supply lines in an attempt to forestall the advance in Tunisia. For their part

the Allies "faced the prospect of a slow, expensive campaign for which enormous quantities of supplies would have to be carried through dangerous waters."<sup>28</sup>

The next Torch convoy to sail for North Africa was KMS-4. HMC Ships *Port Arthur*, *Baddeck*, *Alberni*, *Ville De Quebec* and *Summerside* (Twenty-Sixth CEG) weighed anchor on 26 November in company with EG-30 and four ships of the Fifteenth Minesweeping Flotilla to escort fifty-five vessels to Oran and Algiers.<sup>29</sup> This was the first Torch convoy escorted by an entire Canadian Escort Group as part of the Admiralty's desire "to keep together escorts accustomed to working together particularly in view of the present concentration of U-boats on either side of Gibraltar."<sup>30</sup> This policy, coupled with A/S exercises prior to sailing, paid off particularly for groups which had not previously worked together.<sup>31</sup> Such was the case for the escorts of KMS-4. The passage was uneventful and the convoy arrived safely off Gibraltar on 8 December. The corvettes detached to refuel and sailed the same day to rejoin the convoy.<sup>32</sup> After escorting KMS-4 to Oran and Algiers the warships escorted convoy MKS-3 (Mediterranean-UK-slow) back to the UK.



Figure 1: Corvettes destined for Operation Torch received additional firepower prior to leaving Canadian waters. HMCS *Kitchener*, awaiting departure in Halifax in September 1942, now carries a 2-pdr pom-pom in the after gun tub and four additional 20-mm Oerlikon guns on new extensions of the engine room casing deck.

Source: Department of National Defence.

The Twenty-Seventh CEG's first Torch assignment was with KMS-5, a slow convoy from Britain to Gibraltar. The escort also included *Louisburg*, *Prescott* and *Woodstock* from the Twenty-Fifth CEG and seven RN warships. Mechanical problems caused in part by poor weather beset the escorts during the passage to Gibraltar. Hurricane force winds from the 12th to the 16th scattered the convoy and seventeen ships parted company. *Kitchener*, *Calgary* and *Regina* had to detach for

repairs, while *Algoma*, *Lulworth* and *Landguard*, using H/F D/F (High Frequency Direction Finding) to locate stragglers, spent the better part of three days rounding up and escorting the merchantmen back to the convoy. It was not until 17 December that "the convoy was in some semblance of order, 36 ships being in company and six not accounted for."<sup>33</sup> The following day, H/F D/F bearings indicated the presence of two U-boats. HMS *Lulworth* conducted a search northeast of the convoy and dropped two patterns on what it assessed as a doubtful contact. Sweeps by the other escorts came up empty, but did locate another straggler which *Algoma* escorted back to the convoy. On 20 December, northwest of Cape St. Vincent, the escorts again picked up bearings on nearby U-boats. The fix obtained by four ships placed one sub thirteen miles from the convoy on the port quarter and a second seventeen miles off the starboard bow.<sup>34</sup> *Prescott* and *Lulworth* were detached immediately to search along the latter bearing, while *Camrose* and *Bideford* searched the first. Because of poor weather the escorts failed to locate the U-boats. The Commanding Officer (CO) of *Londonderry* thought that because of poor visibility the convoy had not been sighted and ordered a sixty-degree evasive turn to starboard. Subsequent H/F D/F fixes placed what was presumably one of the same U-boats at a range of nineteen miles on a course of 065 degrees, away from the convoy. The escorts' A/S sweeps, poor visibility and the evasive turn presumably account for the U-boats' failure to engage.<sup>35</sup>

The last Torch convoy of the year escorted by the RCN was the homeward MKS-4, which sailed from Algiers on 24 December. The escorts enjoyed a quiet passage until 29 December, when off Cape St. Vincent *Prescott* and *Woodstock* detached to search for survivors from the disastrous ONS-154.<sup>36</sup> *Woodstock* rescued two officers and six ratings from Motor Torpedo Boat (MTB) 105 and continued to search until lack of fuel forced them to head for Ponta Delgada to refuel before returning to Londonderry. In the interim MKS-4 continued towards home. On 1 January 1943 an aircraft reported an enemy merchant ship off the coast of Lisbon and near the convoy. Further reports placed the blockade runner *Rhakotis* further south than the original sighting report, but comparatively close to the convoy. *Moosejaw* and *Lulworth* detached to intercept, but the arrival of a British cruiser on the scene brought a signal from Commander-in-Chief, Plymouth, ordering them to rejoin MKS-4. The convoy finally arrived in port on 5 January 1943.

After two months of arduous work, Canadian corvettes scored their first victory on 7 January 1943. Convoy KMS-6, which had sailed from the UK on 24 December 1942, came under heavy air attack on 7 January, halfway between Algiers and Bougie.<sup>37</sup> At least fourteen torpedo-bombers (Heinkel 11 Is) and an unknown number of J.U. 88s attacked KMS-6 in three waves from the east-northeast. *Weyburn* had previously located an unidentified number of what it believed were enemy reconnaissance planes. Consequently, "all hands were at anti-aircraft stations, manning the 4-inch gun, seven 20-mm oerlikons, and four Colt Browning machine guns on twin mounts."<sup>38</sup> As the aircraft approached, *Weyburn* threw up a burst of oerlikon fire to warn the convoy and other escorts. As soon as the planes came within range "all guns that could be brought to bear opened fire."<sup>39</sup> *Weyburn's* CO, Lt. Cdr. T.M.W. Golby (RCNR), reported that in the initial barrage "an explosion was observed in mid-air amongst the first wave of torpedo bombers." Leading Seaman W.F. Maskill, who had been watching an aircraft through open sights, reported that he followed it as it dived into the sea ahead of *Weyburn*. Then, according to the officers and gunners of SS *Pacific Exporter*,

A torpedo bomber, of the second wave came through *Weyburn's* barrage and passed within a few feet of their ship, with its starboard engine on fire and apparently out of control. *Pacific Exporter* opened fire at close range with oerlikons and Bren guns carried by army troops on deck. While the second torpedo-bombing attack was in progress from ahead of the convoy, a low level

attack was made from the convoy's port quarter. Several explosions were heard by *Weyburn* and one stick of bombs fell between *Weyburn* and a merchantman astern.<sup>40</sup>

German aerial torpedoes destroyed two Allied merchant ships, *Akabara* and *Benalbanch*, with heavy loss of life. *Weyburn*, however, was credited with the destruction of one Heinkel 111 and a share with SS *Pacific Exporter* in the probable kill of another torpedo bomber. The installation of the six additional twenty-mm oerlikons had certainly enhanced *Weyburn's* anti-aircraft capabilities and undoubtedly accounted for its success.<sup>41</sup> After *Weyburn's* triumph Canadian victories in the Mediterranean followed in quick succession.

