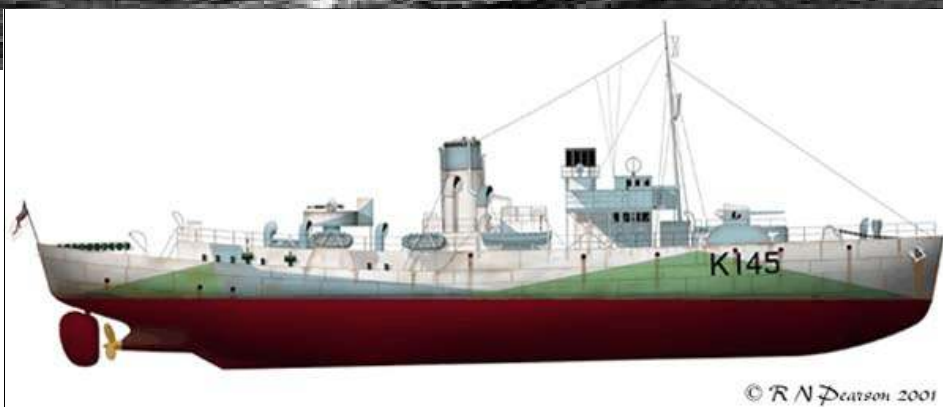


# CORVETTES AT WAR!



Left is the Flower class corvette *Arrowhead* (K-145). She took only eight-months to build in Canadian

shipyards that had never built anything larger than a small minesweeper before the war.

First to fight Hitler's dread U-boats in WW II were bantam-sized English and Canadian-built "Flower-class" corvettes which fought with bulldog tenacity in their determination to see Allied convoys reached their destination.

**W**ith Adolf Hitler's clenched fist extolling the supremacy of his undersea marauders in 1938, the Royal Navy came to a stark realisation - it was woefully unprepared to fight a submarine war.

Though Great Britain possessed the world's greatest Naval fleet, the tradition-bound Lords of the Admiralty overlooked the fact that spread as its responsibilities were, across the globe, it now had to defend its far-flung dominions against enemies more technologically advanced over any ever they fought before. By 1938 it was readily apparent that the flimsy aircraft and vulnerable submarines of the Great War of 1914-18 had developed into formidable long-range weapons now able to decimate entire cities and fleets. The era when proud warships and sword-

wielding cavalry could dominate world politics had come to an end. Not without reluctance, the British Admiralty admitted the war of the future would be fought in the sky and beneath, as well as on the sea.

So it was late in 1938 that Royal Navy planners came to the conclusion that the British Fleet seriously lacked ships able to wage coastal or ocean warfare against Hitler's growing armada of more than 600 swift, deadly, long-ranged U-boats. Despite the Royal Navy's awesome number of destroyers with suitable anti-submarine weaponry, these fleet-footed greyhounds were needed to protect the equally awesome number of capital surface warships. The dismal truth was that no single, capable, coastal or ocean-going anti-submarine escort vessel existed in suitable numbers within the Royal Navy.

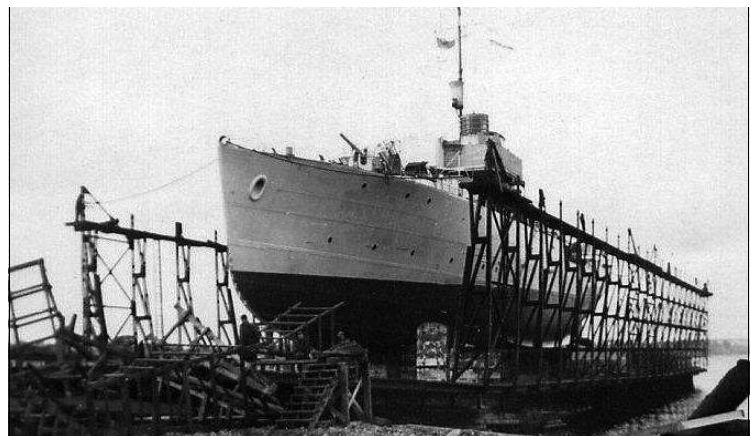
While several new types of ocean escorts were being experimented with, namely what came to be known as the *Black Swan* - class sloops and *Hunt* - class frigates, these were large, complex vessels unsuitable for fast economic mass production. The need, as anticipated in 1938, was strictly for coastal patrol escorts to protect England and its distant dominions' shorelines.

