Kingsmill's Cruisers: The Cruiser Tradition in the Early Royal Canadian Navy.

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Une étude des publications concernant les croiseurs de la structure de la force navale canadienne révèle un malentendu profond et répandu au sujet des rôles et des caractéristiques des nombreux types de croiseurs qu 'on a utilisés ou qu 'on a considérés comme étant utilisables au Canada. Le plan original concernant la flotte de la MRC en 1910 prévoyait centaines caractéristiques au niveau des croiseurs qu 'on peut maintenant considérer clairement, après une période intermédiaire importante, comme étant un sextant dans les frégates actuelles utilisées par la marine canadienne. Loin d'être un concept non pertinent d'une ère révolue, les caractéristiques essentielles des croiseurs de patrouille sont toutes aussi pertinentes aujourd'hui qu'elles l'étaient en 1910. Ces caractéristiques sont l'endurance, l'aptitude à la mer, les installations de commandement et de contrôle, et les emménagements utilisés en mer par le commandant et par son personnel.

The RCN's ambition to acquire a "big ship navy" has resulted in charges of "institutional schizophrenia" by Canada's academic community.[2] Recent scholarly research by Canadian naval officers also suggests that the post World War Two RCN was over reaching by trying to expand beyond a destroyer-based organization.[3] A dichotomy is purported to exist between the need for high numbers of small escort vessels to fight recurrent anti-submarine wars in the North Atlantic and the professional navy's desire for a balanced force structure

[1] The views presented in this paper are attributable solely of the author and are not to be construed in any way as declarations of policy by the Government of Canada, the Department of National Defence or the Canadian Forces, the Canadian Forces College, or any member of the Canadian Forces other than the author.

[2] Marc Milner, *Canada's Navy: The First Century* (Toronto, 1999), 138-139.

[3] Tyrone Pile, "Beyond the Workable Little Fleet: Post-war Planning and Policy in the RCN, 1945-1948" (Unpublished MA thesis, University of Victoria, 1998). Robert McKillip, "Staying On The Sleigh: Commodore Walter Hose and a Permanent Naval Policy for Canada" (Unpublished MA thesis, Royal Military College **of** Canada, 1991). An alternative viewpoint is provided by is Richard H. Gimblett, "Gunboat Diplomacy, Mutiny and National Identity in the Postwar Royal Canadian Navy: The Cruise of HMCS *Crescent* to China, 1949" (Unpublished PhD dissertation, Université Laval, 2000).

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centred on major combatants. This desire for large warships is often associated with a legendary Canadian lust to support the RN in battle fleet operations. The intent of such action was to win battle honours and enhance public opinion of the RCN.[4] Having done so, the senior leadership of the RCN assumed that the federal government would find it impossible to abandon high-value, famous "name" warships and relegate the navy to its inconsequential pre-war status. Cruisers, in particular, have been identified as the type of warship that has been the RCN's long-held object of fascination.[5] Generally, the notion of cruisers forming part of Canada's navy has met with political, public, and professional ridicule, if not outright scorn.

All derision aside, it is a fact that cruisers have figured prominently in the history of the RCN.[6] The reasons for cruisers are shrouded in an almost emotional reaction by both politicians and historians against suggestions that large warships should be part of Canada's naval force structure. Despite this, certain fundamental cruiser characteristics have proven to be essential to Canadian naval requirements. This developmental process is one of the least well-known aspects of our service history and merits re-examination.

A profound misunderstanding about the principal differences between the types and classes of cruisers that have served in the RCN permeates virtually all of the literature on the subject. Normally, comparisons of cruiser attributes centre on their offensive armament, defensive armour, and speed. Other features, like endurance, seakeeping qualities, and staff accommodations, are almost always overlooked.[7] However, in the Canadian context, it is exactly these "other" capabilities that have been their most important and useful traits.[8] These characteristics, all of which can be traced back to the very origins of the cruiser concept, have managed to migrate into the current Canadian fleet and can still be identified as cruiser-like in origin. Indeed, the Halifax-class frigates currently in service are the embodiment of the "patrol" cruiser concept in its purest form. Vice-Admiral Kingsmill, the first Director of the Naval Service, would probably be quite surprised and delighted to see the fleet of cruiser-sized ships that constitutes the Canadian navy of today.

It has been suggested that cruisers are the most interesting of all warship types.[9] The origins of the cruiser concept are actually the subject of a considerable controversy. One school of thought argues that the modern cruiser is descended from the sailing frigates, which were predominantly engaged in scouting, commerce raiding and protection, and distant patrols.[10] Another argument maintains that "cruising" is a function, rather than a ship

[4] W.A.B. Douglas, "Conflict and Innovation in the Royal Canadian Navy, 1939-1945" in Gerald Jordan, (ed.), *Naval Warfare in the Twentieth Century* (New York, 1977), 224.

[5] Milner, *Canada's Navy,* 131,219 - 220.

[6] Particulars for the various classes of cruisers that have either served in the RCN or were considered for such service are detailed at Table 1. Other important classes referred to in this paper are also listed.

[7] Roger Hayward, *Cruisers in Camera* (Phoenix Mill, 2000), 5.

[8] *Leadmark: The Navy's Strategy for 2020* (Ottawa, 2001), 101-102 and *passim*.

[9] James L. George, *Modern History of Warships: From Ancient Time to the Twenty-first Century* (Annapolis, 1998), 111.

[10] M.J. Whitley, *German Cruisers of World War II* (London, 1985), 7.