Less than a week after these events *U-224* bottomed approximately ninety miles west of Algiers to wait for an expected east-bound convoy. This was TE-13, the Gibraltarto Bone convoy. *U-224* intended to make a submerged attack that was in some respects more difficult for escorts to counter than massed pack assaults in the Atlantic, not least because the salinity and shallowness of the Mediterranean often degraded the performance of sonar. Defending the seven-knot TE-13 were four RCN corvettes—*Ville De Quebec* (SO), *Port Arthur*, *Alberni*, and *Baddeck*—as well as HM Ships *Clacton* and *Brixham*. *U-224* waited on the bottom until its hydrophone picked up the sounds of screws. Captain Oberleutnant zur See Kosbadt immediately rose to periscope depth, sighting the convoy about 5000 yards distant. He approached to 4000 yards and selected a 14,000-ton tanker as his first target. When *U-224* closed to within 3800 yards Kosbadt suddenly noticed a corvette bearing down on him.<sup>42</sup>

Apparently the German CO had not realized that *Ville De Quebec* was practically abreast as it began its run toward the convoy. In fact the corvette had picked up an asdic contact while sweeping approximately 4000 yards ahead of the convoy. Lt. Miller (A/S CO), who was on the bridge at the time, immediately classified it as a U-boat and course was altered to intercept. The contact was 900 yards on *Ville De Quebec's* starboard bow and moving rapidly to the right. The SO immediately passed a signal to the Commodore of the Convoy (in SS *Lycaori*), ordering the convoy to make an emergency evasive turn to port.<sup>43</sup> *Port Arthur* was also in contact with *U-224*, but before it could close on the target, *Ville De Quebec* launched its attack, altering course to 190° toward *U-224's* last known position and dropped a ten-charge pattern. According to First Lieutenant Danckworth of *U-224*, "the corvette was so close that [the crew] heard her screws directly overhead. Kosbadt gave the order 'full speed ahead! On lifejackets!' and added that a D/C [depth charge] attack might be expected. Several explosions were heard, with the boat keeping a steady course at full speed."<sup>44</sup> The depth charges, which had been set at 150-300 feet, caused considerable damage. Danckworth recalled that "there was a water entry forward. The first explosion extinguished her main lighting and the Engineering Officer reported that the boat was no longer capable of diving. Kosbadt ordered her to be brought to the surface."<sup>45</sup>

Its engines still racing at full speed, *U-224's* bow rose approximately twenty feet in the air in the middle of *Ville De Quebec's* depth charge pattern. The corvette opened fire with its starboard oerlikons (since the main four-inch gun could not train on the U-boat) and prepared to ram it. As the escort rushed towards the U-boat the port bridge oerlikon crew also opened fire. About 600 twenty-mm rounds caused multiple hits over the hull and conning tower, over forty holes were seen in the tower alone.<sup>46</sup> As *Ville De Quebec* struck the U-boat one man was thrown clear just before the sub rolled over. The U-boat was last seen abreast of *Ville De Quebec*, settling by the bows at an angle of more than fifty degrees. Two minutes later there was a large underwater explosion and bubbles broke to the surface, followed by flotsam and jetsam.<sup>47</sup> *Ville De Quebec* ordered *Port Arthur* to pick up the lone survivor. It made several attempts to rescue Lt.

Danckworth, but apparently the German was too stunned to grab hold of the life-line. The corvette then lowered a boat to retrieve him.

The action lasted just ten minutes. Although the convoy altered course to evade the U-boat, the slow moving merchantmen had only time enough to draw abreast and thus had grandstand view of the short but intense fight. Raymond Hatrick (RCNVR), Gunnery Officer of *Ville De Quebec*, observed that he had "never seen such a demonstration of joy. The sailors were hanging from the yardarms, cheering and shouting as if we had won the war."<sup>48</sup> *Ville De Quebec* had struck so quickly that *U-224* was unable to fire any torpedoes. Further recognition of the corvette's swift action soon followed. Admiral Cunningham, Naval Commander of the Expeditionary Force, noted that "*Ville De Quebec* made a most satisfactory U-boat kill on 13 January. This success was due to good training and handling....Please accept my congratulations on this example of excellent work being performed here by the RCN corvettes."<sup>49</sup>

The corvette was not unscathed. Ramming the U-boat opened at least two compartments to the sea, ripped off the asdic dome and badly damaged the stern. Nonetheless, *Ville De Quebec* returned to the escort screen, although it was unable to maintain the proper station and had to take a position off the starboard column for the duration of the passage. The corvette effected temporary repairs at Algiers before returning to Gibraltar. Investigations at Algiers showed that *Ville De Quebec* required dry-docking to repair the asdic dome. The Mediterranean yards were so busy, however, that the ship was out of action for two months.<sup>50</sup>

Although *Port Arthur* played only a minor role in this engagement, it did not have to wait long for further action. On 19 January 1943, convoy MKS-6, comprising twenty-nine merchant ships escorted by the Twenty-Sixth CEG, HMC Ship *Lunenburg* and five RN warships, sailed for Gibraltar. Off Bougie *Port Arthur* picked up an asdic contact, which was classed as "doubtful" because there was no hydrophone effect or visual trace on the recorder. A more experienced operator took over and almost immediately identified the contact as a submarine.<sup>51</sup> *Port Arthur* had found the Italian boat *Tritone*, which had just completed sea trials and had sailed from Cagliari for its first patrol on 17 January. The following day an American aircraft depth charged, forcing the sub to dive. *Tritone* remained safely submerged for the rest of the day. That evening the engineering officer reported to Captain di Corvetta Paolo Monechi that "there was a defect in the crash diving tank, which prevented *Tritone* from submerging efficiently. She was taking on water at a rate of six tons an hour and he wanted to return to Cagliari for repairs but the Captain did not want to put back from his first patrol."<sup>52</sup>

Shortly after dawn on 19 January, *Tritone* reached its patrol area off Tunisia. That same day it picked up the convoy with hydrophones, later sighting it off its starboard bow. The sub closed to within 5000 yards at periscope depth. The Captain had apparently decided to attack the port wing column, where he saw some tankers. As the submarine attempted to run under *Port Arthur* and *Antelope* to attack the convoy astern of the escorts, it lost trim and went down to about sixty feet. Although it was brought back to periscope depth, it was almost impossible to keep it steady.<sup>53</sup> Despite the risks involved, and almost certainly against the wishes of his engineering officer, the Captain continued the mission. Unhappily for *Tritone*, it had already been detected.

*Port Arthur* had closed to within 1000 yards of the submarine; since contact had been firmly established, the crew prepared to drop a pattern "D," which consisted of ten charges. The corvette altered course to port to allow for throw-off and steadied for the attack. Meanwhile, *Tritone* shifted course toward *Port Arthur*, increasing speed to try to run under the corvette and evade the underwater barrage.<sup>54</sup> But it was too late. *Port Arthur* dropped its charges and wheeled back for a second pass. By this time the depth charges had inflicted serious damage. "Most of the pipes of the submarine's air pressure system were broken or distorted. The main fuses were blown and the electric motors put out of action (though the lights remained on); the fuel tanks were holed

and began to leak so badly that *Tritone* took a heavy list."<sup>55</sup> *Tritone* was forced down to 250 feet, before blowing all its tanks and surfacing.