Though able to muster a virtual armada of fishing trawlers that could be pressed in to the patrol/sub-hunting role, in truth most trawlers lacked the size, space and range to include the necessary array of required modern Anti-Submarine (ASW) Weaponry. Envisioned at Whitehall was a slightly larger vessel with excellent all-weather sea-keeping ability; reasonable speed; superb maneuverability; a reliable power plant; spacious enough to contain a sizable crew within a hull configuration that would minimize machinery noise so as to fully utilize sound-sensitive underwater direction finders.

With these parameters in mind it was only logical that the Naval planners at Whitehall would look not to Naval architects, but to the designers of modern fishing vessels to solve their dilemma. The one authority who immediately came to mind was William Reed, the renowned marine architect at South Bank on the Tees who had overseen the development of WW I's small but successful Flower-class patrol vessels. The decision to utilise Reed's skills proved providential. Without the slightest hesitation, Reed, then chief director for Smith's Dock Company, Ltd., suggested the answer was to be found in designing a Navalised version of the tried and proven wide-roaming whale catchers of the day. Propounding his belief, Reed stressed that whales had many similarities to submarines. They could dive and manoeuvre very quickly, were at home in an angry sea and, blessed with astute sensory perception, were exceptionally wary of all who stalked them.

One design in particular appeared to boast most of the necessary ingredients - the commercial whaler *Southern Pride*. Rated at 930-tons, 160-ft long, it could steam in any sea condition and carry a hefty cargo of whale blubber - or, as now needed guns, depth charges and Naval gear. Best of all, with some simplification of design the Naval whalers could be built quickly at moderate cost in smaller UK shipyards.

Given the green light to



proceed with drawings, Reed and his engineers went to work. Unhampered by the politics that usually surrounded the design of major warships, Reed's team quickly produced a vessel on paper that met, or bettered, every requirement. Alternate versions featuring coal-fired and oil-fed boilers were also developed for consideration. Upon review, the oil-fed design made better sense since it was more easily refuelled at sea and could be maintained by a smaller crew. Impressed by Reed's presentation, the doughty Sea Lords, prompted by Hitler's drumbeat, authorised an initial construction batch of 60 of the new vessels early in 1939 - barely weeks before the outbreak of war. Within a few months they doubled, then tripled the number ordered.

Initially known as "Patrol Vessels, Whaler Type", 64 of the 950-ton ships of the "1939/40 Program" were built in Canada. The reason was obvious. England's hard-pressed shipyards would soon have to concentrate on building major warships. Not so obvious was the bitter reality that in 1939, Canada's shipbuilding industry did not possess a single yard able to construct a Naval ship larger than a small minesweeper! Ambitious to meet a challenge, however daunting, Canada began mustering the necessary force of craftsmen even as the hull of the first prototype Naval whaler slid into the water at England's Smith's Dock Co. in July 1939.

