

**Squadron Leader N.E. “Molly” Small, RCAF, DFC, AFC**

**A Study of Leadership Successes and Failures  
in the RCAF’s Eastern Air Command, 1942**

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It is not aeroplanes or ships or tanks that win battles; it is the men in them and the men who command them. The most important factors in any battle are the human factors of leadership, morale, courage and skill, which cannot be reduced to any mathematical formula. It was these that won the Battle of the Atlantic...

-Air Marshal Sir John Slessor, Air Officer Commanding-in-Chief  
Coastal Command, *The Central Blue*, 524.

This study is a historical examination of leadership competencies in the Royal Canadian Air Force’s Eastern Air Command during high-risk situations while it endeavoured in 1942 to counter the German U-boat (submarine) assault on Canada’s east coast. During that year, the RCAF had a difficult time dealing with the U-boats that entered North American coastal waters to attack Allied shipping. The German opinion that “anti-submarine defences were still weak” in the area<sup>2</sup> proved to be well-founded, for few pilots in the RCAF’s Eastern Air Command had the skills or initiative needed to counter the German assault on trade.<sup>3</sup> One exception, however, was Squadron Leader (S/L) N.E. “Molly” Small. This officer has been described by historian W.A.B. Douglas as Eastern Air Command’s “outstanding pilot and its most conscientious student of maritime airpower.”<sup>4</sup> Indeed, Small’s skill and initiative not only allowed him to make Eastern Air Command’s first U-boat kill on 31 July 1942, it also demonstrated his value as a leader, for it was under his leadership that 113 (BR) Squadron achieved the best record of U-boat successes of any Eastern Air Command squadron in 1942. Through his

endeavours, Small demonstrated the leadership skills necessary for an effective squadron commander. However, Small's excellent attributes as a leader did not reflect well on his superiors in Eastern Air Command.

This paper will therefore argue that N.E. Small's innovative and independent actions demonstrated both his own emergent leadership skills as an effective squadron commander and the shortcomings of the senior leadership of Eastern Air Command. To be sure, an examination of this individual's wartime career promises to be a valuable addition to the study of leadership in the history of Canada's armed forces. Previous historical studies of Canadian leadership have largely concentrated on the study of leadership at the general officer, or "flag-rank," levels, and mostly on individuals from the army and navy.<sup>5</sup> It is therefore hoped that this paper will be unique, for it is an examination of leadership in the air force, and, although it covers leadership at general officer levels, it does so through an examination of a remarkable leader at the squadron commander level, N.E. Small.<sup>6</sup> First, though, it is necessary to examine what constitutes appropriate leadership at that level of command, and then discuss the background of N.E. "Molly" Small.

### **Frameworks/Models**

The best study of leadership at the squadron commander level is by Canadian Forces Leadership Institute historian Dr. Allan English. He argues that air force culture dictated that the best squadron commanders were "bold, skilled airmen who led by example" and who "carried out their orders intelligently and used their expertise to minimize the risks to the lives of their charges." In other words, English stipulates that the requirement of an effective squadron commander is that he demonstrates both heroic

and technical leadership.<sup>7</sup> Heroic leadership, defined by English, is a “conspicuous sharing of risk with subordinates.”<sup>8</sup> English bases this definition on British historian John Keegan’s perspective on leadership in *The Mask of Command*. In this book Keegan argues that by sharing risks, leaders cultivate a kinship between themselves and their followers, giving leaders “the moral legitimacy, beyond their legal authority, that they must have to be successful.”<sup>9</sup> Technical leadership, defined by English, is “the ability to influence others to achieve a goal based on the specialized knowledge or skill of the leader.” In the air force, such leadership “is exercised by leaders who must be able to... actually do the same job as their subordinates (e.g., pilots).” Such leadership is crucial because those who conduct operations “depend on technology, and by extension the technical ability of the crews and their leaders, for their very survival not just their ability to fight.”<sup>10</sup> Therefore, English concludes, before a squadron commander could be an effective leader, he had to first demonstrate his operational flying ability (technical leadership) and then share the risks with his subordinates by going on difficult operations (heroic leadership).<sup>11</sup> As will be demonstrated, Squadron Leader Small fulfilled both leadership requirements for a squadron commander.

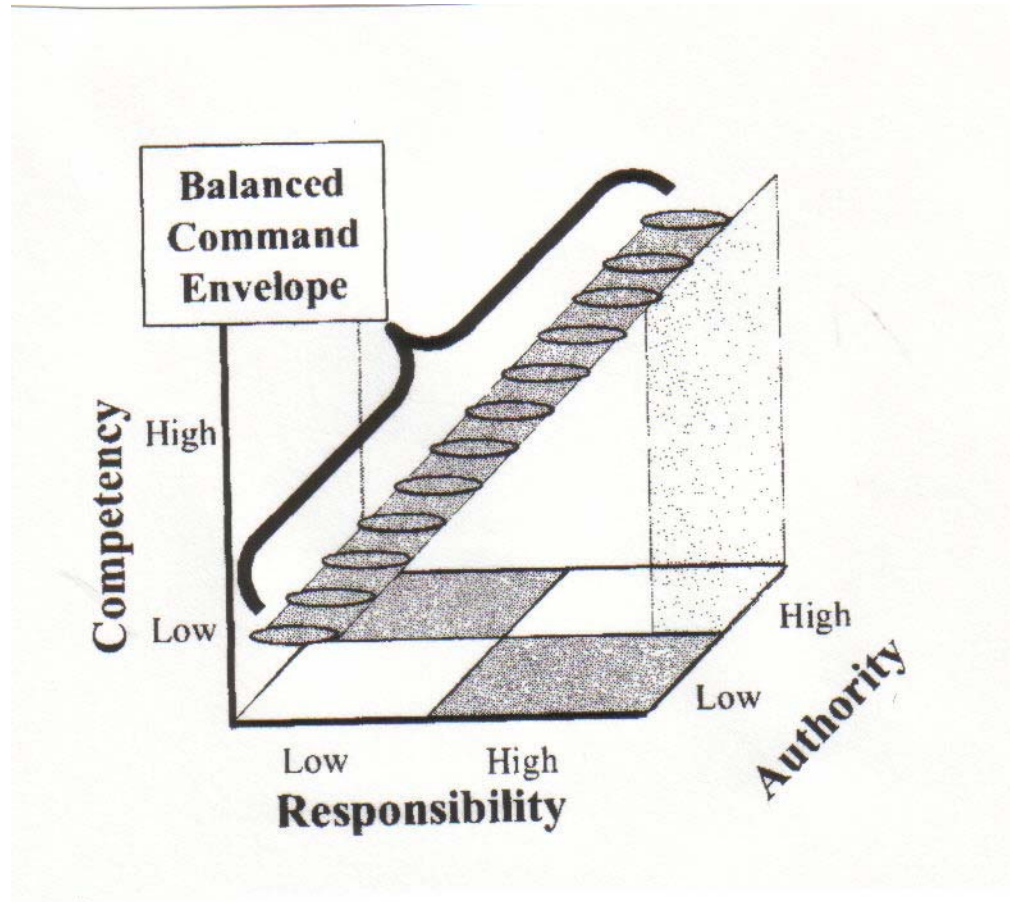
English also notes that the higher up the chain of command one goes, the less one has to demonstrate technical and heroic leadership. At the formation level, (i.e. Wing Commanders up to Group Commanders), there was a decline in the amount of technical leadership necessary, although “occasional heroic leadership was still necessary to inspire confidence in the aircrews.” Finally, at the highest level of air force command (i.e. Air Commodore to Air Marshal), leaders were not expected to demonstrate flying skills or physical risk, but what subordinates did expect of them was that they “risk their careers

for the welfare of their crews.”<sup>12</sup> This included not only securing resources like new equipment and new personnel, but also ensuring that the latest doctrinal innovations and tactics reached the squadrons. It was in these areas, in fact, where the senior Eastern Air Command leadership failed.

Another framework relevant to this study is the that Dr. Ross Pigeau and Carol McCann, defence research scientists with Defence Research and Development Canada (DRDC) have developed.<sup>13</sup> Pigeau and McCann focus on command and define commander” as “a position/person combination lying on the balanced command envelope with special powers to 1) enforce discipline and 2) put military members in harm’s way. They have created a framework that evaluates the **Competency, Authority and Responsibility** of a commander (CAR Structure).<sup>14</sup> In this structure, they define **Competency** as “the skills and abilities so that missions can be accomplished successfully” and maintain that these abilities fall into four general classes of competencies: physical, intellectual, emotional and interpersonal.<sup>15</sup> **Authority** refers to command’s domain of influence and consists of “the degree to which a commander is empowered to act, the scope of this power and the resources available for enacting his or her will.” Pigeau and McCann stress that **Authority** comes from two sources that an individual earns by virtue of personal credibility: **legal authority** (the power to act as assigned by a formal agency outside the government, typically the government) and **personal authority** (given informally to an individual by peers and subordinates).<sup>16</sup> **Responsibility** consists of “the degree to which an individual accepts the legal and moral liability commensurate with command” and it is made up of two components: **extrinsic responsibility** and **intrinsic responsibility**.<sup>17</sup>

Based on the CAR Structure, Pigeau and McCann therefore conclude that effective command demands a balance between competency, authority and responsibility – that the commander must lie on the Balanced Command Envelope (BCE – See Diagram 1 below).<sup>18</sup> The two research scientists also point out that the military hierarchy

**Diagram 1:** Pigeau & McCann’s Balanced Command Envelope

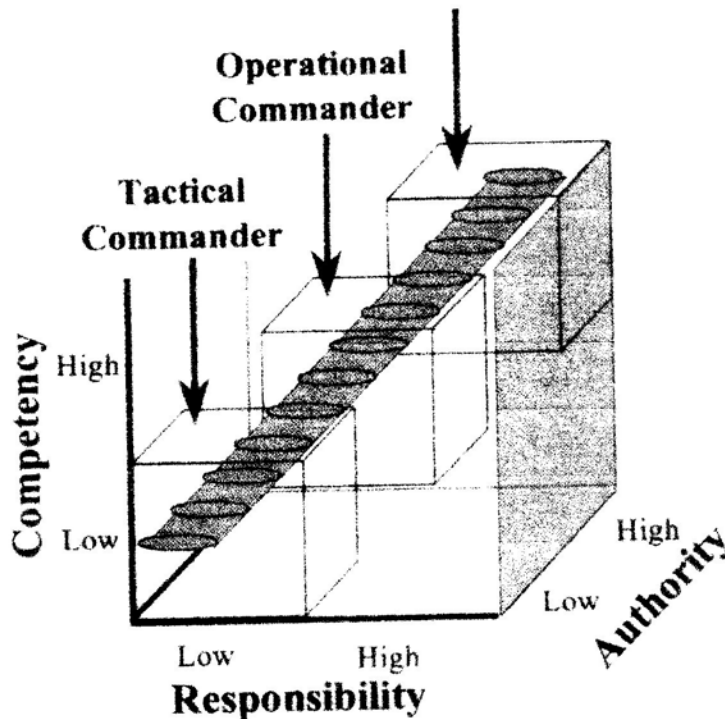


**Source:** Pigeau & McCann, “What is a Commander,” 91.

hierarchy consists of commanders at different levels, tactical, operational and strategic, and that they all have varying levels of legal authority (legal authority grows the higher up military’s chain of command one goes). Therefore, as Pigeau and McCann explain,

if a commander at each level lies within the BCE, “it follows that each must also possess different levels of competency and responsibility.”<sup>19</sup> Consequently, the scientists continue, it would be unreasonable to assume that commanders at each level of command

**Diagram 2:** Commanders at Different Levels of Competency, Authority and Responsibility



**Source:** Pigeau & McCann, “What is a Commander,” 95.

capability would have the same combination of competencies.<sup>20</sup>

After a general narrative outlining Small’s wartime career and the problems that Eastern Air Command experienced dealing with the U-boat threat in 1942, I will utilize the Pigeau and McCann framework to examine whether or not Squadron Leader Small, a tactical level commander, and the senior officers at Eastern Air Command Headquarters, operational level commanders, lied within the Balanced Command Envelope.