Both *Port Arthur* and *Antelope* had lost contact with the submarine. The force of the explosions knocked out the former's asdic and disturbances caused by the depth charges prevented the latter from hearing anything. Suddenly *Tritone* popped into view, and *Port Arthur* prepared to ram. According to Lt. E.T. Simmons, the corvette's CO, the submarine was down by the stern and members of the ship's company were jumping out of the conning tower into the sea.<sup>56</sup> Despite the damage, *Tritone's* captain was still ready to fight it out with the surface ships. He ordered:

The firing of all torpedo tubes [this move failed because the entire communications system had broken down] and the manning of the guns, and then by his own account tried to submerge again but according to survivors, there was 'confusion not far from panic' as soon as the depth charges did their damage... The crew started jumping overboard [as soon as the submarine surfaced] and certainly the order to man the guns was looked on as an excuse to escape.<sup>57</sup>

Not seeing that the crew was abandoning the submarine, *Antelope* opened fire with its main gun and close-range weapons. Before *Tritone* could submerge it was hit twice on the conning tower and at least once on the pressure hull.<sup>58</sup> The sub sank only seven minutes after *Port Arthur* had dropped its depth charges. By this time *Port Arthur* was alongside, plucking survivors from the water; the corvette and *Antelope* were able to rescue Captain Monechi, three of his officers and twenty-two ratings, out of a complement of seven officers and forty-nine ratings. Although *Antelope* certainly contributed to the destruction of *Tritone*, its CO acknowledged that it was "definitely *Port Arthur's* bird...[and] her destruction was almost certain."<sup>59</sup> *Port Arthur* received official credit for the kill.

Canadian successes in the Mediterranean caught the attention of Prime Minister Winston Churchill. In a personal message to MacKenzie King, he asked the Canadian Prime Minister to "convey to the Commanding Officer and ships' company of HMCS *Ville De Quebec* and HMCS *Port Arthur* my warm congratulations on success they have recently had against U-boats in the North African theatre. They have made another important addition to the many successes already achieved by the Royal Canadian Navy."<sup>60</sup> Still, the battle for MKS-6 was not over. On the evening of 20 January, the convoy came under air attack. In three strikes within forty minutes, the enemy was able to sink two merchantmen. The escorts put up a heavy barrage but observed no hits. The rest of the passage was uneventful and ten merchant vessels were detached along with the Mediterranean escorts off Europa Point on 23 January.

Enemy air attacks in the Mediterranean were a constant threat and *Louisburg* has the unfortunate distinction of being the first Canadian warship sunk by aircraft. The next build-up convoy, KMS-8, weighed anchor at Londonderry on 21 January 1943 and proceeded to Gibraltar. Its fifty-three merchant ships was escorted by nine Canadian corvettes and six British warships. On the evening of 6 February, it was attacked by three German torpedo planes, approximately sixty miles northeast of Oran.<sup>61</sup> *Louisburg's* company had just closed up action stations and the depth charge thrower crews were carrying out a routine drill when a near miss by an aerial torpedo on HMS *Laforey* drew their attention to the attacking aircraft. The aerial sortie came without warning and was too quick for an effective response. According to Lt. Jarvis, the First Lieutenant:

One aircraft flew up over starboard side, from stem to bow, crossed over bows and quickly lost height until very close to the surface. Our starboard oerlikons opened fire on a good target. As it crossed our bows the bridge port oerlikon and subsequently the after ones opened fire and continued firing until the plane lost

height which caused our guns to cease fire as *Woodstock* came into the line of fire.<sup>62</sup>

Jarvis had just left the gun deck and was proceeding to the bridge when the torpedo hit *Louisburg* on its port side. The lieutenant was under the impression that "when the plane lost height it was because we had winged it, but now decided that it had come down to fire the torpedo."<sup>63</sup> The ship immediately listed to port and came to a dead stop. The captain gave the order to abandon ship and the crew scrambled aboard the three starboard carley floats. The corvette sank less than four minutes after being torpedoed with a loss of forty lives, including the CO and three RN ratings who were taking passage in the Canadian vessel. *Fort Babina*, which was also torpedoed during the attack, was taken in tow to Algiers.

Early on 7 February *Camrose* sighted a submarine. *U-407*, *U-596*, *U-77*, and the Italian submarines *Acciaio* and *Platino* were in contact with the convoy at this time. The corvette immediately altered course and increased speed in an attempt to ram. As *Camrose* closed, the sub began to dive and the corvette's four-inch gun crew opened fire, scoring at least one hit just forward of the conning tower. *Camrose* then ran over its last known position and dropped six depth charges, damaging but not sinking the sub.<sup>64</sup> The corvette then returned to the convoy and proceeded to Bone. The Italian submarine *Acciaio* managed to sink the A/S trawler *Tervani* during a two-hour attack on KMS-8, while *U-77* sank two merchantmen. *U-407*, *U-596* and *Platino* were driven off by the escorts.<sup>65</sup>

The following day *Avorio*, which was also straddling the path off Gibraltar, stumbled across the second section of KMS-8. Remaining submerged during the day, the sub surfaced after nightfall to recharge its batteries. *Avorio* cruised at seven knots with all its hatches open and kept watch with its hydrophone, engine noise reduced the effectiveness of this equipment. As a result, when the convoy arrived in the area shortly before midnight, the submarine was caught by surprise. *Avorio* never regained the initiative. *Regina*, escorting two KMS-8 stragglers to Bone, detected a contact ahead. As the corvette closed the contact became stronger. *Avorio* sighted the corvette at the last possible moment and crash-dived steeply to a depth of sixty feet, altering course in the process. *Regina* dropped a ten-charge pattern set to fifty to 140 feet and then ran out to 1000 yards before returning on a reciprocal course for a second attack. Unknown to the Canadians the depth charges had already inflicted serious damage. According to *Avorio's* crew the charges started several leaks. The submarine was forced to blow its ballast tanks and surfaced five minutes after the first depth charge rolled off *Regina's* stern rack. It then attempted to outrun the corvette, but to no avail.