Name	Class	Type	Tonnage	Length	Power	Speed	Bunkers	Endurance
Rainbow	Apollo	Protected 2nd Class	3,400	8	7,000	18.0	400 coal	10,000@10
Niobe	Diadem	Protected 1st Class	11,000	[illegible]	16,500	20.25	2000 coal (1)	12,500@10 (estimated)
Boadicea	Boadicea	'Scout'	3,300	[illegible]	18,000	25.0	350 coal + 150 oil	2,000@10
Glasgow	Bristol	Protected 2nd Class	4,820	[illegible]	22,000	25.0	600 coal + 250 oil	10,600@10 (estimated)
Weymouth	Weymouth	Protected 2nd Class	5,250	[illegible]	22,000	25.0	600 oil	5,600@10
Aurora	Arethusa	Light	3,512	[illegible]	40,000	28.5	875 oil	3,240@15
Caledon	C-class	Light	4,180	[illegible]	40,000	29.25	935 oil	4,400@15
Hawkins	Hawkins	Light and Heavy	9,879	[illegible]	60,000	30.0	2,600 oil (2)	6,800@15
Kent	County	Heavy	9,803	[illegible]	80,000	31.5	3,425 oil	10,400@15
Leander	Leander	Light	7,052	[illegible]	72,000	32.5	1,780 oil	7,500@15
Uganda	[illegible]	Light	8,800	[illegible]	80,000	32.25	1,700 oil	7,300@15
Halifax	Halifax	Frigate	4,750	[illegible]	47,494	29.0+	460 F76	7,100@15

Table 1 - British cruiser characteristics compared to Canadian Halifax-class frigate.
Type - type of warship. Cruisers for all ships listed above *Halifax*.
Displacement - Legend Tons to Weymouth-class. Standard Displacement in tons for remaining classes.
Length - over-all length in feet, to the nearest foot.
Horsepower - total horsepower
Speed - maximum sustained speed in knots achieved under trial conditions.
Bunkers - normal capacity in tons of coal and/or fuel oil, as indicated.
Endurance - range in nautical miles at the speed indicated on 95% of normal fuel load listed under 'Bunkers'.
'Estimated' - figure deduced from fuel consumption data for other speeds by use of nominal curves.
Note 1 - Bunker data varies widely (1,000 to 2,000 tons). Coal was often stored coal in any available space.
Note 2 - Converted in 1929 to an all-oil arrangement from a coal and oil bunkerage system.

type.[11] Roger Hayward is particularly emphatic is his denial of a frigate lineage for the cruiser. He maintains that virtually any warship, from a third-rate ship-of-the-line down to sloops, and even smaller types, could be sent on a "cruising commission" that might include such functions as: "trade protection and interdiction, scouting and despatch work, training cruises, showing the flag around the Empire and in foreign ports, and acting as a ship-of-force, in lieu of a capital ship, on distant stations."[12] Hayward's list is actually an amalgamation of all the tasks that were performed by the various cruiser types; some of which were optimised for certain roles that left them far less capable in others. But, the use of the term "cruising commission" is a tacit acknowledgement that the original function of a cruiser had much to do with trade warfare. Alan Raven and John Roberts believe that the first modern British cruisers were built during the 1890s to protect their merchantmen from a perceived threat from the cruisers of France and Russia.[13] Because the threat to British trade came from a number of sources, in a variety of forms, and could be encountered in oceanic waters, narrow seas, or coastal areas, cruisers were built in three main types that were differentiated mainly by their size and endurance.

All authorities agree that cruisers have encompassed a very wide range of sizes, which was dictated in large part by their degree of armour protection. Beginning in 1888, the categories of early British cruisers were known as first-, second-, and third-class.[14] First-class cruisers were protected by a horizontal armoured deck of four or more inches in thickness. Second-class cruisers had an armoured deck of at least two inches but less than four, while third-class cruisers had an armoured deck of less than two inches.[15] British first-class cruisers were nearly as big as some contemporary battleships. Second-class cruisers were, for their day, medium-sized warships and were designed for good movement characteristics in any weather (sea kindliness) for effective fighting ability in adverse conditions, and for high endurance. Third-class cruisers were smaller, more manoeuvrable warships and were intended for coastal and inshore work at relatively short distances from their bases. At the turn of the twentieth Century, first-class cruisers displaced as much as 14,000 tons, although 10,000 tons was more standard, most second-class cruisers were in to 5,000- to 3,000-ton range, while third-class cruisers usually displaced little more than 2,000 tons.

At the same time that cruisers were coming into prominence, so too were torpedo-boats and torpedo-boat destroyers, soon known simply as a "destroyers." The RN placed its first order for four torpedo-boat "catchers" on 27 June 1892.[16] They were already being referred to as torpedo-boat destroyers by August of that year. At only 180 feet in length and 240 tons displacement, HMS *Havock* and her sisters were very small but not inconsequential warships, by virtue of their three 18-inch torpedo tubes. They could not, however, carry the necessary communications and navigation facilities for extended or independent operations.

[11] Anthony Preston, *Cruisers. An Illustrated History, 1880-1980* (Englewood Cliffs, 1980), 6.
[12] Hayward, *Cruisers in Camera,* viii. See also: George, *Modern History of Warships,* 111.
[13] Alan Raven and John Roberts, *British Cruisers of World War Two,* (London, 1980), 12.
[14] George,*Modern History oj Warships,* 113.
[15] Hayward, *Cruisers in Camera,* viii.
[16] *George, Modern History of Warships,* 135.

They were also severely limited by their small fuel capacity, low endurance, and poor seakeeping qualities. Because of these limitations, the concept of a "leader" was devised and it fell to the smallest class of cruiser to undertake this duty. The third-class cruiser was selected for the leader role because of its balance between manoeuvrability and size that provided enough space to house the destroyer flotilla commander and his staff. This smallest of cruisers types began to shift its primary purpose from the protection of coastal trade to fleet support work almost as soon as it appeared. In this capacity, it soon came to be known as a "scout" cruiser.[17]

Soon after the turn of the century, the newly conceived RCN began to take shape. Even before its inception, in 1910, the planned force structure centred on cruisers. In fact, the navy's cruiser concept really originated with the Department of Fisheries and Marine, which maintained eight ships in their fisheries protection and patrol branch, which were known as cruisers. While they were relatively small ships (most were under 250 feet), the extensive mandate of the largest department in the Government that, from 1904 onwards, included the exercise of sovereignty in Canadian arctic waters, demanded vessels of considerable endurance and seaworthiness.[18] The Canadian Government Ship (CGS) *Canada,* although it was based upon a torpedo-gunboat design, was 206 feet in length and had a displacement of 550 tons. This made her a peculiar hybrid; she was significantly smaller than contemporary third-class cruisers but was nearly twice the size of contemporary destroyers. Her endurance made her cruiser-like and she has, in fact, been described as a third-class cruiser.[19] Her low speed of 17 knots and lack of torpedo armament indicate that third-class cruiser was too grandiose a classification for her. She was, more properly, the smallest example of a high endurance warship: a sloop.