## **Background to “Molly” Small’s Career**

From the beginning of his wartime career, Norville Everitt “Molly” Small demonstrated the intellect and work ethic that would make him a great squadron commander. Small was born in Allandale, Ontario, on 7 December 1908, but he soon moved to Hamilton, where he attended public schools and then went on to the Hamilton Technical School, where he studied motor mechanics. He joined the RCAF in 1928, originally as a mechanic, but soon after he began training as a pilot, receiving his wings on 2 June 1931. He served on the west coast as a sergeant pilot, where he logged 2,000 hours on coastal water boats (i.e. seaplanes and flying boats) and a further 1,000 hours on twin-engined aircraft. Senior officers appreciated Small’s dedication to his duty, and in his yearly “Record of Character and Trade Proficiency,” Small consistently ranked as being “good” or “very good,” while receiving compliments such as “conscientious and very energetic. Performs his duties in a willing and efficient manner.” These officers were especially impressed with Small’s work ethic, describing him as a “good worker, who takes his duties seriously;” as an individual with remarkable “keenness and ability to absorb instruction;” and as “a good reliable pilot” who was “keen on flying and anxious to improve his ability.”<sup>21</sup>

Small’s service on the west coast lasted until 1937, when, like several prewar RCAF pilots, he resigned to fly commercial aircraft.<sup>22</sup> While flying for civil airlines, Small further enhanced his reputation as a fine pilot and a hard worker. For example, when Small decided to leave Canadian Airways in the of summer 1939 for a better position at Imperial Airways, Canadian Airways had the following to say:

We should like to take this opportunity to express our confidence in Mr. Small, not only as a pilot of outstanding ability and sound

judgement, but also as an executive whose interest in his chosen work extends far beyond the limits of the ordinary “day’s work.” We feel that his acquisition by Imperial Airways will be a distinct advantage to that Company.<sup>23</sup>

Shortly after the outbreak of war in September 1939, Small re-enlisted in the RCAF as a pilot officer and Air Force Headquarters (AFHQ – Ottawa) immediately employed him as an advanced flying instructor on the Douglas Digby aircraft recently acquired from the United States.<sup>24</sup> Because of his airline experience, in spring 1941 Small was assigned to the Royal Air Force’s (RAF) Ferry Command, where he ferried several aircraft on transatlantic flights from Bermuda to Britain.<sup>25</sup> Among the aircraft Small flew while with Ferry Command was the long-range Consolidated Catalina. Therefore, when the RCAF’s newly-formed 116 (Bomber Reconnaissance – hereafter BR)<sup>26</sup> Squadron began to take delivery of the type in July 1941, AFHQ posted Small to the squadron, which operated out of Dartmouth, Nova Scotia.<sup>27</sup>

Small had an immediate impact on his new comrades. Senior leaders described him as a “master pilot” and “excellent tactician” who was possessed of a “burning desire ‘to get on with the job.’”<sup>28</sup> In March 1942, AFHQ recognized Flight Lieutenant Small’s service by giving him command of the newly-created 10 (BR) Squadron Detachment in Yarmouth, Nova Scotia, and by awarding him an Air Force Cross (AFC).<sup>29</sup> Small did not disappoint. On 28 April 1942, Small was on a operational patrol off Yarmouth in Canso (the Canadian amphibian version of the Catalina) 9749 when he sighted a U-boat on the surface. Diving from 500 feet, Small attempted to release all four of his 450-lb depth charges around the U-boat. Unfortunately for Small (and fortunately for the Germans), only the first and fourth depth charge dropped. The aircraft’s weapons were not lethal, although Small believed that he “definitely made their back teeth rattle.” The attack was



made all the more unfortunate when Small's aircraft returned to base, for immediately upon his return, Small received a letter outlining the cure for the depth-charge release problem.<sup>30</sup> Indeed, this would prove not to be the last time tactical information was late in arriving at the squadron level.

On 19 May 1942, 10 (BR) Detachment in Yarmouth, having received more aircraft, was re-formed as 162 (BR) Squadron, with the recently promoted Squadron Leader N.E. Small as its commander. One month later, AFHQ assigned Small to take command of 113 (BR) Squadron at Yarmouth, Nova Scotia.<sup>31</sup> Small's short time with 162 (BR) Squadron proved to be very beneficial, as he "had insured a sound initial organization [of the squadron] and at the time of his departure the squadron... had accepted and was carrying out efficiently its full responsibilities as an operational unit."<sup>32</sup> His effect on 113 (BR) Squadron would be even greater.

Little over a month after taking over command of 113 (BR) Squadron, Small made a successful attack on U-754, the first enemy submarine to be sunk by Eastern Air Command. Flying southeast of Yarmouth on 31 July 1942, Small and his crew surprised the U-boat southeast of Cape Sable. Although German sailors desperately scrambled for the hatch as the vessel's captain ordered a crash dive, the submarine was still visible when Small released the depth charges from his diving Lockheed Hudson. The placing of the depth charges was ideal, as they bracketed the submarine forward of the conning tower and exploded as the U-boat submerged. After a third sweep around the area where the U-boat had gone down, the front gunner of the aircraft opened fire when U-754's conning tower briefly broke the surface. This was followed by large air bubbles coming

to the surface and then “a heavy underwater explosion [which] brought a large quantity of oil swirling up to mark the grave of U-754 – Eastern Air Command’s first kill.”<sup>33</sup>

Small’s destruction of U-754 had not been an accident; indeed, it was the result of a careful examination of the operational situation and an innovative and calculated response to it. Small had been able to find U-754 thanks largely to the development of “special” intelligence in Canada by the summer of 1942. At the beginning of the war, the Royal Canadian Navy (RCN) had established, in cooperation with the Department of Transport and the RCAF, an Operational Intelligence Centre (OIC) in Ottawa in order to

**Diagram 3:** Squadron Leader N.E. “Molly” Small at his desk, 1942.



**Source:** PL 12610; Douglas, *Creation*, 435.

track the radio transmissions of the enemy. The OIC was able to plot the submarine’s estimated position through a system called High Frequency Direction-Finding (HF/DF). In order to maximize the effectiveness of his U-boat fleet against Allied shipping, German Admiral Karl Dönitz required his submarine commanders to keep in contact with base by making frequent use of high frequency radio. Such transmissions, however, were

easily identifiable by the Allies' chain of shore HF/DF stations. Therefore, once a U-boat radioed its base in France, stations on both sides of the Atlantic detected and triangulated the signal's bearings. This information went to the OIC in Ottawa, which then was able to plot the approximate position of the U-boat based on its last transmission.<sup>34</sup> The RAF's maritime air organization, Coastal Command, was able to use the HF/DF system to good effect, as the system allowed Coastal Command Headquarters to utilize the information it received from the Admiralty Submarine Tracking Room in London to conduct aircraft sweeps in areas of high probability of U-boat operations.<sup>35</sup> The problem in Canada, though, was that it took far too long for the HF/DF information to get from Ottawa to Eastern Air Command Headquarters in Halifax for it to have any operational value.

The first step to correct this problem came in June 1941 when Group Captain F.V. Heakes, shortly following a visit to Coastal Command, persuaded the RCN officer in charge of the OIC, Commander J.M. "Jock" de Marbois, to set up a direct telephone line to RCAF station Dartmouth (across the harbour from Eastern Air Command Headquarters in Halifax) to pass on DF bearings as soon as the OIC received them.<sup>36</sup> Although a logical idea, nobody took any action in implementing it, so when German U-boats began to penetrate Canadian waters in 1942, there was still no direct telephone line between OIC and Eastern Air Command. In June 1942, while studying ways to counter the U-boat incursions, Small himself examined this intelligence communication problem. After long study of Eastern Air Command's operations, he suggested that "it may be advantageous to concentrate on an area known to contain a submarine rather than to make regular wide sweeps of fixed areas."<sup>37</sup> In an effort to implement such "offensive" tactics,

Small set up an *ad hoc* system of communications (it bypassed both the Naval and RCAF Operations Centres in Ottawa and Halifax) with the Director of (BR) Operations at AFHQ, Wing Commander Clare Annis, and with de Marbois at OIC. Once de Marbois received a “hot” U-boat fix, he phoned the bearings to Annis, who in turn telephoned the information by hot-line to Small in Yarmouth.<sup>38</sup> The key to the system was that the 113 (BR) Squadron commander had what he termed “emergency standby” crews at full readiness at RCAF Station Yarmouth. These crews were on a 24-hour tour of duty; they slept in the hangar and remained there for the entire duty time, leaving only to take their meals. They were therefore able to act at a moment’s notice once a “hot” U-boat fix arrived from Ottawa, much like fighter pilots scrambling during the Battle of Britain. As a result of this system, Small was able to have an aircraft in the air a scant 12 to 15 minutes from the time the information came into him.<sup>39</sup> This system proved to be so effective that the OIC began to work directly with Small at Yarmouth.<sup>40</sup> Therefore, it was not surprising that on 31 July it was a crew commanded by Small himself, reacting to a “hot” fix from Ottawa, that led to the sinking of U-754.

### **Tactical Developments: White Camouflage and 5,000-foot Flying Heights**

To plot the approximate location of a U-boat was one thing, but for an aircraft to actually locate the vessel in a large body of water was another. Indeed, such a task required good eyesight and a wide breadth of view. The best chance of success was to surprise a U-boat and attack it while it was still surfaced or in the process of submerging. Such manoeuvres culminated in a race between the aircraft and the submarine, as the U-boat crew rushed to dive their vessel while the aircrew attempted to attack the U-boat before it slipped under the surface. The problem for the Allies early in the war was that

far too often German lookouts aboard the U-boat were able to spot aircraft before the aircraft spotted them, thereby allowing the U-boat the opportunity to submerge. The result was that most often a U-boat was completely underneath the water before the aircraft could carry out its attack. The problem had become so apparent by 1941 that RAF Coastal Command began to search for solutions on how to make their aircraft less conspicuous.<sup>41</sup> They soon devised two answers to their problems: white camouflage and higher patrol heights.

As a result of a number of missed opportunities for attacks on U-boats, on 3 June 1941, No. 15 Group RAF Coastal Command sent in a request to Coastal Command Headquarters that they be permitted to paint the bottom of their aircraft duck egg blue in order to reflect as little light as possible. At that time the bottoms of RAF aircraft were painted black for protection against searchlights. Although this colour scheme worked well for bombers that operated at night, it worked against No. 15 Group's aircraft that operated over the sea during the day. The sea reflected light onto the black underbelly of the aircraft, making it darker than the sky, which thereby made it easier for the U-boats' look-outs to spot them against the light North Atlantic sky. In response to this problem, Coastal Command Headquarters immediately tasked Professor P.M.S. Blackett and his scientists at the command's Operational Research Section to explore a variety of colour schemes. After trials in June and July, the scientists concluded that painting the bottom of aircraft white would reduce the reflection of light in the North Atlantic by some 20%, thereby making it more difficult for U-boat lookouts to spot the aircraft. Therefore, an aircraft with a white bottom had a 30% better chance of attacking a U-boat spotted on the surface than an aircraft with the old black colour scheme. As a result, on 8 August the

Air Ministry issued a new order requiring white camouflage for all Coastal Command aircraft engaged in the protection of trade against German U-boats.<sup>42</sup>

Despite this innovation, a white underbelly was only part of the solution. Another reason why U-boat lookouts were able to spot aircraft quickly was because Coastal Command's standard 500-foot patrol height was simply too low. Therefore, in July 1941 Coastal Command Headquarters released its first standard anti-submarine attack instructions. They called for aircraft to patrol at higher altitudes: close to the cloud ceiling in poor weather and 5,000 feet in clear conditions. As W.A.B. Douglas has explained, the logic of this change in patrol height was twofold: "high-flying aircraft were most likely to make a sighting at long range, and to catch a boat unawares, for the lookout on the conning tower could comfortably scan the lower sky but had to strain his neck to sweep the upper altitudes."<sup>43</sup> Thus, with both the white colour scheme and the higher patrol altitude, it became easier for the aircraft to spot the U-boat and, consequently, more difficult for the U-boat to spot the aircraft. The result was an increase of successful attacks by Coastal Command aircraft on U-boats.

The development of such innovative tactical procedures to meet operational realities was typical in Coastal Command during the war. For instance, in order to deal with measures for the improved prosecution of the war against Germany's U-boats, the British in 1941 established a standing committee composed of Naval and Air Force representatives. Under the chairmanship of the Admiralty's Director of Anti-Submarine Warfare, this committee virtually took over the tactical prosecution of the campaign against the U-boats.<sup>44</sup> An additional innovation to improve the command's record against the U-boats was undertaken by the senior Royal Navy officer on the staff at

Coastal Command Headquarters, Captain D.V. Peyton-Ward. In late 1941, "P.W.," as those at Coastal Command Headquarters called him, spearheaded a system to collect every scrap of information on Coastal Command aircraft attacks on U-boats so that any mistakes could be remedied and every possible advantage gained. Collecting photographs and intelligence reports were both important for the working of this system, but perhaps more important was the RN captain's policy of undertaking an intense debriefing of all Coastal Command crews after they had made an attack on an aircraft (See Diagram 4).<sup>45</sup>

**Diagram 4:** RAF Coastal Command's after-attack interrogation



[The after-attack] interrogation should take the form of a round table discussion and the whole attack threshed out in the light of the evidence of the various members of the crew and of the photographs. Any unusual incidents should be given special care and the most accurate description possible obtained of any oil or bubbles, wreckage or any other after-effects which may be seen after the attack...

