

Operational Training and Antisubmarine Air Warfare on Canada's East Coast - The Second World War Collected Papers

Gerry Madigan



Personal Archives – RAF Museum London located on the former Hendon Aerodrome, 14 June 2014 – Lockheed Hudson Bomber

23 March 2018

Disclaimer

The conclusions and opinions expressed in this document are those of the author cultivated in the freedom of expression and of an academic environment.

Biographical

Gerry (GD) Madigan, CD, MSc, MA is a retired logistician, Canadian Armed Forces. Major (Retired) Madigan's career spanned 28 Years as a finance officer. His notable postings included time served at National Defence Headquarters, CFB Europe, Maritime Canada and The First Gulf War as comptroller in Qatar. He is a graduate of Saint Francis Xavier University (BSc), McGill University (MSc) and the Royal Military College of Canada (Master of Arts War Studies).

“Collected Papers - Operational Training and Antisubmarine Air Warfare on Canada's East Coast” origins arise from a series of papers for refereed journals and for local aviation museums. These accounts were written first and were the foundations for my book “At the crossroads of time: the story of Operational Training Unit 31, RCAF No. 7 Squadron, and RCAF Tiger Force Debert Airfield during the Second World War”. The papers are individual - stand alone records of air training of what was at the time, the nascent beginnings of anti-submarine warfare on Canada's East Coast.

This book is dedicated to the men and women who lived and died at what was essentially on the home front, here in Canada, on Canada's East Coast during the Second World War. This is ultimately a record of their lives and times. Their sacrifices paved the way towards a better world in which we live today.

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Contents

DISCLAIMER	1
ACKNOWLEDGEMENTS	10
PROLOGUE.....	12
The Genesis of the story- An Early Interest is all things “Air and History”	13
THE STORY OF OPERATIONAL UNIT 31, RCAF STATION DEBERT,	17
Under the British Commonwealth Training Plan	17
Introduction.....	18
Building the BCATP	18
.....	20
Debert Selected for Operational Training Unit 31 (O.T.U. 31)	20
RCAF Station Debert – The Purpose for being	23
Why an O.T.U. at Debert?	24
Debert – Operational Training	24
Debert Training – the Reality	25
What of the casualties?	27
A repeat?	29
Assumptions	30
Debert Operations – The Unknown Triumph	30
Debert Operational Sorties	34
The End of O.T.U. 31 and the beginning of RCAF Station No. 7	35
The BCATP’s True Cost	36
Closing Remarks – “Lest we forget”	37
TRIUMPH AND TRAGEDY OF OPERATIONAL TRAINING UNIT 31, DEBERT NOVA SCOTIA	38
In Sepia tones – Looking back	39

Dire Straits.....	40
Moving a Backlog.....	41
To the rescue	43
A System In Crisis And Distress	45
Pressure flows downhill.....	47
Beech O'Hanley and AM896 -the Great Village Crash 23 October 1941.....	47
Training Assessment – A Balanced Point of View	52
Other Probable Factors – Mechanical Failure and Maintenance	54
Other Probable Factors – Navigation and Communication.	55
Other Probable Factors – Weather and all Weather Training	56
The Instructors Dilemma	57
Back to the Future	59
THE CRUCIBLE FOR CHANGE	60
Defence Spending in Debert Nova Scotia Second World War	60
Introduction – The Worst of times	61
Time for Change.....	62
The British Commonwealth Training Plan	63
On the Fast Track to Building an Airfield and an Army Camp	63
Debert and the Impacts of the Air Force - Army Presence.....	65
Difficulties	66
Economic Spin offs.....	68
Methodology	68
Results for Debert Airfield	69
Results for the Army	72
Turn over of facilities to RCAF.....	74
Winding down – Deconstruction.....	75
Concluding Remarks	76

CANADA’S UNKNOWN SUCCESS	80
Land Based Aircraft & The Antisubmarine Role Gulf of St Lawrence.	80
Introduction.....	81
The Summer of ‘42.....	81
Strategic Overview 1939 -1941	82
Decisions...decisions	83
The Force of Personality	84
Facing a Conundrum Shaped on Experience.....	85
The Hard Facts	86
Skepticism – Land-based Aircraft and the Anti–submarine role?	91
The Fall Out - The Clash Of Personalities.....	91
The Dreary Battle of the “Gulf of St Lawrence”	93
At the Start of the Gulf of St Lawrence operations.....	93
Stretching Resources	96
Perceptions of the Enemy	98
The Effects of EAC Persistence	99
Final Words.....	99
THE ODYSSEY OF PILOT OFFICER S.F.C. HOMER	101
The Forgotten War on the Canadian Home Front	101
Introduction - Homer’s Odyssey	102
A Common Perspective.....	103
Debert – A Microcosm of the Day	104
The Air Role in Eastern Canada	105
The Hudson Bomber	107
Official Analysis of Hudson Bomber 901/B3 on the Day.....	109
Inexperience	109
Tactics.....	112

Dissecting Target Acquisition, Munitions and Target Engagement	113
Finding Solutions	115
Sundry Factors	116
Coastal Command – A Poor Second Cousin	117
Consensus of Opinion	118
More to it than depth charge placement	118
Capitalizing on U-Boat Weaknesses	119
The Value of Operational Research.....	120
Results	121
Concluding Remarks	122
A PROFILE OF OPERATIONAL UNIT 34 PENNFIELD, NB	125
Introduction.....	126
“I’ll begin at the beginning – (The Quiet Man)”	127
National Defence, Director of History and Heritage, File 74/13 No. 34 O.T.U. Penfield, NB	132
Training Syllabus.....	138
Instructors	140
Training	143
Wastage Rates	144
Ventura Bomber Analysis Accident Records O.T.U.34 Pennfield NB	147
Closing Remarks	165
THE PICTURE ON THE WALL.....	167
Introduction.....	168
The “Picture on the Wall” - The U-Boat and its Crew	170
Hunting for Clues	173
U-754.....	174
British Motor tanker, British Prudence	175

Kapitänleutnant Hans Oestermann.....	176
Details of Destruction U-754 - 113 Sqn RCAF Squadron Leader N.E. Small	177
Bolingbroke 9066 23 March 1943 – Sgt Howes	179
Bolingbroke 9066 23 March 1943 – Sgt Buchanan.....	181
Concluding Remarks	182
EPILOGUE.....	185

Acknowledgements

“Collected Short Stories - Operational Training and Antisubmarine Air Warfare on Canada’s East Coast” was first written as a series of papers first for refereed journals and for the use of local historical museums. What began as a make work project easing my way into retirement evolved into a passion for local history that occupied my time fully following a career in the Canadian Armed Forces.

Regrettably some papers meant for publication never made it to print for one reason or another. Hence there arose the necessity for this book, to record and document some of Canada’s east coast operational air training and anti-submarine warfare during the Second World War lest it be lost.

This is my second book that resulted from the generosity of many people who encouraged me along the way through sharing their own works, stories, pictures, archives, and insights. I am deeply indebted to all for their most generous help and assistance. Ironically these stories were written first and preceded my book “At the crossroads of time: the story of Operational Training Unit 31, RCAF No. 7 Squadron, and RCAF Tiger Force Debert Airfield during the Second World War”.

The many projects have been fruitful not only in the reasoned accounts found herein but also through the contacts made and, in the assistance, rendered by many who have guide, lent, or provided research or details of their own that advanced my understanding of Canada’s role played out here on the Homefront. I now number these people as valued colleagues and friends. So, I am truly thankful for what was the unexpected, engaging and most extraordinary opportunity that this project turned out to be.

The foundation of the story comes from the historical records and archives out of the vaults of the Department of National Defence. I am deeply indebted to Major Mathias Joost of the Directorate of History and Heritage for sharing those records and for opening what turned out to be, a vista of Canadian wartime experience, rich in history and photographs.

No less important was the assistance of Mark Peapell, President of the Atlantic Canada Aviation Museum who shared his archives and who helped with the identification of aircraft and facilities. Mark also shared his Pukka Gen archives, a newsletter from Debert that was a true record of the lives of the people who served there.

The historical archives were the bones of the work, but the flesh came from other sources that included individual and family records. These proved to be the lifeblood of the tale. I am particularly grateful to Mike Allen and Graham Tall for the use of their files in this respect.

Mike’s father Ernest Allen was amongst the first to train at Debert. Ernest Allen’s story was written in the first account as “**An RCAF Pilot’s Story 1939-1945 from the memoirs of Ernest E Allen, 1996**”. Sadly, Ernest recorded the events of the death of his dear friend Pilot Officer Beech O’Hanley who was amongst the first to die at Debert. Also, lost in that tragic event was Sergeant Leonard Hornsey (RAF).

Graham Tall so generously shared Leonard's story from his book "Mr. Woolley and the War Years" as well as the touching letters from Leonard Hornsey's parents on the loss of their beloved son.

The Debert Municipal Airport, Chis Charland, Aircraft Research, National Air Force Museum of Canada, Trenton Ontario, Chris Larsen Air Historian, Greenwood Nova Scotia, Chris Larsen (no relation), Historian Pennfield Parish Military Historical Society, Pennfield New Brunswick, and Mary Mackay of the Guardian Newspaper PEI also contributed and helped with identification, sources, and leads.

Finally, I would like to acknowledge the help and patience of my editor and most ardent fan, my wife Melodie. This work would not have been completed without her time, dedication, and guidance for which I am truly grateful.

This book is dedicated to the men and women who lived and died at what was essentially home, here in Canada, on Canada's East Coast during the Second World War. This is ultimately a record of their lives and times. Their sacrifices paved the way towards a better world in which we live today. It is certainly a story well worth remembering and telling.

Prologue

I have often pondered the history of the Second World War inquisitively questioning the “Who, what, when, where or why” of it all. I was a child of the 1950’s, born long after the war had ended. I had not shared in any of its privations, sacrifices or the sorrows like the generation that preceded me. It was the war of my mother and father’s generation.

My family was not untouched by the war. My father’s brothers; Frank and Jim, both served in the Royal Canadian Navy and my mother’s brother, Leslie, the Canadian Army. I have in my personal collection and private papers the telegrams of my maternal uncle’s missing in action report in the Scheldt.

I was able to obtain the casualty list for the day he was reported MIA. I was astounded to read so many dead, wounded and missing all on one day. I have a sense that many survivors chose to keep their stories to themselves after the war for fear of its glorification.

My uncles all survived and talked little of the war. It may have been due to survivor’s guilt, “Why was I spared when so many of my friends and comrades were lost forever?” None spoke openly of their experiences. I have often wondered why? If it was mentioned at all, which was rarely, I was often remonstrated with “Gerry, war is such a terrible thing, a waste.”

It was not that they were not proud of what they did or accomplished. But there was certainly a great humility for what they seemed was only the small part they played. The heroes in their minds were the boys and girls who had paid the ultimate sacrifice and who never came home. But also, I think it was the expectation that their sacrifice would bring new hope for a bright new and a better world for their children and Canada in the aftermath of that war.

I have always been a collector of military memorabilia and equipment as a kid hoping that maybe I could absorb the experience through historical osmosis. Nothing excited me more though than the sound of a rotary engine. I loved aviation and former military aircraft that were designed so beautifully yet were so deadly. It might have been because rotary air craft were so prevalent at the time and air travel was expanding in the boom that followed the war.

The Genesis of the story- An Early Interest is all things “Air and History”

As it happened, air travel was to become a big part of my life in northern Quebec. The venerable DC 3, C46 Commando, DC4, DC6 were the mainstay of many commercial airlines that kept the northern town, Sept Îles Quebec, where I lived well supplied and open for transit. All the mainstays of air travel were of a generation of aircraft declared surplus after the war.

These aircraft were quickly followed by the introduction of turbo prop aircraft; the Viscount and F-27. They were the workhorses and mainstays of an aerial highway for many northern towns and villages; ensuring the grocery stores and shelves were always filled. They were the basic means of transport that got you in and out of the wilds in the especially cold and desolate winters of the Canadian North. They flew over the routes once pioneered and operated by Ferry Command who once moved these aircraft to Britain throughout the war.

Aviation therefore has always been of special interest to me, as well as the air forces of the Second World War. It has been a life long passion. Every where I have lived in Eastern Canada, there have been traces of the military that pointed to the action of the Second World War. Some hints were visible, found in footings or tracks of temporary airfields, others were rumoured or anecdotal. Regardless, it all sparked this life long interest in Canada’s military history.

Most of my current interest has been oriented to the War in Europe and the Battle of the Atlantic, for which Canadian service men and women played a major pivotal role. My start to learning a little bit more on aviation history began early enough. It began with a collection of works of various airmen recorded in Bantam paperback books predominantly the works of Martin Caidin.

Caidin was a notable author and the originator of the television series; the Six-Million Dollar Man. But Caidin was also an editor for the Bantam series of paperbacks that resulted in a collection concerning the aerial history of the Second World War. These collective works edited or written under Caidin’s name were purchased in the 1960’s.

I read everything that I could get my hands on and have added to my library ever since. But I still treasure those little dog-eared, now fragile paperbacks and still use

them today. One other book also attracted my attention. It was authored by Guy Gibson's (VC) "Enemy Coast Ahead".¹

Gibson documented the Dambuster Raid. Apart from the excitement of the tale, was the fact that Canadians were in a unit that participated in a significant raid achieving a notable victory at a time when Allied successes were few and far between. But despite my youth, I was not only excited by his tale, but was also flummoxed by the casualty rate and the bravery of the crews who flew into such adversity.

What made men fly into the breach of hell when the odds of survival seemed to be weighed against them? Many have tried to answer that puzzle and failed. There is likely no definitive answer. But the musings of those who were there may give us some in sight.

One was Leonard Birchall, the "Saviour of Ceylon"². Birchall endured many years of torture and captivity suffering the privations as a prisoner of war in Japanese internment camps. Burchill, the senior officer in one POW camp, held no authority over his charges other than the force of personality. His captors denigrated him and his fellow officers to instil distrust amongst the prison community. Birchall was thus placed between a rock and a hard place.

Birchall and his officers achieved a great morale victory over their captors though. They did not succumb to the abuse but managed to make their lives a living example to their men. They won because they shared equally in their men's suffering, privations, and maltreatment.

Food, which was scarce was the stuff of dreams for many. Burchill and his officers took only their fair share of meagre resources to make it last and, if any man felt the officers were better treated, Birchall made sure that they were free to challenge and take the officers' share. It became quickly evident that they were all treated equally under Birchall's command.

What Birchall accomplished in the command and control of a rag tag group was respect in the face of adversity. They gelled as a unit and as such were able to

¹ Guy Gibson, V.C., **Enemy Coast Ahead**, Pan Books Ltd, London, 1955 (first published 1946), 317 pg.

² Paul Nyznik, **The Saviours of Ceylon**, Air Force, Summer of 1998, pg. 4-8.; and Winston S. Churchill, **The Hinge of Fate –The Second World War**, Houghton Mifflin Company, 1950, pg. 177-180

endure, and moreover, survive the ordeal.³ In fact it was the face of adversity that marked this remarkable generation. They fought through adversity and won, despite enormous odds to the contrary!

For many in the air force that test of facing adversity began with training in the British Commonwealth Air Training Plan (BCATP). The plan was arguably Canada's greatest contribution to the Second World War. But really it was one of three legs, the others being the Royal Canadian Navy build up to the third largest Navy in the world and the fielding of a Canadian Army in Western Europe, Italy, and Far East.

Canada's contribution was truly a triad of military power that greatly contributed to an Allied victory that is often underrated. But it was a great sacrifice of national treasure in the cost of lives and money that were disproportionate to our population, geography, and economy at the time.

This early interest directed me to my life's calling, a military career. I served 28 (29 pensionable) years with the Canadian Forces in several postings spanning from Gagetown, Ottawa, Lahr, to Debart, and sadly, at war too. I was part of the logistics support team, serving as Comptroller in Doha Qatar during the first Gulf War 1990-1991, and was on the last flight out of Doha at the close out of the unit.

I was very fortunate following that experience to have been posted to CFS Debart where I served as its Comptroller and Deputy Commanding from 1991-1994. The old airfield was located right behind the married quarters. I used to wander behind the PMQ's amongst the old tarmacs and footings from the old station, now long abandoned after the war. I often wonder who or what served there, but I didn't have the time to investigate it while there. I left knowing very little of its history.

My final posting though was in Ottawa. It was unusual in one respect. It spanned the final 15 years of my military career. I arrived in 1995 at a time when the government of the day was about to dramatically reduce the Canadian Forces. It was both a challenging and trying time.

³ Leonard Birchall, **Leadership - A Speech Given by Air Commodore Leonard Birchall At The Canadian Forces School Of Aerospace Studies In Winnipeg On 17 September 1997, (Prefaced by Major William March)**, The Canadian Air Force Journal, Winter 2009 • Vol. 2, No. 1, pg. 32

Along the way I was able to add to my academic credentials, that included a Bachelor of Science from St Francis Xavier University, a Master of Science degree from McGill University, and a Certificate in Business Administration from the University of New Brunswick.

The fortunate part was that I was eventually able to complete a Master of Arts (War Studies) through a long-distance learning program at the Royal Military College of Canada, Kingston Ontario in 1999. This study further sparked my interest into Canadian military history.

The MA in War studies truly spurred that, and I have published several works in two military journals. My time at Debert, the presence of the airfield, and a timely notice of a memorial dedicated to the memory of the British Commonwealth Air Training Plan, spurred me on to research and draft a small paper in tribute to their sacrifice.

Now I know a little bit more and hope these collected papers from that process stirs some interest for you in the hope that you too will seek out some of Canada's precious history.

This book documents one small part of the effort necessary to attain victory; training and operations, that happened in the fields, forests, and small rural towns, at Operational Training and Operational Units, on Canada's East Coast.

The Story of Operational Unit 31, RCAF Station Debert,
Under the British Commonwealth Training Plan

By Major (Ret'd) G.D. Madigan

17 January 2011

This paper was originally accepted for publication 19 January 2011 in a respected journal (Spring 2011) but for reasons of their own, was never published.

Introduction

Early during the Second World War, Canada helped lay the foundation of ultimate victory in what was deemed its greatest contribution to the war, the British Commonwealth Air Training Plan (BCATP). But really it was just one of three efforts; the others being the build up of the Royal Canadian Navy to the third largest in the world and the fielding of a Canadian Army in Western Europe, Italy, and the Far East.

Canada's war effort was therefore a triad of Canadian military power that greatly contributed to victory in the Second World War. Canadians often underrate that contribution. But at the time, it was a great sacrifice of national treasure in the cost of lives and money that was disproportionate to our population, geography, and economy.

Building the BCATP

Central to this story is Operational Unit (O.T.U.) 31, a Royal Air Force (RAF) unit, a designate to the plan. Its story began when the British Commonwealth Air Training Plan (BCATP) was signed on 17 December 1939, three and a half months after Canada entered the Second World War. The creation of the plan was notably signed on Prime Minister Mackenzie King's birthday. King attached great importance to the BCATP as it was to be the prime contribution to the war effort.⁴

Little known was the prior consideration of a similar plan that predated 1939. The Royal Air Force (RAF) earlier set its sights on Canada as a possible training area in the event of war. Canada was considered a safe-haven for pilot training. Those negotiations began in 1936, but its implementation was delayed.

The reasons are as familiar then as they are today; money, contributions, control, resources, and Canadian content.⁵ So a discussion played out between Canada and Great Britain between 1936 and 1939 but it went no where. The issues were largely set aside and became redundant until the reality of war when Canada finally agreed to play a major training role.