CGS *Canada's* cruiser-like qualities but small size made her well suited to Canadian requirements and political sensitivities. Richard Gimblett has described a 1904 plan for a Naval Militia Bill by Raymond Préfontaine, Minister of Marine and Fisheries (1902-1905). It was to be based on a small fleet of ships similar to *Canada* that would be placed at the disposal of the Admiralty in times of war. Gimblett observed, "Just how useful a small fleet of fisheries cruisers would be to the to the RN was not addressed."[20] In fact, sloops, virtually identical to *Canada,* were in wide use with the RN and could trace their lineage back to the Victoria era. Arnold Hague described the early sloop as:

> [A] small, relatively long endurance, steam warship with, initially, sail as auxiliary propulsion, which was extensively employed on distant stations to supplement the small cruisers operated there; the smaller version of the type enjoyed the even more evocative term of "gunboat". The second half of the 19th Century history of the

[17] Preston, *Cruisers,* 14.

[18] Nigel Brodeur, "L.P. Brodeur and the Origins of the Royal Canadian Navy" in James A. Boutilier, (ed.), *The RCN in Retrospect, 1910-1968* (Vancouver, 1982), 15-17,344-345.

" Richard H. Gimblett, "Reassessing the Dreadnought Crisis of 1909 and the Origins of the Royal Canadian Navy," *The Northern Mariner* (January 1994), 39^11.

[20] Gimblett, "Reassessing the Dreadnought Crisis", 40.

> Royal Navy contains innumerable examples of the employment of these vessels overseas where they provided reasonable economic examples of seapower in the colonial era.[21]

Rear-Admiral (later Vice-Admiral Sir Charles) Kingsmill, was a veteran of the Australia, China, and Home stations, and, before commanding the fledgling Canadian navy, had been the director of the Marine Service with the Department of Fisheries and Marine since 1908. Kingsmill commanded eight RN ships. His first command was the 805-ton gunboat-sloop *Goldfinch* (February 1890 - August 1891).[22] At least five of his other commands were cruisers: *Archer, Blenheim, Mildura, Scylla* (third-class protected), and *Gibraltar* (first-class protected).[23] His final command was the pre-Dreadnought battleship *Dominion.* KingsmilPs diverse experience, both with the RN and in Canada, gave him tremendous insight into the capability requirements of the RCN. In early 1909, Kingsmill, still working along the lines of a naval militia, presented his minister, Louis P. Brodeur, with a plan for a fleet of destroyers and training cruisers. Gimblett notes that Kingsmill recommended, "We must use the newly started Naval Service for the Protection of our Fisheries, in fact, that Fisheries Protection and Training go hand in hand".[24] In making this statement, Kingsmill highlighted two of the roles that required cruiser endurance and seakeeping characteristics: patrol and training, which would likely have also involved flag-showing cruises to distant ports. Until long after Kingsmill retired in 1921, cruisers were always in evidence in the RCN.

The final proposed plan for the force structure of the RCN involved cruisers but contained a two-armed format intended to carry out distinctly different functions. The main arm of the navy was to consist of three or four Bristol-class cruisers while the second arm comprised one Boadicea-class cruiser (or none in a less expensive plan) and six (or four) River-class destroyers.[25] The two arms of the RCN were very different and were based on two cruiser classes that were of fundamentally distinct types intended for dissimilar roles.

The Bristol-class were second-class protected cruisers. Like their larger cousins, the first-class protected cruisers, they were intended for patrol service, the protection of trade, and for attacks on enemy commerce. The Boadicea-class, on the other hand, were protected cruisers of the third-class. Their intended role was as scouts for the battle fleet and as leaders for destroyers.[26] The lack of side armour in protected cruisers meant that all three types were not sufficiently durable for duty in the main line of battle with the battle fleet.

The requirement for good handling characteristics reduced the size and,

[21] Arnold Hague, *Sloops, 1926-1946: A History of the 71 sloops built in England and Australia for the British, Australian and Indian Navies* (Kendal, 1993), 9.

[22] Richard Gimblett, "Admiral Sir Charles Kingsmill: Forgotten Father." A paper presented at the Sixth maritime Command History Conference in Halifax, September 2002. Publication forthcoming.

[23] Gilbert Tucker, *The Naval Service of Canada,* (Ottawa, 1952), 1:150.

[24] Gimblett, "Reassessing the Dreadnought Crisis," 49.

[25] Tucker, *The Naval Service of Canada,* I: 118 -120.

[26] William Hovgaard, *Modern History of Warships* (Annapolis, 1971 edition, reprint of 1920 edition), 180,184, 190.

consequently, the bunker capacity in the Boadicea-class ships. As a result, their endurance was approximately five times lower than that of the Bristol-class. But, because their envisioned employment was to lead the River-class destroyers, which displaced only 550 tons and were also "short-legged," their low endurance was not a significant problem. The 1905/06 edition *of Jane's Fighting Ships* entry on the River-class reported, "Their endurance at full power is about 12 to 15 hours. At low speed they are extremely economical, and their actual radius [is] something like 2000 miles."[27] The endurance of the scout cruiser had only to match than that of its charges: in this case it was identical. On a small displacement, the space and weight required for powerful machinery dictated that both heavy armour and large fuel capacity were not possible in a scout cruiser. Both Hayward and Antony Preston have observed that the scout, since it was designed to work with destroyers, rather than larger cruisers, had destroyer-type propulsion.[28]

In time, the scout cruiser was regarded as a failed concept, mainly because its endurance was too low for work with the battle fleet but also because its armament was too weak to deal with the destroyers it was likely to encounter.[29] The scout cruiser also shared other limiting characteristics peculiar to early destroyers. Dr Gilbert Tucker praised the selection of the River-class destroyer "on account of their sea-keeping qualities."[30] This was a direct quotation from the same passage in *Jane's Fighting Ships* that praised the River-class for its fuel economy. In reality, they were extremely cramped and were only marginally improved over their old turtle-backed torpedo-boat destroyer predecessors. They were hardly ocean-going warships and were decidedly unsuited to the vastness and harshness of Canada's ocean areas. The Boadiceas were not much better.