Coastal Command Booklet *Submarine and Anti-Submarine*, 1942

**Source:** Price, *Aircraft Versus Submarine*, 91.

Although it was understood that a crew “will probably be tired and excited and will not be in a position to make a reasoned statement” following an attack, Peyton-Ward’s policy insisted that the crews “must be interrogated at once” in the following manner:

The story should be complete to the smallest detail and even facts which may appear irrelevant should be included. The best way to obtain such information is by informal discussion. When the whole incident has been thrashed out a connected account should be written out and read by the crew.<sup>46</sup>

It was through such innovations that RAF Coastal Command became the scourge of the U-boats in the Battle of the Atlantic. Its younger cousin, the Bomber Reconnaissance Squadrons in the Royal Canadian Air Force’s Eastern Air Command, did not fare as well.

In 1942 Eastern Air Command had nothing close to Coastal Command’s organizations for the development and promulgation of tactics. Indeed, U-boats had only been operating in Canadian waters since the previous October.<sup>47</sup> Eastern Air Command did not yet have an Operational Research Section and there was nothing like British joint air force-navy standing committee to look at tactics until the creation of the Joint RCN-RCAF Anti-Submarine Warfare Committee on 23 March 1943.<sup>48</sup> Therefore, Eastern Air Command had to largely rely upon Coastal Command for tactical innovations against the U-boats. As we will see, the Canadian maritime air organization did not exploit the tactical expertise of its larger cousin as well as it could have in 1942.

### **S/L Small’s Implementation of Coastal Command Tactical Innovations**

In July 1942, S/L Small was the first squadron commander to implement Coastal Command tactical innovations.<sup>49</sup> They proved to be instrumental in Small’s destruction of U-754: he had been able to take the German submarine by such surprise because he



had had the bottom of his aircraft painted white and he had been flying at a height of 3,000 feet instead of the Eastern Air Command standard of 500 feet.<sup>50</sup> Thus, through Small's astute attention to maritime airpower tactics (technical leadership) and his ambitious efforts to act on fresh intelligence, Small himself (heroic leadership) was able to achieve Eastern Air Command's first U-boat kill. Small did not, however, use his knowledge of maritime airpower solely to achieve personal successes. It must be remembered that Small was a squadron commander. In this role he demonstrated excellent leadership skills by ensuring that his entire squadron utilized the tactical innovations he developed himself and those he picked up from Coastal Command.<sup>51</sup> Indeed, Small's leadership influence on 113 (BR) Squadron produced significant results.

A few hours after Small's destruction of U-754, Pilot Officer G.T. Sayre of 113 (BR) Squadron, acting on fresh DF plots phoned into RCAF Station Yarmouth and utilizing the new Coastal Command tactics Small had introduced to the squadron, was able to attack U-132, although he did not sink the German submarine. Other non-lethal attacks by 113 (BR) Squadron aircraft based on DF bearings on U-boat transmissions followed soon after. This time it was Small who again made the attacks, the first on U-458 on 2 August and the second on U-89 three days later.<sup>52</sup> These accomplishments continued to impress Small's superiors. For example, in their 3 August 1942 assessment of the airman's performance, Small's total score was an impressive 82 (out of 100). More impressive, though, were the comments of these officers: "[Small is] an outstanding leader who radiates enthusiasm. [He is a] tireless worker whose only hobby is work."<sup>53</sup>

Based on the recent actions of Small's squadron against U-boats, Eastern Air Command assigned a detachment of three 113 (BR) Squadron's Hudsons to the

aerodrome at Chatham, New Brunswick, on 8 September. This unit was to serve as a “special Submarine Hunting Detachment” over the Gulf of St. Lawrence convoy routes, where U-boats were wreaking havoc on Allied shipping.<sup>54</sup> The detachment’s impact was significant, for, as W.A.B. Douglas has noted, “the squadron’s exploits... considerably brighten[ed] the otherwise gloomy record of the effort to defend the St. Lawrence.”<sup>55</sup>

The effect of the new detachment on the area was immediate. On 9 September 1942, Small sent Pilot Officer R.S. Keetley<sup>56</sup> on a patrol in the Gulf of St. Lawrence based on DF reports of the presence of a U-boat. Flying at a height of 4,000 feet, he

**Diagram 5:** Squadron Leader N.E. Small (pointing at map – note the wartime censor), with 113 (BR) Squadron pilots Flight Lieutenant R.S. Keetley and Flight Sergeant A.S. White to his right.

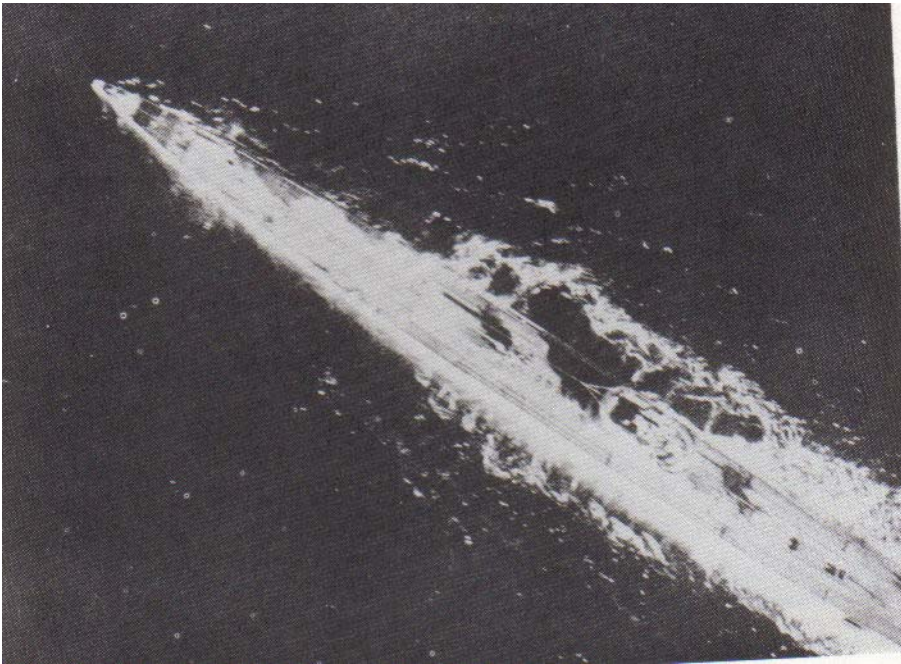


**Source:** PL 12609; Douglas, *Creation*, 438.

swooped down on what he first thought was a sailboat; in fact, it was U-165, which was cruising on the surface about 20 miles south of Anticosti Island. Since Keetley had at first identified the vessel incorrectly, he was unable to make a successful attack on this

first pass. Unfortunately for Keetley, having alerted the U-boat's crew, on his second pass the RCAF pilot was only able to drop depth charges eight seconds after the submarine had submerged, resulting in no damage.<sup>57</sup> Nonetheless, it is significant that Keetley was flying at such a great height, for although he did not make an attack on his first pass, the surprise that he did gain by flying at 4,000 feet did allow him on his *second* pass to make an attack on the U-boat in a relatively short amount of time after it submerged. This was in marked contrast to an attack on a U-boat undertaken by a 10 (BR) Squadron aircraft only six days earlier. During this attack, the aircraft was flying at

**Diagram 6:** U-165 on the surface in the Gulf of St. Lawrence, just south of Anticosti Island. This picture was taken from Pilot Officer R.S. Keetley's Hudson as he made his first pass over the vessel on 9 September 1942.



**Source:** PL 12814; Douglas, *Creation*, 437.

only 900 feet when it spotted the U-boat. This factor allowed the lookouts on the German submarine to spot the aircraft much quicker, and meant that the 10 (BR)

Squadron pilot was only able to make an attack on the U-boat a full 20 seconds after it had submerged.<sup>58</sup>

Although Keetley's attack did not damage the U-boat, it did have a significant impact, as it brought further searches for U-165 by RCN vessels and Eastern Air Command aircraft. These searches greatly hampered the movement of the U-boat, causing the submarine's commander to report to base that he found it "difficult to contact convoys east of Gaspé and south of Anticosti."<sup>59</sup> One week later, again on fresh DF information, Keetley attacked another U-boat. This time it was U-517, which the RCAF pilot spotted north of Cape Magdalen. Although Keetley managed to catch the U-boat on the surface, his attack was not accurate enough, and U-517 was able to escape with only minimal damage.<sup>60</sup> It would not be the last 113 (BR) Squadron would see of U-517.

While escorting the 37<sup>th</sup> Québec-to-Sydney convoy (QS 37) on 24 September, Flight Sergeant A.S. White<sup>61</sup> sighted U-517 southeast of Sept-Îles, Québec. The U-boat dived too quickly for White to make an attack, so the 113 (BR) Squadron pilot, adhering to the Coastal Command tactics he had recently learned from S/L Small, first dropped sea markers and then flew off to the convoy in order to warn it. Employing Coastal Command "baiting tactics," White returned to the scene a few minutes later and was able to attack the U-boat, dropping one depth charge (a blown fuse meant that the other three failed to release) some five seconds after the submarine's conning tower had vanished underneath the surface. Although U-517 received no damage, its presence in the area had been established and, as a result, there was a five-aircraft search and escort duty operation that very night.<sup>62</sup> It soon bore results. Shortly before midnight, another 113 (BR) Squadron Hudson flying from Chatham spotted the U-boat in the clear moonlight. The

aircraft, piloted by Flying Officer M.J. Belanger,<sup>63</sup> took U-517 “completely by surprise,” and dropped depth charges that resulted in two “violent” explosions close astern.

Although well executed, this attack was not fatal. The next morning, Flight Sergeant M.S. Wallace, flying a Hudson in support of QS 37, twice spotted U-517, and forced the German submarine to dive on both occasions. Later that afternoon, it was Belanger again who spotted U-517 while patrolling just below cloud cover. The RCAF pilot dove to attack while the U-boat crash dived. Again, the U-boat submerged in enough time to avoid damage. Although U-517 had not been sunk, the results for 113 (BR) Squadron were an impressive seven sightings and three well-executed attacks on the German submarine within 24 hours.<sup>64</sup> 113 (BR) Squadron, however, was not finished with U-517.

Flying his white-underbelly Hudson at 5,000 feet on patrol off Gaspé on 29 September, Flying Officer Belanger once again was able to surprise the German U-boat, this time with the enemy submarine completely on the surface. Belanger attacked with five depth charges, which, although were (according to the U-boat captain) “well-placed,” did not destroy the submarine. Belanger, however, did not know that U-517 had survived his attack, and after his debriefing S/L Small awarded Belanger with a kill. Nevertheless, when the attack report went to the US naval analysts who judged the results of all (air and naval) attacks on U-boats, the Americans calculated that there had been an “overshoot,” so they (correctly) assessed the attack as having caused “probable slight damage.”<sup>65</sup> Small’s final attack on a German submarine came at dusk on 24 November 1942, when he spotted a U-boat six miles ahead of his aircraft, which was flying southeast of Yarmouth. The German vessel was barely discernible in the failing late

afternoon light and it was able to submerge while Small's aircraft was still 1½ to 2 miles away. Although Small managed to drop depth charges 150 feet in front of the U-boat's swirl, the weapons produced no damage.<sup>66</sup> Soon after this attack, on 11 December, Eastern Air Command ceased 113 (BR) Squadron's operations from Chatham. As a result, throughout December the squadron continued its Anti-Submarine sweeps from Yarmouth south of Nova Scotia while Small began an "intensive series of lectures" in order to bring his charges up to date on the latest developments on safety, navigation, and tactics.<sup>67</sup>

The sum total of 113 (BR) Squadron's successes in 1942 was impressive. In all, they made 22 sightings, which resulted in 13 attacks. In fact, the squadron made 12 of these attacks between June and November 1942, more than by all other Eastern Air Command squadrons combined *for the whole year*.<sup>68</sup> Given these results, it was therefore not surprising in late December 1942 when the squadron adopted the Wolverine head as its crest and the Latin phrase "*Quaerimus et Devicium*" – We Seek and destroy" – as its motto.<sup>69</sup> When examining the squadron's successes against U-boats, one notes that only Small's attack on U-754 proved to be fatal; however this factor did not devalue the effect of the attacks that did not produce kills. Indeed, the other attacks not only produced some damage to U-boats, but more importantly, they forced the U-boats underneath the water, where their slow underwater speed meant that they could not remain in contact with any potential targets.<sup>70</sup> This was crucial, for the main goal of Eastern Air Command (and indeed all Canadian and British air and naval forces employed in trade protection) was "the safe and timely arrival of shipping," not the destruction of U-boats.<sup>71</sup> Furthermore, although 113 (BR) Squadron did not know it at the time, its attacks had a significant

psychological effect on the U-boats' crews. For example, historian Michael Hadly notes that the captain of the above heavily-attacked U-517, *Kapitänleutnant* Paul Hartwig

still recalls the stress that RCAF surveillance, 'scare charges,' and attacks caused his watch officers. Planes would unexpectedly swoop down on them, buzz them, drop out of a cloud, or skim low over the water out of the sun and drop bombs. Even when the attacks were inaccurate, the bombs made "one hell of a ruckus." All his officers had been badly shaken by such attacks and consequently preferred to stand their watch submerged.<sup>72</sup>

Indeed, this was not the only type of reaction that the squadron received from others.