Indeed, the Italian boat was already crippled. Depth charges had destroyed the forward torpedo tubes and put its 3.9-inch deck gun out of action. When *Regina* opened fire with its bridge oerlikons, *Avorio* responded with its twin 12.5-mm Breda. *Regina's* oerlikons quickly silenced the machine gun, while its four-inch gun and pom-pom swept the sub's deck, killing or wounding all the crewmen there. The Italian captain then gave the order to surrender and abandon ship. "Immediately after giving this order a four-inch shell hit the base of the conning tower killing the Captain and the First Lieutenant; the remainder of the crew [only 26 out of 42 were left] swarmed up on the deck crying 'surrender' and 'help,' some of them jumping overboard."<sup>66</sup> *Avorio* began to take on water at an increasing rate through the holes at the base of its tower and finally sank.<sup>67</sup>

The efforts of Canadian corvettes in the Mediterranean did not go unnoticed. An RN officer commented "a useful lot, these Canadian ships," noting their record of having sunk "three subs in about as many weeks, and a few aircraft thrown in for good measure. It's what I call 'doing a good job well.'"<sup>68</sup> *Regina* also received recognition from Admiral Cunningham: "I have

now received report of your successful and spirited action with a U-boat and congratulate you on the efficiency of your ship, well done."<sup>69</sup>

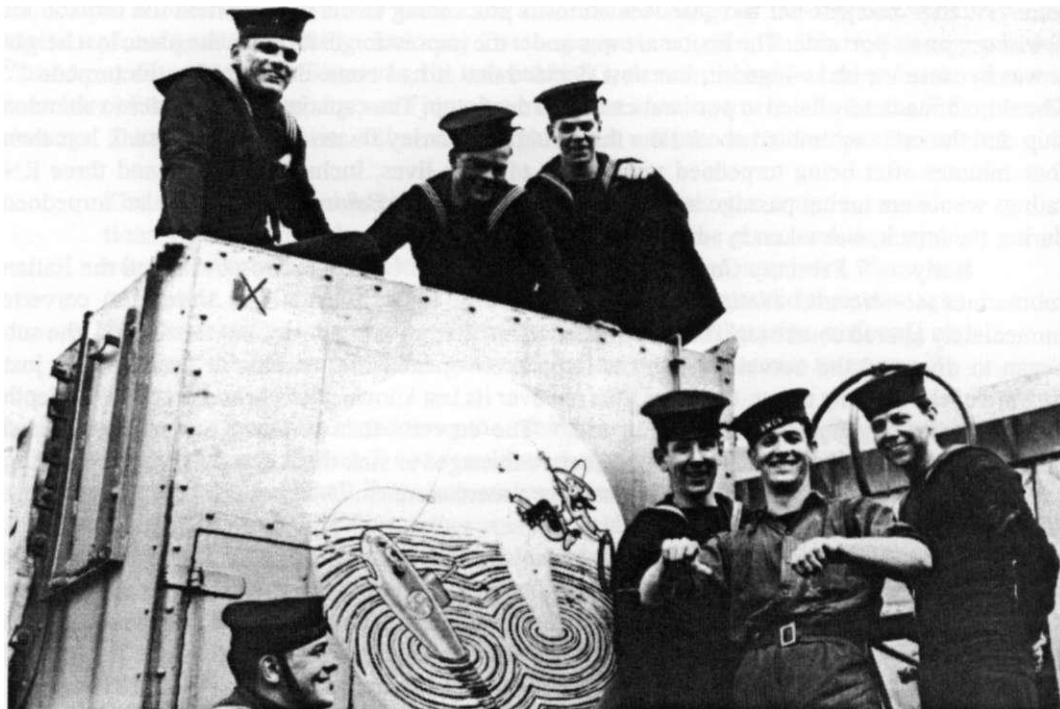


Figure 2: "Thumbs Down" shows the way the men of HMCS *Regina* feel about enemy subs. Note the Italian flag on the gun shield. This photo was taken shortly after *Regina* sunk the Italian submarine *Avorio* (on 8 February 1943).

Source: Department of National Defence. Photo taken by Lieutenant G. A. Milne (RCNVR).

On 22 February 1943, approximately one hundred ships formed up off Gibraltar into two convoys, GUS-4 (Gibraltar-US) and MKS-8. The latter comprised forty-nine merchant ships, escorted by five Canadian corvettes and four RN warships. Early in the morning *Weyburn* slipped from its berth at Gibraltar, where it had been refuelling, and set out to overtake MKS-8; steaming at fifteen knots, it joined the convoy off Cape Spartel. Proceeding up the convoy's port side *Weyburn* hit a mine, part of a field laid by *U-118* earlier in the month.<sup>70</sup> The field had damaged several ships of MKS-7, and the area known as the "Ridge" in the Straits of Gibraltar had been declared dangerous, despite being swept by minesweepers until 17 February.<sup>71</sup>

The mine exploded amidships on the port side, buckling the deck, splitting the funnel and opening a large hole in *Weyburn's* side. The engine room quickly flooded with water and oil, and flanges and steam pipes burst. Despite the damage it remained afloat, listing to starboard, and steaming at eight knots in a circle to port.<sup>72</sup> HM Ship *Wivern* changed course to lend assistance, while *Black Swan* detached from the convoy and raced back at full speed to provide an A/S screen for both *Weyburn* and *Wivern*. Soon the corvette was dead in the water and its list increased. Frantic efforts by Lt. P. S. Milsom and Ordinary Seaman Daniel Tanzey succeeded in removing the primers from all but two depth charges before the corvette sank. "These two depth charges were in the rails on the port side directly above the scene of the explosion where the deck had buckled.

The rails were so jammed as to make removal of the primers impossible, therefore, we left the primers withdrawn and set the pistols to safe."<sup>74</sup>

Meanwhile, rescue operations began. Two carley floats were already in the water when *Wivern* arrived on the scene. According to Lt. Milsom, preparations were underway to take *Weyburn* in tow when the CO, Lt. Cdr. T.W. Golby, gave the order to abandon ship. Lts. Garrard and Doty directed ratings to climb aboard *Wivern* and assisted the wounded. Garrard was injured when his leg was jammed between the two ships and "[partially] severed and crushed above the ankle." The leg was "subsequently operated on without anaesthetic by the medical officer on board *Wivern* who was himself suffering from two broken ankles and several times passed out from the pain during the course of the operation."<sup>75</sup> Meanwhile, *Weyburn's* CO, along with Sub-Lt. Bark, attempted to lower an unconscious look-out from the bridge to *Wivern*. Stoker Petty Officer Sydney Frank Day of *Wivern* jumped onto *Weyburn's* foc'sle and then its bridge to lend a hand. At this moment, sixteen minutes after striking the mine, *Weyburn* developed a severe list and began to sink. Golby, Bark, Day and the look-out were all lost when the corvette sank.

Shortly after *Weyburn's* bow slipped below the surface the two depth charges with the jammed primers exploded, causing further deaths and seriously damaging *Wivern*. Some ratings, believing their ship was about to sink, threw carley floats into the water. In the end, these floats proved to be particularly useful to *Weyburn's* survivors and crewmen from *Wivern* thrown overboard by the explosion. Once it became apparent that it was not in danger of sinking, *Wivern* signalled *Black Swan*, which spent four hours rescuing survivors from both ships and took *Wivern* in tow. "The survivors were scattered over a wide area and the rescue was conducted under intermittent and ineffectual bombardment from the Spanish [coastal] batteries."<sup>76</sup> *Black Swan* rescued "41 ratings from *Weyburn* (one of whom died on board) and 16 ratings from *Wivern*. Twenty-eight ratings and three officers from *Weyburn* paddled their way to *Wivern*."<sup>77</sup> Miraculously, only eight of the corvette's crew, including the CO, had been lost.