From their endurance capabilities, it is evident that the Bristol-class cruisers were intended to perform the protection of trade and patrol roles while the Boadicea-class cruiser and River-class destroyers were meant to defend the local approaches to the port of Halifax and the naval base.[31] Marc Milner confused these roles when he referred to the single Boadicea in the fleet plan as a "heavy cruiser," a term that did not exist at that time. More important was his suggestion that small cruisers were suited for Canadian patrol requirements.[32] The reverse was actually the case; the large cruisers, with their higher endurance and better seakeeping qualities, were intended for patrolling Canada's ocean areas. The single scout cruiser and low endurance destroyers were meant only for the local defence of the port of Halifax and its approaches.

The Canadian fleet plan was to base the majority of the Bristols at Esquimalt. Their high endurance would be particularly valuable in the Pacific, in accord with the Admiralty's plan that the RCN and the RAN should replace the RN in that theatre. At a minimum, one Bristol would be based at Halifax for Atlantic service, along with all the destroyers and their

[27] Fred. T. Jane, (ed.), *Jane s Fighting Ships 1905/06.* (New York, 1970 edition, reprint of 1905/06 edition) 75.
[28] Hayward, *Cruisers in Camera,* 44. See also: Preston, *Cruisers,* 14.
[29] Hovgaard, *Modern History ofWarships,* 192,265.
[30] Tucker, *The Naval Service of Canada,* I: 132.
[31] Nicolas Tracy, (ed), *The Collective Defence of the Empire, 1900 -1940* (Aldershot, 1997), 105.
[32] Milner, *Canada's Navy,* 15-16,25.

leader.[33] This would provide support for the scout cruiser-destroyer flotilla and some patrol capability in the Atlantic where the RN retained general supremacy. A little later, the Naval Staff contemplated building four Weymouth-class cruisers in place of the Bristols.[34] Although launched just a year after the Bristols, the Weymouths were a significantly modernised second-class protected cruiser design. In addition to upgraded armament, the Weymouths ran only on fuel oil. Moreover, they had substantially increased freeboard, making them excellent seakeepers, ideal for patrols in the storm-ridden Canadian maritime areas of responsibility. Only the scout cruiser-destroyer force was intended for cooperation with the RN battle fleet if it was deployed to Halifax for the defence of North America, which was an extremely remote prospect given the strategic setting of the time.

As events developed, none of the three planned classes of warships came to constitute any part of the RCN. Instead, the navy acquired the somewhat older cruisers *Niobe* and *Rainbow,* albeit only as training vessels. The former was a Diadem-class protected cruiser of the first-class and the latter was an Apollo-class protected cruiser of the second-class. Although *Niobe* was generally condemned for being obsolete by the war's outbreak, she was blessed with a huge hull that gave her thirty-two feet of freeboard and excellent seakeeping qualities. Her successors, the Cressy-, Drake- and Monmouth-class armoured cruisers, despite being generally larger, suffered from much lower freeboard: their casemated turrets were prone to being swamped in any kind of a seaway. The term "armoured" indicated that the three newer classes were also protected by a vertical belt of armour plate, in addition to the horizontal armoured deck of the protected cruiser. This additional armour was designed to protect them against short-range fire from other cruisers and armed merchantmen. *Rainbow,* by contrast, was very lightly armoured. Despite this shortcoming, many old second-class cruisers saw extensive employment on convoy escort duty and in support to land operations where their relatively low speed was not a handicap. Some Apollos also performed valuable work as minelayers.[35]

Cruisers dominated the day-to-day work of the Great War at sea, including most of the escort work. James George explained that, "This was a role that cruisers would share with destroyers in World War II, but during World War I the cruiser was more important because the early destroyers were too small and did not have the endurance for more than a few days' operations."[36] This is a fact that is frequently overlooked. Although destroyers and armed trawlers did some escort work, it was confined to coastal areas not more than 48 hours steaming from a support base. The only destroyers that could be spared were those that were considered to be too old for battle fleet screening duties.[37] Relegation to local convoy escort work for destroyers, given their primary role as fleet scouting and striking forces, was an ignoble form of premature death.

Despite the age and obsolescence of *Niobe* or *Rainbow,* Canadian naval authorities

[33] Tucker, *The Naval Service of Canada,* 1:119.
[34] Milner, *Canada's Navy,* 25.
[35] Hayward, *Cruisers in Camera,* 5,16.
[36] George, *History of Warships,* 117,141.
[37] John Creswell, *Naval Warfare: An Introductory Study* (London, 1936), 289.

did not hesitate to employ them on the classic types of cruiser missions for which they were designed. They were sent out on lone patrols to scout for the enemy, to counter enemy attacks on friendly merchant shipping, and to seize enemy shipping wherever it was to be found. *Niobe* conducted extensive patrols off the east coast of North America and *Rainbow* did the same along the West Coast. In fact, *Rainbow* conducted four lone war patrols, one of which took her as far south as Panama. She did record some minor successes. On 23 April 1916, she captured the German merchant vessel *Oregon* and, on 2 May 1916, she captured the German schooner *Leonor,* which had served as a collier for the commerce raiding cruiser *Leipzig.*[38] While she may not have engaged an enemy warship, *Rainbow*'s patrols effectively put a stop to German trade on the west coast. *Niobe* is credited with having helped to accomplish the same thing on the east coast.[39] Tucker specifically recorded that, "The few enemy steamers on the [west] coast cut short their voyage at the nearest port, sending their cargoes under the American flag, and numerous sailing vessels of large size were held up in Californian and Mexican ports."[40] In doing this, *Niobe* accomplished exactly the main objective of cruiser warfare and contributed substantially to the collective naval war effort, far exceeding the results achieved by the short-range escort elements of the RCN in the Atlantic.