In reaction to 113 (BR) Squadron's attacks on U-boats based on DF information in late July and early August 1942, the Chief of the Air Staff, Air Marshal L.S. Breadner, immediately began to dispatch U-boat DF plots from Ottawa to Eastern Air Command Headquarters in Halifax, and to No. 1 Group Headquarters in St. John's, Newfoundland. He did this in order to enable airmen to get a more accurate picture of enemy operations in Canadian waters, which would assist in planning air patrols.<sup>73</sup> To better accommodate such a system, the Air Officer Commanding Eastern Air Command, Air Vice-Marshal A.A.L. Cuffe, suggested in early August establishing a telephone line between Naval Service Headquarters in Ottawa and the Eastern Air Command Operations Switchboard in Halifax. Despite the logic of this suggestion, such a direct line was not established for another four months.<sup>74</sup>

Nonetheless, Cuffe understood who was behind the successful attacks, so he posted Small to Eastern Air Command Headquarters as a controller in order to ensure that the staff in the Operations Room clearly understood how to promulgate DF intelligence.<sup>75</sup> Indeed, there had been a few occasions where controllers had failed to pass on intelligence concerning U-boat activity. For example, on 30 July 1942, a controller failed

to report a U-boat DF position to a patrolling aircraft because he “apparently decided that the situation did not warrant the diversion of aircraft to the area.”<sup>76</sup> As has been mentioned, part of the problem had to do with the fact that information simply did not get to Eastern Air Command Headquarters from Ottawa quickly enough. Another was that the Operations Room at Eastern Air Command did not have enough staff, which meant that it was simply swamped with too much information. However, the two main problems with the Eastern Air Command controllers were their training and experience. For instance, the kind of intelligence training Eastern Air Command officers received was mainly in other areas than maritime work.<sup>77</sup> Furthermore, officers simply did not get the time needed to learn their jobs properly. Air Vice-Marshal Cuffe explained the situation best:

It is to be appreciated that the young officers employed as Controllers in this Command have not had the necessary training and experience to make them fully competent for this position. These officers were selected from within the Command and the selection was made in such a way as to obtain officers with B.R. experience, but at the same time, it was necessary to make the selections which would not seriously undermine the strength of the units from which withdrawals were made. It was, therefore, not possible to select the more fully qualified officers to fill these vacancies.<sup>78</sup>

The lack of experienced personnel was indeed a serious problem in Eastern Air Command in 1942, as there were neither men to spare for both Control Room duties *and* manning squadrons. As I have noted elsewhere, the result was “a system that benefited neither the squadrons themselves nor the control room staffs, for enough officers were posted away from squadrons to control room staffs to ensure both a decline in efficiency in the squadrons and an inadequate number of trained and experienced control room staff officers.”<sup>79</sup> Assistance to help remedy the controller problems in Eastern Air Command



came from the RCN. In October, naval officers started holding a three-week course on OIC naval intelligence for RCAF controllers.<sup>80</sup> In addition, AFHQ also attempted to arrange an exchange of Control Room staff with Coastal Command in 1942, but this endeavour was unsuccessful.<sup>81</sup> Thus, although Small did help ease the controller dilemma in Eastern Air Command, solving the problem was beyond his abilities.

The recognition that Small received for his successes with 113 (BR) Squadron was substantial. In terms of honours and awards, Small could take satisfaction not only in the Distinguished Flying Cross (DFC) he received,<sup>82</sup> but also in the commendations that other personnel from his squadron received. For example, for his attacks on U-517 during the summer, Flying Officer M.J. Belanger also received a DFC.<sup>83</sup> Commendations also went to 113 (BR) Squadron members Flying Officers Greer and Francis and Flight Sergeant Bow, who were all Mentioned in Despatches, another significant honour.<sup>84</sup>

The squadron's attacks also received recognition from the government and press. In a public-relations ploy in mid-December 1942 to allay the public's feeling of vulnerability caused by the U-boats, the Minister of National Defence for Air, Charles Gavin "Chubby" Power, released news regarding the September attacks on U-517. The newspapers seized the information immediately and, despite the fact that there was no evidence that the U-boat had been sunk, they printed their own versions of the story with headlines like "RCAF Sends Nazi Submarine to the Bottom of St. Lawrence," "U-Boats Get into St. Lawrence but Not All Get Out" (both from the *Ottawa Journal*), and "RCAF 'Gets' Another U-Boat" (*Halifax Herald*). In spite of Pilot Officer Keetley's modest admission of luck, that "We just stumbled upon them during our regular antisubmarine

sweeps,” the press was undaunted, extolling that Keetley’s success was the result of “eternal vigilance” (*Halifax Herald*).<sup>85</sup>

Nonetheless, despite the efforts of 113 (BR) Squadron, when summarizing the efforts of his U-boats in Canadian waters in Autumn 1942, the head of the German U-boat arm, Admiral Karl Dönitz, concluded that the Canadian defences proved to be comparatively weak. As a consequence, the German admiral planned to send further U-boats to the area to make the most of this condition.<sup>86</sup> Although this statement largely reflected the failed efforts of the RCN,<sup>87</sup> it was still a damning account of Eastern Air Command’s efforts against German U-boats in 1942.

### **(The Lack of) Tactical Developments in Eastern Air Command**

Part of Eastern Air Command’s failures had to do with the organization’s late implementation of Coastal Command tactics. Coastal Command Headquarters was in fact quick to share their tactical innovations with AFHQ in Ottawa. However, although the Air Member for the Air Staff at AFHQ, Air Vice-Marshal N.R. Anderson, informed Coastal Command on 24 April 1942 that the Coastal Command tactical innovations described above were “being adopted immediately for our G.R. [Bomber Reconnaissance] aircraft to give them a better chance of detection by U-boats,”<sup>88</sup> by July 1942, 113 (BR) Squadron was the only squadron in Eastern Air Command implementing the new measures, and this was only by the extraordinarily ambitious actions of S/L Small. In fact, the implementation of the Coastal Command tactics in the rest of Eastern Air Command only occurred in autumn 1942.<sup>89</sup> Why, then, did it take so long for the remaining squadrons in Eastern Air Command to implement them? As W.A.B. Douglas has explained, the main reason for this problem was the “general lack of leadership”

among senior officers in Eastern Air Command.<sup>90</sup> Indeed, upon examination, it appears that the senior officers of Eastern Air Command, unlike S/L Small, failed to stress the importance of Coastal Command's tactical innovations and therefore also failed to ensure that squadrons implemented them.

In April 1941, AFHQ posted the former Air Officer Commanding Eastern Air Command, then-Air Commodore N.R. Anderson, for a few months to Coastal Command Headquarters in Britain. While there, Anderson was able to learn a great deal about the RAF command's campaign against German U-boats, and he therefore requested that Coastal Command pass on copies of its Tactical Memoranda to Canada so that Eastern Air Command could utilize the proven practices of their British counterparts.<sup>91</sup> The RAF organization concurred; however, Coastal Command tactical information still did not find its way to the Eastern Air Command squadrons. Part of the delay had to do with the fact that a good deal of the material that Coastal Command sent to Canada went to AFHQ in Ottawa, not to Eastern Air Command Headquarters in Halifax. Consequently, in March 1942, the Air Officer Commanding Eastern Air Command, Air Vice-Marshal A.A.L. Cuffe, requested that AFHQ pass on to his headquarters any information received from Coastal Command.<sup>92</sup> This factor, however, was not the main reason why the tactical information was not getting to the Eastern Air Command squadrons.

Upon investigation of the problem in April 1942, the Director of Armaments at AFHQ, Group Captain T.J. Desmond, discovered that the Directorate of Intelligence distributed both Coastal Command tactical memoranda and instructions to command headquarters, which in turn made copies and sent them on to squadrons. He admitted that

this was satisfactory “in so far as *memoranda* [my emphasis] are concerned,” but it was a different case altogether in terms of the tactical *instructions*:

Tactical instructions, however, are as the title implies, definite orders. As they are originally prepared by the RAF, they carry no executive authority in Canada. The result is that unit commanders read and digest them but do not necessarily put them into effect and in actual fact Eastern and Western air Command Headquarters appear to have neither given executive authority to RAF instructions, nor to have issued any tactical instructions of their own. If this is in fact the case, the *tactical employment of aircraft rests with individual unit commanders*, and I think that you will agree that this is most unsatisfactory.<sup>93</sup>

In order to solve this concern, Desmond proposed that AFHQ emphasize to the Air Officers Commanding Eastern and Western Air Commands that “the tactical employment of aircraft is entirely their responsibility” and that how aircraft in their commands are to be employed must be laid out in “appropriate standing instructions.” Furthermore, these standing tactical instructions should utilize fully “the experience gained in the RAF” and should be drafted on the basis of Coastal Command’s Tactical Instructions, “modified to suit local arrangements.”<sup>94</sup> Despite the logic of Desmond’s suggestions, however, it does not appear that they were carried out. Although the onus to implement the tactical information was on the squadron commanders, as Desmond noted above, the actual *responsibility* for the type of tactics Eastern Air Command utilized ultimately laid with Eastern Air Command Headquarters. Why, then, did the senior leadership in this RCAF organization fail?

Part of the reason had to do with the fact that most senior Eastern Air Command officers knew very little about maritime air operations. These officers had matured in peacetime, when the main focus was civil flying operations, thereby denying them “the opportunity to keep up to date on the great changes in aircraft and equipment accelerated

by the war.”<sup>95</sup> In addition, maritime air doctrine in general saw very minimal development in the inter-war era.<sup>96</sup> Instead, any doctrine RCAF officers learned consisted of the strategic bombing theories taught by Air Marshal Sir Hugh Trenchard and his successors at the RAF Staff College in Andover, England. The result was that when the war broke out, these officers had minimal knowledge of maritime airpower.<sup>97</sup> This factor was crucial, as it meant that RCAF senior officers “had narrow focuses that were not conducive to the often-quick developments in aerial trade defence.”<sup>98</sup> A telling demonstration of such a parochial view and the dearth of maritime air knowledge occurred in January 1943, when Coastal Command sent Squadron Leader T.M. Bulloch, RAF, and Flying Officer M.S. Layton, RCAF, to tour Eastern Air Command and give advice to the Canadians. Upon hearing about the assignment, however, Chief of the Air Staff felt that Coastal Command, by sending lower-ranking officers instead of senior officers, was in fact snubbing the RCAF. What Breadner did not realize was that Bulloch and Layton were the brightest and most experienced officers conducting trade defence operations in Coastal Command at the time.<sup>99</sup> Indeed, Breadner’s failure to recognize the importance of the two officers’ operational experience was only emphasized by the reception Bulloch and Layton received at the squadron level. As W.A.B. Douglas observes, Eastern Air Command personnel appreciated Bulloch and Layton’s insights because the two Coastal Command officers saw the Canadian aviators’ problems “through the eyes of aircrew rather than staff.” Furthermore, Douglas notes that “‘Gen,’ the air force slang for intelligence, from brothers in arms is always more credible than staff memoranda, and it is likely that Bulloch and Layton also instilled some badly needed confidence.”<sup>100</sup> This divide between senior and junior personnel in Eastern Air

Command was also evident in Air Marshal Clare Annis' recollections of his service with the RCAF organization during the war. He notes that Air Vice-Marshal Cuffe was not a very good Air Officer Commanding, recalling one incident when he "took in an important report about E[astern] A[ir] C[ommand] aircraft one time and he [Cuffe] said: 'Don't bother me with figures!' Hardly a remark to inspire confidence in a subordinate."<sup>101</sup>