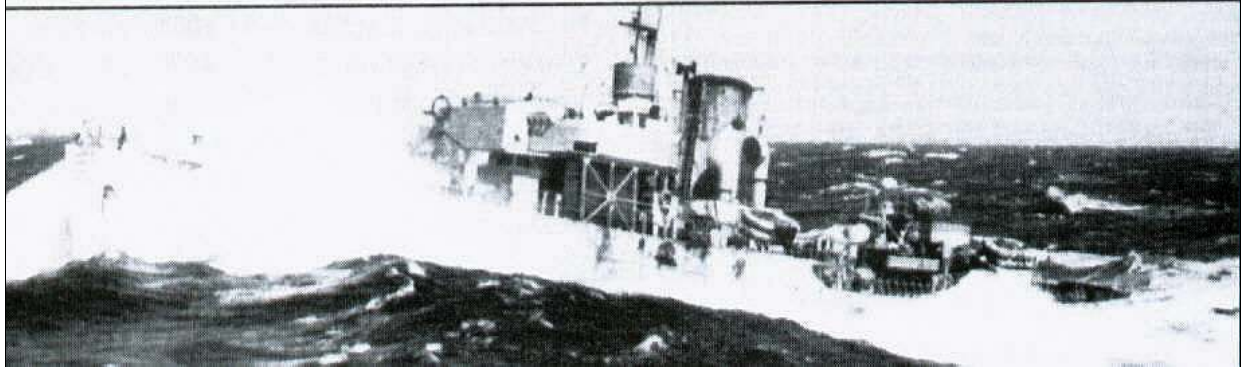
Somewhere in the confusion of deciding who would build what, the long-cherished name of "corvette" was applied to the new coastal patrol ship. The name alone was a propitious choice, for it denoted the dash and verve of lightly armed ships ready to steam in harm's way. To honour designer Reed, it was also decided to retain the designation "*Flower-class*" that he had introduced, albeit briefly, in 1917. At first bearing only the names of flowers, the later corvettes known as the "*Modified Flower-class*" would bear the names of English and Canadian cities and provinces.

That ship that emerged from the design lofts bore distinct traces of its commercial whaler pedigree. Chunky and broad-beamed, the stubby corvettes were no candidate for a prize in aesthetics. Functional to a fault, they were designed to fulfill a specific role that demanded only reliability and ruggedness. In this regard they were outstanding. The first corvettes had a full load displacement of 1,170-tons, a length of 205-ft overall with a 33-ft beam and mean draft of 12.5-ft. A simple 2,750-hp 4-cylinder triple expansion steam engine drove a single shaft that could make 16-kts. The power plant itself consumed 16-tons of fuel a day from bunkers containing 360-tons of oil. Cruising at 12-kts, they had a range of 4,000-nautical miles which reduced to 3,000 nautical miles at full speed. Initial armament was meagre - a single dual-purpose 4-in gun on the foredeck, plus two .303 Lewis guns aft. Space was provided for 20 depth charges and light acoustic minesweeping gear. Accommodation for a crew of 30 was spartan at best; officers berthed up front near the bridge; enlisted men well abaft the machinery.

Early sea trials proved the wisdom of adapting a readily available commercial design to Naval needs. Few serious flaws were encountered. All in all, the Admiralty was pleased with the new corvettes' handling and seakeeping. Now having the right ship at the right time, only two questions remained. How fast could they be built, and how quickly could crews be trained to man them. The answer to both queries was most positive.

The first of the Flower-class corvettes were completed in five-and-a-half months by Smith's Dock Co. Reverting to welded construction and mass production methods, deliveries soon stepped up to a corvette going down the ways every three-weeks. Others were building in small shipyards fanned across the British Isles. Belfast's Harland & Wolff yard alone would soon produce corvettes at a rate of a ship every two-weeks; a total of six to eight being ready for sea per month. Eventually, eight UK builders joined the corvette construction program. The

embryonic Canadian yards at first had trouble spooling up for rapid production. They eventually worked out these snags with the result that by May 1942 more than 200 UK and Canadian-built corvettes, including those assigned to the Royal Canadian Navy, were in active service with the Royal Navy.



Corvette duty was arduous in heavy seas as evidenced by HMCS *Barrie* taking water over her bridge en route from St. John's to Boston in 1945. Though corvettes were remarkably seaworthy, they were not known for their habitability. Crews were soaked most of the time in heavy weather.

Typical of any new vessel, experience at sea quickly mandated the need for alterations and improvements. Once discovered and corrected, changes were made to corvettes still under construction, then retrofitted to existing ships during refits. The result was that the appearance of the corvettes was in a constant state of flux, especially when wartime needs soon required them to take on ocean as well as coastal patrol duties.