⁴ F.J. Hatch, **Aerodrome of Democracy: Canada and the British Commonwealth Air Training Plan 1939-1945**, Department of National Defence Directorate of History, Monograph Series No. 1, © Minister of Supply and Services Canada, 1983, pg. 1-2

⁵ *ibid* Hatch, 1983 pg. 7-15

It would prove to be a huge undertaking. Canada had only 235 pilots on the air forces` strength in August 1939 when the agreement was signed in December



National Defence, Directorate of History and Heritage, PL-5268
8 October 1941 R.A.F. Station Debert N.S., Pilot Officer J.W. Gordon from Vancouver, B.C.

1939.⁶ Mackenzie King knew that a great build up of staff and facilities was required. In time though, it was done and some 130000 personnel were eventually trained as pilots, navigators, flight engineers; including sundry flight crew, all under the BCATP.⁷

But in December 1939 , the outcome was doubtful as the “Plan” was schedule to start only a few short months away in April 1940.

So from the humble beginnings in December 1939, a great enterprise grew.

An organization was built from the ground up. Stating intent in December 1939 was all was well and fine, but it stretched the bounds of reason, practicality, and reality. Getting proved a monumental effort.

It took no less than thirty-three thousand air force personnel plus six thousand civilians to make the plan fully functional, complete with its own administrative infrastructure, sundry buildings, airfields, classrooms, impedimenta, and other paraphernalia, all required and essential to properly conduct the training.⁸ None existed in December 1939 for there was nothing really on the ground to start with.

The RCAF with no administrative structure prior to 1939, relied on the Army to provide many of its requirements during the pre-war period. But the scope of the plan demanded that the RCAF have its own, separate, and independent support structure if it was to get on with the execution of the plan under very short deadlines. In quick time, the RCAF engaged its own administrative staff; including pay, medical, dental, and most importantly, its own constructing engineering support, all built from scratch.

⁶ ibid Hatch, 1983, pg. 5

⁷ibid Hatch, 1983, pg. 1-2

⁸ ibid Hatch, 1983, pg. 33

Given the looming start date of 29 April 1940, the first winter was spent preparing and excavating new airfields for spring construction. The task of building the airfields was left to the Department of Munitions and Supply who contracted the construction to private building firms. These contractors achieved quite simply, the impossible. Work and projects were often completed within eight weeks once sites were made ready by heavy machinery.

Completed aerodromes included all buildings, hangars, barracks and workshops, and hard surfaced runways. The effort was simplified. Runways were built on the standard pattern of one hundred feet (30 m) wide and twenty-five hundred feet (750 m) long laid out in triangular form.⁹ The fact that construction of these facilities was made possible within the incredibly short space of eight weeks was a testament to Canadian ingenuity, skill, tenacity, determination, but most importantly, it was all made possible because of standardization and pre-fabrication.



415-055 #7 OTU / #31 Debert, Nova Scotia

National Defence, Directorate of History and Heritage, Debert Airfield

Canada met the start date of 29 April 1940 and began to receive its first arrivals to the plan. It seemed miraculous, but it was achieved through the dint of hard work and determination. Indeed, all the schools were fully operational by April 1942.¹⁰

[Debert Selected for Operational Training Unit 31 \(O.T.U. 31\)](#)

Where the various schools were located, was left to the Aerodrome Committee of the RCAF. Several relevant factors were taken into consideration for the final decision. Situational geography was important.

Sites within five miles of the American border were out of bounds as well as those in mountainous terrain. Sites nearer urban centres were preferred for economic

⁹ *ibid* Hatch, 1983, pg. 64

¹⁰ *ibid* Hatch, 1983, pg. 33

benefits and potential civilian conversion for post war use. But the requirements of bombing and gunnery schools demanded large safe training areas.

School ranges of approximately one hundred miles square were selected that negated proximity to built up areas that reduced risk and potential damage to civil life and property. Navigation schools were chosen near locations where trainees could get practical experience over various types of terrain and large bodies of water.¹¹

Debert was an ideal location because it met many criteria for the committee's site selection. Debert provided a wide range of challenging terrain and features and was near major centres and logistic points. The Bay of Fundy and Northumberland Straits were at hand. It was near Halifax, and located near a major rail junction in Central Nova Scotia at Truro. It was also a site selected by the Army as a major training centre providing an economy of scale to the construction by reducing costs and sharing some infrastructure.

Donald Davidson, a long-time resident, recalls Debert as a small rural town located in central Nova Scotia in the 1930's. The village of Debert's population numbered no more than 500-600 people at any one time. Local residents were employed at mixed farming and lumbering. The village had a permanent lumber mill and factory located near the local train station.

The village by the standards of the day was large. Debert supported three stores, a post office, a barber shop, a two-room school, a community hall, and a blacksmith shop at the outset of the war.¹²

The start of Second World War really put Debert on the map though. The RCAF purchased land for the construction of an aerodrome in the fall of 1938 predating the BCATP. This purchase possibly foretold the expansion of Canada's own air force, also hinting at the security

¹¹ ibid Hatch, pg. 41

¹² Mr. William Langille, Chairman, Standing Committee on Veterans Affairs **Testimony - Debert Military History Society to Standing Committee on Veterans Affairs**, Halifax, Thursday, March 1, 2001, 9:00 A.M.

Source: <http://www.gov.ns.ca/legislature/hansard/comm/va/va010301.htm>

Accessed: 13 August 2010

Pg. 6 personal recollections of. Don Davidson, a young businessman at that time, operating Davidson's Store. Mr. Davidson lived in Debert all his life. He grew up there when the war came as a teenager of 15 or 16 years of age

and defence policy considerations of the day and possibly, the progress of earlier Canadian -British negotiations.¹³



National Defence, Directorate of History and Heritage, EAS62-321
Members of 4 Mil. Group operate radica meters in field.

Debert soon became a hive of activity with the construction of a BCATP airfield and a training centre Camp/embarkation point for the Army. Debert's population exploded with a resounding economic impact due to the expansion over the next few years.

Approximately 6000 civilian personnel were involved in construction of the facilities that supported both the RCAF Station and Camp Debert, the nearby army base.

Eventually the two military training camps at Debert Nova Scotia were completed. Debert's civilian-military population rose to 22000. The airfield would eventually support air force personnel from many nations trained at O.T.U. 31 under the aegis of the BCATP.¹⁴

The village of Debert changed for ever. It grew immensely. The town now supported 10 restaurants; two drug stores with lunch counters; two meat markets; an additional grocery store; a hotel with telephones and running water; two barber shops; a telephone office; a bank; three taxi services; a laundry service; a bus line service to Truro; and a charter service to meet a growing demand for services.¹⁵

Yes the sites were quickly constructed but the initial facilities were often barebones basic at best at the outset. Despite the rapidity of construction, many sites were left without basic and rudimentary necessities. Those airfields often

¹³ Air Force, **CFS / RCAF Station Debert Nova Scotia Canada**, www.RCAF.com, Copyright © AEROWAREdesigns 2010

Source: <http://www.rcaf.com/Stations/stationsDetail.php?CFS-RCAF-Station-Debert-66>

Accessed: 13 December 2010

¹⁴ Ibid Langille, SCONDAV 2001, pg. 5-6

¹⁵ Ibid Langille, SCONDAV 2001, pg. 6-7

looked like a moonscapes. The buildings were up and running, but lacked the creature comforts of heat and basic plumbing.

Robert Wilson Harris remembered his arrival at the opening of the airfield as “R.C.A.F. Debert was under construction. The drill hall, barracks and mess hall had already been built and large earth-movers were busily dumping a hill into a bog to build the airfield.There was mud everywhere and yawning gulfs where sewers and drains were being installed.”¹⁶

The initial batch of BCATP students thus began their training under very appalling conditions. The facilities were there, but were only barely able to support the training process.¹⁷

RCAF Station Debert – The Purpose for being

Just at the time the Debert airfield was built, the BCATP plan was also about to grow in scope. A Canadian request for and the inclusion of some Operational Training Units was made to Great Britain in 1939 that were created as a part of the Royal Air Force (RAF) training system in 1938. These special units specifically existed to conduct the final training in preparation of actual operational flying duties.

The graduates of this system were streamed to fighter, bomber, and maritime air squadrons upon completion of training as needed. This system was designed to remove the training burden from RAF front-line operational squadrons. They were only officially designated as Operational Training Units (O.T.U.) in April 1940.

¹⁶ Sergeant R. W. Harris, **Memories of Debert, N.S.**, undated
Written account in Debert Military Museum Archives

Source: <http://www.debertmilitarymuseum.org/harris.htm>
Accessed: 5 October 2010

¹⁷ Spencer Dunmore and William Carter, Ph.D., *Reap the Whirlwind – The Untold Story of 6 Group, Canada’s Bomber Force of Second World War*, McClelland & Stewart Inc., 1991, Pg. 43

Why an O.T.U. at Debert?

Operational Training Units in Britain were thus closely tied to their front-line squadrons so there was little thought of moving them to Canada under the BCATP. But an urgent appeal from Canadian Air Vice-Marshal Breadner for their inclusion as part of the RAF contribution to the BCATP proved providential in the battle space December 1940. It led to the eventual movement of four O.T.U.s. The scope of the BCATP was thus being expanded.

Breadner and others thought that the operational scope of the training at the O.T.U.s was strategically valuable. Then the mandate grew from there once these units reached Canada. Some BCATP graduates were to be streamed and trained to ferry operational aircraft across the North Atlantic to the United Kingdom. This was an expedient to speed up the delivery of the backlog of crucial aircraft on Canadian soil quickly into the fray.¹⁸

Britain faced critical aircraft shortages as well as space and time for operational training in 1940. Canada's offer was appealing and was eagerly accepted. Unbeknownst to Breadner, the O.T.U.s would also come to play another invaluable operational role in Canada and lead to a very personal tragedy!

Debert – Operational Training

Four O.T.U.s eventually were moved to Canada. O.T.U. No. 31 was one of the first to embark. The unit and equipment were moved across the North Atlantic in three echelons in May 1941 to the new airfield at Debert, N.S. to begin “operational” training.¹⁹ But that training was delayed until August of that year because clearly, the airfield was in an unfinished state.²⁰

O.T.U. 31 was equipped with Lockheed Hudson bombers and tasked to conduct its training over long distances, and in marginal weather. The unit trained men who had rarely flown out of the sight of land, or under realistic conditions.²¹

¹⁸ *ibid* Hatch, 1983, pg. 74

¹⁹ *ibid* Hatch, 1983, pg. 74

²⁰ *ibid* Hatch, 1983, pg. 74 -75

²¹ Bob Ingraham, **Sergeant. Joe Hick's War: In April 1942, Royal Canadian Air Force No.420 Squadron Makes A Fateful Raid on Rostok, Germany**, Thunder Bay Historical Museum Society, Papers and Records, Volume XXXV (2007), pg. 6-7



National Defence, Directorate of History and Heritage, PL-5267,
8 October 1941 R.A.F. Station Debert N.S., Hudson Bomber
being prepared for flight. 3/4 STBD front # AM 745

The syllabus for operational training proper was designed about a twelve week course for pilots and wireless operator/air gunners and eight weeks for observers.

Training of each group was conducted separately until the final stages. Crews of one pilot, one observer and two wireless operator/air gunners, were summarily joined together for exercises in the training syllabus. They were never joined together as a functioning team until they were posted to their operational units.

Additional training was then provided to some selected pilots who were deemed capable of a trans-Atlantic crossing. The select few received an additional eight weeks of training before being sent to Ferry Command. Those not selected, were either sent to home defence squadrons of the RCAF or made their way by sea to the United Kingdom to combat operations.²²

Debert Training – the Reality

Ernest E Allen, then a young pilot officer, remembers training at Debert. Allen was one amongst the first group of 20 pilots posted to Debert August 1941.²³ Allen remembered his instructors as tour expired RAF pilots rested from operations; most of whom had already done an operational tour in England on the Avro Anson. The Lockheed Hudson was new to them as well. According to Allen; most instructors were frightened by the Hudson's flying characteristics.²⁴

²² Ibid Hatch, pg. 75

²³ Ibid Hatch, pg. 75

²⁴ Ernest E. Allen, **An RCAF Pilot's Story 1939-1945 from the memoirs of Ernest E Allen**, 1996, Part One - Pilot Training

Source: <http://www.seawaymall.com/eallen/>

Accessed: 13 August 2010



National Defence, Directorate of History and Heritage, PL-5274, 8 October 1941 R.A.F. Station Debert N.S., Pilot Officer Allen

But training was a case of “sink or swim” and seemed to be minimal. Allen and his pool were given three hours dual, then sent off on their own, solo on their own after that.

The training consisted of a series of cross country flights over terrain and distance of ever increasing difficulty, which was often conducted under adverse and extreme weather conditions.

Allen had a short opinion of his instructors that was not very favourable, “The instructors were all RAF tour expired pilots "on rest" and were the best lineshooters I ever ran into... The instructors had been giving us the line that there would be a lot of bad weather flying when we got to England, so this must be part of the training.”

In the instructors’ defence the training syllabus at Debert and other units was rudimentary at best and under development at the commencement of the plan. This was not surprising given the expedient way the plan was rolled out, under great duress, and prodded by the exigencies of war. They were required to train qualified crew and get aircraft into operations, expeditiously. The country’s and allies’ urgent needs meant shortcuts would have to be taken. In the end, that sense of urgency, cost lives.

Allen’s course was an example of the cost. In late October 1941 they were tasked with a local long distance cross country exercise. The exercise was in preparation for a long-distance trip over the “pond”. In reality, the training was conducted relatively quick in that many graduated with only had two months of flying experience at the time on the Hudson. Collectively the trainees had very little military experience to question orders. Orders were after all, orders.

One such order was for a training exercise that was put out to the trainees the evening prior to the exercise. On the next morning, the day of its execution, the crews found the airfield fogged in. There were no flight instructors anywhere to be found so to cancel the exercise. As the flight was authorized, and as, “orders were orders”, they proceeded with the launch of their aircraft. They assumed that as

“The instructors had been giving us the line that there would be a lot of bad weather flying when we got to England, so this must be part of the training.”²⁵

The take off was harrowing according to Allen. One aircraft crashed, and another almost hit the tower. Allen got away with it but with some trepidation. Allen could barely make out the runway. He was only able to keep his aircraft straight on line by “by watching the line between grass and asphalt” on the take off run. He made it away the returned when the weather cleared five hours later.

The incident had not gone unnoticed though. “The instructors were severely criticized for not getting up in the morning to make the decision for us as to whether the weather was fit for flying.”²⁶

There were casualties in the doing and losses did occur. A laconic account of an aircraft and the loss of four RAF lives at Great Village, NS on 23 October 1941 were marked by a mere three small paragraphs in sundry newspapers.²⁷ The news reports of the day do not always put a face to the loss. The casualties were not just officers or airmen, they were people with families, friends and loved ones.²⁸

What of the casualties?

One casualty on that fateful day was Sergeant Leonard Hornsey (RAF). Hornsey led an interesting life prior to his arrival at Debert. Norman Leonard Hornsey was born in the early 1920s. He was only a schoolboy in September 1931. He subsequently joined the Staff of the Wellingborough Co-operative Society in December 1935, when 16 or 17 years of age. He went on from there to apprentice at the Wireless School at Cranwell with the RAF in January 1937.

Sergeant Leonard Hornsey was eventually posted to active service in Coastal Command in Scotland upon completion of this training in September 1939. He then took part in many flying operations over the Atlantic, Iceland and Norway. Hornsey was commended for spotting the prison ship Altmark while on such a

²⁵ Ibid, Ernest E. Allen, 1996, Part One - Pilot Training

²⁶ Ibid, Ernest E. Allen, 1996, Part One - Pilot Training

²⁷ The Calgary Herald, **Four RAF Fliers killed in N.S.**, October 23, 1941

Source:

<http://news.google.com/newspapers?id=0yBkAAAIAIAJ&sjid=SHsNAAAIAIAJ&pg=5019,2458176&dq=rcaf+debert&hl=en>

Accessed: 13 January 2011

²⁸ Ibid, Ernest E. Allen, 1996, Part One - Pilot Training

patrol. Altmark was subsequently captured by the Royal Navy because of Hornsey's alertness.

Hornsey was then promoted to Sergeant and posted to Nova Scotia as a Wireless Instructor where he was to meet his end 23rd October 1941. Hornsey was a crew member on Hudson aircraft AM896, on a final long-distance exercise prior to it being ferried across the Atlantic. AM896 on a night training exercise, flew into the ground disintegrating at Great Village, Nova Scotia.

Hornsey's remains were never repatriated to his grieving family in Bristol England. The late Sergeant Norman Leonard Hornsey is buried at Terrace Hill Cemetery, in Truro, Nova Scotia.²⁹



Gerry Madigan personal archives 2017 – Terrace Hill Cemetery Truro Heights NS – Grave of Sgt Leonard Hornsey, RAF

²⁹ Graham Tall, Webmaster, **In Memoriam - Sgt. Norman Leonard Hornsey**, grahamtall@wgsmemories.org.uk, Web pages began on 12th February 2005,

Source:

<http://www.grahamtall.co.uk/wgs1955/War%20Memorial/War%20Dead%20letters/Hornsey%20Norman%20%20Coastal%20Command.htm>

Accessed: 13 August 2010

A repeat?

It would seem little was learned from the Great Village experience. The exercise began with preparations on the afternoon of 23 October 1941. Ernest Allen was amongst the group so tasked. Allen, in company with 12 aircraft and crew, were to fly cross-country to Windsor, Ontario on a night time exercise with a fully loaded and fuelled aircraft. The exercise was daunting and challenging enough, even for the most experienced flyer.

The air crew flight tested their aircraft the afternoon prior to departure. Allen found his compass was out by 30 degrees on a westerly heading. He requested a new aircraft. Instead of acceding to this reasonable request, his moral integrity was challenged by the instructors.

Allen finally agreed to fly the craft with the proviso, “that if I couldn't maintain visual contact with the ground I would turn around and come back.”³⁰ He should have never been allowed to leave the ground with a defective piece of equipment in the first place, but he did. He was lucky to survive to tell the tale. Others on that fateful trip were not so fortunate.

Allen went on to recount, “My roommate Beech O'Hanley was the first aircraft to take off just after 1 a.m. on 23 October 1941. He climbed to about 2000 feet and then something went wrong and the aircraft turned upside down and went straight into the ground – ‘all killed’”³¹, so ended the night exercise for that day, killing O'Hanley, Hornsey and two other aircrew that night. The “exercise” was subsequently rescheduled for the following morning.

The rescheduled flight began the next morning. It was uneventful to a point. The weather held until the flight was within 50 miles west of Montreal. The weather then deteriorated because of heavy rain. The flight was forced to divert toward a bearing at St Hubert, Quebec. With little forward visibility and unknown to them, the radio direction finder at St Hubert had been re-located to Dorval a week earlier. Navigation was out by a wide margin.

The relocation of the radio detection finder to Dorval was not without cost. All but two aircraft eventually landed at Dorval. Two tried but were unable to locate the airport and crash landed in the attempt. Allen recounts that the expenditure of the

³⁰ Ibid, Ernest E. Allen, 1996, Part One - Pilot Training

³¹ Ibid, Ernest E. Allen, 1996, Part One - Pilot Training

total exercise was “three of the aircraft and crews had been wiped out and a fourth crew had safely landed in the bush, three hundred miles east of Montreal.”³²

Assumptions

There was an assumption of calculated risk behind this training of inexperienced crews to make an Atlantic crossing. Most of the civilian and military pilots who worked for Ferry Command had a dim view of the BCATP training experience.