The inferior resource position of Eastern Air Command did not help senior officers in the RCAF organization either. Indeed, W.A.B. Douglas argues that "the senior officers of Eastern Air Command were overly parochial in outlook and too often failed to get their priorities right."<sup>102</sup> Indeed, instead of focusing on the implementation of tactical information in their command, "senior officers were preoccupied with mundane day-to-day needs and the requirement simply to find enough men and equipment to fly the necessary number of sorties."<sup>103</sup> The result of all of these factors was that the onus on implementing Coastal Command tactics remained on the squadron commander. Unfortunately for Eastern Air Command, most squadron commanders did not appreciate the importance of the tactical instructions and therefore did not ensure that their subordinates utilized them on operations. Small was the only exception, and, as Marc Milner has noted, "luckily for the Germans, Small was one of a kind."<sup>104</sup>

Squadron Leader N.E. "Molly" Small was killed on 7 January 1943 when his Canso crashed shortly after taking off from Gander, Newfoundland, as a result of equipment failure.<sup>105</sup> So ended the life of a remarkable aviator. Grief over Small's death was expressed throughout the service, and was demonstrated best by the following remarks of one senior RCAF officer: "Squadron Leader Small's passing was a serious

blow to the Royal Canadian Air Force as he had established for himself an outstanding reputation in Anti-Submarine attacks... his old Squadron on the Atlantic Coast... will forever lament his loss.”<sup>106</sup> No. 162 (BR), which had also recently suffered a crash of one of its aircraft, was also devastated by such loss: “It is impossible to express our feelings with regard to these two calamities – the loss of so many of our good comrades has stunned the whole Station.”<sup>107</sup> Yet in his death Small demonstrated his technical and heroic leadership qualities. Small’s plane crashed because he had been experimenting on how to get more range out of 5 (BR) and 162 (BR) Squadrons’ Cansos so that they could provide protection for convoys as far out into the Atlantic Ocean as possible. This endeavour was crucial, for in the middle of the Atlantic there was an “Air Gap” where U-boats operated freely from fear of Allied aircraft, which lacked sufficient range to patrol the area effectively.<sup>108</sup> Strong westerly winds restricted the range of Eastern Air Command’s Cansos to 500 miles. In order to increase the range of the aircraft, Eastern Air Command assigned its best officer, S/L Small, to Gander.<sup>109</sup> Small immediately set out to strip as much weight as possible from the aircraft in order that more gasoline could be carried. In all, Small was able to eliminate 1,269 pounds of equipment, which included “changing from 450-lb depth charges to 240-lb Torpex depth charges, removal of bow and tunnel guns and 1,000 rounds of ammunition from each of the blister guns.” By removing this equipment, Small hoped that the Cansos could reach out 600 to 700 miles into the Atlantic.<sup>110</sup> Unfortunately, he never did find out whether or not his initiatives worked.

Nevertheless, thanks to Small’s weight-saving measures (technical leadership), which he tested himself and died doing so (heroic leadership), No. 5 (BR) Squadron was

able to extend the range of its Cansos to 700 miles. The squadron capitalized on Small's innovations immediately, for, as W.A.B. Douglas has pointed out, "it was largely due to the efforts of Small that Gander-based Cansos were able to make a series of promising attacks [on U-boats] at maximum range during the early weeks of February [1943]."<sup>111</sup> By this time other improvements in Eastern Air Command's trade protection efforts had also come to the fore. By November 1942, a direct telephone line between Eastern Air Command Headquarters in Halifax and Naval Service Headquarters in Ottawa had been established. This meant that Eastern Air Command Headquarters received quicker and more accurate DF intelligence on U-boats, upon which they now organized the majority of their anti-submarine sweeps.<sup>112</sup> The tactical performance of the command's squadrons also benefited from new Eastern Air Command initiative. For example, in November 1942 Eastern Air Command established its own Operational Research Section, modeled the one at Coastal Command in England, to undertake analytical studies of anti-submarine operations. Additionally, in late autumn of 1942, Eastern Air Command, in order to sharpen the tactical skills of its pilots and crews, ordered that all crews in trade protection squadrons had to drop at least one depth charge per month.<sup>113</sup> In sum, Eastern Air Command was learning from its mistakes, but it had taken a long time and the performance of one of its experts, S/L Small, to spur these changes. Now that Small's wartime career and the problems faced by senior officers at Eastern Air Command have been examined, one can gage how effective as commanders these officers were by utilizing the Pigeau & McCann framework.



## **Tactical Commander – Squadron Leader N.E. Small**

### Competency:

*Physical: high.* Small was an excellent and talented pilot – one of the best in Eastern Air Command.

*Intellectual: high to moderate.* Small did an exceptional job at planning missions.

Although Small was not originally a student of maritime air power, he was a quick learner and he soon became an expert. The only aspect of Small's intellectual competency that can be questioned is his assessment of risks. This was apparent regarding Small's death: his death –did *he* have to fly the modified aircraft?

*Emotional: high.* This assessment is borne out by the comments regarding Small's death: he was liked by his subordinates and his superiors (e.g. Annis interview) and by his comrades in other squadrons (e.g., No. 162 (BR) Squadron ORB entry for 8 January 1943).

*Interpersonal: high.* This assessment was definitely correct for Small's subordinates (see above). However, it could be proposed that Small's interpersonal relationship may not have been as high with his superiors, given that Small circumvented them.

### Authority:

*Legal authority:* Small had **moderate** legal authority as a tactical commander. However, as a squadron commander, Small did have authority to put his pilots at risk by sending them (and himself) on missions. Therefore, for a tactical commander, Small had a significant amount of legal authority.

*Personal authority:* Small had **high** personal authority. He gained the trust of his subordinates and, for the most part, his superiors. He increased his personal authority

when he circumvented Eastern Air Command Headquarters in order to implement the new Coastal Command tactics.

### Responsibility:

*Extrinsic authority: high.* By circumventing his superiors to implement proven Coastal Command tactical innovations, Small was taking a risk, but it was a risk he was willing to take in order to improve the tactical and operational situation.

*Intrinsic authority: high,* but to a fault. Small definitely felt a high degree of self-generated obligation towards the military mission.<sup>114</sup> This led him to circumvent his superiors to implement improved tactics. It also led Small to take his mission to lighten the load of the Canso aircraft in Gander very seriously. However, it could be argued that Small took his intrinsic authority too far when he decided to test out the aircraft himself: because *he* was the one who had made the changes to the aircraft, Small felt obligated to test them. His orders from Eastern Air Command were not to test the aircraft himself, but to only make the necessary modifications. Therefore, by flying in the modified aircraft, Small therefore put himself at unnecessary risk (he could have had someone else do it) and he lost the gamble when his aircraft crashed and he was killed. Nonetheless, it could also be argued that if Small had sent another pilot in the fated aircraft instead of himself, he would have felt that he was irresponsible and he would have suffered much grief, as he would have felt accountable for the crew's death.

In sum, Small's Competency, Authority and Responsibility capabilities were for the most part very high for a tactical-level commander. Therefore, it could be argued that Small was on the Balanced Command Envelope.

## **Operational Commander – Eastern Air Command Senior Officers**

### Competency:

*Physical: high to moderate.* These officers were mostly former pilots who were only a few years out of flying and into command staff positions

*Intellectual: moderate to low.* They had very little previous maritime airpower knowledge or experience. In addition, these officers' intellectual knowledge was hampered by their huge administrative duties and poor resource base. They did, though, do a reasonably well job of planning missions and assigning the limited resources that the command had available.

*Emotional: moderate to high.* They were able to maintain a good emotional balance – they did not get stressed to the breaking point, although they were defensive when they were criticized by the British for Eastern Air Command's lack of efficiency in BR operations.<sup>115</sup> This occurred in late October 1942, when a Royal Navy officer on the staff of RAF Coastal Command, Commander P.B. Martineau, criticized the Air Officer Commanding Eastern Air Command, Air Vice-Marshal A.A.L. Cuffe, for his poor grasp on the maritime air war against German U-boats.<sup>116</sup> Instead of taking the criticism in stride, Cuffe took offence to the British naval officer's comments, remarking that Martineau was "wrong in saying that there is no decided policy of heights to fly, methods of sweep or methods of convoy escort."<sup>117</sup>

*Interpersonal: moderate.* The officers seemed to get along with their subordinates quite well. However, their failure to implement Coastal Command tactical innovations and to secure better resources (e.g., aircraft) surely did nothing to strengthen the relations with subordinates. Notable here are the remarks Air Marshal Annis made in his September

1979 regarding Air Vice-Marshal Cuffe, whose “Don’t bother me with figures” comment did not reflect well on his leadership abilities.

### Authority:

*Legal authority: high.* As the officers in charge of the command organization, senior Eastern Air Command officers had a high level of legal authority assigned to them.

*Personal authority: moderate to low.* These officers had, from the beginning of the war, a generally good reputation, good experience (in flying operations – not necessarily maritime air ones, though) and good strength of character is evidenced by the high rank and positions of power they managed to achieve. However, by virtue of their position at the operational headquarters level, what they gained in rank and position they lost in personal interaction with their aircrew.

### Responsibility:

*Extrinsic: moderate.* As the authorities in charge of Eastern Air Command, these officers had a significant obligation for public accountability. Nevertheless, the failure to ensure the promulgation of Coastal Command tactical innovations demonstrates that these officers *did not fulfill their extrinsic responsibility as well as they could have.*

Indeed, in Eastern Air Command, the implementation of the proven Coastal Command tactical innovations was the responsibility of the commanders at the operational level, which were the senior officers at Eastern Air Command Headquarters. S/L Small, as a tactical-level commander, acted in the tactical sphere by undertaking actions against German U-boats. However, by implementing the Coastal Command tactical innovations himself, Small circumvented the inefficient operational commanders at Eastern Air

Command Headquarters who failed to do so. In taking such initiatives, Small therefore became a *de facto* operational commander.

Small's death in an air crash also brings into question how the senior officers at Eastern Air Command exercised their extrinsic authority. As has been noted above, Squadron Leader Small died in January 1943 when his aircraft crashed shortly after take-off. The cause of the crash was equipment failure, which was due to Small's stripping excess weight from the aircraft so that it could achieve greater range. Did Eastern Air Command make the right decision by assigning Small to Gander?

Small had the most expertise in maritime air power of all the pilots in Eastern Air Command. He was therefore a very valuable asset to the organization. We must remember that Small was *only* tasked with making the necessary modifications to the aircraft, *not* to actually test them out, yet he decided to exceed his mandate and perished in doing so. Much of the blame for the loss of such a valuable individual must therefore lay with Small himself, for, as demonstrated above, his intrinsic responsibility led him to take an unnecessary risk. Nonetheless, the senior officers at Eastern Air Command also understood that Small was very valuable and that his expertise was needed in the rest of the command. However, they also knew that Small was a very ambitious and innovative individual. Thus, in contemplating on whether they should assign Small to the task of modifying the aircraft, Eastern Air Command Headquarters was also burdened with the responsibility to balance the value of Small's expertise to accomplishing the mission against the possibility that Small might exceed his authority and test the aircraft himself, thereby putting a valuable and irreplaceable individual at risk. Thus, both Small and the senior officers at Eastern Air Command gambled and lost.

Nevertheless, there had been examples of what to do with valuable individuals available to the Eastern Air Command officers in late 1943. One had to do with recruits from the immediate prewar air training scheme, who, by early 1940, were ready to undertake operations as pilots in action overseas. However, “to their great disappointment,” these pilots were not posted to Britain, but instead were employed as flying instructors with the British Commonwealth Air Training Plan in Canada. Air Force Headquarters had decided, correctly, that the value of these pilots training a great number of recruits was greater than risking them on operations overseas.<sup>118</sup> Another example deals with one of Canada’s greatest war heroes, First World War ace Billy Bishop. This flamboyant fighter pilot certainly had a tactical value in that he was one of the highest scoring aces on the Western Front by late spring 1918. However, Bishop’s value was even greater as a propaganda tool of the Allies. Therefore, on 16 June 1918, the Canadian government ordered Bishop recalled to England away from the Front because they feared that keeping the Canadian ace in action against the enemy put him at undue risk. Bishop’s reaction to this decision was that he had “never been so furious in my life,” but the Canadian government did not want to take the risk of losing its key propaganda tool.<sup>119</sup>

*Intrinsic: moderate.* These officers took their jobs seriously and they tried very hard to make Eastern Air Command into an efficient fighting organization. Nevertheless, although they took their obligation to secure the proper resources (e.g. aircraft and men) seriously, the need to deal with administrative problems meant that these officers neglected their obligation to ensure that their subordinates had the doctrinal and tactical expertise that they needed to battle the U-boats that entered Canadian waters.

In sum, the Competency, Authority and Responsibility capabilities of senior Eastern Air Command officers varied substantially for operational-level command. Therefore, it could be argued that these officers were not on the Balanced Command Envelope.