The RCN only encountered a German U-boat on one occasion, in 1918. The commander of the Canadian patrol craft fled the scene, for which he was subsequently tried by Courts-Martial and dismissed from the service.[41] The response to the confirmed presence of long-range U-boats (called U-cruisers) in Canadian waters was to route the high-value, medium-speed "HC" convoys away from Halifax and the enemy's operating areas. Rather than send the convoys east, they were sent north, through the Gulf of St. Lawrence and then out to the open sea through the Strait of Belle Isle. Only four of the RCN's fleet of vessels had the necessary speed and endurance to escort these convoys. They were CGS *Canada, Lady Evelyn,* a ship from the Postmaster General's department, *Margaret,* a Customs inspection vessel, and *Stadacona,* a large converted yacht.[42] The RCN's coasters and drifters were simply too slow to accompany the convoy, too short on endurance to see them safely all the way through the danger zones, too light in displacement to maintain speed in heavy weather, and too lightly armed to deal with the enemy if the U-boats should be encountered.

These critical limitations were clearly demonstrated when a high-value troop convoy departed Halifax on 4 August, precisely at the height of the U-cruiser attacks. HC-12 was carrying 12,500 Canadian and American soldiers in 17 ships. As Tony German described it, "The trawler minesweepers led, then came the three US sub-chasers on an anti-submarine sweep. A close escort often trawlers and drifters led the troopers out, but they were too slow

[38] Tucker, *The Naval Service of Canada,* 1:237-245 *(Niobe),* 261-282 *(Rainbow).*

[39] Bernard Ransom, "The Newfoundland Royal Naval Reserve" in Michael Hadley, et al., (eds.), *A Nation's Navy: In Quest of Canadian Naval Identity* (Montreal, 1996), 248.

[40] Tucker, *The Naval Service of Canada,* 1:281.

[41] Milner, *Canada's Navy,* 54.

[42] Michael L. Hadley and Roger Sarty, *Tin Pot and Pirate Ships: Canadian Naval Forces and German Sea Raiders, 1880-1918* (Montreal, 1991), 282.

and gradually dropped behind."[43] All that could otherwise be done was to deploy sweep-equipped drifters and trawlers at choke points on both the northern and southern Gulf routes.[44] The future Chief of Naval Staff, then Captain of Naval Patrols, Walter Hose, evaluated the situation most frankly. "In the event of a u-cruiser of this type appearing off Canadian coasts there is not one vessel or any combination of vessels [in the existing flotilla] which it would be the slightest use to dispatch to the attack even if it were known exactly where to find and pick up with the u-cruiser."[45] The truth was that small, lightly armed, low endurance auxiliary escorts were completely inadequate for the protection of shipping in the Canadian marine environment, even in coastal areas. The protection of trade role required, at the very least, ships with cruiser-like endurance and seakeeping qualities.

When Admiral of the Fleet Viscount John Jellicoe toured the empire immediately following the First World War, he tabled his recommendations on Canadian naval requirements in a report dated 31 December 1919. He clearly differentiated between three principle functions: support to the British battle fleet in the naval defence of the Empire as a whole; the protection of national trade; and coastal defence. His recommendations for "the forces required by Canada in light of Canada's own requirements and Canada's own safety" (meaning the protection of trade and coastal defence) were remarkably similar to the original RCN fleet plan: three Bristol-class cruisers; one flotilla leader and twelve torpedo craft; plus eight submarines with one support ship.[46] He also recommended that any vessels engaged in the protection of trade should have a very large radius of action.

From personal experience, Admiral Jellicoe was acutely aware of the endurance limitations of destroyers. Their short radius of action actually limited the effectiveness of the large ships they screened. In operations, the destroyers' inability to maintain formation speed in even moderate weather had forced Jellicoe to choose between two equally unattractive alternatives: reduce the speed of the fleet to allow the destroyers to keep up or detach the destroyers and proceed with the capital ships at high speed but unscreened. The speed lost by British destroyers was very pronounced in the short, steep seas common in the North Sea. Their endurance was typically not more than seventy-two hours.[47]

Critics of Jellicoe's naval plan for Canada usually dwell on the highest cost option of the three that he presented, but they fail to recognise that the destroyers of the day were short-range battle fleet assets that had very little applicability to Canadian requirements.

[43] Tony German, *The Sea is at our Gates: The History of the Canadian Navy* (Toronto, 1990), 49.

[44] Although the U-cruisers did make use of mines during their deployments, their principle weapons were a large 5.9-inch deck gun and torpedoes. The sweep-equipped ships would only have been of use against the mines. Hadley and Sarty, *Tin Pot and Pirate Ships,* 282.

[45] Captain of Patrols to the Secretary, Department of the Naval Service, Ottawa, 21 October 1918. National Archives of Canada, RG 24, Vol. 4032, File 1065-7-12, Vol. 1. Quoted in Hadley and Sarty, *Tin Pots and Pirate Ships,* 292.

[46] John Jellicoe, *Report on the Naval Mission to the Dominion of Canada* (Ottawa, 31 December 1919), 11,17-18.

[47] A. Temple Patterson, ed., *The Jellicoe Papers: Selections from the private and official correspondence of Admiral of the Fleet Earl Jellicoe,* Vol. JJ, "1916-1935" (Shortlands, 1968), 227, 345, 367, 389. See also: Crewell, *Naval Warfare,* 39-40.