Most Ferry Command crews had accumulated thousands of hours in their logbooks. Many Ferry pilots had careers and much experience before the war. The O.T.U. candidates had neither this luxury nor their level of experience.

Many of the more experienced Ferry Command flyers were inclined to shake their heads in disbelief at the process. They were being augmented by ‘kids’ in their late teens and early twenties, with a maximum of only 350 hours flying time to their credit.

A trans-Atlantic air crossing in that day and age was a most foreboding experience. The crossing was both a new and an unknown prospect. Few experienced crews had actually ever undertaken the challenge prior to the war. It was both equally dangerous and demanding. There were few external navigational aids to guide the intrepid in the task.³³ A safe crossing all boiled down to training, skill and luck to arriving safely at the destination. For some, luck ran out before the trip was ever made.

Debert Operations – The Unknown Triumph

There were also triumphs despite the tragedies inherent in training. Operational Training Units were just that, “operational”. Although training was a primary function, the trainees could also be tasked in a pinch with operational sorties. Debert and Greenwood became a part of a coast watcher chain in early 1942.

Two nine-meter wooden towers were constructed at Greenwood and Economy Nova Scotia. These structures had two purposes. They functioned as a bomb ranging and gunnery exercise observation platforms. Aircraft from Greenwood and

³² Ibid, Ernest E. Allen, 1996, Part One - Pilot Training

³³ Ibid Hatch, pg. 75-76

Debert were despatched under the control of range safety officers who would assess their performance.³⁴

The Debert and Greenwood aircraft thus fully bomb loaded and armed, could easily be diverted to more profitable targets when such were present and in the area. It added an air of realism to their duties, even when proceeding to the ranges!

There was a definite necessity for incorporating these towers into a coast watcher plan. The U-boat threat was apparent to those in the convoy system off the North Atlantic, out of Sydney, and Halifax. This necessitated that all approaches had to be protected by all available naval and air resources, and that included the operational training units too!³⁵

These air assets had a great bearing in the spring of 1942. Canada felt the sting of war in its littoral waters, in the first naval attacks there since the War of 1812.³⁶ U-boats approached the Gulf of St Lawrence and patrolled the estuary and came within 600 km of Quebec City. It seemed such a great distance, but the Gulf is quite large! The U-boat activity in the Gulf caused a certain amount of consternation amongst the Canadian citizenry. It was an event for which we seemed to be grossly unprepared.

The assault on Canadian territory began proper in the arrival of U-553 in the Gulf of St Lawrence. U-553 sunk two ships in close order bringing the attention of the importance of the St Lawrence estuary to both the German Admiralty and Canadian Government in May 1942. The Gulf of St Lawrence suddenly became a true theatre of war!³⁷ All of Canada's military assets were brought to bear on this looming threat. And so it happened that Debert played a role as well.

³⁴ Greenwood Military Aviation Museum, WWII Observation Tower, 18 Nov 2009, Page 5.1 Rev. 0

Source: <http://gmam.ca/tower.htm>

Accessed: 30 November 2010

³⁵ Ibid Greenwood Military Aviation Museum,2009, Page 5.1 Rev. 0

³⁶ Fabrice Mosseray, **The Battle of the St. Lawrence -A Little-Known Episode in the Battle of the Atlantic**, UBoat.Net 1995-2010, 29 Mar 2002.

Source: <http://uboat.net/articles/?article=29>

Accessed: 30 November 2010

³⁷ Ibid, Mosseray, 29 Mar 2002

The German Navy had no real plans for incursions into the St Lawrence. The first incursions were merely accidental. U-553 came to the Gulf only to make repairs so it could return to its patrol line in the Atlantic.

The Gulf of St Lawrence was considered a calm safe sector to do that. However, an opportunity quickly presented itself that hinted that operations in the Gulf struck at the Canadian heartland. U-553 quickly targeted in-land shipping found there with great success for even in this small battlespace, U-boats were hard to detect.

The O.T.U.s came to play an important role in providing air cover in the approaches of Gulf of St Lawrence, Atlantic and elsewhere. They augmented Canadian naval and RCAF Eastern Air Command resources. It was hoped that air support lent in finding the enemy. Still conditions in the Gulf were more favourable for the enemy.

Air attack was very weather dependent. U- Boats had to surface and be seen by air resources to be attacked in that day and age. So as long as U-boats remained submerged, they were largely undetected by air until they reached the limits of their endurance and surfaced.

It was no different for the Navy. The Gulf's estuarine conditions provided U-boats with a cloak of subsurface invisibility that shielded them from sonar-ascdic contact. The Asdic system of the day was limited by the bathyscaphe effect. It was the mixing of saline, fresh, hot and cold water in an estuarine environment that blended in the Gulf, which provided a virtual cloak of invisibility through electronic distortion.³⁸ But there was considerable Canadian action despite these difficulties.

It wasn't a bed of roses for the enemy either. The intensity of the action in the Gulf can be illustrated by the experience of U-517. U-517 was on the receiving end of considerable Canadian attention. U-517 was severely damaged while on patrol before it departed for home base at Lorient on 5 October 1942.

This damage left a lasting impression on the crew of that boat as well as that of the Commander of the German U-boat Headquarters. The U-517's commander

³⁸ Nathan M. Greenfield, **The Battle of the St Lawrence – The Second World War in Canada**, Harpers-Collins Publishers Ltd., 2004, pg. 60:

Bathyscaphe effect the blending of fresh and salt, cold and warm water in an Estuary system.

calculated that he had been on the receiving end of at least 27 bombs and 118 depth charges since his arrival in the Gulf. This ordnance was dropped near enough to cause him considerable discomfort.³⁹

Still, not one U-boat was sunk in the Gulf of St Lawrence during the active campaign of 1942. But this did not mean that the U-boat got away scot-free! The collective experience of U-boat commanders operating in the Gulf of St Lawrence, left a deep impression on Admiral Dönitz.

Dönitz was impressed by both the number and intensity of the RCN and RCAF attacks; even though not one of his submarines was sunk by Canadian pilots or the RCN, the very presence of air cover and the presence of the RCN was a deadly deterrent.

Dönitz refrained from campaigning in the Gulf of St Lawrence in 1943 because of this fear.⁴⁰ His U-boats only returned to Canadian waters in 1944 with the introduction of the 'snorkel'. The introduction of snorkel was the technology that afforded protection, to re-charge batteries, while submerged.⁴¹ Until then, the threat of air cover contributed to keeping the Gulf free of the U-boat scourge.

Unbeknownst to Canada and its allies, a great victory had been won in 1942. The U-boat fleet was denied access to the Gulf of St Lawrence because of combined operations and because of air power in particular. It was a battle that was won in

³⁹ A.R. Byers (Ed.), **The Canadians at War 1939-1945 Second Edition**, The Reader's Digest Association (Canada) Ltd, 1986, pg. 129

⁴⁰David Andrews, **The Battle of the Gulf of St Lawrence**, Royal Canadian Legion Branch # 98 © 2008 All Rights Reserved, pg. 9

Source:

www.kingstonlegion.com/.../Battle%20of%20the%20Gulf%20of%20St%20Lawrence.doc and <http://www.kingstonlegion.com/Poppy/Call%20to%20Remembrance.html>

Accessed: 2 October 2010

Andrews cites ``His last five U-boats in the theatre had encountered too much opposition and had sunk only five ships. Dönitz believed that such results could not justify a continued presence in Canada's inland waters.... Still; a victory of sorts had been won. Ever-improving defences had deterred the U-boats, although it would take a post-war examination of German war records to confirm how seriously.

⁴¹ Fabrice Mosseray, 29 Mar 2002.

part because of the efforts of Eastern Coastal Command as well as the operational training units.

Eastern Coastal Command was largely augmented by aircraft from its O.T.U.s in the heat of this battle. It was the virtual presence of aircraft, whether they were fully operational or under operational training, that kept many a U-boat at bay that remained submerged during the spring-fall 1942 and on into 1944.

Debert Operational Sorties

Debert and other training units in maritime Canada operated in the Bay of Fundy, the Gulf of St Lawrence and well into the Atlantic to the extreme limits of their aircrafts' endurance in providing maritime protection and projecting air power. It was not a cushy jammy posting. There was always danger involved both in the training and on operations!

Hudson plane historian Bill Walker, of London, Ontario, observed "The instructors also used the school's aircraft to search for German U-boats in Canadian waters when the U-boats moved into the western Atlantic in 1942 and 1943".⁴² Part of the mission was training, but more importantly, the mission served an operational function as well. Aircraft overhead placed the fear of God into German submariners. They were forced to keep their heads down in the presence of orbiting aircraft.

Debert began operations on 23 May 1941 equipped with its Hudson aircraft in its role as a General Reconnaissance training unit. It undertook many anti-submarine patrols from Dartmouth over the Western Atlantic.⁴³

Mr. Walker's records document that the Debert School flew 1,041 operational missions. In the course of these missions, O.T.U 31 sighted seven U-boats, attacked two and known to have damaged one on July 4, 1943, about 160 kilometres south of Halifax.⁴⁴

⁴² Monica Graham, **Dalhousie Mountain Crash, 1942 - Wartime plane crash lives in memory**, Halifax Chronicle Herald Fri, 11 Nov 2005 on [NSExplore](http://www.nsexplore.ca/aircraft-crash-sites/dalhousie-mountain-crash-1942/), Exploring Nova Scotia, Source: <http://www.nsexplore.ca/aircraft-crash-sites/dalhousie-mountain-crash-1942/> Accessed: 13 December 2010

⁴³ Ibid Graham Tall, 12th February 2005, Accessed: 13 August 2010

⁴⁴ Ibid Monica Graham, Halifax Chronicle Herald Fri, 11 Nov 2005

Little did he know at the time, but Air Vice-Marshal Breadner's December 1940 request for the O.T.U.s paid off in spades. The O.T.U.s augmented Breadner's thin resources and provided the RCAF with much needed depth just by their mere presence alone!

U-boat captains were unable to discern between air threats, "Was this particular threat from a training or an operational unit?" It did not matter, for aircraft were the eyes on and a threat to Admiral Dönitz's U-boat fleet. Thus the O.T.U.s contributed greatly to the efforts of RCAF's Eastern Air Command.

The battle in the Gulf of St Lawrence reminds us that there were casualties on Canadian soil during Second World War. Our memory is most often drawn to the battlefields on foreign soil, leaving us with a collective sense that there were no significant battles on Canadian soil.

Duty on Canadian shores was often considered benign. This false perception tends to denigrate the sacrifice of those souls lost here. It was anything but benign as the records so often show. The Battle of the Gulf of St Lawrence had an operational tempo of great intensity.

[The End of O.T.U. 31 and the beginning of RCAF Station No. 7](#)

After the surrender of Germany in May 1945, O.T.U. 31 was quickly closed and the facility transferred to the RCAF. The draw down of the BCATP had already begun by 1944. BCATP training was being curtailed. The plan was finally terminated 31 Mar 1945.⁴⁵ The British government requested in light of the curtailment of the BCATP that RAF schools be closed first.⁴⁶

Those British units that were considered essential to Canadian defence though were taken over by Canada and given RCAF designations. On the east coast, No. 31 Operational Training Unit at Debert and No. 36 at Greenwood, NS, both were re-designated as No. 7 and No. 8 respectively and staffed with RCAF personnel.⁴⁷ RCAF Station Debert had a second life.

⁴⁵ *ibid* Hatch, 1983 Chapter 9 for full details

⁴⁶ *ibid* Hatch, 1983 Chapter 9 for full details

⁴⁷ *ibid* Hatch, 1983, pg. 184

Debert was spared closure as forces were transferred there for the final preparations for the invasion of Japan. A tiger force was assembled consisting of Mosquito and Lancaster Aircraft under No. 7 Squadron of the RCAF in preparation for Canada's bomber contingent of 141 Lancaster Mk.X's for the final push on Japan.⁴⁸ The tiger force never made it there as the dropping of the atom bomb at Hiroshima and Nagasaki forced Japan's surrender.

The war was finally over! But up until that time, training continued in earnest with the cost of additional lives. On 30 November 1944, Pilot Officer Breadner and Flying Officer K.B. Bennett were both killed when their Mosquito aircraft #KB278 struck a hill, three miles north of Westchester, Nova Scotia.

Pilot Officer Breadner was only 20 years old when he met his end. He left behind to grieve, like many other Canadian families who lost a loved one at the time, his father, and Canada's Chief of Air Staff, Air Chief Marshal Lloyd S. Breadner, and his mother, Mary Evelyn of Ottawa, Ontario.⁴⁹

It was ironic that Breadner's request to bring the O.T.U.s to Canada, and the construction of a station at Debert, led to such a very deep personal loss and tragedy.

The BCATP's True Cost

We tend to measure our war success in costs either in dollars and cents or as benefits/costs. However the true cost of war is truly measured by the lives lost for the liberty gained. There were some 856 deaths in the training of 131553 aircrew who were employed in the BCATP in Canada. It was estimated that 70% of these may have been due to youthful exuberance nominally known as disobedience, carelessness, and pilot error.⁵⁰

⁴⁸ Anon. Lancaster's Of Tiger Force - Canada's Contribution to Tiger Force, www.lancaster-archive.com, Updated: June 2008

Source: http://www.lancaster-archive.com/lanc_tigerforce.htm

Accessed: 13 August 2010

⁴⁹ Find a Grave, <http://www.findagrave.com/cgi-bin/fg.cgi?page=gr&GRid=20856798>, accessed: 20 December 2010.

⁵⁰ Ibid A.R. Byers (Ed.), 1986, pg. 86 and
ibid Hatch, 1983, pg. 202, Appendix B

Debert incurred some 110 of these 856 fatal casualties (13%) during the war.⁵¹ However we tend to hide the true cost of war in the loose margins of a slight casualty rate. The losses at Debert measured less than one percent of the total from training between October 1940 to March 1945. Too many that cost likely seems piffling.

The true cost though does not convey the anguish or the fact that much more was lost in the way of intangibles; in human potential, lost relationships, or shortened lives. A fine web of humanity was expended leaving a gaping hole in the fabric of life of many nations.

Closing Remarks – “Lest we forget”

Debert was finally paid off in 1946. Like so many facilities and assets, Crown assets either disposed or managed its civil conversion. Debert began the process of reversion to its pastoral setting with a greatly reduced population. The airfield was abandoned, and facilities were finally stripped bare.

Where there was once great activity, now was only silence. The silence may give one pause and the time to reflect. There was a small cost in lives in the training plan. But this loss of life was a linchpin and a key to ultimate victory. Canadians should never forget that there is a debt owed to these brave souls.

Our attention would be tragically misplaced if we do not consider their sacrifice and the part they played in the greater war effort. For some, like O.T.U. 31 Debert, it was not just training. Some days it was very real and very operational. Lives were tragically lost. The graves of many are yet unknown, and others do lie in perpetual rest on Canadian soil. It is only for us to go out and see for ourselves, “lest we forget”.

⁵¹ Hosted by RootsWeb Ancestry.com, **No.31 Operational Training Unit June 3, 1941-July 1, 1944 - No.7 Operational Training Unit July 1, 1944-July 20, 1945 Debert, Nova Scotia, Roll of Honor**, 2010

Source:

http://www.rootsweb.ancestry.com/~nbpennfi/penn8b1RollOfHonour_No31O.T.U._TrainingCasualties.htm

Accessed: 20 December 2010

TRIUMPH AND TRAGEDY OF OPERATIONAL TRAINING UNIT 31, DEBERT NOVA SCOTIA

By Major (Ret'd) G.D. Madigan

7 March 2011

Training has long been the *raison d'être* at the airfield in Debert, Nova Scotia. It is still conducted there today, but on a much smaller scale. It is where the Atlantic Region's Royal Canadian Air Cadet now holds its Annual Summer Glider Camp. But in the days of the Second World War, training there was decidedly different and of another sort, air warfare.

Training at Debert was particularly urgent and decidedly focused to two urgent requirements. First there was a need for trained crews for combat operations directed to the specific needs of Coastal Command. Second, there was an requirement for the movement of aircraft in a vast ferry operation to expedite the delivery of combat aircraft to Great Britain. Time was of the essence.

A river runs nearby Debert and the former training area. The Debert River winds its way around out to Cobequid Bay toward the Bay of Fundy. But many years ago, this river was a silent witness to acts of baptism, of heroism, and of tragedy.

At approximately 0445 hours on 20 July 1943 a Hudson Bomber crashed in a nearby wood off the Debert River. Lance-Corporal Edwards was first on the scene at the crash site. Edwards had made his way to a burning Hudson Bomber, a considerable distance in the dark, with fire extinguisher in hand. He waded through the Debert River to find a fiery inferno.

Edwards arrived too late to save the crew. Edwards only managed to pull the burned bodies of the pilot and an officer from the wreckage with the help of another NCO. He was badly burned in the process. Only his wet clothing and the dunk in the river in the rescue attempt saved him from severe burning.

Edwards' bravery was recognized by the Royal Air Force contingent at Debert. The Commanding Officer of the contingent sent his unit a "highly commended" letter as thanks and gratitude for Edward's quick action and selfless conduct.⁵² His actions likely deserved better but scenes like this played out time and again at Debert and at many other airfields in Canada under the British Commonwealth

⁵² [NSExplore](#), **Exploring Nova Scotia - Debert River July 1943**, in Canada Gazette 1 January 1944, 2010

Source: <http://www.nsexplore.ca/aircraft-crash-sites/debert-river-july-1943/>

Accessed: 13 December 2010

Training Plan. There was little time to document and record what was common valour in the tempo of the day. Many acts of bravery went unnoticed and unrewarded.

Dire Straits

There was little time for recognition or reward during the war. Battles were being fought on many fronts. The Germans were ascendant in the Battle of the Atlantic causing great shipping losses and casualties.⁵³ In 1940, the Battle of France was about to be lost and the Battle of Britain about to begin.⁵⁴

The United Kingdom and allies, left largely on their own from 1939 to late 1941, were viewed as underdogs likely to lose to the fight with Germany in 1940 after the fall of France. The thin red line “Air Power” was in short supply. The trip wire the naval force was heavily tasked. The merchant navy, the lifeline, was heavily mauled. The Army, the shield, was virtually unarmed, having lost most of its arms following its retreat from France at Dunkirk, was destitute and had to be re-built.

The strategic balance decidedly was not in Britain’s or her Allies favour. They were struggling. Defeat loomed on the horizon. The Battle of the Atlantic was at its peak and Britain and its allies were only hanging on by a thread.

The United Kingdom had a great need for all types of defence stores. The only way to get these stores across an Atlantic was either by sea or by air. The only ready suppliers in the beginning were found in Canada. Canada became a vital conduit, bread basket and industrial base staving Great Britain from defeat. The United States, by law, remained virtually “neutral” until 7 December 1941.⁵⁵ Britain held on by a slim thread, whose lifeline and sustenance came across the Atlantic Ocean from the New World through Canada.

⁵³ Juno Beach Centre , Canada in WWII, Ferrying Aircrafts Overseas, 2003,
Source: <http://www.junobeach.org/e/4/can-tac-air-fer-e.htm>

Accessed: 14 February 2011

“shipping was an increasingly uncertain business on account of U-boat attacks.”