Notoriously wet in heavy seas, the fo'c'sle was eventually extended for better crew protection. The bridge would be redesigned to a Naval pattern and increased in height for better visibility. The mainmast was stepped abaft the pilot house to provide improved arcs of fire for the new 20mm Oerlikon guns fitted to the expanded bridge wings. Early on, a 2-lb pom-pom A/A gun was added in a bandstand aft and an A/S hedgehog later became standard on the bow. RDF radar and full-sized lifeboats joined the array of weaponry being shoe-horned aboard these small ships. With each piece of added equipment increased crew size was mandated. By mid-war in 1943 the



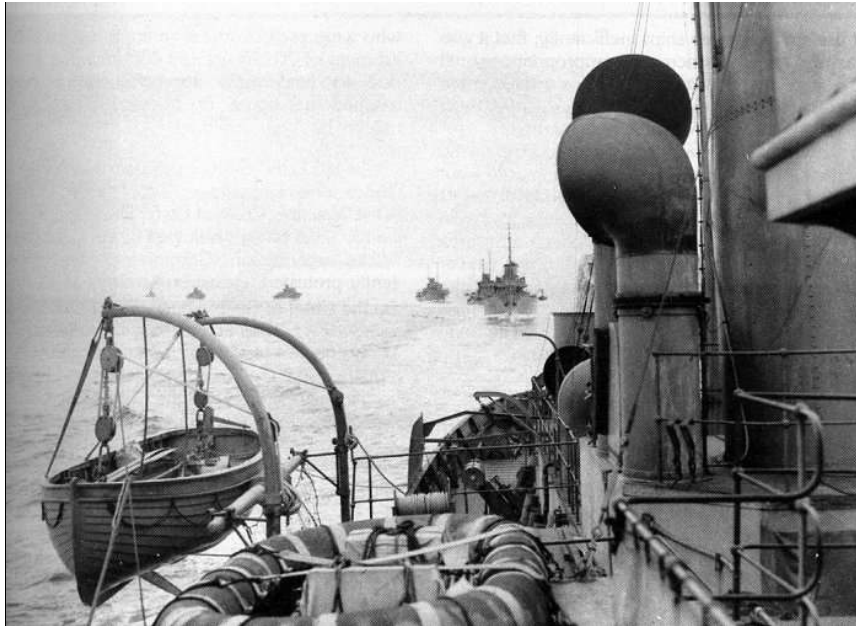
HMCS *Dawson* after her fo'c'sle was extended

*Flower*-class corvettes were crowded vessels with crews of 80 men and seven officers. Adding to the crammed mix was anti-magnetic degaussing gear fitted internally. As the plucky little

subhunters were forced to take on longer voyages into the stormy North Atlantic, additional depth charges and throwers were required, and number increased to 70 D/Cs, four throwers and two launch rails.

One change begat another and soon more flair and sheer were added to the bow for better seakeeping. Ultimately, when all of the major alterations were completed piecemeal, those vessels still building became known as “*Modified Flowers*,” a subgroup of ships built to the final standard. Even then, the appearance and armament of any one ship would vary greatly during the war years. Those assigned to war zones where enemy air activity was considerable, saw extra A/A guns fitted. Those operating in the arctic regions had some topside gear removed to lessen the danger of capsizing under the weight of heavy ice loads.

It was in the mid-ocean escorting of slow-moving convoys that the corvettes performed their greatest service in the Battle of the Atlantic. While crews suffered from being thoroughly soaked and half-frozen for weeks at a time in a constantly rolling and pitching mount, their presence alone created a sense of security to those aboard the plodding cargo vessels. Many a cheer arose from a heavily laden merchantmen as a darting corvette went to flank speed to dampen the enthusiasm of lurking U-boats.



1<sup>st</sup> Canadian Corvette Flotilla as they approached St. John's on May 23, 1941.