To maintain escort strength, HMCS *Woodstock* was dispatched from Gibraltar on 23 February to replace *Weyburn* in the screen for MKS-8. The rest of the passage to the UK was uneventful and by 12 March *Alberni*, *Summerside*, *Port Arthur* and *Woodstock* were on their way back to Canada, escorting transatlantic convoy ON-172. *Lunenburg* remained in the UK undergoing a refit until August. Admiral Cunningham, now Commander-in-Chief, Mediterranean, "expressed appreciation of the good work of 26th CEG while under his command, and regret at the loss of *Weyburn* just as they were leaving this station."<sup>78</sup>

The need for additional corvettes in the mid-Atlantic, where the battles with wolf packs were reaching a crisis, was urgent. In December 1942, the Admiralty had prevailed upon Canada to transfer the four RCN "C" groups of the Mid-Ocean Escort Force (MOEF) to the eastern Atlantic where they could undergo additional training and fit the latest equipment at UK bases. But now British authorities prepared to rush them back to the north Atlantic. Nor was that all. The Admiralty also advised NSHQ that all RCN corvettes assigned to the Mediterranean should also be sent to the MOEF "to provide additional long endurance escort vessels."<sup>79</sup> To accomplish this re-organization the Admiralty had to transfer seven Hunt-class destroyers and eight modern trawlers to the Mediterranean to replace the Canadian corvettes.

Canadian naval commitments also required the corvettes' speedy return. The St. Lawrence was due to open on or about 15 April and additional escorts were desperately required. NSHQ continued to press for an early release of the remaining Torch corvettes, hoping they could sail directly from Gibraltar to Halifax instead of via the UK. This was not to be. Allied operational imperatives outweighed Canadian concerns. In view of the threat to Mediterranean convoys, the Admiralty assigned the corvettes to MKS-9 and XK-3, which were to sail from Gibraltar on 8 and 16 March, respectively.<sup>80</sup>

Convoy MKS-9 sailed from Gibraltar for the UK on 8 March under the escort of RCN group C. 1 and *Baddeck*, *Prescott* and *Regina*. On the 12th a Focke-Wulf 200 K (Kurier) "appeared on the port wing ahead of the convoy, circled the convoy twice, then taking advantage of the clouds and sun [began its attack] and crossed the convoy at approximately 11,000 feet."<sup>81</sup> The aircraft dropped a single bomb, which landed in the water dangerously close to one of the merchant ships. As the Focke-Wulf crossed the starboard side of the convoy a number of escorts opened fire, but the aircraft was already out of range.

The following day *Prescott*, screening 10,000 yards off the convoy's starboard bow northwest of Cape Finisterre, obtained a radar contact at a range of 3400 yards. The corvette altered course to investigate and at about 1400 yards spotted a U-boat diving. *Prescott* immediately began its run into the target but the attack was confused. According to the CO, Lt. Cdr. W. McIsaac (RCNVR):

at this time a second U-boat was sighted....It was starting to go away from us across our bow. This surprised us a great deal, but no attention was paid to it for a minute or more, because we were still in contact with the first U-boat, which according to the change and range and doppler effect, was coming toward us. However, the second U-boat began to loom very large on the bow....I decided to alter course to port to catch it. My mistake here was forgetting the first submarine and not informing the A/S CO of my intentions. He went ahead and fired the five-charge pattern....There seems little doubt that it missed by a considerable margin, but it probably kept the first U-boat down.<sup>82</sup>

Immediately after dropping depth charges *Prescott* opened fire on the second U-boat (which was now diving) with a star shell and two high explosive rounds. No hits were observed and the corvette dropped another depth charge pattern on the first U-boat's last known position. For the next four hours, in company with *Napanee*, *Prescott* played cat and mouse with the submarine. The original contact was never regained but the corvettes dropped single charges throughout the search area. Since no evidence of destruction or anything out of the ordinary could be found, the corvettes broke off the hunt and proceeded to overtake MKS-9. The rest of the passage was uneventful and the convoy arrived off Lough Foyle on 14 March.

The Commodore Commanding of the Londonderry Escort Force noted in his report that "although *Prescott* probably saved the convoy from attack by driving off the U-boats it failed in her offensive action by falling between two stools. It should have concentrated on the first U-boat and carried on with the attack while passing information to another escort to enable it to deal with the second U-boat."<sup>83</sup> *Prescott's* CO concurred with this assessment, commenting that "we learned a couple of valuable lessons from the evening's events, namely (1) that we should try to do one thing at a time and (2) that we were too sketchy with our information. We believe that, had there been only one U-boat, we would have had him cold."<sup>84</sup> Although McIsaac could not have known it, his ship was in contact with only one U-boat and he did, to use his own words, "have him cold." Recent evidence has shown that *Prescott* did indeed destroy *U-163* on 13 March.<sup>85</sup>

Marc Milner has noted that the sinking of *U-87* by HMC Ships *Shediac* and *St. Croix* on 4 March 1943, while acting as escorts for KMS-10, was "the only wholly RCN U-boat kill in this phase of the war" and that "C-1's return trip with KMS 9 [sic] and those of other C-groups were not noteworthy."<sup>86</sup> A reassessment of the RCN's performance shows that convoy duty on the UK-Gibraltar run was anything but quiet. Recent British research, moreover, has now credited Canadian warships with the sinking of a second U-boat while operating from the "sidelines" in the eastern Atlantic.

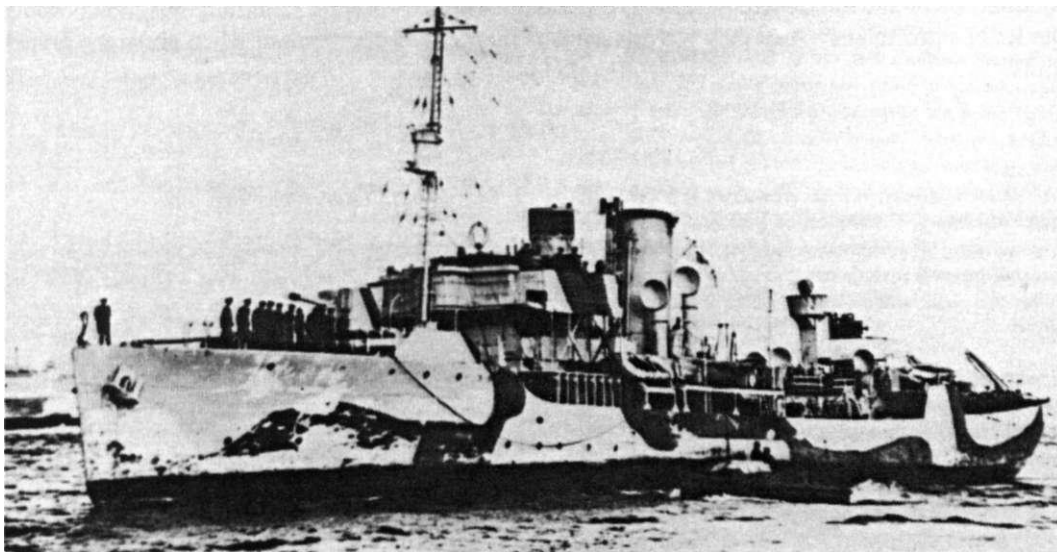


Figure 3: HMCS *Brandon* entering Algiers on the evening of 9 March 1943, with the troop convoy KMF-10B.