⁵⁴ John Keegan, **The Second World War**, Penguin Books, 2005 (first published 1990)
Chapter 3,4,5 provide an excellent overview of the timeline

⁵⁵ Ibid Keegan, 2005, pg. 538-540

Moving a Backlog

Britain's thin red line "Air Power" though was about to be bolstered by aircraft orders from the United States. It became Canada's responsibility to move and get these delivered in theatre. Canada became the junction point for that aircraft delivery. Many aircraft types were transported by ship. But the risk in losing these was a far greater risk by flying airframes across in the Atlantic. Ships were simply sunk in scores in crossing the Atlantic even in convoy.

The logistics of transporting Great Britain's need was a daunting one. The aircraft order of 26,000 airframes with the United States and the limitations of trans-Atlantic shipping for the bulk of the aircraft delivery demanded an establishment of a unique organization to move these orders.⁵⁶

The Atlantic Ferry Organization (ATFERO) was established to meet the growing demand and to deal with a looming backlog of undelivered aircraft. The concept for ATFERO began with a general contract placed by Lord Beaverbrook in 1940. A contract was signed with the Canadian Pacific Railway on 16 August 1940.

Montreal banker, Royal Bank President Morris W. Wilson and the President of the Canadian Pacific Railway, Sir Edwin Beatty were given oversight of the contract and placed in control of its general operations.⁵⁷ This contract was subsequently cancelled and the Ministry of Aircraft Production took full control in the creation of the Atlantic Ferry organization (ATFERO) in May 1941.⁵⁸

The Ministry of Aircraft Production took full control by creating the Atlantic Ferry organization (ATFERO) in May 1941.⁵⁹ ATFERO was organized about three group leaders. Each group had 35 first pilots and 11 second pilots tasked to move 26,000 aircraft of various types.⁶⁰ The day to day operations was managed by an

⁵⁶ Ibid Juno Centre Ferrying Aircraft, 2003 "The logistics for the transportation of so many planes rapidly became a major undertaking."

⁵⁷ Time Magazine, **World War: IN THE AIR: One-Way Airline**, Monday, Oct. 20, 1941
Source: <http://www.time.com/time/magazine/article/0,9171,851303,00.html>
Accessed: 14 February 2011

⁵⁸ Ibid Juno Centre Ferrying Aircraft, 2003

⁵⁹ Ibid Juno Centre Ferrying Aircraft, 2003

⁶⁰ Canada, National Defence, Director of History and Heritage, File 74/13 No. 31 O.T.U., 3 February 2011, pg. 1

experienced pilot, Punch Dickins.⁶¹ The organization's capacity remained though too small to handle the volume. It became very evident that AFTERO needed further augmentation.

The problem was where would the additional air crew come from? It was also very evident that even with additional crews from civilian sources; AFTERO did not have the capacity and was unable to address the backlog. The future system of quickly returning pilots to Canada had yet to be worked out in 1940-42. It was only later that a return loop was created by Trans Canada Airlines that eased pilot shortages. A few converted Lancaster's were purchased in 1943 and 1944 to carry passengers and freight to return the ferry pilots expeditiously to do so.⁶² That loop simply did not exist in 1941.

AFTERO problems in 1940-1941 loomed on two fronts, first the lack of trained crew, both in pilots and navigators. Second the backlog of aircraft sitting on Canadian soil waiting to be delivered, continued to grow. It was simple labour economics. The deliverable pool of aircraft swamped pilot/crew availability because of insufficient supply.

Staring Dickins and AFTERO squarely in the face in December 1940, was the accumulation of 674 Hudson aircraft sitting on Canadian soil awaiting delivery to the United Kingdom. Looking ahead to 1941, it wasn't going to get any better. AFTERO and Ferry Command forecasted an increased inventory and various new aircraft types including, 91 PBV Catalina, 58 B-24 Liberators and 20 Flying Fortress with an unknown quantity of Marauders, Baltimore and Boston aircraft.

It quickly became evident that the ferrying aircraft was a complex problem. The increased number of aircraft types, the volumes, their complexity and size of the operation continued to try AFTERO's handling capacity. One simple solution was, hire more civilian pilots! That was done but complaints were soon raised on the one hand that this source of supply was inordinately expensive.⁶³

⁶¹ George Lothian, **Flight Deck – Memoirs of an Airline Pilot**, McGraw-Hill Ryerson Ltd., 1979, pg. 74-75

⁶² Ibid Juno Beach Centre, **Ferrying Aircrafts Overseas**, 2003

⁶³ Ibid DHH File 74/13 No. 31 O.T.U., 3 February 2011, pg.1 and

Montreal Gazette, **High cost of ferry command pilots leads to switch to RAF pilots**, 19 September 1941

Source:

<http://news.google.com/newspapers?id=enYtAAAIBAJ&sjid=i5gFAAAAIBAJ&pg=2646,3345415&dq=ferry+command&hl=en>

Accessed: 30 January 2011

Then came the complaints from the civilian airlines. AFTERO's problems were soon exacerbated by pressing demands elsewhere. Most of AFTERO's staff were on short term loan and were urgently required by the burgeoning needs of Canada's domestic commercial airline system. They wanted their staff back!

The standing agreement was that Civilian commercial pilots were only to be seconded to AFTERO for a three-month tour. They were then to be replaced by others on a rotational basis. However, this system proved both ponderous and impractical. It did not help that the airlines demanded their pilots back. Canada's commercial pilots were needed to run the growing and expanding demands in domestic operations.⁶⁴

To the rescue

The pressures of a looming backlog had to be dealt with. The Chief of Air Staff mandated operational training units be used to train some candidates for AFTERO's need. Additional training was developed for the ferry operation. An assemblage of selected crews was given the necessary flying practice with the view to augmenting and ferrying the backlogged aircraft to the United Kingdom.⁶⁵

Operational Training Unit (O.T.U.) 31 at Debert was one unit selected for this purpose. Its mandate was organized with two functions in mind, the conduct operational training and the conduct of a short conversion course for the ferry program.

Operational Training Unit (O.T.U.) 31's initial training establishment consisted of 86 officers and 861 other ranks. O.T.U. 31's original aircraft table included 32 Hudson and 11 Anson bombers that was further augmented with an additional 12 Hudsons for the short conversion course to meet the growing training demand and expanded mandate.⁶⁶

The original O.T.U. course was of eight weeks duration that was arranged to produce 10 crews every 4 weeks. Each trained crew consisted of two pilots and two wireless air gunners. The pilots were given General Reconnaissance training

⁶⁴ Ibid George Lothian, 1979, pg. 88

⁶⁵ Ibid DHH File 74/13 No. 31 O.T.U., 3 February 2011, pg.3

⁶⁶ Ibid DHH File 74/13 No. 31 O.T.U., 3 February 2011, pg. 2

where possible. Along with that some pilots were also trained to meet the requirements as second officers in the AFTERO ferry duty.

The trainees were given sufficient training to gain a standard level of proficiency in Canada with final operational training at the gaining units overseas. The ferry duty was the extra bonus that alleviated the strain in aircraft delivery to overseas theatres. The initial planned output was subsequently adjusted to 50 pilots per month with a peak population of 25 on station at anyone time.⁶⁷

This output went a long way to addressing the needs of AFTERO, at least in theory. In the short term though, there was a mismatch of expectations to delivery rates. The surge of the backlog of aircraft that was delivered out stripped the capacity of the available staff even with the expected output from the schools at least from 1940 to 1941. Aircraft orders simply were not moving fast enough into theatre prompting many complaints from American Suppliers.⁶⁸

Despite the increased numbers trained, there continued to be a pilot/navigator shortage. These “shortages” placed an undue pressure on the training staff that, for operational necessity, pushed the training of crews expediently forward, but at a cost. Put quite simply the BCATP had not reached its stride in 1940. It was simply in its infancy. Any appreciable training did not occur or start until the spring of 1941 because many of the bases in the BCATP were still under construction.⁶⁹

The demands for pilots and navigators were but one problem to contend with. An air bridge over the Atlantic had never been attempted on such a scale before. There were few navigations aids and those aids that did exist, were primitive at best.⁷⁰

Then there was the weather! The North Atlantic was notorious for bad weather conditions. Pilots were essentially on their own when assessing those

⁶⁷ Ibid DHH File 74/13 No. 31 O.T.U., 3 February 2011, pg. 2-3

⁶⁸ Ibid Juno Centre Ferrying Aircraft,

⁶⁹ F.J. Hatch, **Aerodrome of Democracy: Canada and the British Commonwealth Air Training Plan 1939-1945**, Department of National Defence Directorate of History, Monograph Series No. 1, © Minister of Supply and Services Canada, 1983, pg. 74

⁷⁰ Ibid DHH File 74/13 No. 31 O.T.U., 3 February 2011, pg. 3 cites lack of supplies, and Sergeant R. W. Harris, **Memories of Debert, N.S.**, undated
Written account in Debert Military Museum Archives

Source: <http://www.debertmilitarymuseum.org/harris.htm>

Accessed: 5 October 2010 Description of conditions, and

Ibid DHH File 74/13 No. 31 O.T.U., 3 February 2011, pg.3 conditions that existed at the beginning 1941

meteorological conditions. It was not uncommon for a 10-day delay at Gander to await clearing conditions.⁷¹

Weather delays exacerbated the delivery schedule and only added to the growing backlog. But it was under these circumstances that crews would have to be trained if they were to be any use in ferrying operations.

These factors placed additional stresses on those conducting the training as well as high expectations and goals from those being trained. The strategic situation demanded the development of highly skilled, truly focused, and well-motivated crews trained under very tight deadlines to meet the pressures of the delivery pipeline. Pressing operational needs meant the movement of critical aircraft became a matter of operational necessity.⁷²

A System In Crisis And Distress

Despite AFTERO's best efforts the system remained in crisis. The use of commercial pilots was likely only a short term stop gap measure until the tide could be turned from the arrival of the graduates from the BCATP. Still this remained a matter for concern as Air Chief Marshal Sir Frederick Bowhill; the Royal Air Forces top ranking officer responsible for Coastal Command.

Bowhill was tasked with sorting things out and posted to Canada. Bowhill arrived from Great Britain on a short two days notice. His new responsibilities were deemed more vital to Britain's defence than his then important function at Coastal Command.⁷³

Air Chief Marshall Bowhill was a highly respected airman and had a reputation for getting things done. His new job was to be purely administrative. But hopes were riding high on Bowhill's skills and reputation. His performance was considered crucial to tilting the strategic balance in moving vital aircraft orders to Britain.

Bowhill's job was to sort out the rough spots upon assuming the duties of aircraft transfer from AFTERO first pioneered by a Morris W. Wilson and Sir Edwin

⁷¹ Ibid George Lothian, 1979, pg. 78

⁷² Time Magazine, **World War: IN THE AIR: One-Way Airline**, Monday, Oct. 20, 1941
Source: <http://www.time.com/time/magazine/article/0,9171,851303,00.html>
Accessed: 14 February 2011

⁷³ Ibid, Time Magazine, **World War: IN THE AIR: One-Way Airline**, 1941

Beatty back in 1940. Bowhill's task was simple; make flying across the Atlantic a matter of routine.⁷⁴

Bowhill took up his new appointment on 14 June 1941 where he assumed AFTERO's full responsibility upon his arrival.⁷⁵ And so, the ferry program began anew in August 1941 when Ferry Command was created with Bowhill as its commander. All AFTERO's responsibilities were thus transferred to Ferry Command in the matter of vital aircraft transfers from Canada to the United Kingdom.⁷⁶

Bowhill still faced the same challenge as AFTERO, pilot and navigator shortages. A large civilian component was retained to make the system work but it was under now military supervision that coordinated a vital large scale enterprise of strategic importance.⁷⁷

The growing displeasure at the backlog remained even after Bowhill's arrival. The supplier's frustration remained and a sense the urgency demanded results! But Bowhill could not fight the weather nor could the system graduate candidates quick enough from the BCATP in 1941.

⁷⁴ Ibid, Time Magazine, **World War: IN THE AIR: One-Way Airline**, 1941

⁷⁵ The Windsor Daily Star, Heads British Plane, Ferries, Sir Frederick Bowhill Is Given Direction of New Unit, 14 June 1941

Source:

http://news.google.com/newspapers?id=ESE_AAAAIBAJS&sjid=s08MAAAAIBAJS&pg=6504,968819&hl=en

Accessed: 5 February 2011

⁷⁶ Montreal Gazette, **RAF takes charge of plane ferrying – Atlantic Service Handed over by Ministry of Aircraft production**, 6 August 1941

<http://news.google.com/newspapers?id=gy0rAAAAIBAJS&sjid=tJgFAAAAIBAJS&pg=2825,917390&dq=ferry+command&hl=en>

Accessed: 30 January 2011

⁷⁷ [Juno Beach Centre](http://www.junobeach.org), **Canada in WWII, Ferrying Aircrafts Overseas**, 2003,

Source: <http://www.junobeach.org/e/4/can-tac-air-fer-e.htm>

Accessed: 14 February 2011

Pressure flows downhill

Interestingly, Operational Training Unit (O.T.U.) 31 was virtually established as Bowhill assumed his new command in Canada. The decision to train ferry crews was made by the UK Air Ministry back in April of 1941 as the seed crop of what became O.T.U. 31 was moved from England in three echelons.⁷⁸

The First Echelon departed the U.K. on April 25th, 1941, sailed on May 2, arriving Canada on May 21st. The Second echelon assembled May 9th, sailed 11 May, arriving June 4th. The third Echelon formed on May 23rd, sailed May 30th and landed on June 16th, 1941.⁷⁹

O.T.U. 31 was supposed to off and running once the transferred staff hit the ground. But the airfield was largely under construction, save the runways. Its mission and scope were also changed or modified regularly. Then the transferred staff was also broken up and dispersed on arrival. The unit must have been under considerable stress. To add to its distress, neither of the two instructors included in the first echelon for O.T.U. 31, had ever flown a Hudson bomber.⁸⁰

The Hudson was chosen presumably, because of the dire need for combat aircraft in the United Kingdom. Second they were readily available and easily obtained from the United States. The subsequent decision to combine the training on this platform for operations and ferry command duties was a side benefit. It was the main airframe sitting in inventory and on backlog on Canadian soil! This was the solution that aimed to ease the growing demand for qualified pilots and navigators and that aimed to reduce Bowhill's looming backlog in 1941.⁸¹

Beech O'Hanley and AM896 -the Great Village Crash 23 October 1941

Student training began in this chaotic environment. Twenty pilot trainees finally arrived at Debert late August 1941 for training on Lockheed Hudsons. The hope of

⁷⁸ Ibid DHH File 74/13 No. 31 O.T.U., 3 February 2011, pg. 8

⁷⁹ Ibid DHH File 74/13 No. 31 O.T.U., 3 February 2011, pg. 2

⁸⁰ Ibid DHH File 74/13 No. 31 O.T.U., 3 February 2011, pg. 8-9

⁸¹ Ibid DHH File 74/13 No. 31 O.T.U., 3 February 2011, pg. 6

this training was that it would lead to crewing up and qualification as “Captain” for Atlantic ferrying operation. The hope was that each new “Captain” would take one aircraft over to England.⁸² Some would come to find training to be more realistic than operations.

During the course, 12 Hudson Bombers were tasked with a night exercise on 23 October 1941. It was a cross-country flight to Windsor, Ontario designed to test a flight of 12 Hudson bombers fully loaded and fuelled in preparation for the eventual “Ferry” task. The exercise was a daunting one as the Hudson was still a relatively new aircraft type to both instructors and students.

Pilot Officer Beech O'Hanley was in the first aircraft to take off just after 1 a.m. in the dark that morning. O'Hanley climbed to about 2000 feet where he and his crew met with an unknown catastrophic failure. His aircraft turned upside down and plunged straight into the ground killing all aboard.⁸³ The cause of this crash was considered “obscure” according to a court of inquiry held later on 25 October 1941. The court simply noted that the aircraft flew into the ground and disintegrated.

Given the time between the opening of the crash record on 23 October and the closure of the Court of Inquiry on 25 October 1941 little time was given to determining the cause of the demise of the crew of Hudson AM896.⁸⁴ There were eyewitness reports on the ground, that saw the plane in flames as it plunged in toward Great Village Nova Scotia.⁸⁵ But as eyewitness accounts were often considered unreliable, these reports were likely discounted by the Court.



Beech O'Hanley killed in a nighttime flying accident with his Crew at Debut N.S. in November 1941.

With permission – photograph from E. Allen, *An RCAF Pilot's Story 1939-1945*

⁸² Ernest E. Allen, *An RCAF Pilot's Story 1939-1945 from the memoirs of Ernest E Allen*, 1996, Part One - Pilot Training

Source: <http://www.seawaymall.com/eallen/>

Accessed: 13 August 2010

⁸³ Ibid Ernest E. Allen, 1996

⁸⁴ Canada, National Defence, Director of History and Heritage, Air Crash Card Record 1300-AME896, 23-10-41, Time 07:30,

⁸⁵ Montreal Gazette, Eight Airmen crash from R.A.F. School, 24 October 1941

The remainder of the flight was subsequently held back for take-off during daylight whence once again it was to proceed to Windsor. The weather held until about fifty miles west of Montreal, where the ceiling fell, and heavy rains came in.

The flight was flying visually and had very little forward visibility. All in this flight relied on a Radio Direction Finder (RDF) compass tuned in to St. Hubert. Regrettably nobody told Debert that the transmitter had been moved a little further east to Dorval only a week earlier.⁸⁶

Despite the weather and incorrect RDF location, most made it to Dorval with difficulty. However weather, probable misdirection of the radio beacon, and possible equipment failure, contrived to make the issue of navigation and a safe landing doubtful for Hudson AM895. These factors were again to have tragic consequences for the second aircraft lost on 23 October 1941. Hudson AM895 crashed and burned beyond recognition near Cartierville Quebec.

Pilot Officer J.F Boyd, captain of AM895, and Pilot officer A.E.G Wainwright, his navigator, were RCAF trainees who died in what was a funeral pyre. Other crew members included Wireless Air Gunner A Sergeant A. Kirsch (RCAF) and LAC A.J. Morris (RAF).⁸⁷

Another Court of Inquiry was held into AM895's demise, the same day 25 October 1941, as AM896. The court members were the same too. The relevant facts determined by the Court found that AM895 while on a final training flight, crashed and burned while attempting a forced landing at l'Abord a Plouffe near Cartierville, Quebec at about noon on 23 October 1941.

The Court ascertained both a probable primary and a secondary cause in this particular crash. The primary cause was assessed as "that the pilot being forced to fly a low altitude due to adverse weather conditions while attempting to approach the Dorval Aerodrome, failed to see the barn and crashed into it.

Source:

<http://news.google.com/newspapers?id=CI AuAAA IBAJ&sjid=3ZgFAAAA IBAJ&pg=6656,4284267&dq=hudson+bomber+debert+1941&hl=en>

Accessed: 20 January 2011

⁸⁶ Ibid Ernest E. Allen, 1996

⁸⁷ Canada, National Defence, Director of History and Heritage, Air Crash Card Record, 1300-AN895-1, 23-10-41, Time not recorded.