The task of manning the corvettes fell to the Naval reserve cadre both in Canada and the UK. From a small force of experienced Naval officers and men eventually grew an intense corvette training program. Yet initial training was forced to start in a primitive helter-skelter fashion. Waging a two-ocean war was no easy matter, even for the esteemed Royal Navy. The regulars needed the assistance of the reservists, and the reservists needed the help of young men hastily recruited from the hinterlands of Canada and

Great Britain. The “amateurs” had much to learn and precious little time in which to do it.

Long retired Robert “Scotty” Moore of Halifax, Nova Scotia, still well recalls his wartime service as a signalman on one of Canada’s nimble corvettes. “They took up fresh from the wheat fields as enthusiastic volunteers and tried to make sailors of us in a matter of weeks. I was just a kid like the rest - 17, young and tender, but anxious to get into the shooting war. We had less than a month of what you might call elementary training before being assigned to a newly commissioned corvette at Port Arthur: HMCS Kamsack (K-171).

“Once aboard, we learned as we went along, and hopefully we learned it right.

Sometimes we didn't. The senior Ps often lost their tempers and the officers - fellas just a few years older than us on the lower deck, maybe with some college or yachting experience to qualify a commission - shook their heads in disdain. But we worked hard and did what we were told even though we didn't have a fiddler's idea of what we were doing.

"Soon we were at sea - in the thick of it - out in the middle of that gloomy pond wondering where and when we'd get our chance to bag a Jerry U-boat. Believe me, it was hard, rough duty on convoy escorts runs across the bloody Atlantic. Boring beyond belief herding merchantmen in some semblance of a formation when no Jerry subs were around, but sheer hell in heavy weather. A corvette was a seagoing roller coaster - up, down, sideways, rolling almost on its beam end one way, then up and over and down on the other side until the swirling water seen in the portholes looked like we were inside a washing machine.

"Wet, cold, scared and miserable as we were, all we could do was hold on to a stanchion, try to do our duty on watch, get the signals scribbled down correctly, and pray the rough weather would abate. It was so bad some of the lads never got over their seasickness. For them the war was just barf and bitch and hope someday it would be over. Some were too sick to care.



A good surface view of HMS *Dianella* (K-07), the first corvette to reach Archangel to announce the slaughter of Convoy PQ-17 in mid-July 1942. After refueling, *Dianella* returned to sea to spend nine days searching for survivors. She rescued 61 half-drowned merchant seamen.

"Sometimes the seas did calm, but that's when the tension grew worse, because now you knew the Jerrys would come. And come they did. Ten-years after the fuss was settled I still had nightmares about what I'd witnessed in that frothing hell. When you're young you're very impressionable. It took a long while to get visions of bloated corpses sightlessly staring at me out of my mind.

"No, we never sank a U-boat. In fact, we had several sound contacts and dropped tons of ash cans, but never once did we spot a surfaced U-boat. But we did see what they did to ships; how their torpedoes disintegrated steel and flesh in a blinding flash. I wouldn't trade my

experiences on a corvette for all the tea in China. But I wouldn't want to live it again."

Sharing ocean escort duties with the Royal Navy, the Royal Canadian Navy's corvettes soon served from the Arctic to well below the Equator. Nor were they exempted from the war against the Japanese. Two Pacific coast-based RCN corvettes saw heavy action with the US Navy during the invasion of Attu in the Aleutians.

By mid-May 1942 more than 200 RN and RCN Flower-class corvettes were actively operating in virtually every war zone. Of these, 79 patrolled out of Canada and Newfoundland on convoy duty; 39 were based in the UK for North Atlantic escort runs: 16 served with Gibraltar-based escort groups; 18 served with the U.S. Navy and 47 steamed with the RN/RCN crews in the Mediterranean, South Atlantic, Indian Ocean and off West Africa.