They were suited only for local defence of the main Atlantic seaport and for screening battleships should they ever deploy to the western side of the Atlantic. For the majority of the naval tasks involving patrolling and the protection of trade, only warships with cruiser-like endurance would suffice. Jellicoe used the German Graudenz-class cruiser an as example of a vessel particularly suited to both convoy and fleet work.[48] This sturdy 4,800-ton ship had an endurance of 7,900 nautical miles at 10 knots.

In 1920, the Admiralty offered to replace *Niobe* and *Rainbow* with the second-class protected Bristol-class cruiser *Glasgow.*[49] The Canadian Naval Staff rejected this vessel, however, in favour of the Arethusa-class scout cruiser *Aurora.* Hayward has provided some clues as to why the Arethusas were favoured: "They were the first [scout] cruisers to rely exclusively on oil fuel. Although rather cramped, they were successful ships, from which a further thirty-eight 6-inch light cruisers of the C, D, and E classes evolved."[50] The "success" that Hayward referred to was the Arethusas' reputation as "fighting ships" as they had acquitting themselves well in the midst of some of the hottest actions of the Great War, including the Battle of Jutland.[51] Although faster and better armed, the Arethusas were in no way comparable to the recommended Bristols in terms of endurance or seakeeping qualities.

The Bristol-class cruisers were actually a great improvement over earlier versions of their type, being bigger and more sea kindly ships. Moreover, they were driven by steam turbines capable of producing 25 knots, which equalled the speed of contemporary scouts.[52] Preston went so far as to say that, "The Arethusa-class and the early 'Cs' were quite unsuited to serve outside the North Sea."[53] Hayward agreed with Preston: "The eight Arethusas, together with the succeeding thirty-six ships of the C and D classes, ... were too small for fleet operations outside the North Sea or for trade protection duties worldwide."[54] The choice of a cruiser suited only for service in the North Sea could not have been motivated by a frank appraisal of Canadian requirements.

By choosing an Arethusa over a Bristol, the RCN opted for a scout cruiser over a patrol cruiser. The limited endurance of the smaller cruiser meant that she could not repeat the patrolling and escorting roles that her First World War ancestors had performed. The scout cruiser was meant to fulfil the leader role for the two destroyers that remained in the skeletal RCN of that day. The selection by the Canadian Naval staff of *Aurora,* and the destroyers *Patriot* and *Patrician,* are definite indications that the RCN was indeed organizing the navy for battle fleet action. The replacement destroyers *Champlain* and *Vancouver* were virtually identical in endurance to *Patriot* and *Patrician.* The low endurance and poor seakeeping qualities of Canada's little flotilla clearly show they were not suited for domestic sovereignty roles.

[48] Jellicoe, *Report,* HI: 30-31.

[49] Barry Hunt, "The Road to Washington: Canada and Empire Naval Defence, 1918-1921" in James A. Boutilier, (ed.), *The RCN in Retrospect, 1910-J968* (Vancouver, 1982), 57.

[50] Hayward, *Cruisers in Camera,* 55, 153.

[51] Tucker, *The Naval Service of Canada,* 1:319.

[52] Preston, *Cruisers,* 17.

[53] Preston, *Cruisers,* 68.

[54] Hayward, *Cruisers in Camera,* 29.

Hayward recorded that the RN recognised the deficiencies of the family of Arethusa-class cruisers and their derivatives: "To fill the trade protection role the splendid large light cruisers of the Hawkins-class were introduced. ... they were able, at some 10,000 tons, to carry sufficient fuel to ply the world's oceans."[55] Soon after the Hawkins-class entered service, the Washington Naval Treaty of 1922 imposed a maximum displacement limit of 10,000 tons and eight-inch guns on cruisers. The new term "heavy" cruiser was coined to cover all ships of the type with guns between 6.1- and 8-inches. The Hawkins-class fell into the heavy category by virtue of their 7.5-inch guns. They were soon rearmed with 6-inch guns and re-rated as light cruisers as part of the British fleet design strategy.

The Kent-class was the first British attempt to build a long-range cruiser up to the new treaty limits. But, it soon proved to be impossible to provide an ideal balance between speed, endurance, protection, armament, seakeeping, and habitability within the 10,000-ton limit. The principal weakness of the Kent-class was forever enshrined in their nickname, "The Tinclads." The first generation of heavy cruisers produced by all countries governed by the Washington Treaty were considered to be disappointments, being either too costly or much heavier than intended.[56] However, there is no doubt that the British lineage of the "patrol" cruiser had passed down from the early second-class "protected" cruisers, to the "light" Hawkins, and then to the "heavy" Kents.[57] While their armament, size, and speed varied significantly, the common factors were their high endurance and good seakeeping qualities. Raven and Roberts recorded that, "For the cruisers built during the thirties, endurance requirements varied very little. In ships designed for trade work, the requirement was for 7,000 nautical miles at 16 knots."[58] This was essentially unchanged since Jellicoe's report. The problem was how to provide such essential characteristics while balancing off other demands. This proved to be a perennial problem in cruiser design. By reducing the main armament to 6-inch guns, the Leander-class probably represented the ideal cruiser for the RN. They possessed excellent endurance, a good balance of speed and armament, superb sea kindliness, and some armour, all on only 7,000 tons displacement.[59] Significantly, both the Royal Australian and New Zealand Navies selected Leanders.

Admiral Sir Herbert Richmond was a strong interwar advocate of small cruisers. Writing in 1934, he identified the same three principal functions of naval forces, just as Jellicoe did in 1919. He believed that there was no need to differentiate between different types of cruisers and recommended instead, "that cruisers should be as small as they can be consistent with the performance of their functions, and that their numbers depend upon the scope of their duties."[60] Instead of a broad diversity of types, he advocated for many small warships of fewer than 2,000 tons as being highly desirable since they were not limited by the Washington and London Naval Treaties. Preston concluded that the concept of a small

[55] Hayward, *Cruisers in Camera,* 30.
[56] Preston, *Cruisers,* 96.
[57] Hayward, *Cruisers in Camera,* 85-86.
[58] Raven and Roberts, *British Cruisers of World War Two,* 208.
[59] Preston, *Cruisers,* 108-109.
[60] Herbert Richmond, *Sea Power in the Modern World* (London, 1934), 56, 58,235.

cruiser inevitably foundered on two totally contradictory features: speed versus good endurance and seaworthiness on much smaller dimensions.[61] Maintaining high speed in even relatively moderate sea states demanded a bigger and more expensive cruiser, with a big crew and higher operating costs. In effect, Richmond was actually advocating for large sloops.