The secondary cause was “That the pilot stalled the aircraft commenced into a spin and crashed into the barn.” The court did not make any direct findings on the mis-location of the Radio Detection Finder as a probable cause or as a factor in the crash. The onus was squarely placed on the crew for their demise.⁸⁸

However the Courts recommendations on AM895 are also telling for the faults within the training system at the time. The recommendations were:

- a. “That Pilots, Air Observers, and Wireless Operator Air Gunner course at 31 O.T.U. be extended to enable crews under training to be given ample experience in flying in adverse conditions under supervision,
- b. Before crews under training are sent O.T.U. on cross country flights without supervision, the Chief Flying Instructor is to satisfy himself that they are competent to cope with any weather conditions they are likely to meet.
- c. That instrument flying instruction to a minimum of ten hours should be given to pilots on the course prior to night flying instruction,
- d. In order that the above recommendations may be put into effect, that all I.E. aircraft be equipped with dual sets
- e. All aircraft should be provided with microphones and telephones to allow the use of inter-communication by the crew and also allow communication with the Department of Transport Radio Range Stations when necessary.”

Like the Court for the Great Village crash held on the same day, the Court also failed to incorporate any eye witness accounts. Witnesses on the ground reported that AM895 too, was observed on fire by people on the ground, as it was side slipping toward an outhouse when it crashed at l’Abord a Plouffe.

The plane settled on the small structure and simply ignited. A terrific heat burned the building to the ground and left AM895 largely unrecognizable, melting the aircraft beyond recognition, save a wing tip that was left comparatively undamaged.⁸⁹

Pilot Officer O’Hanley had a total of 275 flying hours; 29 on instrument, 22 at night, 9 hours solo and 33 hours dual on type.⁹⁰ Pilot Officer Boyd had a total of

⁸⁸ Ibid Air Crash Card Record 1300-AN895-1, 23-10-41

⁸⁹ Ibid, Montreal Gazette, 24 October 1941

⁹⁰ Ibid Air Crash Card Record 1300-AME896, 23-10-41, Time 07:30,

295 flying hours; 29 on instrument, 9 at night, and 12 dual and 61 solo on type.⁹¹ Each pilot exceeded the minimum instrument flight recommendation based on the Court's findings. It is doubtful then that flying on instruments was the problem.

Their demise points to other probable causes not investigated by the Court. There was no indication in the record concerning that the mechanical conditions of the aircraft in this flight should be investigated. In any case they couldn't as little remained to do so.

Reporting in the Montreal Gazette of 24 October 1941 was a sidebar article on the l'Abord a Plouffe crash near Cartierville, Quebec that described the condition of the remains of the four victims of the crash. AM895 was described as a funeral pyre. The bodies of Wainwright and Boyd were identified only by inflammable objects found on their remains, while Kirsch and Morris were identified conclusively by other means.⁹²

Orders were received by the surviving crews to remain at Dorval until the issues were sorted out. They checked in at the Mount Royal Hotel in downtown Montreal. They were there three days waiting for the weather to improve, just awaiting

⁹¹ Ibid Air Crash Card Record 1300-AN895-1, 23-10-41

⁹² Montreal Gazette, Air crash Inquest Held – Identity of 4 Victims Said Fully Verified, 24 October 1941

Source:

<http://news.google.com/newspapers?id=CI Au AAA A IBAJ&sjid=3ZgFAAAA IBAJ&pg=3631,4553895&dq=air+crash&hl=en>

Accessed: 28 January 2011



This is the Lockheed Hudson, the aircraft type on which we were training.

With permission – photograph from E. Allen, *An RCAF Pilot's Story 1939-1945*

further instructions.⁹³ The cost of the day's training had been at the cost of two valuable aircraft and 8 crew killed.⁹⁴

Training Assessment – A Balanced Point of View

Training was not conducted in a vacuum. A need for quality control was established early on in the BCATP prior to these events. The Visiting Flight (VF) program was instituted at CFS Trenton in the summer of 1940 to assess the training program. The VFs assessed most training and O.T.U. establishments and assessed the quality of both the instructors and students.

Those VF early assessments were both rigorous and very thorough instilling fear in many. They indicated though that the training was being conducted at a high standard of efficiency given the limited resources available and the time under which the BCATP was established.⁹⁵ There was no doubt to the VF assessors that the training staff was both proficient and dedicated in the performance of their duties.

The British Air Ministry also securitized the schools and held a similar opinion. In late 1941, the Ministry found there was little difference in training conducted by the RAF and RCAF. Air Marshal A.G.R. Garrod, its the chief investigator, found the instructors to be of a high quality and that school personnel were enthusiastic and driven in the training function.

Garrod noted though that despite the graduates being well trained and capable, there was still room for improvement in the areas of signals, map-reading, and instrument flying.⁹⁶ This observation may have been related to the events above in the eventual review of the activities of O.T.U. 31 on 23 October 1941 and the high

⁹³ Ibid Ernest E. Allen, 1996

⁹⁴ Ibid, Montreal Gazette, 24 October 1941

⁹⁵ Spenser Dunmore, *Wings for Victory -The Remarkable Story of the British Commonwealth Air Training Plan in Canada*, McClelland & Stewart Inc, Toronto, Ontario, 1994, pg. 326

⁹⁶ Ibid Dunmore, 1994, pg. 327

wastage rate for 1941.⁹⁷ Air Marshal Garrod's observations though hinted at some underlying improvements that were needed in 1941.

These assessments held until the spring of 1943 when the UK started to complain about the quality of pilots trained overseas and currently taking pre-operational training in Britain.⁹⁸ It was obvious that the standards required in 1941 were satisfactory and met the demands of the day. All student trainees passing through O.T.U. 31 achieved the exacting standards required of them in 1941. All were very capable and all were very accomplished young airmen.

There was probably more to it. It was likely that a collusion of multiple factors in the early training system from the events noted previously contributed to the higher wastage rates observed in 1941-42. The wastage rates were 18.8% from opening to the end of 1942. Then held steady at 13.9% 1943 and 13.5% to O.T.U.31's closure in 1944.⁹⁹

In 1941 everyone was new, and all were on a steep learning curve. It would seem that the early lessons were learned, and improvements made. Wastage rates did decline noted by an increase in the number of flying of flying hours and longer intervals between fatal accidents from 1942 on.¹⁰⁰

The evidence tends to suggest that there other probable causes outside the control and influence of the trainees of the Class of 1941. The instructors were assessed and they were rated "proficient". The candidates themselves met the standards required of highly trained pilots and navigators The evidence at hand, though not all encompassing, does suggest that three probable causes as factors were warranted for further investigation by the Court of Inquiry on 25 October 1941:

1. Mechanical Failure and Maintenance;
2. Navigation and Communication; and
3. Weather and all Weather Training

⁹⁷ Ibid DHH File 74/13 No. 31 O.T.U., 3 February 2011, pg. 11 and Ibid Ernest E. Allen, 1996 Allen's comments "A message was given to us ordering us to stay at Dorval until someone came up from Debert to decide what should be done to stop us from killing ourselves"

⁹⁸ Ibid Dunmore, 1994, pg. 327

⁹⁹ Ibid DHH File 74/13 No. 31 O.T.U., 3 February 2011, pg. 12 Wastage Rates No. 31 O.T.U.

¹⁰⁰ Ibid Dunmore, 1994, pg. 337 and DHH File 74/13 No. 31 O.T.U., 3 February 2011, pg. 11

Other Probable Factors – Mechanical Failure and Maintenance

The first evidence of possible mechanical and maintenance issues arose from the observations of the AFTERO civilian pilots. This evidence was not necessarily available to the Court of Inquiry. But AFTERO's civilian pilots were dismayed with the visual condition of the aircraft that they received in the fall of 1941. The observed aircraft were from the training units. The AFTERO pilots reported them as having had obviously seen a good deal of life.

AFTERO civilian pilots noted mud splashes lining the fuselage, the back of the wheels and that dirt was adhering in some open spots. This was not surprising considering that many of the airfields were under construction and virtual mud plains.¹⁰¹ Of most concern to them though was the observation of the engines, which had observable oil streaks running back along the cowlings.

These aircraft were handed to them "as is" to be shipped to the United Kingdom immediately. It was a disconcerting sight as for many, this was their first attempt at a transatlantic crossing. Their problems and concerns were promptly dealt with. All the aircraft were given a good working over and controls were replaced. AFTERO pilots were now assured that the aircraft were now in good working order.¹⁰² It begs the question though "what order were they in before being delivered?"

Although these observations cannot be directly tied to the preceding events, it is possible that these may have been one and the same aircraft.¹⁰³ Both the AFTERO pilots and Debert pilot trainees were quartered at the Mont Royal Hotel. Both groups reported the raucous atmosphere therein!¹⁰⁴ It must surely be no mere coincidence that the receipt of these aircraft occurred in roughly the same timeframe.

Whether these aircraft arrived from Debert or not for transshipment is irrelevant. The independent observations was indicative of the condition of the aircraft being received for possible trans-shipment from the training units. These aircraft were surely not in prime condition for training if they were not up to par for release to

¹⁰¹ Ibid DHH File 74/13 No. 31 O.T.U., 3 February 2011, pg. 3 see 28/7/41, f.208, D.D. 1/6/41

¹⁰² Ibid George Lothian, 1979, pg. 76-77

¹⁰³ Ibid George Lothian, 1979, pg. 74

¹⁰⁴ Ibid Ernest E. Allen, 1996

civilian pilots whose concern caused a major maintenance effort to ready them for a ferrying crossing!

Further proof may lie in the fact that both AM896 and AM895 were reported to be afire by eyewitness accounts on the ground as they plunged into the ground killing all aboard at Great Village Nova Scotia and at l'Abord a Plouffe near Cartierville, Quebec on the very same day.¹⁰⁵

Other Probable Factors – Navigation and Communication.

A great burden of guilt without adequate burden of proof was placed on the pilots and navigators involved in these fatal crashes. There was little mitigation of circumstances. Two of five of the Courts recommendations though did concern communication and navigation aids.

It is unclear if insufficient internal communication amongst the crew to warn the pilot or navigator of any impending problems was a factor or problem. No one knew what may have been observed by the deceased crew while in flight. Deadman do not talk. But it was clear that there were communication problems with ground control in assisting the crews while en-route given the system's lack of communication of a new location of a radio direction finder/beacon.

It was probably a little more to that fact that wasn't addressed at all in the findings. A great part of the mis-direction in the case of AM895 was most likely due to the relocation of a radio beacon that no one in authority had bothered to notify the flying community of a change.

¹⁰⁵a. Ibid Ernest E. Allen, 1996,

b. Montreal Gazette, Eight Airmen crash from R.A.F. School, 24 October 1941

Source:

<http://news.google.com/newspapers?id=CIauAAAIBAJ&sjid=3ZgFAAAAIBAJ&pg=6656,4284267&dq=HUDSON+BOMBER+DEBERT+1941&hl=en>

Accessed: 20 January 2011

c. Montreal Gazette, Air crash Inquest Held – Identity of 4 Victims Said Fully Verified, 24 October 1941

Source:

<http://news.google.com/newspapers?id=CIauAAAIBAJ&sjid=3ZgFAAAAIBAJ&pg=3631,4553895&dq=air+crash&hl=en>

Accessed: 28 January 2011

Navigators work to a known fixed point. One can assume that AM895 was certainly plotting toward a beacon that was not only out by a wide margin but also one that they were relying on for accuracy and safety. The failure to relay the correct information to all concerned was not commented on by the Court.

It may well be that AM895 was trying to sort out where it was in relation to where it was supposed to be when events rapidly degraded that added to their degree of difficulty. There were no visual cues from the ground, they were unable to find the airport, and perhaps in conjunction with some unknown mechanical failure, they met their end by burning and crashing in the field near Cartierville, Quebec.

Other Probable Factors – Weather and all Weather Training

The mission focus was really to train aircrew for all weather conditions. In truth aircrew survival depended greatly on the skills of the pilot and astuteness of the navigator while under pressure.

There were few navigation aids other than landfalls and celestial navigation to get you to and back from the target while on operations. So there was a singular demand to make the training as realistic as possible without getting shot at!

Canadians were to be at the forefront in ferrying aircraft overseas. This would be a very unkind and unforgiving environment, so the pressure may have been on to get it right at the outset.¹⁰⁶

This was no exaggeration! The need for competent crew was extreme. For example, Churchill and Roosevelt while meeting in Washington in December 1941 had an urgent requirement to retrieve some forgotten documents from Britain. Churchill had unfortunately left them in London and they were urgently required for his meeting with Roosevelt. He ordered that they be delivered immediately.

The order to do so was given Christmas Eve 1941 under the worst possible weather conditions then over the Atlantic. The meteorologists rated the day as “impossible flying conditions”.

¹⁰⁶ Montreal Gazette, **Canadians to fore in plane ferrying**, 24 October 1941

Source:

<http://news.google.com/newspapers?id=CI Au AAAI BAJ&sjid=3ZgF AAAI BAJ&pg=6690,4496928&dq=ferry+command&hl=en>

Accessed: 30 January 2011

Captain Gants and Captain Evans both Americans serving in Ferry Command, had recently made a 3200 mile trip from Bermuda to Britain. They volunteered to make the return trip in a Catalina PB.Y.

Gants and Evans made the epic journey in 22 ½ hours. The flight was made at extremely slow speed and at extremely low altitude flying into the heart of a winter gale. They maintained a height of between 200 to 800 feet altitude for this important delivery to Churchill and Roosevelt.

Gants and Evans said that the Atlantic licked at the hull of their PB.Y for most of the way of their crossing. Both were awarded the Order of the British Empire (OBE) for their hazardous work and devotion to duty much later on 24 November 1943.

The journey of Gants and Evans must surely have been a benchmark for training. This benchmark was one based on sacrifice, diligence in the face of adversity and duty. All weather training was certainly demanded.¹⁰⁷

The Instructors Dilemma

The staff and instructors also faced a problem of getting themselves organized. Administration was to become a looming workload. The situation on the ground was likely organized chaos. The unit had to sort out aircraft dispositions, training areas within the Maritimes, command responsibilities, and most important its aim and mission.¹⁰⁸

All these issues regarding the unit's establishment had to be sorted out between the advance party's first arrival in 21 May 1941 and the commencement of the first conversion courses 1 August 1941. This strongly suggests that everyone was

¹⁰⁷ Montreal Gazette, **Churchill Mission by Ferry Pilot is bared at Ottawa Investiture**, 24 November 1943

Source:

<http://news.google.com/newspapers?id=ynYtAAAIBAJ&sjid=fpgFAAAIBAJ&pg=1962,4071513&dq=ferry+command&hl=en>

Accessed: 8 February 2011

¹⁰⁸ Ibid DHH File 74/13 No. 31 O.T.U., 3 February 2011 pg. 6-7

involved either in training or an administrative capacity of some sort. All staff were extremely busy, under stress, and heavily tasked.

O.T.U. 31 was principally designed to be a Ferry Command Despatch Reception and Training Unit. A suggestion was put forward to have several different types on the Unit's establishment in order to train on as many U.K. bound aircraft as possible.

It was proposed that 1 B-17, 2 B-24s, 4 Hudsons and later a few Lockheed 37s and B26s be added to their inventory to give pilots experience on a variety of aircraft that were to be ferried overseas. These issues were still under review while the unit was established.

The unit was eventually fitted with 15 Dual Hudsons with long range equipment to get the ball rolling. They were the airframes required to develop multi-engine training for ferrying aircraft of new 'types'. The appropriate additions of further types for training purposes would be added to the establishment as the airframes entered the ferry stream noted previously.¹⁰⁹

The long and the short of it was though, was the needs of Coastal Command crews trained on Hudsons, proved to be the far greater requirement in the end. It was eventually decided to combine the training and produce crews able to go onto operations on arrival in U.K. and able to fly the Atlantic in accordance with Ferry Command rules and regulations.¹¹⁰ The unit consolidated its training on the Hudson bomber. Only then, once these issues had been decided, did the unit settle down to conduct its training.

The instructors may have been time expired RAF types being rested from operations, but in this milieu they were under considerable stress, pressure, and extreme deadlines to deliver the goods.¹¹¹ The training was conducted under very operational conditions as the burdens of training and administration weighed heavily on them. The instructors were far from being rested from operations! Theirs was a daunting task and they had a major role to play in a very vital strategic theatre.

¹⁰⁹ Ibid DHH File 74/13 No. 31 O.T.U., 3 February 2011 pg. 6

¹¹⁰ Ibid DHH File 74/13 No. 31 O.T.U., 3 February 2011 pg. 6

¹¹¹ Ibid Ernest E. Allen, 1996

Back to the Future

Seventy years later in the summer of 2011 the cycle will be repeated once again at much leisurely, pleasurable and less frenetic pace. The Royal Canadian Air Cadet Gilder camp will train another 50 candidates. The Debert Airfield will come alive with active training once more.

But looking back, we must recognize the courage, triumph and tragedy of wartime Debert. The spirit of the past still lingers along its runways' edge, or found in the footings of old buildings and tarmacs now hidden in alders, grassy knolls, in the wind and waters of nearby forests and fields.

The activities at Debert in 1941 reflect the urgency of the time. There was no time to reflect, there was only time to move on. What is often lost in these vignettes was the fact that these young men and women were both warriors and pioneers. They paved the way for commercial aviation by opening the trans-Atlantic route. Each flight undertaken was a flight into the unknown. There were no routes, no navigation aids, few meteorological aids, and weather forecasting was just its infancy. Getting there was often a matter of good luck as much as good planning.

The story of Operational Training Unit (O.T.U.) 31 is one of many that can be told of all the airfields and training units mustered here in Canada during Second World War. It is a story of courage and devotion and the mettle of the men and women of the day. Their day was about pressing on in the face of adversity, doing your best, and lamenting your losses only once the job was done. Theirs was a tale of triumph, against all odds, and getting the job done!

The Crucible for Change

Defence Spending in Debert Nova Scotia Second World War

“It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair, we had everything before us, we had nothing before us, we were all going direct to Heaven, we were all going direct the other way--.”

Charles Dickens, A Tale of Two Cities

23 March 2012

People easily quote Charles Dickens “It was the best of times it was the worst of times”. But Dickens opening paragraph to the epic ‘A Tale of Two Cities’ illuminates much more. Dickens quote also illustrates the breadth and depth of human emotion, pain, suffering, trials, and triumph inherent in history. History is neither black nor white. It is changeable, dynamic, and, it is dramatic.¹¹² The course of human conflict is much the way that Dickens describes.

History though is often seen as peeks through the rear view mirror. Its points are viewed along a line in a continuum. But in so doing; we often miss the bigger picture. Second World War is such an example. It shaped the Canadian experience. But we often tend to concentrate on the “specific” period of the war without looking back upon it. There is a context of what came before and what followed that is often overlooked. The before and after provides some insight on who and what we are today.

World War Two changed the way how Canada looked at itself and its values. The War shaped Canada’s future. The story of “opening the flood gates” on public spending during Second World War is the story of policy and social change within Canada. The Great Depression was but a very recent memory. Canada’s war investments were used not only to pave the road to victory; but also, to pave the way ahead for its post war future. Fiscal policy would become an instrument of economic and social policy and, more importantly, change.

Some consider the “Dirty 30’s” or the “Great Depression” as the most traumatic and darkest period in Canadian history. It was a low point that deeply shaped the Canadian psyche to the core. There was a loss of hope. The mood was one of desperation and despair. Its effects were felt very deeply by many Canadian families. Many were impoverished and lacked the basic necessities of life, food and shelter for the lack of a job. The statistics of the day paint a horrible picture. More than half the wage earners in Canada were on some form of relief at its height. One in five Canadians was on the dole.