With America's entry into the war in December 1941, the need for coastal patrol escort vessels became particularly acute. To meet the threat, the Spring of 1942 saw 18 *Flower*-class ships transferred to the U. S. Navy under reverse Lend-Lease. Ten of these would be the original *Flower*-class and eight were of the later *Modified Flower*-class. Armament was altered to



The RCN *Flower*-class *Arrowhead* (K-145)

include two 4-in guns; the 2-lb pom-pom removed, and four to six 20mm Oerlikons added. Likewise, the RN-type 271 radar was changed to the American SC radar. A 26-ft motor whaleboat was carried port side on gravity davits and space was found for additional life rafts. All of the ships had their original names changed, i.e., HMS *Cornel* became USS *Alacrity*, HMS *Begonia* became USS *Impulse*, etc. Rated as Pgs, the *Flower*-class vessels

gave a good accounting of themselves in Yank hands. Serving in numerous patrol/escort roles until the end of the war, they then reverted to Great Britain.

Hitler's undersea marauders would achieve striking success against the Allied merchant convoys throughout 1942 and well into 1943. At one point merchant ship losses were so severe the future course of the war was in jeopardy. England itself was in dire peril, for the entire British Isles relied on the lifeline of war supplies streaming from the factories of North America to Russia and the United Kingdom. Vainly trying to cope with the Nazi submarine wolf packs, production of all types of ocean escorts received highest priority in the UK, Canada and United States. As increased numbers of these special purpose vessels appeared, the tide of the bitterly contested Atlantic battle slowly began to turn in favour of the Allies. From 1943 until the end of

the war the U-boats found it ever more difficult to break through the increasing cordon of Naval ships protecting merchantmen steaming eastward across the Atlantic.

First of the escorts available, the strain on the Flower-class ships and their dogged crews began to show after they were pressed into strenuous Atlantic duty. Designed for a coastal role, the bantam-sized corvettes were ill-equipped for the harsh rigours of remaining at sea weeks at a time. Facing searing heat and storms in summer and freezing wintery blizzards and ice on prolonged journeys became the norm for their volunteer crews. Food supplies ran out, fatigue set in, and to their everlasting glory, the reservists manning the ice-coated corvettes had to learn their deadly new trade largely through trial and error. An ideal example was HMCS *Sackville's* (K-181) exploits. In early August 1942, while escorting an eastbound convoy to Londonderry, Ireland, in heavy fog, this beleaguered vessel engaged three U-boats within a 36-hr period.

At first, *Sackville's* sound men were puzzled to hear what sounded like multiple screws in two opposing directions. With visibility nil, the Canadian corvette set off at high speed to investigate. Thus began a high seas chase the would test how well Lt. Alan Easton, RCNVR, and his green crew had learned their lessons. Homing in



HMCS *Sackville* (K-181) in 2004.



on the nearest target, a pattern of four depth charges quickly brought one damaged U-boat to the surface. Running off into the swirling fog, the battered sub left a tell-tale trace of oil spilling from its ruptured tanks. Hunting their damaged prey, *Sackville* heard underwater screws in another direction. Convinced the first sub had gotten away, Lt. Easton was determined to follow up the second contact.

Patently stalking the second U-boat for hours on end, the corvette was surprised to see the blinding fog dissipate and the sub suddenly surface. Too distant for a depth-charge attack, Easton ordered the 4-inch to open fire. The first shot rocked the half-awash U-boat with a solid hit on the conning tower. Realising the Germans had been forced to come up for air, Easton ordered his gunners to concentrate on the U-boat's buoyancy tanks. They did, and in minutes the sub seemed to be afire with black smoke belching mid-ships. In moments the sub seemed to be afire with black smoke belching mid-ships. In moments it was again enveloped in fog. By the time *Sackville* arrived on the spot where the U-boat had been, it had disappeared. A flurry of depth charges hopefully settled its fate.

The third contact was made several hours later after the corvette rejoined the convoy. Weary from the tension of the hunt, *Sackville* charged off after yet another sound contact.



Observing that the U-boat was diving deep, the Canadians set their depth charges accordingly and let loose a full salvo from the D/C launchers. Minutes later a black pool of oil rose to coat the sea. It not sunk, three unseen marauders were certainly sufficiently damaged, forced to suspend further convoy attacks. For his daring and resourcefulness Lt. Easton was awarded the DSC and the crew given a commendation.