Source: Department of National Defence.

By the end of March 1943 the last of the Canadian corvettes left the Mediterranean, returning to the UK before rejoining the MOEF. The Torch corvettes, as well as the three C-groups that escorted convoys on the UK-Gibraltar run, provided much needed support for the largest Allied operation of the war to date. During the first five months of 1943 the Italians lost eight submarines in the Mediterranean, while the Germans lost seven U-boats in the first three months to Allied counter-measures.<sup>87</sup> The RCN's contribution to that total between January and March 1943 included two Italian submarines, one German U-boat and one Heinkel 111, as well as a share in the probable kill of a second aircraft. In addition, the Torch corvettes destroyed a second submarine in the eastern Atlantic while escorting a homeward-bound Torch convoy.

Several factors contributed to the RCN's success in these theatres. The groups were more stable than in the north Atlantic; ships had a chance to work together regularly rather than repeatedly being shifted among groups. The crews were more stable as well because the most experienced personnel were not constantly posted to newly-built vessels, as was the case in the western Atlantic. In addition, the corvettes usually operated as part of large escort groups. At this stage in the war the mid-Atlantic convoys were defended by as few as six warships, whereas the UK-Gibraltar groups averaged fifteen escorts for a convoy of comparable size. Once contact was made with a U-boat, the escort's SO could despatch warships without depleting the screen to the same degree as in the MOEF groups. Moreover, the increased endurance of the corvettes—because of the ability to oil at sea—permitted them to maintain contact for longer periods, thus keeping the U-boat submerged and allowing the convoy to escape. Second, operations from British bases gave Canadians regular opportunities for thorough A/S training, in marked contrast to the situation at Halifax and St. John's. Finally, while Canadians escorted the slow Mediterranean convoys, these were unquestionably faster—averaging seven to ten knots—than the SC (North America-United Kingdom slow) and ONS convoys in the north Atlantic. This higher speed meant fewer days at sea—in the danger area—which made it that much more difficult for U-boats to chase down the convoy. These conditions, together with the fitting of modern radar, asdic and additional anti-

aircraft armament, certainly enhanced their performance. The Canadian corvettes assigned to the Mediterranean and the eastern Atlantic theatres demonstrated - despite Admiralty misgivings about the RCN's proficiency—that they were as good as their Allied counterparts when given the proper tools.

## NOTES

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1. The author would like to thank Dr. Roger Sarty, Lt. Cdr. William Glover and Michael Whitby for their insights and encouragement.
2. See Marc Milner, *North Atlantic Run: The Royal Canadian Navy and the Battle for the Convoys* (Toronto, 1985); David Zimmerman, *The Great Naval Battle of Ottawa* (Toronto, 1989); Tony German, *The Sea is At Our Gates* (Toronto, 1990).
3. Canada, Department of National Defence, Directorate of History [DHist], Operation Torch [OT] 1650, Admiralty to Naval Service Headquarters [NSHQ], 27 August 1942.
4. Milner, *North Atlantic Run*, 169. According to Acting Captain Lay, Director of the Operations Division, Lord Louis Mountbatten paid a visit to Ottawa in 1942 to discuss plans for Torch. According to Lay, Mountbatten had a precise number in mind: "Would you like to give us seventeen corvettes?" See DHist, Biographical File, H.N. Lay; DHist 74/653, Interview with Rear-Admiral H.N. Lay.
5. Milner, *North Atlantic Run*, 169. For example, the Royal Canadian Navy [RCN] instituted the Caribbean oil convoys in May 1942.
6. DHist, Plans Division, 81/520/8280, box 1, 8280A vol. 1: Convoy Organization, "History of the North Atlantic Convoy Escort Organization and Canadian Participation Therein, 9/39-4/43," dated 1 May 1943.
7. DHist, OT 1650, Chief of Naval Staff [CNS] to Admiralty, 9 September 1942.
8. DHist, OT 1650, Admiralty to CNS, 10 September 1942. Despite the possibility of increased shipping losses, the Admiralty was apparently hoping to acquire even more anti-submarine (A/S) and minesweeping (M/S) forces from the RCN. See DHist, OT 1650, NSHQ to Admiralty, 1522/10/42.
9. Milner, *North Atlantic Run*, 169.
10. DHist, OT 1650, Admiralty to Commander-in-Chief, Western Approaches [CinC, WA], 5 October 1942. The first six corvettes were to undergo an anti-submarine refit: to be fitted with oerlikons on Mark IV mountings to a total of six; and to have improved anti-submarine and Radio Direction Finding (RDF) equipment. Bridges were strengthened and extended fore-and-aft to allow for conversion to 123D asdic and the outfitting of 271 radar. See National Archives of Canada [NAC], Record Group [RG] 24, vol. 11,701, file 7-4-48, Commodore, London-derry to Admiralty, 12 November 1942. By 10 November 1942 eight corvettes were outfitting with 271 radar, DHist, OT 1650, Admiralty to NSHQ, 10 November 1942.
11. The following group numbers were allocated to the Canadian Corvette Groups employed in the UK and destined for North Africa: Twenty-Fifth Canadian Escort Group (CEG): *Woodstock* (SOE), *HMS Nasturtium*, *Prescott*, *Weyburn*, *Louisburg* and *Lunenburg*; Twenty-Sixth CEG: *Ville De Quebec* (SOE), *Port Arthur*, *Baddeck*, *Albemi*, and *Summerside*; Twenty-Seventh CEG: *Regina* (SOE), *Calgary*, *Kitchener*, *Camrose*, *Moosejaw* and *Algoma*. See NAC, RG 24, vol. 11,571, file 27-C-86 (*Woodstock*), NSHQ to Captain (later Commodore) Commanding Canadian Ships (CCCS), 11 November 1942.
12. W.H. Tatum and E.J. Hoffschmidt (eds.), *The Rise and Fall of the German Air Force, 1933 to 1945* (Old Greenwich, CT, 1969), 144.
13. Karl Doenitz (trans. R.H. Stevens), *Ten Years and Twenty Days* (London, 1959), 279; S. Roskill, *The War at Sea, 1939-1945* (4 vols., London, 1954-1961), II, 333.
14. The average speed of the UK-Mediterranean-Slow [KMS] convoys was between seven and ten knots depending upon sea conditions and the state of the ships. See Commodore Convoy Reports for the specific convoys in Great Britain, Public Record Office, Kew (PRO), Admiralty [ADM] 199/728. These were the final reports filed by the convoy Commodore, a retired naval officer who sailed in one of the merchant ships and was responsible for the organization and discipline of the merchantmen in the convoy. The reports were thus the civilian equivalent to the Reports of Proceedings filed by the CO of a warship.