Cost, for the interwar RCN, was a prohibitive obstacle to operating cruisers. *Aurora* was decommissioned in 1927 and another cruiser did not enter into the RCN until the 8,800-ton Fiji-class light cruiser *Uganda* commissioned in 1944. But, several classes of sloops were in existence before the Second World War and had even been recommended to the RCN by the RN as a suitable type for consideration. Generally, sloops were small 250-foot dual-purpose escorts and minesweepers of 900-tons displacement with an endurance of about 6,000 miles. The United States also built similar ships. The US Coast Guard had the 250-foot and 327-foot "cutters." The 327-foot Treasury-class was marginally larger than conventional destroyers at 2,000 tons, but had an extraordinary endurance of 12,300 miles at 11 knots. They were renowned as being excellent seakeepers, very commodious, and equipped with excellent communications facilities.[62] They proved to be the most effective convoy escorts of the war with the highest U-boat kill rate of any class of antisubmarine escort.[63] While the Royal Australian and Indian Navies selected sloops,[64] the RCN had no interest in such "lesser" warships or for the protection of trade role, and continued to pursue the acquisition of two homogenous flotillas of fleet destroyers.

Sloops have been viewed with great suspicion in recent naval scholarship. They have been described as a stepping-stone back towards cruisers and are not recognized as a viable solution to the Canadian dilemma. William McKillip argued that the "inescapable conclusion" was that the Admiralty was trying to exploit a loophole in the naval treaties to get Canada out of destroyers and into sloops, as an interim move before adopting cruisers.[65] The implication is that such a move was designed to integrate the RCN into the British battle fleet. In fact, the opposite was true. The First Sea Lord, Admiral Sir Ernie Chatfield, advised Prime Minister Mackenzie King, during a secret interview on 6 August 1936, that sloops were the ideal solution to both Canada's local defence and trade protection roles.[66] At less than half the cost of a destroyer, they should have raised some interest at least on the issue of economy. But, these flexible little warships never got more than a passing mention in the 1939 fleet expansion plan that called for the construction of two sloops. Arnold Hague stated categorically that, "There is no doubt that such ships [as sloops] and the possible HALCYON class [minesweeping sloops] also considered in the late 1930s, would have proved of great value to the RCN."[67] They were discounted because of their perceived

[61] Preston, *Cruisers,* 68.
[62] Francis *McMurtrie (éd.), Jane's Fighting Ships,* (London, 1940), 505.
[63] University of Indiana website, *Performance: The ships-that-wouldn 'l-die!* Http://www.indianna. edu/ ~r317 doc/327/performa.html, accessed 13 Feb 2002.
[64] Hague, *Sloops,* 10-22.
[65] McKillip, *Staying On The Sleigh,* 104n.
[66] Tracy, *The Collective Naval Defence of the Empire,* 536-537.
[67] Hague, *Sloops,* 17.

ineffectiveness against the perceived naval threat of the inter-war period.

Destroyers have been portrayed as the ideal type of warship to counter raids on trade and coastal facilities by Japanese, and later German, heavy warships and converted liners.[68] However, the threat from merchant raiders was highly overstated. Richmond was categorical in his assertion that, "The technical error [about the threat from merchant raiders] lies in the belief that a merchant vessel is a match for, or a threat to, a man of war smaller than 10,000 tons. No such idea ever entered the heads of any sea officers..." Richmond was equally forceful in his assessment of the chances of an armed merchant cruiser against a raiding warship: "It is certain that not one of the armed liners, fitted out with 6-inch and 4.7-inch guns in this country, could have fought the smallest of the German cruisers with any prospect whatever of victory."[69] A gun-armed warship, even one as small as a sloop, was viewed as more than adequate "to give the law" to a converted merchant ship. The threat posed by large warships was another matter.

The torpedo armament of destroyers is generally regarded as necessary to counter raids by large warships. Michael Whitby has described in detail the emphasis placed on torpedo attack in the doctrine and training of the RCN during the 1930s.[70] But, as early as 1912, the torpedo was identified as an over-rated weapon. Lieutenant, later Vice-Admiral, Romeo Bernotti, Italian Navy, published his findings on the ineffectiveness of surface-launched torpedoes in *The Fundamentals of Naval Tactics*. He observed that at half the running range of contemporary torpedoes (about 4,000 yards), "from the point of view of the defense, there is no occasion to trouble oneself very much about it; and from the offense, it is well not to sacrifice, even to a minimum degree, the employment of the gun."[71] Fletcher Pratt reinforced Bernotti's observations in a 1935 article in *Proceedings*. He categorized the destroyer as an ineffective torpedo carrier, being too large for the task. From detailed analysis of historical examples, he clearly illustrated that surface-delivered torpedo attacks had been overwhelmingly ineffective. Furthermore, he argued that two essential conditions were necessary for a torpedo attack to have any chance of success at all. First, it must be a surprise attack and, second, the assailant must get in close.[72] Unless these conditions were met, countermeasures by the intended victim easily negated the threat.

Post-war analysis of torpedo engagements substantiated the arguments of both Bernotti and Pratt. Wayne Hughes reported that even the Japanese vaunted "Long-Lance" torpedoes hit probability during the famous Solomon Islands campaign was only 6 per cent. When surprise was achieved, such as at the battles of Tassafaronga and Kula Gulf, Japanese hit probability approached 20 per cent. But, in all other instances countermeasures reduced the threat to almost nothing, just as Bernotti had predicted. Moreover, Hughes showed that effective torpedo attack also required exhaustive training under the most arduous conditions,

[68] Roger Sarty, *The Maritime Defence of Canada* (Toronto, 1996), 75.