After several encounters with U-boats it was seen that the Flowers were often too slow to effectively pursue and attack the enemy. Often repeated corvette reports of the “one that got away” led to understandable crew frustration and disappointment withing the Admiralty. It was a tense time for all concerned. Yet, regardless of any inadequacy in training or corvette capability, one-weary crews gave their all to see that the convoys got through with minimum losses.

By early 1944, it could be stated that if the Battle of the Atlantic was not entirely won, sinking were at least withing the parameters of acceptable losses to the Allies. Despite the odds, the Flower-class vessels had achieved full measure of their purpose under the worst possible conditions. By the beginning of March, the Allies at last had the necessary supplies and



Another *Flower*-class Corvette in action

manpower in England with which to launch the long-anticipated “Second Front” eagerly sought by Stalin, Churchill and Roosevelt.

The build-up for the forthcoming invasion of France necessitated the transfer of large numbers of escorts to England’s home waters. Almost 200 corvettes, sloops and frigates were rapidly retained and allocated to the English Channel. These ships already on

duty in the Western Approaches were regrouped to provide concentrated defense of the invasion force against U-boat attack. This mass saturation of now highly trained escort groups ringing the invasion fleet would pay handsome dividends as the troops swarmed ashore on D-Day. Few were the U-boats daring enough to run the Allied gauntlet. In the fiercely fought effort to keep the U-boats at bay three corvettes - *Alberni*, *Regina* and *Trentonian* - would be lost in the English Channel during the frantic process of supplying the Armies at Normandy. Hailed as the finest hour of the Allied assault against Hitler’s Germany, the invasion of Normandy would also be the finest hour for the corvettes.

Scotty Moore’s corvette may not have sunk a U-boat, but many others did. Lots of them. By war’s end Canadian-manned *Flowers* had bagged eleven German U-boats on their own and assisted in the destruction or damaging of numerous others. Sister ships in the Royal Navy sank 42 U-boats; three of them Italian-manned. Another 38 were sunk or damaged in combined attacks against convoys because of the presence of the *Flowers*-class ships and their ever-probing sonars.

But the price of these victories came high. The RCN lost ten *Flowers*; the RN 18. HMS *Bluebell* had only one survivor after being torpedoed, the cause of most corvette sinkings. A few were the victims of enemy aircraft and/or collisions at sea. This was the cost of little ships doing

their best to ensure most of the 90,000-tons of supplies that passed daily toward the battlefields of Europe reached their destination.

As the Atlantic battle wound down early in 1945 the war-worn *Flowers* were rapidly phased out of active service by both the RN and RCN. Though the U-boats lost most of their sting after suffering two-yr's of appalling losses, those still stalking Allied shipping faced even greater numbers of sophisticated Hunter-Killer groups built around small escort carriers and destroyer-escorts. Subhunting became a science the small corvettes were ill-equipped to handle.

Those of the *Flowers* still fit for service were utilized in other roles such as rescue ships or transferred to less threatened areas like the East Indies. In all, 266 *Flowers*-class corvettes were built during the course of the war. Of these, 135 original *Flowers* and ten *Modified Flowers* were constructed in the UK while Canadian yards built 79 original *Flowers* and 42 Modified versions.

Rapidly demobilized after Germany's surrender in May, the 190 *Flower*-class corvettes that had survived the war were placed in reserve. A handful remained in Naval service in Canada for a time, but the remainder were soon scrapped, or sold to commercial interests. Today, the only remaining corvette is Halifax's handsomely restored HMCS *Sackville* (k-181), now a Canadian Naval Memorial.

As a class, the *Flowers* contribution to victory was inestimable. Their stamina, resolve and service is best summed up in the simple tribute by Sub/Lt. Norman Hampson, RNVR, HMS *Carnation*.



A good view of the bluff bow of the original *Flower*-class ships. Later vessels would see more flair added to their bows for better seakeeping. Shown is the HMCS *Arvida* (K-113) early in 1944. Armament would vary from ship to ship largely depending on which area it served. Those operating in European waters generally carried more AA armament than those assigned to convoy duty

END