15. DHist 79/599, "RAF in Maritime War" (8 vols.), III, part B, 502-503.
16. Roskill, *The War at Sea*, II, 213, 320; Doenitz, *Ten Years and Twenty Days*, 275-276.
17. Roskill, *The War at Sea*, II, 318.
18. Doenitz, *Ten Years and Twenty Days*, 279.
19. United Kingdom, Ministry of Defence, DEFE 2/602, Naval Commander Expeditionary Force [NCXF] Operation Torch, "Report of Proceedings," 14 November 1942; Roskill, *The War at Sea*, II, 333-334.
20. "RAF in Maritime War," III, part B, 512-513.
21. DHist 81/520/8280, box 4, "Narrative and Notes on U-boat Attacks on KMS 3," November 1942.
22. DHist 81/520/8280, box 4, "Extracts from Senior Officer, 37th Escort Group's Report of Proceedings," 23 November 1942. The Senior Officer [SO] attributed this fire to the fact that at the convoy conference the masters of the merchantmen had been impressed with the need for offensive action.
23. DHist, Narratives of Important Operations, Naval Service Confidential (NSC) 1870-7, I, "Report of Proceedings, HMCS *Lunenburg*," 20 November 1942.
24. DHist, Narratives of Important Operations, NSC 1870-7, I, "Extracts from Senior Officer, 37th Escort Group's Report of Proceedings," 23 November 1942. It seems unlikely that *Lunenburg* attempted to ram the fourth torpedo as the SO asserts. Once the U-boat penetrated the screen it would not have fired a torpedo at an escort, but would have concentrated on the merchantmen. This would tend to mitigate the judgement of the Captain (Destroyers) Western Approaches [Capt. (D) WA] that "if it's a fact that *Lunenburg* tried to ram a torpedo then it's clear that the commanding officer needs to be shown what a periscope of a submerged submarine looks like. This raises the whole question of adequate training for Canadian corvettes." DHist, Convoys 81/520/8280, box 4, Extract from Capt. (D) WA to CinC, WA 9 December 1942.
25. DHist 79/446, "BdU War Diary" (11 vols.), VI, 20-21 November 1942.
26. DHist 79/599, *R.A.F. in Maritime War*, III, part B.
27. PRO, ADM 199/852, TON SIX. These are Operation Torch Naval Operation Orders and Instructions for Follow-Up Convoys.
28. Joseph Schull, *The Far Distant Ships* (Ottawa, 1952), 151.
29. HMC Ships *Port Arthur* and *Baddeck* were fitted with Type 271 radar at Belfast prior to sailing, while *Alberni* and *Ville De Quebec* received the same equipment at Liverpool. It remains unclear what other alterations were carried out but presumably the corvettes were also equipped with 123D asdic and had their bridges extended and strengthened to accommodate the equipment; Admiralty to NSHQ, 11 November 1942.
30. DEFE 2/602, NCXF Operation Torch, "Report of Proceedings," 15 November 1942.
31. The Canadian ocean escorts were kept together in three groups whenever possible and usually operated within larger British groups. There was also an effort to keep the same British groups operating with the Canadians. In the Mediterranean the RCN corvettes frequently operated as distinct Canadian groups. A random sample of deck logs shows that the corvettes received anywhere from three to five days of A/S exercises before sailing with the Mediterranean convoys.
32. The Senior Officer of EG 30 [Escort Group] noted that "the exercise [A/S] made a great difference to efficiency and the group worked well as a team. I had every confidence that they could cope with all situations." DHist 8000, HMCS *Ville De Quebec*, SO, EG 30 to Commodore, Londonderry, 19 December 1942.
33. DHist, Narratives of Important Operations, NSC 1870-7,1, HMS *Londonderry*, "Reports of Proceedings-Convoy KMS-5," 24 December 1942.
34. *Ibid.*
35. *Ibid.* Adverse weather conditions were cited for the failure of the escorts to locate the U-boats. The BdU War Diary shows that Group Westwall (ten boats) attempted to operate against KMS-5, but poor weather affected operations. On 20 December *U-185* fired three torpedoes against a lone merchantman without effect. The following day a U-boat sighted one merchant vessel and a destroyer but did not engage the enemy. BdU called off the operation on 22 December. See "BdU War Diary," VI, 18-22 December 1942.
36. ONS was a designation for United Kingdom-North America (slow) convoys. The Spitz and Ungestum groups were in contact with ONS-154 from 26-31 December, a period in which the convoy lost thirteen ships as well as the special service vessel *Fidelity*. DHist, Ships Movements Cards, HMCS *Woodstock*, *Jane's Fighting Ships. 1944-1945* (New York, 1947), 561; DHist 81/520/8280, box 8, ONS-154.