¹¹² Herb Peppard, **The agony and the ecstasy**, Truro Daily News, 4 July 2012
Accessed: 5 July 2012

Source: <http://www.trurodaily.com/Opinion/Columns/2012-07-04/article-3023331/The-agony-and-the-ecstasy/1>
This example was found on the final vetting of the paper. It is well worth reading. Peppard captures his experiences of the horrors of the past, the face of the present, and his hidden hope in his wish for the future. His story was one of many of his generation who shared this common background. It is a common story that shaped who and what we are today.

Interestingly the poverty line was marked at \$1000 per year for a family of four. What points to the desperation and plight of many Canadian families though, was the fact that the average income was less than \$500 per year for many.

What did the government do? It had decided that balancing the budget was more important than feeding its needy and hungry. It took a laissez faire approach to the management of the economy and suffering. Little succour was provided in the way of government relief. People and families were left to their own devices. These were truly desperate days, the blackest period in Canadian history, and a “government” unmotivated to act to spare the suffering.¹¹³ That desperation was the crucible for change.

Time for Change

The change for many was felt September 8, 1939, the day Parliament declared war on Nazi Germany. The change was both noticeable and palpable. For many Canadians the government’s declaration effectively ended the Great Depression. It also ended the government’s fiscal parsimony. The purse strings suddenly opened!

Although war would bring great privations, trials and tragedy, it would also bring prosperity and jobs. There would be a vast industrial expansion. The addition of defence spending boosted the demand for labour for war production and full employment. In some ways the war restored hope and prosperity to a nation by stimulating the moribund Canadian economy. It not only jumped started the Canadian economy, but also it was the catalyst for a new view on fiscal management and social development for the post war period.

A country that had been unable to find work or succour for a fifth of its people in the Dirty 30’s and Great Depression would suddenly, and miraculously, be able to find work for all, including women, young boys and old men.¹¹⁴ It was an economic miracle that did not go unnoticed!¹¹⁵

¹¹³ Pierre Berton, **The Great Depression - 1929-1939**, Anchor Canada, 2001 (copyright 1990), Pg. 9

¹¹⁴ ibid Pierre Berton, **The Great Depression - 1929-1939**, 2001, pg. 503-504

¹¹⁵ Alexander Brady and F.R. Scott, **Canada After the War – Studies in Political, Social, and Economic Policies for Post-War Canada**, The Canadian Institute of International Affairs, The Macmillan Company of Canada Lt, Toronto, 1945 (@1943), Pg. 3

Government spending became widely and broadly felt across all reaches of Canada especially Nova Scotia. This paper will illustrate the impact of government spending on the local economy, expectations, and lives with particular emphasis on Debert, Nova Scotia. Second World War was not just fought overseas, but it was also fought on the home front too!

The British Commonwealth Training Plan

At the onset of the war, Prime Minister Mackenzie King had some expectations for managing Canada's war effort. He wished to limit the employment of Canadian armed forces.¹¹⁶ King and many Canadians did not relish the thought of war or "active" service. The open sores of World War I still were all too recent. Thus King and the public desired a very limited Canadian role at the beginning. So the British Commonwealth Air Training Plan (BCATP) was designed as the sop to that end. Canada's major contribution was designed to be the "aerodrome of democracy" for the training of Allied aircrews on Canadian soil.¹¹⁷ Regrettably to King's dismay, matters did not unfold as intended.

King signed the BCATP on 17 December 1939, which was coincidentally his birthday, three and a half months after the declaration of Canadian hostilities.¹¹⁸ But King's desire for limited participation would be for naught. All of Canada's armed forces, industry and public opinion would be eventually engaged and employed toward winning the war.

On the Fast Track to Building an Airfield and an Army Camp

The BCATP was just the tip of the iceberg. It was an ambitious undertaking. Yet defence spending was increased thus creating a complex web of military and

"if we are not now to take thought for the future we can expect nothing but backsliding to the bad old ways of the inter-war period. As to the claim that thinking of the post-war future slackens the war effort, nothing could be more paltry. People are bound to think of the future. Only the promise of better things to come sustains us in war. If this promise is not to be frustrated and our high hopes disappointed, we must be prepared to discuss now in a realistic manner the modifications of our institutions necessary to fulfil man's aspirations for a "better world". '

¹¹⁶ *ibid* Pierre Berton, **The Great Depression - 1929-1939**, pg. 499

¹¹⁷ F.J. Hatch, **Aerodrome of Democracy: Canada and the British Commonwealth Air Training Plan 1939-1945**, Department of National Defence Directorate of History, Monograph Series No. 1, © Minister of Supply and Services Canada, 1983, pg. 1-2

¹¹⁸ *Ibid*, Hatch, 1983, pg. 1

defence establishments, manufacturing, construction and employment of labour all in support of Canada's military. Thus the RCAF, Army, and Royal Canadian Navy would come to have a huge bearing on defence and local spending. The government would try and find economies of scale. Debert is an example. It was chosen as a site that was strategically located near Halifax where both the Air Force and Army would be co-located.

As ambitious as King's BCATP was, the facilities simply did not exist in 1939! They had to be created and built largely from the ground up. Mackenzie King's declaration of 17 December in effect not only increased the defence establishment and contribution to the war effort, but it also set Canada's economy firmly on a war footing. The government of the day not only mobilized defence establishments, it also mobilized the country's economic and labour flows to achieve those ends under extremely tight deadlines.

Defence construction at Debert commenced August 1940. There was virtually nothing there but wood and farmlands. The Army and Air Force facilities were literally carved out of the woods. Engineers hired local woodsmen to clear the forests and then, these were followed by the builders who turned 28 million board feet of lumber, poured concrete, and paved roads and runways that transformed the forests into the training facilities, accommodations and other infrastructure, which were crucial to the war effort.¹¹⁹

The construction effort required the rapid mobilization of Canadian industrial capacity and labour to meet a looming start date of 29 April 1940 for the BCATP alone.¹²⁰ Nine hundred and eighty nine million dollars was set aside to achieve the aim of the plan that was designed to train 29,000 aircrew annually. The BCATP sausage machine was geared to produce 850 pilots, 510 air observers - navigators and 870 wireless operator/air gunners monthly.¹²¹ Debert was to play an important role in execution of that plan.

¹¹⁹ G.H. Sallans, **Wilderness One Week, and a Home for Troops the Next – The Birth of Debert**, The Vancouver – Vancouver's Home Newspaper, Monday September 15, 1941

Source:

<http://news.google.com/newspapers?id=JDNIAAAIBAJ&sjid=OokNAAAIBAJ&pg=1267,3797474&dq=debert+nova+scotia+1941&hl=en>

Accessed: 23 January 2011

¹²⁰ibid Hatch,1983, pg. 33

¹²¹ ibid Hatch,1983, pg. 16

The BCATP aerodrome building program alone was most ambitious. It required detailed organization, thought, and planning. But its ends were ultimately achieved through basic standardization. All the training establishments would be built on the same pattern thus achieving efficiencies that helped save time and effort.¹²²

Contractors were able to rapidly build the facilities because of the forethought of standardization. The aerodromes were often completed with all buildings, including hangars, barracks and workshops, and hard surfaced runways within the incredibly short period of eight weeks from the shovel in the ground to planes on the tarmac.¹²³ The economic impacts were felt very quickly and locally. Many rural communities were transformed from sleepy hollows to bustling centres!

Debert and the Impacts of the Air Force - Army Presence

Donald Davidson, a long time resident, recalls Debert in the 1930`s as a small rural town located in central Nova Scotia. This small town`s population numbered no more than 500-600 people at any one time. The local residents survived on mixed farming and lumbering with a permanent lumber mill and factory located near the local train station. The town by the standards of the day was large. It supported three stores, a post office, a barber shop, a two-room school, a community hall, and a blacksmith shop at the outset of the war.¹²⁴ All that changed with the local defence construction!

Some 5400 men were soon employed in the construction of an Army Camp and Airfield nearby. They had to be provisioned, housed and fed along with elements of the army which also occupied the same site while under construction. It was to the credit of this workforce that the necessary accommodations, sewage, hospital facilities, special storage areas for gasoline, and 30 miles of paved roadway were constructed in quick time.¹²⁵

¹²² *ibid* Hatch,1983, pg. 64

¹²³ *ibid* Hatch,1983, pg. 64

¹²⁴ Mr. William Langille, Chairman, Standing Committee on Veterans Affairs **Testimony - Debert Military History Society to Standing Committee on Veterans Affairs**, Halifax, Thursday, March 1, 2001, 9:00 A.M.

Source: <http://www.gov.ns.ca/legislature/hansard/comm/va/va010301.htm>

Accessed: 13 August 2010

Pg. 6 personal recollections of. Don Davidson, a young businessman at that time, operating Davidson's Store. Mr. Davidson lived in Debert all his life. He grew up there when the war came as a teenager of 15 or 16 years of age

¹²⁵ *ibid* Sallans, Wilderness One Week, and a Home for Troops the Next – The Birth of Debert, September 15,1941

In the meantime the village of Debert changed too. It grew immensely. The town now supported 10 restaurants; two drug stores with lunch counters; two meat markets; an additional grocery store; a hotel with telephones and running water; two barber shops; a telephone office; a bank; three taxi services; a laundry service; a bus line service to Truro; and a charter service to meet a growing demand.¹²⁶

This gives one a sense of the pace of construction and prosperity but in no way does it adequately describe the magnitude or scope of the Air Force and Army projects. The Army project was massive and was the first to be “completed”. Approximately 13,150 personnel were accommodated by Christmas 1940. In a nut shell, some 512 buildings, a fully equipped 500 bed hospital, two fire halls, four dental clinics, a supply depot, 100 cell detention barracks and other rank, non commissioned officers, medical, nursing, and officer quarters, and various messes were completed all in that time along with adequate water, sewage, septic and electrical systems in place. By the end of 1940 only 24 buildings remained under construction for the army.¹²⁷

The work on the airfield and facilities was deferred and then only completed in 1941. It continued in a small way over the course of the winter of 1940-41 with the further clearing of woodlands and fields in preparation for the next construction season. The Debert aerodrome too required its own buildings, hangars, barracks and workshops, and associated hard surfaced runways. Those projects commenced with better weather. The work progressed well and was ready to receive its first unit over the summer of 1941.¹²⁸

Difficulties

There were bound to be difficulties and introspection given the hurried state of the construction. Many were concerned with the lack of oversight and checks and balances. It did not help matters much, that despite the apparent completion of many projects, much was left undone. The progress of the construction became subject to intense parliamentary scrutiny. None other than John George Diefenbaker, future Prime Minister of Canada, came to Debert to investigate.

¹²⁶ Ibid Langille, SCONDAV 2001, pg. 6-7

¹²⁷ Canada, National Defence, Directorate of History and Heritage, DHH File 360.003(D5) undated, in letter 3 February 2011

¹²⁸ ibid Hatch, 1983, pg. 64

The aerodrome was designated to and occupied by the Royal Air Forces (RAF) Operational Unit 31 (O.T.U.31), one of four units transferred from Great Britain. The unit and its equipment were moved across the North Atlantic in three echelons starting May 1941.¹²⁹ Training at Debert though was necessarily delayed until August 1941 once again because of the unfinished state of the airfield.¹³⁰ It became a lightning rod for public scrutiny and attention.

Mr. Diefenbaker said of Debert “if ever there was a camp chosen anywhere in Canada which is little short of disgraceful from the point of view of the men required to live in that Camp, it is Debert.” Mr. Diefenbaker cites in the spring of 1942 that the Camp was “inundated”. He found difficulty with its selection given all the available sites in Nova Scotia. Diefenbaker found it incredulous that this site was chosen given that it required \$239,000 to be immediately spent on drainage.¹³¹

Diefenbaker’s concern was not unwarranted. His observations were supported by the opinions of many trainees at the time. The facilities were indeed still under construction and the living conditions Spartan.¹³² Still Col Ralston, then Minister of National Defence, tried to dust off Diefenbaker’s remarks as simply exaggerated.¹³³ Ralston could defend the costs but he was hard pressed to defend the state of affairs at Debert.

In all fairness to Ralston, the facilities were started from scratch. Ralston defended Debert as a choice because of its closeness to railroads, its central location, and its proximity to the RAF airfield.¹³⁴

Yet Diefenbaker’s criticisms put the government of the day on the defensive. This scrutiny ultimately led to a public accounting of the results to 1943. Costs were at the forefront and the public’s need to know had to be satisfied.

¹²⁹ *ibid* Hatch, 1983, pg. 74

¹³⁰ *ibid* Hatch, 1983, pg. 74 -75

¹³¹ Anon, **Debert Described As An Efficient Camp, Ralston Says NS Development Best In Dominion Is Said Effectual, Answers Diefenbaker Who Says Choice Of Site Is Little Short Of A Disgrace.** The Montreal Gazette, 1 June 1943, pg. 6

¹³² Sergeant R. W. Harris, **Memories of Debert, N.S.**, undated
Written account in Debert Military Museum Archives

Source: <http://www.debertmilitarymuseum.org/harris.htm>

Accessed: 5 October 2010

¹³³ *Ibid* **Debert Described As An Efficient Camp**, Montreal Gazette, 1 June 1943, pg. 6

¹³⁴ *Ibid* **Debert Described As An Efficient Camp**, Montreal Gazette, 1 June 1943, pg. 6

Economic Spin offs

It is well worth while investigating the known costs given the level of public scrutiny. For good or ill, money was being spent and many prospered. Operational Training Unit 31 and Camp Debert came into being. An additional 1082 permanent and training staff were accommodated on this aerodrome that was incremental to the Army's staff of 13500 men already situated at nearby Camp Debert.¹³⁵

The addition of approximately 15,000 military personnel in a small town of 600 produced many economic opportunities and financial windfalls. Soldiers and airmen get paid and do like to spend money. But there was more to it than that! There was local government spending on Capital and Operations and Maintenance costs that also had collateral impacts.

There was a paucity of data on the individual costs for the BCATP and Army construction. However, Hatch does provide an insight for the air force costs in "The Aerodrome of Democracy". Hatch provides the total costs details of the BCATP from which we can extrapolate some local impacts.

Methodology

The problem of estimating the individual airfield costs becomes a simple one. The essence of the plan was standardization and as one airfield was designed to be more or less the same as another, it is logical then that they shared similar costs.

Still we must recognize that each airfield did have unique circumstances. We can only arrive at a rough estimate of the individual costs but surely this was an indicator to the magnitude of the local economic boom!

To arrive at those rough costs we can segregate Hatch's data between flying schools/establishments and ground/support establishments as a first step. There were 69 establishments in the BCATP program, 56 flying establishments and 13 Ground support establishments.¹³⁶ From this first step we can easily identify the

¹³⁵ Bert Meerveld & Yvonne Holmes Mott, **Art Presswell: A Soldier's Journey**, © November 2003, pg. 4

Source: www.Ocl.Net/Pdf/Art_Publication.Pdf
Accessed: 19 April 2012

¹³⁶ Ibid Hatch, 1983 pg. 203 Appendix C

standard airfield from the non standard elements and determined their percentages. Then we apply the percentage of the standard airfield pool against the gross total to determine its portion of the total costs.

Results for Debert Airfield

Debert was one of 56 air training establishments. We then can identify the percentage of Debert as part of the standard air training total (1.87%) and apply that result against the share of the total costs to derive its component costs of the BCATP. It is a rough estimate, but it does provide an indication and of what was spent locally. Thus it is an indirect measure of the impact to the local economy (Table 1).

Table 1 - Derivative Costs of Debert Airfield (1939 to 1945)

Estimate of Sundry Costs National/Local Spending - Debert Airfield					
Category	Costs/Contribution	% Fly Schools	% Grd Estab	% Debert	GDP Calculator
Total Cost	\$ 2,231,129,039.26	\$ 1,810,771,394.18	\$ 420,357,645.08	\$ 39,841,589.99	\$ 540,517,557.43

Source: F.J. Hatch, Aerodrome of Democracy: Canada and the British Commonwealth Air Training Plan 1939-1945, Department Of National Defence Directorate Of History, Monograph Series No. 1, © Minister of Supply and Services Canada , 1983

Debert’s representative share of the BCATP costs was approximately \$39.8 million. It was a huge investment for its time. It may sound like a bargain today but in terms of 2012 dollars the expenditure amounts to \$540 million (Table 1).¹³⁷

We can estimate the component and period costs associated with Debert. It must be noted that not all costs are associated with local spending. Capital costs and contributions are such examples. Furthermore spending was not homogeneous. There were two critical periods of investment in Debert for the Air Force.

First, Canada invested \$31.3 million from 1940 to 1943 for O.T.U. 31 alone (Table 2 - Invested and Capital Costs Estimates). Notably this is the period that had the highest intensity of investment in capital. Secondly the remaining \$8.5 million was spent between 1944 -1945 when the airfield reverted back to RCAF control that had a lesser capital component but a greater Operations & Maintenance Component.

¹³⁷ Canada, Bank of Canada, GDP Deflator, **Bank of Canada Calculator**, Copyright © 1995 – 2012
 Source: <http://www.bankofcanada.ca/rates/related/inflation-calculator/>
 Accessed: 27 June 2012

Table 2 - Invested and Capital Costs Estimates

Invested and Capital Costs Estimates to 1943 for O.T.U. 31

<u>Major Elements</u>	<u>Special Elements</u>	<u>1941 \$</u>
All Flying costs		\$ 6,757,400
O.T.U. 31 Capital Costs - Aircraft		\$ 5,925,960
Replacement value A/C		\$ 2,021,560
BCATP Debert Share of Costs - Estimate		
	<i>Equipment Contribution</i>	\$ 2,897,514
	<i>Materiel Contribution</i>	\$ 500,009
	<i>Lend lease</i>	\$ 5,062,506
	<i>Army Contributed Capital Investment</i>	\$ 1,400,000
Maint Svc & Associated Pers Cost		
	<i>Maint</i>	\$ 438,000
	<i>Pers</i>	\$ 704,155
	<i>Estimated O&M Costs</i>	\$ 3,714,494
Other Personnel Costs (mil Salaries)		\$ 1,959,962
Canadian \$ Investment Total		\$ 31,381,561

The potential local spending figure can be estimated by deducting the pertinent capital contribution and lend lease cost categories from the grand total. Great Britain contributed all of the flying equipment that was used. Capital costs of aircraft likely had a minimal local impact if any. Still the aircraft had to be fuelled, that fuel transported, the airfield provisioned, heated, and so on.

But what likely matters to local spending were the direct costs associated with Military-Civilian salaries, Operations, and Maintenance. Approximately \$10.2 million in Military - Civilian salaries and Operations and Maintenance (O&M) costs was spent between 1940 and 1945 (Table 3).

Recognizing that there were likely peaks and valleys to the spending pattern, the data suggests that the government's local spending in Debert was approximately \$1.6 million dollars per year on its activities on the Debert airfield alone.