### **Conclusion**

Clearly, N.E. Small's innovative and independent actions demonstrated both his own leadership skills as an effective squadron commander and the shortcomings of the senior leadership of Eastern Air Command. By going out of his way to find more effective techniques to act upon intelligence, by implementing proven Coastal Command tactics, and by commanding aircraft himself on anti-submarine missions, Small most definitely proved that he had both the technical and heroic leadership qualities necessary to be an excellent squadron commander. His role in Eastern Air Command mission to protect trade was substantial, but unfortunately Small was an anomaly in the RCAF organization. By demonstrating his leadership qualities, Small revealed the shortcomings in leadership of both his fellow squadron commanders and, as Pigeau and McCann's interpretative framework has shown, of Small's superiors at Eastern Air Command. Fortunately, Small's actions inspired Eastern Air Command and, as a result, by 1943 the rest of the RCAF organization was following his lead.

## Appendix One

### N.E. Small's Commendations<sup>1</sup>

Small, F/L Norville Everett (C1379) – **Air Force Cross** – No. 116 Squadron (Canada) – Award effective 11 June 1942 as per *London Gazette* dated 11 June 1942 and AFRO 1000-1001/42 dated 3 July 1942. Born at Allandale, Ontario, 7 December 1908. Enlisted at Camp Borden, 23 May 1928. Awarded wings at Vancouver, 2 June 1931. Spent much of the 1930s in commercial aviation. Credited with several attacks on U-boats, summer of 1942 including Eastern Air Command's first sinking of a submarine. AFC presented 3 December 1942. Killed in flying accident, 6 January 1943 (Canso 9737).

Flight Lieutenant Small is an outstanding pilot who has been utilized as an advanced instructor and ferry pilot most of the time since the start of the war. He is extremely keen in all phases of his work. He was picked to captain the Catalina which did a reconnaissance flight around the Labrador Coast, Hudson Strait and Hudson's Bay this fall. During the spring and summer of 1941 he made five ferry flights from Bermuda to the United Kingdom, one of them in record time, and has completed 125 hours of flying on this type of work. He has flown a total of 1,224 hours. This officer's devotion to duty deserves recognition, and I strongly recommend him for the above award.

Small, F/L Norville Everett (C1379) – **Distinguished Flying Cross** – No. 113 Squadron (Canada) – Award effective 1 January 1943 as per *London Gazette* of that date and AFRO 55/43 dated 15 January 1943.

This officer has displayed outstanding airmanship, courage and devotion to duty on operational flying in the face of the enemy over the sea off the coast of Nova Scotia. During the last few months he has carried out five attacks on enemy submarines carrying armament considerably superior to that of the aircraft. Three of these attacks were successful; two of the successful attacks were made within a recent period of six days on fully surfaced submarines with their decks manned.

In the course of 335 hours operational flying during the last four months, this officer has on several occasions distinguished himself by his initiative and by the completion of difficult tasks under adverse weather conditions; in particular he has been of prime assistance in effecting more than one sea rescue of survivors of sunken or damaged vessels.

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<sup>1</sup> Hugh Halliday, "Small, F/L Norville Everett (C1379), Air Force Cross Commendation," and "Distinguished Flying Cross Commendation," *RCAF Personnel – Honours & Awards – 1939-1949*, <http://www.airforce.ca/wwii/ALPHA-SM.1.html>, accessed 10 November 2002.



## Appendix Two

### Successes against U-boats by 113 (BR) Squadron while under the command of S/L N.E. "Molly" Small

#### July 1942:

Date	Pilot	U-boat	Result
31st July	Small	U-754	sunk
31st July	Sayre	U-132	no damage

#### August 1942:

Date	Pilot	U-boat	Result
2nd August	Small	U-458	no damage
5th August	Small	U-89	slight damage

#### September 1942:

Date	Pilot	U-boat	Result
9th September	Keetley	U-165	no damage
16th September	Keetley	U-517	minimal damage
24th September	White	U-517	no damage
24th September	Belanger	U-517	slight damage
25th September	Wallace	U-517	U-boat forced to dive twice
25th September	Belanger	U-517	no damage
29th September	Belanger	U-517	slight damage

#### November 1942:

Date	Pilot	U-boat	Result
24th November	Small	U-183?	no damage

**Source:** W.A.B. Douglas, *The Creation of a National Air Force: The Official History of the Royal Canadian Air Force Volume II* (Toronto: University of Toronto Press and the Department of National Defence, 1986); David Kealy, "The Anti-Submarine War off the East Coast, 1942," RCAF History Vol. II Narrative, 12 July 1982, DHH 89/97, Box 4, file 12; DHH 181.003 (D25); 113 (BR) Squadron Operational Records Book, July to August 1942, NAC, RG 24, Vol. 22616, microfilm reel c-12,243.

## NOTES

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<sup>1</sup> The author would like to thank Dr. Alan English, Howard Coombs, Rich Mayne and the Canadian Forces Leadership Institute for their assistance in this project.

<sup>2</sup> Admiral Karl Doenitz, *Memoirs: Ten Years and Twenty Days*, trans. by R.H. Stevens (Annapolis: First Da Capo Press, 1997), 195.

<sup>3</sup> Dönitz noted that although aircraft in the Western Atlantic were “there in sufficient strength,” pilots were “inexperienced, and in comparison to the English air escort can only be described as bad.” Quoted in David Kealy, “The Anti-Submarine War off the East Coast, 1942,” RCAF History Vol. II Narrative, 12 July 1982, DHH 89/97, Box 4, file 12, 18. Dönitz’s emphasis.

<sup>4</sup> W.A.B. Douglas, *The Creation of a National Air Force: The Official History of the Royal Canadian Air Force Volume II* (Toronto: University of Toronto Press and the Department of National Defence, 1986), 504.

<sup>5</sup> Examples of these studies are: Lieutenant-Colonel Bernd Horn and Stephen Harris, eds., *Warrior Chiefs: Perspectives on Senior Canadian Military Leaders*, (Toronto: Dundurn Press, 2001), Stephen J. Harris, *Canadian Brass: The Making of a Professional Army, 1860-1939* (Toronto: University of Toronto Press, 1988, and the forthcoming *Proceedings* from the September 2002 MARCOM Conference in Halifax, Nova Scotia.

<sup>6</sup> The Second World War rank of Squadron Leader is equivalent to today’s junior-to-medium ranks of Major (air force, army) and Lieutenant-Commander (navy). Desmond Morton, *A Military History of Canada from Champlain to Kosovo*, 4<sup>th</sup> ed. (Toronto: McClelland & Stewart Inc., 1999), Appendix II, 313.

<sup>7</sup> Allan English, “The Masks of Command: Leadership Differences in the Canadian Army, Navy and Air Force,” paper prepared for the Inter-University Seminar on Armed Forces and Society Conference, 25-27 October 2002, Kingston, Ontario, Canada, 14.

<sup>8</sup> English, “Masks of Command,” 6.

<sup>9</sup> English, “Masks of Command,” 6; John Keegan, *The Mask of Command* (New York: Viking Penguin Inc.), 10. Quote from English.

<sup>10</sup> English, “Masks of Command,” 6-7.

<sup>11</sup> English, “Masks of Command,” 17.

<sup>12</sup> English, “Masks of Command,” 18-19.

<sup>13</sup> Ross Pigeau and Carol McCann, “What is a Commander?,” in Bernd Horn and Stephen J. Harris, eds., *Generalship and the Art of the Admiral: Perspectives on Canadian Senior Military Leadership* (St. Catharines, Ontario: Vanwell Publishing, 2001), 79-104.

<sup>14</sup> Pigeau & McCann, “What is a Commander?,” 91, 83.

<sup>15</sup> **Physical competency** consists of a commander’s physical abilities that are mandatory for any operational task – e.g., flying an aircraft. **Intellectual competency** consists of skills and abilities necessary for “planning missions, monitoring the situation, for reasoning, making inferences, visualizing the problem space, assessing risks and making judgements.” **Emotional competency** consists of the skills of resilience, hardiness and the ability to cope under stress (e.g., emotional “toughness”). **Interpersonal competency** consists of skills of interaction, trust, respect and effective teamwork and requires “articulativeness, empathy, perceptiveness and social understanding on the part of the individual in command.” Pigeau & McCann, “What is a Commander?,” 84-85.

<sup>16</sup> Pigeau and McCann note that legal authority is significant for the military, going “well beyond [the legal authority assigned to] any other private or government or organization.” This is so because the legal authority a military has allows it to “enforce obedience among its members” and “to place these members in harm’s way if the operational needs of the mission demand it.” Pigeau & McCann, “What is a Commander?,” 85.

<sup>17</sup> Extrinsic responsibility “involves the obligation for public accountability” while intrinsic responsibility “is the degree of self-generated obligation that one feels towards the military mission.” Pigeau & McCann, “What is a Commander?,” 86-87.

<sup>18</sup> Pigeau & McCann, “What is a Commander?,” 91-95; G.E. (Joe) Sharpe, Brigadier-General (ret’d) and Allan D. English, *Principles for Change in the Post-Cold War Command and Control of the Canadian Forces*, (Winnipeg: Canadian Forces Training Material Production Centre, 2002), xv.

<sup>19</sup> Pigeau & McCann, “What is a Commander?,” 95.

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<sup>20</sup> Pigeau & McCann, "What is a Commander?," 95. For application of the Pigeau & McCann framework in an examination of a compromised command environment, see Angelo Caravaggio, "A Re-evaluation of Generalship: Lieutenant-General Guy Simonds and Major-General George Kitching in Normandy 1944," *Canadian Military History*, Volume 11, Number 4 (Autumn 2002), 5-19.

<sup>21</sup> Royal Canadian Air Force Record Sheet, N.E. Small, 23 May 1928, Royal Canadian Air Force "Record of Character and Trade Proficiency" and "Report on Flying Ability of Airman," N.E. Small, 1928-1936, Norville Everitt Small, Personnel File, National Archives of Canada [hereafter NAC]. Small's 1936 report also hinted to his future capabilities as a leader of men by noting that he was a "good football player and coach."

<sup>22</sup> Royal Canadian Air Force Record Sheet, N.E. Small, 23 May 1928, Squadron Leader H. Edwards to District Officer Commanding, Military District No. 2, Toronto, 16 June 1931, and G.A. Thompson, Canadian Airways, to Officer Commanding, RCAF Station Jericho Beach, Vancouver, 3 September 1937, N.E. Small Personnel File, NAC; Hugh Halliday, "Small, F/L Norville Everett (C1379), Air Force Cross [AFC] Commendation," *RCAF Personnel – Honours & Awards – 1939-1949*, <http://www.airforce.ca/wwii/ALPHA-SM.1.html>, accessed 10 November 2002; Arthur Bishop, *Courage in the Air Volume 1: Canada's Military Heritage* (Toronto: McGraw-Hill Ryerson, 1992), 264. Before joining the RCAF, Small worked as a stock-keeper and shipper and in his spare time he experimented with radio communications. At one time he even built and operated his own small 50-500 watt radio station. RCAF Officer's Application and Record Sheet, 11 November 1939, N.E. Small Personnel File, NAC.

<sup>23</sup> W.E. Gilbert, Superintendent, Pacific Division, Canadian Airways Limited, to Whom It May Concern, 24 July 1939, N.E. Small Personnel File, NAC. Small served with Imperial Airways for four months before transferring to Trans-Canada Airways.

<sup>24</sup> D.A.P. Memorandum, 14 November 1939, RCAF Record of Service, N.E. Small (C1379), N.E. Small Personnel File, NAC; Halliday, N.E. Small AFC Commendation, <http://www.airforce.ca/wwii/ALPHA-SM.1.html>, accessed 10 November 2002; Bishop, *Courage in the Air*, 264; Air Marshal Clare L. Annis, "I'll Never Forget," in *I'll Never Forget... Canadian Aviation in the Second World War* (Ottawa: Canadian Aviation Historical Society, 1979), 63; Douglas, *Creation*, 504.

<sup>25</sup> Small's superiors ranked Small a "5" out of seven for both his "Professional" and "All Other" assessments. They also noted that while Small ferried the aircraft from Bermuda to Britain, he "showed exceptional ability, initiative and energy while thus engaged." They therefore recommended Small for Accelerated Promotion (as opposed to "Usual" or "Delayed" promotion) as soon as he had had "a little more 'BR' experience." Short Confidential Report, Officers and Warrant Officers, N.E. Small, RCAF Station Dartmouth, 8 August 1941, N.E. Small Personnel File, NAC.

<sup>26</sup> In Canada, aerial squadrons involved in the defence of trade from German U-boats were called "Bomber Reconnaissance" (BR). In modern terminology, these squadrons are called "Maritime Patrol."