37. Admiralty Records, Park Royal, Case 7584, C. in C. Mediterranean War Diary for January and February 1943 cited in DHist, 81/520/8280, box 4, KMS-6. Details of the event and Canadian corvettes involved are sketchy.
38. PRO, ADM 199/1318, Commanding Officer [CO], HMCS *Weyburn*, "Report of Enemy Air Attack," 10 March 1943.
39. *Ibid.*
40. *Ibid.*
41. PRO, ADM 199/1318, "Director of Gunnery and Anti-Aircraft Warfare's Assessment of Report of Enemy Air Attack," 30 March 1943.
42. The initials TE designate Gibraltar-North Africa local convoys. *Ibid.*, DHist 8000, HMCS *Ville De Quebec*, "Reports and Draft Narrative of *Ville De Quebec*'s ramming of *U-224*," 13 January 1943, TE-13.
43. NAC, RG 24, vol. 6903, file Naval Service Secret (NSS) 8910-331/112, HMCS *Ville De Quebec*, "Report of Attack on U-Boat," 19 January 1943; *Ville De Quebec* to Commodore of Convoy, signal 1558A/13/1/43.
44. DHist 8000, HMCS *Ville De Quebec*, Director of Naval Intelligence (DNI) to Director of Operations Division (DOD), "Re: Interrogation Report of the Sole Survivor of *U-224*," 22 May 1943.
45. *Ibid.*
46. HMCS *Ville De Quebec*, Report of Attack on U-Boat, 19 January 1943
47. *Ibid.*
48. DHist 8000, HMCS *Ville De Quebec*, "Account of Destruction of *U-224*."
49. NAC, RG 24, vol., 6903, file, NSS 8910-331/112, NCXF to NSHQ, 15 January 1943. Captain Flotillas, Algiers, called it "an extremely well executed and successful attack;" "Reports and Draft Narrative of *Ville De Quebec*'s Ramming of *U-224*."
50. "Reports and Draft Narrative of *Ville De Quebec*'s Ramming of *U-224*."
51. NAC, RG 24, vol. 6902, file NSS 8910-331/79, CO HMCS *Port Arthur* to Captain (D) Gibraltar, 20 January 1943.
52. DHist 8000, HMCS *Port Arthur*, "Account of Destruction of Italian submarine *Tritone*."
53. Admiralty, Weekly Intelligence Report No. 168, 28 May 1943, cited in *ibid.*
54. CO HMCS *Port Arthur* to Captain (D) Gibraltar, 20 January 1943.
55. "Account of Destruction of Italian Submarine *Tritone*."
56. See note 54.
57. "Account of Destruction of Italian Submarine *Tritone*."
58. See note 53.
59. "Account of Destruction of Italian Submarine *Tritone*;" Commander P.M. Bliss (RN), Senior Officer A/S, concurred with *Antelope*'s assessment, noting that this engagement was a "classic attack and *Port Arthur* deserves the greatest credit for its execution. The submarine was downed by the stern when it was forced to the surface and was undoubtedly finished. Her destruction was entirely due to *Port Arthur*." NAC, RG 24, vol. 6902, file NSS 8910-331/79, SO A/S to DOD, 9 March 1943.
60. NAC, RG 24, vol. 6902, file NSS 8910-331/79, Under-Secretary of State for External Affairs to Vice-Admiral P.W. Nelles, 29 January 1943; Admiral A.B. Cunningham, NCXF, signalled NSHQ that "your ships are doing grand work;" *ibid.*, NCXF to NSHQ, 20 January 1943.
61. Lieutenant R.A. Jarvis (RCNVR) and Lieutenant W.R. Wright of *Louisburg* believed that five aircraft were involved, one of which was an Italian Savonia. DHist 8000, HMCS *Louisburg*, "Personal Account of the Sinking of HMCS *Louisburg*." Rôhwer states that three torpedo aircraft were involved; J. Rôhwer and G. Hummelchen, *Chronology of the War at Sea, 1939-1945* (2 vols., London, 1974), II, 299.
62. PRO, ADM 199/318, HMCS *Louisburg*, "Report of Loss from Enemy Air Attack," 16 February 1943; DHist 8000, HMCS *Londonderry*, "Loss of HMCS *Louisburg*."
63. PRO, ADM 199/318.
64. *U-77* was hit once, causing enough damage to make diving difficult. The depth charges inflicted even more harm and the U-boat began to take on water. *U-77* then had to withdraw to effect repairs. See DHist 83/665, KTB/*U-77*, vol. 117.
65. DHist 8000, HMCS *Camrose*, "Extracts on *Camrose*'s Attack on a U-Boat, Mediterranean 7/2/43;" Rôhwer and Hummelchen (eds.), *Chronology*, II, 299; Jürgen

Röhwer, *Axis Submarine Successes, 1939-1945* (Annapolis, 1983), 242.

66. DHist 8000, HMCS *Regina*, "Draft Narrative on *Regina's* Sinking of Italian Submarine *Avorio*."

67. NAC, RG 24, vol. 6903, file NSS 8910-331/83, HMCS *Regina*, "Report of Attack on U-Boat," 8 April 1943.

68. DHist 8000, HMCS *Regina*, "Accounts of *Regina's* Sinking of Italian Submarine *Avorio*."

69. NAC, RG 24, vol. 6903, file NSS 8910-331/83, NCXF to *Regina* (R), NSHQ, 15 February 1943.

70. DHist 8000, HMCS *Weyburn*, "Draft Narrative on Loss of *Weyburn*;" NAC, RG 24, vol. 6889, file NSS 8870-331/115; Gunnery-CB Officer, HMCS *Weyburn* to Captain (D) Gibraltar. The Director, Torpedo and Mines, thought that the mine was the new German non-contact buoyant mine known as "Emma."

71. Röhwer and Hummelchen (eds.), *Chronology*, II, 296; DHist 81/520/8280, box 5, MKS-7, Admiralty Records, Park Royal, Case 7584, C. in C. Mediterranean War Diary for January and February 1943.

72. Gunnery-CB Officer, HMCS *Weyburn* to Captain (D) Gibraltar, NAC, RG 24, vol. 6889, file NSS 8870-331/115, CO HMS *Wivern* to Captain (D) Gibraltar, 23 February 1943.

73. *Weyburn* reported sighting a submarine off its port side as it prepared to join the convoy.

74. Gunnery-CB Officer, HMCS *Weyburn* to Captain (D) Gibraltar.

75. "Draft Narrative on Loss of *Weyburn*."

76. PRO, ADM 199/975, CO HMS *Black Swan*, "Report of Proceedings-Convoy KMS 8," 2 March 1943. The Spanish batteries were engaging in the normal practice of firing at Hudson aircraft in the area, but in this instance they continued shelling for half an hour after the aircraft departed. Four shots landed in a line, the nearest of which fell 400 yards from *Black Swan*.

77. *Ibid.*

78. The initials ON were used for United Kingdom-North America (fast) convoys. DHist, OT 1650, Admiralty File T.S.D. 4029/43, C. in C. Mediterranean War Diary for March 1943.

79. See note 6.

80. XK stands for Gibraltar-United Kingdom (special) convoys. According to the Operational Intelligence Centre, there were twenty-six U-boats patrolling in the Bay of Biscay-Azores-Gibraltar area and another fifty-seven operating between Iceland and Newfoundland. PRO, ADM 223/15, Operational Intelligence Centre, "U-Boat Situation Ending 8 March 1943."

81. PRO, ADM 199/975, CO HMCS *St. Croix* (SO), "Report of Attack by Enemy Aircraft," 4 April 1943.

82. PRO, ADM 199/975, CO HMCS *Prescott*, "Report of Attack on U-Boat," 4 April 1943.

83. DHist 81/520/8280, box 5, MKS-9, "Extracts of Commodore Commanding Londonderry Escort Force, Report of Proceedings," 4 April 1943.

84. PRO, ADM 199/975, CO HMCS *Prescott*, "Report of Proceedings on Two U-Boats," 15 March 1943.

85. See R.M. Coppeck, Naval Staff Duties (Foreign Documents Section), Ministry of Defence, April 1987, research note on file at DHist.

86. Milner, *North Atlantic Run*, 222. Canadian Group C-1 returned with MKS-9 and not KMS-9 as Milner claims.

87. Roskill, *The War at Sea*, II, 429.