Table 3 – Estimate of O&M Spending-Debert Airfield 1940-1945

Estimate Annual O&M Spending 1940-1945

O.T.U 31 1940-1943

Maint Svc & Associated Pers Cost	\$
Maint	\$ 438,000.00
Civilian Salaries	\$ 704,154.93
Estimated O&M Costs	\$ 3,714,494.07
Military Salaries	\$ 1,959,962
Total O.T.U 31	\$ 6,816,611.08

RCAF No. 7 Squadron 1944 -1945

Estimated O&M Costs	\$ 1,643,418.37
Total	\$ 8,460,029.45

Average Spent Annually **\$ 1,692,005.89**

O.T.U. 31 spent locally \$6.8 million over its three year lifespan in the Debert area. This spending pattern continued with RCAF No.7 Squadron that subsequently replaced O.T.U. 31. Both entities spent an average of \$1.6 million per year in personnel, operations, and maintenance locally. The Army's presence too presented a sizeable opportunity that bears investigating.¹³⁸

¹³⁸ ibid Mr. William Langille, **SCONDVA Testimony - Debert Military History Society**, Halifax, Thursday, March 1, 2001, 9:00 A.M

Results for the Army

The gross Army spending was easier to identify. The Army was made to account for all its wartime investments to 1943 because of Diefenbaker's scrutiny and censure. Diefenbaker's introspection prompted the government to report the spending in order to deflect some of these criticisms. Col. Ralston, Minister of National Defence reported that \$1.8 billion was spent in defence of Canada's war effort to 1943.

The specific details are found in Table 4:

Table 4 - Summation of Army and other Government Spending 1939-1943

<u>Category</u>	<u>\$</u>	<u>% Total</u>
<i>Total War Related Expenditures (All Canada 1939-1943)</i>	<i>1,859,141,355.81</i>	
Army Spending by Military District	1,468,149,469.37	79%
Navy Ship Building by Province	138,377,000	7%
Navy Building Construction	36,668,000	2%
Transport Canada Departmental Expenses	10,052,197	1%
Transport Canada in Support of Air Operations	79,009,827.44	4%
Transport Canada in Support of Navy Operations	653,636	0%
Canadian National Railroad Capital Expenditures 1939-1942	116,212,431	6%
Works Department to 31 March 1942	10,018,795	1%

Ralston was responsible for overseeing \$1.8 billion spending on capital investments. This oversight crossed many departmental boundaries including the Air Force. The Army represented the lion's share of spending amounting to \$1.4 billion (79%) of the total of \$1.8 billion then allocated to 1943.

This gross spending was broken down further by province and military district. The government of the day allocated \$70.9 million to No.6 Military District, NS. This represented 4.8% of the government's total spending to 1943 (Table 5).

Table 5– Summation of Defence Related Expenditure by Province -1939-43 (Ralston)

Category	\$	Ottawa	Ont	Que	NS	BC	Other
Summation of Army and other Government Spending 1939-1943							
Total War Related Expenditures (All Canada 1939-1943)	\$ 1,861,578,353.37						
Army Spending by Military District	\$ 1,468,149,469.37	1,051,506,087	156,447,745.00	41,129,214.37	70,939,213.00	53,473,248.00	94,653,962.00
Navy Ship Building by Province	\$ 138,377,000.00	0	42,325,000.00	38,085,000.00	29,997,000.00	25,875,000.00	2,095,000.00
Navy Building Construction	\$ 36,668,000.00	0	1,480,000.00	1,154,000.00	29,997,000.00	3,693,000.00	344,000.00
Transport Canada Departmental Expenses	\$ 10,052,197.00	0	4,356,817.00	1,921,351.00	58,046.00	863,945.00	2,852,038.00
Transport Canada in Support of Air Operations	\$ -	1,193,267	14,280,924.00	5,828,552.00	4,431,876.00	17,923,033.00	37,789,173.00
Transport Canada in Support of Navy Operations	\$ 653,636.00	0	180,326.00	107,273.00	184,328.00	181,309.00	400.00
Canadian National Railroad Capital Expenditures 1939-1942	\$ 116,212,431.00	0	27,496,823.00	45,610,790.00	13,750,802.00	5,086,432.00	24,267,584.00
Works Department to 31 March 1942	\$ 10,018,795.00	6,831,988	706,345.00	468,408.00	642,642.00	1,254,905.00	114,507.00
Provincial Subtotals \$ 1939-1943:		1,059,531,342.00	247,273,980.00	134,304,588.37	150,000,907.00	108,350,872.00	162,116,664.00
Provincial % Share Spending (all)		56.9%	13.3%	7.2%	8.1%	5.8%	8.7%
Provincial Subtotals \$ 1939-1943 Less Ottawa & Overseas:	\$ 802,047,011.37		247,273,980.00	134,304,588.37	150,000,907.00	108,350,872.00	162,116,664.00
Provincial % Share Spent in Canada Less Ottawa & Overseas	43.1%		30.8%	16.7%	18.7%	13.5%	20.2%

Regrettably, these figures could not be broken down into their component costs as was found with the Air Force at Debert. The government only reported the various departmental capital investment costs for the public’s consumption. However given the importance of Halifax (representing all HQ and armouries in Nova Scotia) and the fact that there were two major training units in Nova Scotia at Debert and Aldershot, we can roughly estimate what the army invested. At least one-third of the government’s reported investment on Military District No. 6 (\$70.9 million) must have been directed to the Army Camp Debert from 1939-43. That low estimate is approximately \$23.4 million but it was likely more.¹³⁹

The amount that Army spent from 1944-45 in Nova Scotia was unknown. But based on the Air force’s spending pattern, the Army spent at least an additional \$15.1 million on O&M given that the major capital investments had already been made. Thus an estimate of \$38.5 million was spent on Camp Debert from 1940-1945.

This truly must have had a regional impact. Ralston’s report provides some positive proof to that effect.¹⁴⁰ Army spending was spread out right across the country though, but the highest provincial spending does give an indication of where that spending was considered most important by the Canadian government.

Table 5 gives a clear indication of the key provinces to Canada’s defence based on the percentage of directed government spending. Canada invested its money where the key industries, strategic areas, and major access/departure points were, that were likely essential and primary to its war effort.

¹³⁹ ibid Debert **Described As An Efficient Camp**, Montreal Gazette, 1 June 1943, pg. 6

¹⁴⁰ ibid **Debert Described As An Efficient Camp**, Montreal Gazette, 1 June 1943, pg. 6

Nova Scotia saw an investment of \$150 million in army spending representing 8.1% of total army spending to 1943 or 18.7% of funds actually spent (Table 5). Ontario enjoyed the lion's share but significantly Nova Scotia rated second! This is not surprising given its importance as an open water seaport and the importance of the convoy system as Britain's lifeline at the time. Added to that was the fact that both air and naval forces were employed in defending the strategic approaches that were essential to that lifeline for Britain.

Turn over of facilities to RCAF

By 1943 matters though were coming to a head. The tide was starting to change, imperceptibly at first. But the Air Force was amongst the first to feel the change. There was a virtual glut of surplus personnel in the BCATP training system.

One of the first units to be affected was O.T.U. 31 at Debert. Canada agreed that RAF schools would be the first to be closed as part of a rationalization plan. But British units considered essential were to be Canadianized, and given RCAF designations. In the meantime they would continue to function as part of the BCATP. Thus Debert was given a temporary reprieve.

No. 31 Operational Training Unit at Debert and No. 36 at Greenwood, NS were re-designated as No. 7 and No. 8 respectively and would be staffed with RCAF personnel.¹⁴¹ A significant air presence would continue to exist at Debert along with the socio-economic benefits of that operation.

Still a firm decision was made in 1943 to commence winding down the BCATP with the final termination in March 1945.¹⁴² The financial taps for many communities were starting to be turned off and closed. But concurrent with this activity, Canada also commenced studying its post war future. Dark days still lay ahead. It was not that victory was either assured or certain by 1943. There were still many trials to be surmounted. But there was a stirring within the inner circles of government to start looking forward.

By late 1944, victory was seen as just a matter of time. May 1945 would bring the joy of Victory in Europe. Then the atomic bombing of Hiroshima and Nagasaki that produced Japan's unconditional surrender on 2 September 1945 finally ended

¹⁴¹ *ibid* Hatch, 1983, pg. 184

¹⁴² *ibid* Hatch, 1983, pg. 178- 183

the war. That surrender rendered Debert's purpose and that of many other bases, stations and establishments in Canada, moot.¹⁴³

Winding down – Deconstruction

There was no longer a reason for defence facilities once peace had arrived. Demobilization proceeded as quickly as possible. But ``Peace`` was also a two edge sword. Without the reason for being, the war time boom soon dried up. Where there once was a frenzied pace, there was now silence and slow decay.

This was a reality facing Debert and many small Canadian communities in the fall of 1945. They prospered during the boom but were now being left to languish during the bust! And the bust was quick. For example, what was once a jewel in the crown of the Army's training system in Debert was now coming under the hammer. It was no longer wanted.

The Calgary Herald reported that 400 men were involved in the deconstruction and salvage of the Camp Debert Buildings. The Camp was abandoned. Windows were left open on many of the buildings and gaping holes were noticed in others. It was a ghost town whose only sign of recent activity was the initials left carved on the walls by many of soldiers of the 168 units who trained at Debert. For many this would be their final reminiscence of the time spent here in Canada.¹⁴⁴

At the time of the Calgary Herald's report, 68 buildings had come under the hammer with 55 totally demolished. In the process, 1.25 million feet of lumber, 12 tons of nails, 1000 windows, 39 bath tubs, 200 basins, 139 radiators, and 24,000 feet of piping and plumbing fixtures, and assorted electrical supplies and other items had been salvaged.

¹⁴³ Anon, **Lancaster's Of Tiger Force- Canada's Contribution to Tiger Force**, www.lancaster-archive.com, June 2008
Source: http://www.lancaster-archive.com/lanc_tigerforce.htm
Accessed: 13 August 2010

¹⁴⁴ The Calgary Herald, **War Assets Salvaging Debert Camp Buildings**, 21 November 1946, pg. 8

Source:
<http://news.google.com/newspapers?id=JilkAAAIBAJ&sjid=onsNAAAIBAJ&pg=7393,2288245&dq=debert&hl=en>
Accessed: 2 March 2012

These materials would get a new life under the Veteran's Land Act or emergency shelter programs in the erection of new homes. The project was started in the fall of 1946 and was scheduled to be completed April the following year with 75% of the materials expected to be salvaged.¹⁴⁵

On the Air Force side, it was much similar. Ralph Harris' reminiscence is poignant¹⁴⁶;

“Debert, with all its natural advantages of clear approaches, cheap land for expansion, proximity to the army camp, location beside the Trans-Continental Railway and soon- to- be Trans- Canada Highway, not to mention its favourable weather record, was closed in a very few days.

On October 6, 1945, I went to the release centre at Moncton, N.B., returning to Truro October 7. On October 8, 1945, I went out to Debert to see what was going on and found that most of the windows had been boarded up, about 50 personnel of all ranks dining in the Airmen's Mess, and the Control Tower gutted- radios and speakers had been ripped out of the console, furniture gone (contents of drawers simply dumped on the floor), even the motor gone out of the furnace.”¹⁴⁷

Debert no longer served a purpose and there were too few people to safeguard the assets. But the government learned well from the BCATP experience. It realized spending brought prosperity. Government had a role to play in conjunction with the private sector. Of great concern from the experience of the Great Depression was the public's censure in its laissez faire approach that was taken.¹⁴⁸

Concluding Remarks

There was a certain hope on the government's part that the ultimate goal of the sacrifice and of its invested treasure would make Canadians the happiest people on earth. As early as 1943, the government looked to civil aviation as key to Canadian

¹⁴⁵ Ibid Calgary Herald, 21 November 1946, pg. 8

¹⁴⁶ ibid Sergeant R. W. Harris, **Memories of Debert, N.S.**, undated

¹⁴⁷ Ibid Sergeant R. W. Harris, **Memories of Debert, N.S.**, undated

¹⁴⁸ ibid Alexander Brady and F.R. Scott, *Canada After The War – Studies in Political, Social, and Economic Policies for Post-War Canada*, , 1945 (@1943), Pg. 3,

prosperity. Investments made in the BCATP and Debert were to be the basis of that expansion and prosperity which happened for some, but not for others.¹⁴⁹

Still confidence remained high in the post war period. There was a prosperous economic outlook even with the large industrial draw-downs in war production and the rapid demobilization of Canada's armed forces. Exports were far above the level required for full employment and were forecasted to remain so in 1946. But the government thought a buffer was needed to ease the future transition to a peace time economy. Many measures were to be taken to ease any transition or social dislocation such as the institution of unemployment insurance plans and social welfare.¹⁵⁰

¹⁴⁹ Anon. **Goal Is To Make Canadians Happiest People On Earth!** , Hamilton Spectator, 13 December 1943, Canadian War Museum Archives, accession number 893-866-803, 149, War European. 1939 Canada Parliament, Cabinet Howe Speeches
Source: <http://collections.civilisations.ca/warclip/objects/common/webmedia.php?irn=5059746>

Accessed: 5 March 2012

¹⁵⁰ a. Alexander Brady and F.R. Scott, **Canada After The War – Studies in Political, Social, and Economic Policies for Post-War Canada**, The Canadian Institute of International Affairs, The Macmillan Company of Canada Lt, Toronto, 1945 (@1943)

b. Kenneth C. Cragg, **Far-Reaching System Told By Mackenzie**, Globe and Mail, 17 March 1943, Canadian War Museum Archives, accession number 100-006-005 149 War European 1939 Canada Post War Social
Source: <http://collections.civilisations.ca/warclip/objects/common/webmedia.php?irn=5063669>

Accessed: 19 April 2012

c. Anon., **SOCIAL CHANGES REQUIRE MOST INTELLIGENT STUDY**, Hamilton Spectator, 22 March 1944, Canadian War Museum Archives, accession number 100 017 004, 149 War European 1939 Canada Post War Social Whitton

Source: <http://collections.civilisations.ca/warclip/objects/common/webmedia.php?irn=5063723>

Accessed 19 April 2012

d. Anon., **Postwar Planning Information**, Saturday Night, 16 May 1944 , Canadian War Museum Archives, accession number 100-017-003, 149 European 1939 Canada Post War Social
Source: <http://collections.civilisations.ca/warclip/objects/common/webmedia.php?irn=5063722>

Accessed: 19 April 2012

e. Anon., **The Political Implications Of Family Allowances**, Toronto Telegram, 20 July 1944, Canadian War Museum Archives, accession number 084 016 019, 149 War European 1939 Canada Labour Family Bonus

But Canadians too were concerned with the transition to peace. The war left many asking some deep social questions on the use of taxpayers` money. Many could not understand how the Government of Canada was able to find a billion dollar gift to Britain during the course of the war. Where did that capital come from? Why was the government unable or unwilling to ease the public`s suffering during the Dirty Thirties/Great Depression with a similar investment?¹⁵¹

Canada`s Gross National Expenditure (GNE) in 1943 was approximately \$11 billion. This loan therefore represented 9% of GNE or, from another perspective, represented 24% of \$4.1 billion of government spending that year.¹⁵² That put

Source: <http://collections.civilisations.ca/warclip/objects/common/webmedia.php?irn=5053637>

Accessed: 19 April 2012

f. Charlotte Whitton, C.B.E ., [We're Off To Social Security Confusion](#), Saturday Night, 29 March 1945, Canadian War Museum Archives, accession number 100 017 002, 149 War European 1939 Canada Post War Social Whitton

Source: <http://collections.civilisations.ca/warclip/objects/common/webmedia.php?irn=5063721>

Accessed: 19 April 2012

¹⁵¹ a. Anon., **Bulk of Billion U.K Gift Spent on Munitions –Breakdown of Goods Canada Contributed Furnished by IIsley**, Globe and Mail 12 May 1943

Canadian War Museum , Accession Number: 071-017-012, 149 War European 1939 Canada Finance Britain Gift

Source: <http://collections.civilisations.ca/warclip/objects/common/webmedia.php?irn=5044854>

Accessed: 18 April 2012

b. Conversation: Mr. V.G. Madigan/ G.D. Madigan 28 March 2012

My father lived through the Depression as a young boy. I asked him to review my paper for his opinions and for historical context and accuracy. Interestingly enough, he mentioned the \$1 billion gift to Britain which I found earlier but did not include as a reference in earlier versions of this paper. In the Context of his time, he stated that many Canadians found it incredulous that Canada was able to provide an outright gift of this sum yet did nothing on the same scale to relief the pain and suffering of many during the Great Depression.

¹⁵² Canada, Statistics Canada, Robert Crozier (Conference Board of Canada), **Section F: Gross National Product, the Capital Stock, and Productivity, Series F14-32, Gross national expenditure, by components 1926 to 1976**, 1999, 53 pg.

pressure on the government! The seeds for change in public policy had been sown during the war as the public had no desire to return to darker days.

Looking ahead in 1946, the domestic market was strong and demand for goods and services would continue to increase as they became available.¹⁵³ There was a pent-up demand after all the years of scarcity, saving and privation during the War years. Looking on the horizon, the world had to be re-built. Canada would continue to be looked upon as a bread basket and a source of raw materials for the post war reconstruction. Prosperity appeared to be assured and the future looked bright indeed!

But the reality was that for all the prosperity forecasted, it was boom for some, bust for others. The Canadian economy did grow but for many regions, the pace was slower and many communities languished as their wartime tactical and strategic importance declined. Many reverted to what they were before.

The legacy of Second World War was as Dickens foretold, “It was the best of times it was the worst of times...”. The investments were not only just for prosecution and victory, but were also the forge for change to Canada’s future. It was a lasting legacy whose blood and treasure are still paramount and relevant to our generation. The active participation and work by many in cities, small towns and villages was accomplished by average Canadians. Their collective efforts were important and vital to winning the war. The home front was also a war front. It is an effort worth remembering too!

Source: <http://www.statcan.gc.ca/pub/11-516-x/pdf/5500096-eng.pdf>

Accessed: 7 July 2012

¹⁵³ Anon., **Minister of Reconstruction Confident Regarding Future**, Hamilton Spectator, 11 February 1946, Canadian War Museum Archives, accession number 898-817-881, 149, War European. 1939 Canada Post War Economics Howe

Source: <http://collections.civilisations.ca/warclip/objects/common/webmedia.php?irn=5062612>

Accessed: 5 March 2012

Canada's Unknown Success

Land Based Aircraft & The Antisubmarine Role Gulf of St Lawrence.

By Major (Ret'd) G.D. Madigan

18 October 2011

Introduction

Canadians seem at times to be oblivious, unaware or disinterested in their military history. We tend to ignore or underplay our role in the great battles, events or military operations of that history, especially those of the Second World War and other events.

Our participation in world events is often considered as unimportant or is viewed as a sideshow to the main event. Sometimes they are overlooked simply because happened on our doorstep. There is no surprise then that to some of the current generation, Canada is often perceived as untouched by the ravages of the Second World War.

The truth is, the legacy of the Second World War all around us. is often unseen, lost, or hidden from sight. But much evidence does exist if you look for it. So too do many stories which have been lost in time or that have simply been forgotten. This may be due in part to the great reticence of many veterans to tell their part in the tale of who, what, when, where, and how these events took place. As the years pass by and as memory fades, the story of Canada's war effort sadly fades too, if it is not remembered.¹⁵⁴

The Summer of '42

The summer of 1942 was a case in point. Much transpired. Twenty three ships were torpedoed with 22 lost in the Gulf of St Lawrence.¹⁵⁵ Canadian littoral waters suddenly became a battleground. German U-boats had entered our waters and now posed an imminent threat by pointing a dagger at the Canadian heartland.