<sup>27</sup> Halliday, N.E. Small AFC Commendation, <http://www.airforce.ca/wwii/ALPHA-SM.1.html> accessed 10 November 2002; Bishop, *Courage in the Air*, 264; Douglas, *Creation*, 504; Samuel Kostenuk and John Griffin, *RCAF Squadron Histories and Aircraft, 1924-1968* (Toronto: A.M. Hakkert Ltd, 1977), 49. Small's AFC Commendation notes that one of his transatlantic flights was "in record time."

<sup>28</sup> Douglas, *Creation*, 504; Short Confidential Report, Wing Commanders, Squadron Leaders, Flight Lieutenants, Flying Officers and Pilot Officers, N.E. Small, RCAF Station Rockliffe, 5 December 1940, AOC EAC to The Secretary, DND for Air, 4 February 1942; N.E. Small Personnel File, NAC.

<sup>29</sup> Halliday, N.E. Small AFC Commendation, <http://www.airforce.ca/wwii/ALPHA-SM.1.html>, accessed 10 November 2002; Douglas, *Creation*, 504; Carl Vincent, "Prelude to Glory – the story of 162 (BR) Squadron RCAF, 1942-May 1944," *High Flight – Canada's Wings*, Volume 1, Number 6 (November/December 1981), 230; No. 113 (BR) Operational Records Book [hereafter ORB], 3 December 1942, NAC, Record Group [hereafter RG] 24, Volume 22616, microfilm reel c-12,243. Small's received notice of his AFC commendation on 11 June 1942 and received it during a ceremony at Government House, Ottawa, on 3 December. See Appendix One for the full commendation. Quote from Douglas.

<sup>30</sup> Vincent, "Prelude to Glory," 230-231; Bishop, *Courage in the Air*, 264. Quote from Vincent. The Admiralty in Britain assessed the attack as the U-boat being "probably slightly damaged." Directorate of History and Heritage [hereafter DHH], Department of National Defence file 74/2, "History of Eastern Air Command," DHH narrative (1945), 351.

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- <sup>31</sup> AOC EAC to CO, RCAF Station Yarmouth, 28 May 1942, N.E. Small Personnel File, NAC; Vincent, "Prelude to Glory," 231; Douglas, *Creation*, 504; 113 (BR) Squadron ORB, 26 June 1942, NAC, RG 24, Vol. 22616, microfilm reel c-12,243.
- <sup>32</sup> "History of Eastern Air Command," 391.
- <sup>33</sup> Kostenuk and Griffin, *Squadron Histories*, 46; Bishop, *Courage in the Air*, 265; Douglas, *Creation*, 520; 113 (BR) Squadron ORB, 31 July 1942, NAC, RG 24, Vol. 22616, microfilm reel c-12,243. Quote from Douglas. It was not, however, the first destruction of a U-boat by an aircraft in the Northwest Atlantic. The claim to this feat went to the United States Navy (USN) when a VP-82 Squadron Hudson from its base in Argentia, Newfoundland, sank U-656 south of Cape Race on 1 March 1942. This was followed two weeks later by another USN success when a Hudson from the same squadron sank U-503 south-east of Newfoundland. Kealy, "A/S War East Coast 1942," 18; "U-656," <http://www.uboat.net/boats/u656.htm>; "U-503," <http://www.uboat.net/boats/u503.htm>, accessed 25 February 2003.
- <sup>34</sup> DHH 81/520/1440-18, Vol. 3, "Notes on the History of Operational Intelligence Centre in Canada, 1939," 2 and "1941," 4-5; Horatio Nelson Lay, *Memoirs of a Mariner* (Stittsville, Ont.: Canada's Wings, 1982), 141; Douglas, *Creation*, 520; Alfred Price, *Aircraft Versus Submarine: The evolution of the anti-submarine aircraft, 1912 to 1972* (London: William Kimber and Co. Ltd., 1973), 109.
- <sup>35</sup> DHH 79/599, Captain D.V. Peyton-Ward, *The RAF in the Maritime War, Volume II: The Atlantic and Home Waters: September 1939-June 1940* (RAF Air Historical Branch Narrative), nd, 46; DHH 79/599, Captain D.V. Peyton-Ward, *The RAF in the Maritime War, Volume III: The Atlantic and Home Waters – the Preparative Phase, July 1941 to February 1943* (RAF Air Historical Branch Narrative), nd, 93. See also Patrick Beesly, "Operational Intelligence and the Battle of the Atlantic: The Role of the Royal Navy's Submarine Tracking Room," in James A. Boutillier, ed., *The RCN in Retrospect, 1910-1968* (Vancouver: University of British Columbia Press, 1982), 175-186 and Joubert to Anderson, 18 November 1941, DHH 181.009 (6734).
- <sup>36</sup> Douglas, *Creation*, 479.
- <sup>37</sup> "History of Eastern Air Command", 434.
- <sup>38</sup> Interview with Clare L. Annis, 10 Sept 1979 (by J.D.F. Kealy and W.A.B. Douglas). The first aircraft search that Small sent in response to the "hot" U-boat fixes was on 23 July 1942. 113 (BR) Squadron ORB, 23 July 1942, NAC, RG 24, Vol. 22616, microfilm reel c-12,243.
- <sup>39</sup> Annis Interview; Notes on an Interview with Clare L. Annis, 10 Sept 1979 (by J.D.F. Kealy and W.A.B. Douglas), 2-3; N.E. Small to Air Officer Commanding Eastern Air Command, 24 December 1942, DHH 181.002 (D68A); Bishop, *Courage in the Air*, 264.
- <sup>40</sup> Notes on an Interview with Clare L. Annis, 2-3.
- <sup>41</sup> Price, *Aircraft Versus Submarine*, 69; DHH 79/599, Peyton-Ward, II, 305. From the moment of sounding the diving alarm a U-boat could be under the surface in 25 seconds.
- <sup>42</sup> This order was subsequently issued to the Groups by Coastal Command Headquarters on 10 August 1941. DHH 79/599, Peyton-Ward, II, Appendix XII; John Buckley, *The RAF and Trade Defence, 1919-1945: Constant Endeavour* (Keele, U.K.: Ryburn Publishing, Keele University Press, 1995), 176-177; C.H. Waddington, *O.R. in World War 2: Operational Research against the U-boat* (London: Elek Science, 1973), 164-165; P.M.S Blackett, *Studies of War, Nuclear and Conventional* (New York: Hill and Wang, 1962), 216-217; Price, *Aircraft Versus Submarine*, 70. Alfred Price argues that the adaptation of the white colour scheme was "a tacit recognition of a colour scheme gulls and other sea birds had adopted some millions of years earlier."
- <sup>43</sup> Douglas, *Creation*, 474. 5,000 feet, however, was the maximum height to fly, as it would not give the aircraft enough time to dive and attack a U-boat with much success. The 5,000-foot patrol height was embodied in Coastal Command Tactical Instruction No. 31. CinCCC to AOC EAC, 20 October 1942, DHH 181.002 (D90); "Coastal Command Tactical Instruction No. 31," DHH 181.09 (D1147).
- <sup>44</sup> DHH 79/599, Peyton-Ward, II, 41 and II, 308-310.
- <sup>45</sup> DHH 79/599, Peyton-Ward, II, 43; Sir John Slessor, *The Central Blue: Recollections and Reflections* (London: Cassel and Company Limited, 1956), 486.
- <sup>46</sup> "Coastal Command Tactical Instruction No. 31," DHH 181.09 (D1147).
- <sup>47</sup> Douglas, *Creation*, 481.
- <sup>48</sup> Minutes of 1<sup>st</sup> Meeting of the Canadian Joint Anti-Submarine Committee, 23 March 1943, DHH 181.002 (D145).
- <sup>49</sup> "History of Eastern Air Command," 434 and 442; Douglas, *Creation*, 502 and 520.

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- <sup>50</sup> Douglas, *Creation*, 520; CinCCC to AOC EAC, 20 October 1942, DHH 181.002 (D90).
- <sup>51</sup> "History of Eastern Air Command," 434 and 442.
- <sup>52</sup> Douglas, *Creation*, 520; 113 (BR) Squadron ORB, 31 July, 2 and 5 August 1942, NAC, RG 24, Vol. 22616, microfilm reel c-12,243.
- <sup>53</sup> Confidential Report, N.E. Small, 3 August 1942, N.E. Small Personnel File, NAC.
- <sup>54</sup> Kostenuk and Griffin, *Squadron Histories*, 46; 113 (BR) Squadron ORB, 8 September 1942, NAC, RG 24, Vol. 22616, microfilm reel c-12,243; Roger Sarty, "Eastern Air Command Anti-Submarine Operations in the Gulf of St. Lawrence, 1942," RCAF History Vol. II Narrative, July 1982, DHH 89/97, Box 4, File 15, 32-33. The detachment was later reinforced with a further three Hudsons from Yarmouth on 18 September. 113 (BR) Squadron ORB, 18 September 1942, NAC, RG 24, Vol. 22616, microfilm reel c-12,243.
- <sup>55</sup> Douglas, *Creation*, 504; 113 (BR) Squadron ORB, 9 and 16 September 1942, NAC, RG 24, Vol. 22616, microfilm reel c-12,243.
- <sup>56</sup> Robert Stanley Keetley was born on 16 April 1920 in Moosejaw, Saskatchewan. He had only made his first operational flight on 8 July 1942. In November 1944, "for long and outstanding service as a BR pilot," Keetley was Mentioned in Dispatches. He served his entire wartime career in Eastern Air Command, retiring on 9 February 1946. Sarty, "A/S Operations in the Gulf of St. Lawrence," 33.
- <sup>57</sup> Douglas, *Creation*, 502.
- <sup>58</sup> Sarty, "A/S Operations in the Gulf of St. Lawrence," 68.
- <sup>59</sup> Douglas, *Creation*, 502; U-165 was eventually sunk while returning from her patrol in the Western Atlantic on 27 September 1942. Although the exact location of the submarine's sinking is not certain, it is known that it was in the Bay of Biscay west of Lorient, and that it was most likely caused by striking air-laid mines. There were no survivors. "U-165," <http://www.uboat.net/boats/u165.htm>, accessed 25 February 2003.
- <sup>60</sup> Douglas, *Creation*, 502-503; Sarty, "A/S Operations in the Gulf of St. Lawrence," 38; 113 (BR) Squadron ORB, 16 September 1942, NAC, RG 24, Vol. 22616, microfilm reel c-12,243.
- <sup>61</sup> Albert Stanford White was born on 6 September 1920 in Windsor, Ontario. Although this was the only attack he made on a U-boat during the war, he "was awarded the DFC on 30 June 1944 for the 'fortitude' and 'high degree of skill' he displayed as a BR pilot." Unfortunately, he was killed on 6 December 1944 while employed as an instructor when his Lockheed Ventura "crashed during a routine training flight over the Bay of Fundy." Sarty, "A/S Operations in the Gulf of St. Lawrence," 45.
- <sup>62</sup> Douglas, *Creation*, 505; "Coastal Command Tactical Instruction No. 31," DHH 181.09 (D1147); 113 (BR) Squadron ORB, 24 September 1942, NAC, RG 24, Vol. 22616, microfilm reel c-12,243; Sarty, "A/S Operations in the Gulf of St. Lawrence," 68-69.
- <sup>63</sup> Maurice John Belanger was born in Ottawa on 25 June 1919. AFHQ posted him to 113 (BR) Squadron in late June 1942, where he remained until May 1943, when he began a six month tour at RCAF Station Sydney before being posted to serve as a bomber pilot with 425 Squadron in England. He finished his service with the RCAF on 3 April 1945. Sarty, "A/S Operations in the Gulf of St. Lawrence," 46.
- <sup>64</sup> These statistics also speak volumes of the determination of U-517's captain in his efforts to sink shipping. Douglas, *Creation*, 505; 113 (BR) Squadron ORB, 25 September 1942, NAC, RG 24, Vol. 22616, microfilm reel c-12,243.
- <sup>65</sup> Douglas, *Creation*, 505; 113 (BR) Squadron ORB, 29 September 1942, NAC, RG 24, Vol. 22616, microfilm reel c-12,243.
- <sup>66</sup> 113 (BR) Squadron ORB, 24 November 1942, NAC, RG 24, Vol. 22616, microfilm reel c-12,243; Kealy, "A/S War East Coast 1942," 72; Eastern Air Command Monthly Anti-Submarine Report for November, 1942, DHH 181.003 (D25).
- <sup>67</sup> 113 (BR) Squadron ORB, 6-16 December 1942, NAC, RG 24, Vol. 22616, microfilm reel c-12,243.
- <sup>68</sup> Kostenuk and Griffin, *Squadron Histories*, 46. Also see DHH 79/649 Robert L. Baglow, "An Examination of A/S Operations of the East Coast of Canada, Feb-Oct, 1942," DHH Report, September 1979.
- <sup>69</sup> 113 (BR) Squadron ORB, 29 December 1942, NAC, RG 24, Vol. 22616, microfilm reel c-12,243.
- <sup>70</sup> Michael L. Hadley, "Inshore ASW in the Second World War: The U-Boat Experience," in W.A.B. Douglas, ed., *The RCN in Transition, 1910-1985* (Vancouver: The University of British Columbia Press, 1988), 132 and 134; Report of Trip Made by Squadron Leader T.M. Bulloch and Flying Officer M.S. Layton to the Operational Stations and General Reconnaissance Schools of Eastern Air Command, 1 March

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1943, NAC, RG 24, Vol. 5177, file S.15-1-350, Part 3. Despite the new Coastal Command tactics, there were still several occasions where U-boats sighted an aircraft before being sighted themselves. Nevertheless, this forced U-boats to crash dive, thereby frustrating the U-boat crew by forcing it to disengage from any attack on shipping.