[69] Richmond, *Sea Power in the Modern World,* 48.

[70] Michael Whitby, "In Defence of Home Waters: Doctrine and Training in the Canadian Navy During the 1930s" *The Mariners Mirror,* 77,2 (May, 1991), 167-177.

[71] Romeo Bernotti, *The Fundamentals of Naval Tactics* (Annapolis, 1912), 25.

[72] Fletcher Pratt, "The Destroyer Grows Up." *Proceedings* (May, 1935), 683-691.

combined with strict fire discipline.[73] The Canadian inter-war torpedo firing exercises described by Whitby were limited to once yearly practice firings, sometimes conducted against non-maneuvering targets making only 10 knots. Such inadequate preparation meant that the RCN's destroyers had no chance whatever of achieving hits with torpedoes on a high speed, manoeuvrable and firing opponent. Under these circumstances, torpedoes were less than useless: they took up space and weight that should have been dedicated to more useful anti-submarine and dual-purpose gun armament.

Although warned by the RN that destroyers constituted far more capability in speed and weaponry than the Canadian defence circumstances dictated, the expansion plan for two flotillas was pursued with unswerving determination.[74] In the very last days before the outbreak of the war, the logic of the navy's plans to acquire British fleet destroyers was challenged in the House of Commons but no comprehensive reply was ever offered beyond a most unenlightening declaration: "That was the definite proposal made by the Naval staff."[75] Within a few months, operational experience quickly proved the endurance and seakeeping deficiencies of the RCN destroyer-based fleet. Patrol and protection of trade requirements forcefully reasserted themselves as high priority tasks but early emergency fleet expansion plans produced only small coastal escort vessels with the same endurance limitations of the destroyers and, even more notoriously, far worse seakeeping characteristics. Meanwhile, the sloops that had been summarily dismissed by the RCN proved themselves to be such effective escort vessels that they quickly became the favourite flagship of senior escort group commanders.[76] Only with the late advent of the *River-class* frigate did the RCN finally enjoy a capability comparable to the cruiser-like sloop. H.T. Lenton observed, "The escort sloop was a far more seaworthy vessel [than the destroyer]" and concluded, "What is now evident - with the benefit of hindsight - is that the building policy between the wars should have provided fewer destroyers and more sloops."[77] In the Canadian case, hindsight is not required to recognize the errors in naval force planning committed by Admiral Nelles and the Naval Staff. As advised by Admiral Chatfield and others, destroyers were not what Canadian defence requirements called for and either patrol cruisers or sloops would have conformed much better to our needs.

Canada's threefold maritime defence requirements have not changed since 1910. "Supporting fleet operations with the Imperial battle fleet" has become integration into US carrier battle groups and NATO task groups. Defence of trade and patrol are conducted throughout the world wherever regional instability threatens the free flow of raw materials and goods. Local defence is still associated with domestic sovereignty but is now expected

[73] Wayne P. Hughes, Jr., *Fleet Tactics and Coastal Combat* (Annapolis, 2000), 123-137.

[74] Tracy, *The Collective Naval Defence of the Empire,* 104 - 105,225,425,427-428, 586.

[75] *House of Commons Debates,* 1939, Vol. IV, (Ottawa, 1939), 12 May 1939,3991; 13 May 1939,4020; 18May 1939,4282.

[76] H.T. Lenton, *British and Empire Warships of the Second World War* (London, 1998), 238. See also: David Brown, "Atlantic Escorts, 1939-45" in Stephen Howarth and Derek Law, (eds.), *The Battle of the Atlantic, 1939-45: The 50th Anniversary International Naval Conference* (London, 1994), 471.

[77] Lenton, *British and Empire Warships,* 238.

to include all national waters, not just the approaches to one or two major ports.[78] All of these tasks call for the same cruiser-like capabilities that the original founders of the RCN prized so highly. High endurance ensures the ability to engage on operations of long duration, whether they are at long range from a sustaining base or simply on-station somewhere nearby for extended periods. Good seakeeping qualities help to ensure optimum human and mechanical performance in all conditions of weather. Adequate staff accommodations and communications facilities ensure effective operations in complex tactical situations.

The histories of the RCN and Maritime Command have amply demonstrated the folly of low endurance and fragile little vessels that are unsuited to Canada's domestic or international defence commitments. While the concept of the cruiser as a component of Canada's naval force structure has been widely discounted, the origins of the cruiser are in the protection of trade and patrol roles, not fleet action, as so many Canadian authors have suggested. The capabilities that were deliberately built into patrol cruisers were essential to their performance in both the defence of sovereignty and protection of trade roles. It was these characteristics that made them attractive to so many Canadian naval planners, especially in the earliest days of the RCN. The real mistake of subsequent planners was to opt for scout cruisers and destroyers, instead of patrol cruisers and sloops. These errors in force planning are the real basis for charges that some Canadian naval leaders were glory-seeking at the expense of pursuing a rational fleet development strategy.

The patrol cruiser capabilities of the navy's original and subsequent fleet plans are still in evidence today. The Halifax-class patrol frigates, as they are sometime referred to, fit quite nicely into the size and endurance parameters of the venerable second-class protected cruiser. There is no shame in this ancestry. The practical realities of a hostile marine environment, demanding tactical scenarios, and challenging planning parameters have forced Canadian warships to evolve, quite naturally, towards the expectations of such highly knowledgeable and experienced officers as Admirals Jellicoe, Richmond, Chatfield, and Kingsmill. Rather than denigrate their estimates, we should gratefully acknowledge that, after some trials, errors, and tribulations, we have finally achieved the basic type of naval capabilities they stipulated were essential for our maritime defence requirements. The important characteristics of the old cruisers *Niobe* and *Rainbow* are quite alive and evident in the Halifax-class frigates of today. It only seems logical that their high endurance, good seakeeping characteristics, and information handling abilities must be the basic and essential ingredients for any future Canadian warship.

[78] *Leadmark,* 100-118.