<sup>71</sup> DHH 181.003 (D309), "Submarine Warfare, World War II," Report, prepared by Wing Commander C.L. Annis, RCAF, 29 January, 1943, 7.

<sup>72</sup> Hadley, "U-Boat Experience," 132-133. Hadley's information comes from a July 1982 interview with then-Admiral Hartwig. U-517 was finally sunk by Albacore aircraft from the Royal Navy aircraft carrier HMS *Victorious* southwest of Ireland on 21 November 1942. U-517 had been four days out of Lorient, France, on only its second war patrol. "U-517," <http://www.uboot.net/boats/u517.htm>, accessed 10 November 2002.

<sup>73</sup> CAS to AOC EAC, 2 August 1942, PAC RG 24, Vol. 5199, file S.15-24-12; Douglas, *Creation*, 520-521. Eastern Air Command also laid out procedures whereby once Eastern Air Command Headquarters received a DF report, it would order an aircraft that was currently on a mission, "provided it is not of absolute necessity, ... to intercept – if not, then an a/c [aircraft] is ordered to intercept from base, provided there are a/c available. AOC EAC to Power (AFHQ), 5 August 1942, DHH 181.009 (D1147).

<sup>74</sup> Kealy, "A/S War East Coast 1942," 40-41.

<sup>75</sup> Douglas, *Creation*, 521; 113 (BR) Squadron ORB, 14 August 1942, NAC, RG 24, Vol. 22616, microfilm reel c-12,243.

<sup>76</sup> AOC EAC to Power (AFHQ), 5 August 1942, DHH 181.009 (D1147). See also Douglas, *Creation*, 519.

<sup>77</sup> Report by Group Captain P.F. Canning, RAF Coastal Command on visit to United States and Canada, 19 October 1942, Public Records Office [hereafter PRO], London, Air Ministry File [hereafter Air] 15/217.

<sup>78</sup> AOC EAC to Power (AFHQ), 5 August 1942, DHH 181.009 (D1147).

<sup>79</sup> Richard Evan Goette, "The Struggle for a Joint Command and Control System in the Northwest Atlantic Theatre of Operations: A Study of the RCAF and RCN Trade Defence Efforts During the Battle of the Atlantic," (Unpublished M.A. thesis, Queen's University, 2002), 28.

<sup>80</sup> Report by S/L C.G. Ruttan on the Course of Instruction for Naval "Y" Intelligence, 19 October 1942, RG 24, Vol. 5272, S.28-5-10.

<sup>81</sup> Goette, "Joint Command and Control," 28.

<sup>82</sup> Hugh Halliday, "Small, F/L Norville Everett (C1379), Distinguished Flying Cross [DFC] Commendation," *RCAF Personnel – Honours & Awards – 1939-1949*, <http://www.airforce.ca/wwii/ALPHA-SM.1.html>, accessed 10 November 2002. The DFC Commendation also recognized Small's efforts rescue the survivors of sunken or damaged vessels. See Appendix One for the full DFC commendation.

<sup>83</sup> Hugh Halliday, "Belanger, F/L Maurice John (J10432), DFC Commendation," *RCAF Personnel – Honours & Awards – 1939-1949*, <http://www.airforce.ca/wwii/ALPHA-BE.1.html>, accessed 10 November 2002; Douglas, *Creation*, 505. Halliday and Douglas both note that Belanger received a Bar to his DFC for his achievements in RAF Bomber Command during 1944.

<sup>84</sup> 113 (BR) Squadron ORB, 2 January 1943, NAC, RG 24, Vol. 22616, microfilm reel c-12,243.

<sup>85</sup> Douglas, *Creation*, 508; Michael Hadley, *U-Boats Against Canada* (Montreal and Kingston: McGill-Queen's University Press, 1985), 130. For more on the political and the public's reaction to the heavy toll U-boats took on shipping in the St. Lawrence, see Hadley, *U-boats Against Canada*, chapters 3 and 4.

<sup>86</sup> Only the Allied landings in North Africa (Operation "Torch"), and the necessity of Dönitz to attack its supply chain, prevented the German admiral from sending more U-boats to the Canadian area than he had originally intended. DHH 79/599, Peyton-Ward, III, 538-539.

<sup>87</sup> The RCN destroyed no U-boats in Canadian waters during 1942, while the US Navy vessels sank two, US Navy air forces sank two as well, and the RCAF sank one (Small's destruction of U-754). Hadley, "U-Boat Experience," 132.

<sup>88</sup> Anderson to Joubert de la Ferté, 24 April, 1942, DHH 181.009 (6734).

<sup>89</sup> Douglas, *Creation*, 535-536 and 540.

<sup>90</sup> Douglas, *Creation*, 524.

<sup>91</sup> Air Commodore N.R. Anderson, RCAF, Attached to Coastal Command, RAF to AOCinC, Coastal Command, RAF, 4 July 1941, DHH 181.002 (D121); DHH 79/599, Peyton-Ward, III, 23.

<sup>92</sup> Memorandum, AOC No. 1 Group, St. John's, to EAC HQ, 20 December 1941, DHH 181.002 (D173); AOC EAC to Power, 29 March 1942, DHH 181.009 (D1147). It did not help either that the Coastal

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Command Operational Training Units operating in eastern Canada, which utilized Coastal Command Tactical Memoranda in their training, failed to pass the tactical information to Eastern Air Command. Douglas, *Creation*, 539-540.

<sup>93</sup> D.Arm. [G/C T.J. Desmond] to D.Ops., 9 April 1942, NAC, RG 24, Vol. 5273, HQS 28-6-3. Emphasis added.

<sup>94</sup> D.Arm. [G/C T.J. Desmond] to D.Ops., 9 April 1942, NAC, RG 24, Vol. 5273, HQS 28-6-3.

<sup>95</sup> Annis Interview.

<sup>96</sup> Both the RCAF and the RCN adhered to the British Admiralty's conviction that the threat of submarines had been nullified by the introduction of the convoy system and the invention of Asdic, an underwater detection device known today as active sonar. Findings of a British Joint Planners report of 2 July, 1936, quoted in DHH 79/599, Captain D.V. Peyton-Ward, *The RAF in the Maritime War, Volume I: The Atlantic and Home Waters: The Prelude, April 1918-September 1939* (RAF Air Historical Branch Narrative), nd, 151.

<sup>97</sup> Allan D. English, "The RAF Staff College and the Evolution of British Strategic Bombing Policy, 1922-1929," *Journal of Strategic Studies*, Vol. 16, No. 3 (September 1993), 408-409, 416 and 426; Annis Interview. Indeed, not one senior officer in the RCAF had any firsthand experience with trade defence until Wing Commander C.L. Annis became the director of (BR) operations at AFHQ in August 1942. Douglas, *Creation*, 536.

<sup>98</sup> Goette, "Joint Command and Control," 27.

<sup>99</sup> Douglas, *Creation*, 539; CAS to RCAF London (signal written but not actually sent – to be used as a basis for further discussion between CAS and AMAS), 12 January 1943, PAC RG 24, Vol. 5177, S.15-1-350, Part 2.

<sup>100</sup> Douglas, *Creation*, 539.

<sup>101</sup> Annis Interview.

<sup>102</sup> Douglas, *Creation*, 465.

<sup>103</sup> Douglas, *Creation*, 536.

<sup>104</sup> Milner, "Inshore ASW: the Canadian Experience in Home Waters," in W.A.B. Douglas, ed., *The RCN in Transition, 1910-1985* (Vancouver: The University of British Columbia Press, 1988), 147.

<sup>105</sup> Douglas, *Creation*, 541; No. 5 (BR) Squadron ORB, 8 January 1943, NAC RG 24, Vol. 22603, microfilm reel c-12,229; RCAF Station Gander to AFHQ, EAC, No. 1 Group, 162 Sqdn., 9 January 1943, N.E. Small Personnel File, NAC.

<sup>106</sup> AOC WAC to Mrs. Small, 6 July 1943, N.E. Small Personnel File, NAC.

<sup>107</sup> No. 162 (BR) Squadron ORB, 8 January 1943, NAC, RG 24, Vol. 22632, microfilm reel c-12,259.

<sup>108</sup> No. 113 (BR) Squadron ORB, 2 January 1943, NAC RG 24, Vol. 22603, microfilm reel c-12,243;

Goette, "Joint Command and Control," 70.

<sup>109</sup> Annis, "I'll Never Forget," 65; Annis Interview; No. 113 (BR) Squadron ORB, 2 January 1943, NAC RG 24, Vol. 22603, microfilm reel c-12,243.

<sup>110</sup> No. 5 (BR) Squadron ORB, 5 January 1943, NAC RG 24, Vol. 22603, microfilm reel c-12,229.

<sup>111</sup> "History of Eastern Air Command," 565-566; Douglas, *Creation*, 541. Quote from Douglas. Douglas also notes that Small's efforts to increase the range of Cansos also went a long way towards Eastern Air Command's efforts to secure the Very-Long-Range Liberator aircraft needed to close the "Air Gap." Indeed, he remarked that Small's modified Cansos "went some way towards demonstrating the results [Eastern Air Command] might have achieved with Liberators."

<sup>112</sup> Kealy, "A/S War East Coast 1942," 52; Notes on an Interview with Clare L. Annis, 3.

<sup>113</sup> Kealy, "A/S War East Coast 1942," 80; No. 113 (BR) Squadron ORB, 23 December 1942, NAC RG 24, Vol. 22603, microfilm reel c-12,243. For more on Eastern Air Command's Operational Research Section, see DHH 77/510, Peter M. Millman, "Operational Research in the RCAF During World War II," DHH Report, 2 August 1947.

<sup>114</sup> Following Small's death, his sister noted that his brother had been motivated to excel in his work by his love of his common-law wife: "My brother loved this girl very dearly and it was her love and devotion to him that led him to be what he was and encouraged him in his work.... he told me several times he could never carried on his work if not for the love of this girl and her encouragement." Lillian Cline to L.M. McKechnie, 8 April 1943, N.E. Small Personnel File, NAC.

<sup>115</sup> For the British criticisms see Report on Visit of EAC Halifax and RCAF Station, Dartmouth, N.S. by Wing Commander S.R. Gibbs, RAF Coastal Command, n.d. [July 1942], Report by Group Captain P.F.

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Canning, RAF Coastal Command on visit to United States and Canada 19 October 1942, Report by Commander P.B. Martineau, R.N. on Visit to Eastern Air Command and Western Air Command, 31 October and 8 November 1942, and Martineau, Memorandum to Staff, 31 October 1942, in Air 15/217.

<sup>116</sup> Martineau, Memorandum to Staff, 31 October 1942, Air 15/217. Martineau said that he was he was “horrified to find on visiting the various airports how backwards the pilots were.”

<sup>117</sup> AOC EAC to Power, 20 November 1942, DHH 79/184.

<sup>118</sup> Doublas, *Creation*, 224.

<sup>119</sup> Brereton Greenhous, *The Making of Billy Bishop* (Toronto: Dundurn Press, 2002), 188. Although valuable as a propaganda tool, Billy Bishop was, compared to N.E. Small, a very poor leader. Indeed, his selfish quest for personal glory led him to neglect his subordinates while on operations on more than one occasion. Unfortunately, this neglect resulted in the deaths of a couple of the inexperienced pilots under Bishop’s command. David Bashow, *Knights of the Air: Canadian Fighter Pilots in the First World War* (Toronto: McArthur and Co., 2000), 113; Greenhous, *Making of Billy Bishop*, 193-194.