¹⁵⁴ Roger Sarty, **The "Battle We Lost at Home" Revisited Official Military Histories and the Battle of the St. Lawrence**, Canadian Military History, Volume 12, Numbers 1& 2, Winter/Spring 2003, pg. 41

¹⁵⁵ Colonel C.P. Stacey, O.B.E., C.D., A.M., Ph.D., F.R.S.C., Director, Historical Section, General Staff, **Official History of the Canadian Army - In the Second World War Volume I ,SIX YEARS OF WAR, The Army in Canada, Britain and the Pacific**, Published by Authority of the Minister of National Defence , First Published 1948, pg. 175

Source <http://www.ibiblio.org/hyperwar/UN/Canada/CA/SixYears/SixYears-5.html>

Accessed: 13 August 2010

Transcribed and formatted by Patrick Clancey, HyperWar Foundation

For access to full publication see:

<http://www.ibiblio.org/hyperwar/UN/Canada/CA/SixYears/index.html>

U-boats operated from Newfoundland in the north, up the St Lawrence estuary, and over as far south below Halifax. In fact if you look at the area with a discerning eye, it was a significant operational theatre of maritime warfare.

Strategic Overview 1939 -1941

This account deals with the allocation of air resources assigned to deal with the U-boat problem in the Gulf of St Lawrence from 1942 to 1943. There were many issues surrounding that allocation, and considering history, it would be easy to criticize the many decisions of the day. But those decisions must be taken in context of the time.

Decision makers did not have the benefit or full knowledge of the course of events that we now have through hindsight. What was important to them though, was cause and effect such that, the weight of decisions was likely based on the evidence of their own eyes. These insights stemmed from the actions of dangerous events as they transpired. Regrettably such decisions were often made only based on partial evidence. But in the end, it was the only evidence that decision makers had, or that was available.¹⁵⁶ So it is difficult to find fault with their actions.

At the same time, there was only limited experience in the use and employment of aircraft in an antisubmarine role. The theoretical basis for the employment of aircraft was based on the limited experience of the Great War. Airpower theorists of the day tended to view air power as a strategic asset best employed directly towards an enemy's centre of gravity. The anti-submarine role was viewed as one of secondary if not of tertiary importance in the theoretical discussion. Consequently, the situation concerning the employment and assignment of air assets was often rife with disagreement and fraught with inter-service rivalry and entanglements.¹⁵⁷

¹⁵⁶ Richard S. Malone, **A Portrait of War – 1939-1943**, Collins Publishers, 1983, pg. 9

Malone sheds light on this difficulty. In his opinion “It must be realized that politicians and commanders on the spot, despite the fog and confusion of battle, were frequently obliged to make decisions... based on the information available to them at that time.but decisions were made in the sincere belief that actions taken would best defeat the enemy.Hindsight, in consequence, can often be very deceptive; at times, it can distort the actual scene.”

¹⁵⁷ Paul Kemp, **Convoy! -Drama in Arctic Waters**, Castle Books, 2004, pg. 101-102

Note 7 to Chapter 7 Hamilton to Somerville, 30 September 1942. Pencil draft in Hamilton Papers, National Maritime Museum

Decisions...decisions

Official histories often provide a fairly precise record of events but the presentation may be skewed to what authorities would want us to believe. Histories are often devoid of the human aspects; the drama, pathos, and humour that may bring life and enlighten the story.¹⁵⁸

The events leading to the Battle of the Gulf of St Lawrence are a case in point. Allied naval resources were stretched to the limit protecting merchant and other shipping against U-Boat operations ranging from Canadian shores, the mid and north Atlantic, the Arctic, to the Mediterranean.

The ubiquitous U-boat present in so many theatres, threatened to swamp limited Allied naval resources. The situation demanded alternative solutions to fill the security gaps. But what was available? In response, consideration was given to the use of air assets to deal with that threat at a time when airpower theory and doctrine were still developing and evolving.

Events though dictated what air assets were eventually available and employed in the anticipated “Battle of St Lawrence” and in ultimately the “Battle of the Atlantic.” The preparation, at least from an air force perspective, was one premised on scarcity and the availability of long range air resources then in 1941. Much of the strategic decisions were made on the other side of the Atlantic.

A private criticism by Admiral Sir James Somerville (RN) found in an archival letter dated 30 September 1942 is a telling tale of the state of affairs with regard to naval and coastal command aviation at the time:

“We all know that the RAF have behaved like shits as far as naval air is concerned: the old school tie means nothing to them. The First Lord and Winston hate the sight of Tovey and are trying their best to lever him out of his job and get a 'yes-man' in as CinC who will sit down calmly under this unsound Bombing Policy and allow the Navy to go on fighting with last war's weapons.”¹⁵⁷

It is interesting that Admiral Somerville’s private censure, written in September 1942, expresses his frustrations just at a time when events began to heat up in Canada and elsewhere.

¹⁵⁸ Ibid Malone, 1983, pg. 9

Canada tended to defer to the larger partners on strategic matters as it desired a moderate war policy for domestic purposes.¹⁵⁹

But “deferral” presented its own set of problems especially when deciding “who would get what and when”. It became an issue. There were heated arguments over the employment of long range air assets that were eventually decided by Winston Churchill himself. It followed that Canadian preparations would be based on what resources were available at a time when the government was faced with a looming crisis at hand.

Arguments would be made for vital long range assets by Coastal Command and the Royal Navy on the one hand, and the Royal Air Force Bomber Command, on the other that would affect and that mattered to Canada. For example, the Royal Navy and Coastal Command made a case for the employment of long range aircraft on maritime patrol while the Royal Air Force countered with the needs of strategic bombing.

Winston Churchill favoured Bomber Command because, on the face of it (Figure 1 see results 1939-1941), there was little physical evidence supporting the RN and Coastal Command’s case. It was widely viewed then that “bombing the U–boat construction facilities and bases in France and Germany would be more effective in combating the U–boat menace than convoy escort or maritime air patrols.”¹⁶⁰

Churchill’s decision had many ramifications. But significantly the resulting decision left the vital convoy link without adequate air protection when it was most urgently required.

The Force of Personality

Winston Churchill was in full control in the management of the war in 1941. He had his own ideas on how it should be fought and won. He was not only Prime Minister but also was his own Minister of Defence.¹⁶¹ By many accounts he was

¹⁵⁹ C.P. Stacey, **The Private World of Mackenzie King- A Very Double Life**, Macmillan of Canada, 1976, pg. 28 and pg. 30

¹⁶⁰ William S. Hanable, Research Studies Series, Case Studies In The Use Of Land-Based Aerial Forces in Maritime Operations, 1939-1990, Air Force History & Museums Program, Washington, D.C. September 1998, pg. 19

¹⁶¹ Winston S Churchill, **The Hinge of Fate**, Houghton Mifflin Company Boston, The Riverside Press Cambridge, 1950, pg. 60-61

an accomplished, skilled politician and a man of varied experience. More importantly, Churchill was well versed and experienced with how a government should manage a war, which shaped his many decisions and directions.

By 1942 Churchill faced threats and demands on many fronts that strained his limited resources.¹⁶² He knew that he simply could not cover all bases and consequently was forced to optimize his forces. In the end he was left with little choice but to curtail any expansion of Coastal Command and Naval air assets at a critical juncture back in 1941. There were simply too many fires to put out with what was available to him.¹⁶³

Still the U-boat issue was so pressing that it remained Churchill's most dreaded fear. He resolved the issue by declaring the Battle of the Atlantic.¹⁶⁴ Churchill was concerned with the tempo and devastation of the destruction. In his estimate, huge convoy losses were generated by no more than 12-15 U-Boats on patrol at any one time up until 1942.¹⁶⁵

Churchill was not just concerned with the number of ships lost but the tonnage of cargo that failed to reach its final destination. Thus his thinking led to the concentration of his forces that drew his staff's attention to the vital task at hand through a declaration of the Battle of the Atlantic. It was a siren call to arms much similar to his declaration of the Battle of Britain.¹⁶⁶

[Facing a Conundrum Shaped on Experience](#)

Despite the declaration of the Battle of the Atlantic, strategic bombing was viewed as "the priority". Churchill and the Commonwealth devoted much time, resources, and manpower toward achieving that priority. Still Churchill's selection of "Strategic Bombing" as the priority was not surprising in the least. Churchill was an intimate of air force doctrine. During the post World War I, he was minister responsible for combining the ministries of War and Air into one. He was selected

¹⁶² Ibid Churchill, **Hinge of Fate**, pg. 127

¹⁶³ Ibid Churchill, **Hinge of Fate**, pg. 121 & 127-129, and

Winston S Churchill, **The Grand Alliance**, Houghton Mifflin Company Boston, The Riverside Press Cambridge, 1950, pg. 112

¹⁶⁴ Ibid Churchill, **The Grand Alliance**, pg. 122-123

¹⁶⁵ Ibid Churchill, **Hinge of Fate**, pg. 110 -111

¹⁶⁶ Ibid Churchill, **The Grand Alliance**, pg. 122-123

by then Prime Minister David Lloyd George because of his flexibility of mind and because he was open to the employment of air power.¹⁶⁷

Churchill was also for a time Minister of Munitions during World War I (1917-1918). It was here that Churchill gained much experience on the economics of warfare. This portfolio was also likely his foundation and education for his views concerning the management of war and aircraft production.¹⁶⁸ Churchill then because of this varied background, was very well aware of the value of air power and the need for air superiority.¹⁶⁹

Hugh Trenchard, the “father of the RAF” who was also a contemporary of Churchill, was responsible for the development of the British theory of strategic airpower. Trenchard identified enemy morale as the key target in RAF doctrine. His theory was institutionalized in a series of doctrinal manuals which was subsequently the guideline and basis for action used by Arthur Harris, Churchill’s Commander of Bomber Command.¹⁷⁰

It is likely then that Churchill’s familiarity with RAF strategic doctrine and his need for offensive action were key factors in swaying many arguments and for his decision in favour of Bomber Command in 1941.¹⁷¹ His was not just a gut decision; there was hard doctrinal evidence supporting the RAF’s case. Unfortunately for either the RN or Coastal Command’s case, no such evidence was evident. It was either deficient or incomplete, or was unavailable at the time.

The Hard Facts

The decision to allocate long range assets to the RAF before Coastal Command and the needs of the Royal Navy seemed reasonable in light of the results achieved to date. In the battle of U-boat operations the gathering of that evidence was often difficult and was in large part an intangible which is one reason why the Royal Navy and Coastal Command lost their case.

¹⁶⁷ Phillip S. Meilinger, **Trenchard and "Morale Bombing": The Evolution of Royal Air Force Doctrine Before Second World War**, *The Journal of Military History*, Vol.60, No.2. , April 1996, pg. 251

¹⁶⁸ Ibid Churchill, *Hinge of Fate*, pg. 62-63

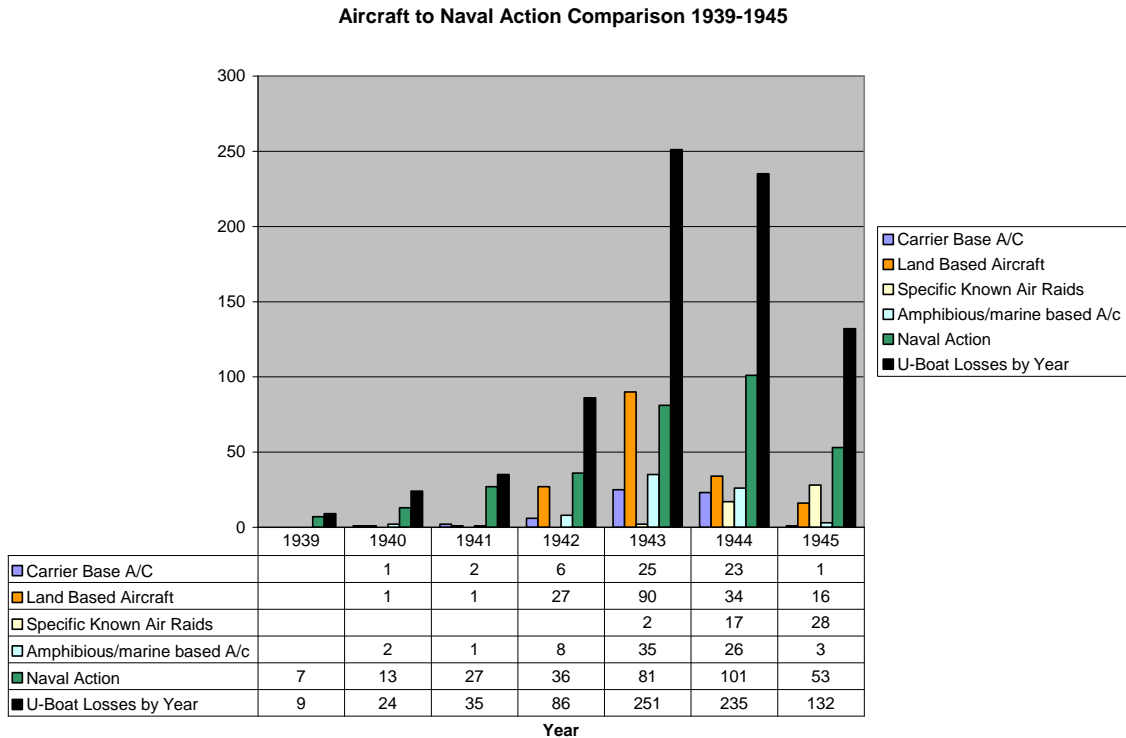
¹⁶⁹ Ibid Churchill, **The Grand Alliance**, 1950, pg. 122-123

¹⁷⁰ Ibid Melinger, 1996 pg. 269

¹⁷¹ Ibid Melinger, 1996 pg. 253

The empirical evidence available between 1939 and 1941 suggested that it was naval action, not air action that achieved results against the U-boats. There was little evidence supporting the role of air power in the destruction of U-boats during that period. It would be easy for any observer to conclude then, that use of air power in the direct pursuit of U-boats was ineffectual and a misuse of vital and scarce resources. (Figure 1)¹⁷².

Figure 1



U-Boat destruction and results by air action were desultory between 1939 and 1941. The leading champion of U-boat sinkings on the face of events was indeed, naval action. It was not until 1942 that airpower in total and, land based aircraft in particular, started to produce results in quantity that even matched the results from naval action (Figure 1).

¹⁷² U-Boat.Net 1995-2011, **U-Boat Fates – U-Boat Losses 1939-45**, 10 June 2011, Accessed: 10 June 2011

Source: <http://www.uboaat.net/fates/losses/cause.htm>

Author's note. The data presented here was manually transcribed was a compilation of data from a review of each U-boat record of loss from 1939-1945. Some variances may be due to a difference in categorization and grouping by different observers. Consequently, any resulting error is strictly my own.

The point that is often lost in the discussion though, was that these land based attacks played a vital role. The destruction of a U-Boat may have been the direct object, but the land based air crafts' importance was often lost in the unseen and indirect result. Airpower kept the U-Boat submerged, which was probably its most important service and purpose.

The suppression of U-boat activity and operability were likely the more important and vital objects that contributed to success. It was the limiting of U-boat operations that saved lives and materiel. But maintaining an air umbrella was most likely viewed as the more costly option when compared to strategic bombing in terms of fuel, crew requirements, and aircraft. In the end it simply did not play to air force doctrine of hitting at enemy morale at a time when the force of personality and public opinion demanded so.

The Allies did employ air raids against ports resulting in some U-boat losses but this did not occur in great frequency until the last two years of the war 1944-1945 (figure 1). These raids contributed little to easing the naval threat or to assuage the loss of the merchant shipping from U-boat action on the high seas.

In the end though, it was the presence of aircraft over the high seas that dissuaded U-boat activity and limited its success. And a very important point though is often lost was the majority of U-boat sinkings that resulted from air action between 1939 and 1945 were due largely to land based aircraft (Table 1).¹⁷³

¹⁷³ Ibid U-Boat Net, 1995-2011

(Author's Note to Table 1:

This data was adjusted to remove duplication of combined actions for which both the navy and air forced were simultaneously credited for a joint action. Adjustments were also made to exclude scuttling and SOS (in 1944) in order to highlight losses solely due to misadventure or accident while at sea. From 1939-1945.

This is as pure a picture as I can get it within my limited means. There may be slight differences between my data and U-boat net which is largely due to the categorization applied by different observers. It does not materially alter the big picture in the greater scheme of things. For example, U-boat net yielded 37 combined naval-air attacks. I found 27 carrier-borne and 5 land-based or amphibian-based attacks my number rises to 32. My data was manually transcribed from U-boat net records. Any errors or omissions are my own and not the results of others. G.D Madigan 2 Jun 2011.); and

Anon. The Battle of the Atlantic, Canadian Naval Review, Vol.1 #1 (Spring 2005), pg. 19

A contrast to this paper highlights the differences resulting from differing categorization, parsing of the data and possibly investigator bias. The big picture remains the same.

Table 1 – A Comparison of U-Boat Sinking by Air Attack Classification

Comparison of Air Action Class only						
Year	Land Based Aircraft	Amphibious/ marine based A/c	Carrier Base A/C	Specific Known Air Raids	Total	
1939	0	0	0	0	0	
1940	1	2	1	0	4	
1941	1	1	2	0	4	
1942	27	8	6	0	41	
1943	90	35	25	2	152	
1944	34	26	23	17	100	
1945	16	3	1	28	48	
Total Air Action	169	75	58	47	349	
% Total Destroyed Air Action	48%	21%	17%	13%	100%	
Total Destroyed	772					

Air attacks accounted for 349 of 772 or 45% losses of all U-Boat losses between 1939 and 1945. The contribution of land based aircraft is very evident (Table 1). Land based aircraft represented 48% of total destructive losses by all air causes (Table 1). In comparison to cumulative losses from all sources, land based aircraft accounted for 28% of all U-boats losses compared to 41% attributed to Naval action (Table 2).

Table 2 – U-boat Losses by all Methods 1939-1945

<u>Actual</u>	<u>Year</u>	<u>Naval Action</u>	<u>Mines</u>	<u>Carrier Base A/C</u>	<u>Land Based Aircraft</u>	<u>Amphibious/ marine based A/c</u>	<u>Misadventure/Un known Accident/Other</u>
	1939	7	2				
	1940	13	6	1	1	2	4
	1941	27	1	2	1	1	4
	1942	36	5	6	27	8	8
	1943	81	2	25	92	35	25
	1944	101	13	23	51	26	57
	1945	53	13	1	44	3	18
	Total	318	42	58	216	75	116
	% total destroyed	41%	5%	8%	28%	10%	15%

Table 2 tends to indicate and support that the lion’s share of U-boat losses from 1939 to 1942 was indeed largely due to naval action. It was only after this point that U-boat losses to aircraft operation saw significant increase.

In the arguments over scarce defence economic resources in 1941 though, it was evident that land based aircraft operations against U-Boat activities were being discounted in favour of strategic assets toward air warfare over the European continent.

These arguments likely delayed the closure of the air gap in the Battle of the Atlantic as much needed aircraft were deemed more important for the prosecution of the strategic air war in Europe. The decisions would have an impact later for Canadians in the Battle of the Gulf of St Lawrence.

Skepticism – Land-based Aircraft and the Anti-submarine role?

The employment of land based aircraft against submarines was nothing new as those air assets were employed in the maritime patrol role as early as World War I. The basic lessons learned there was, aircraft proved to be an effective force against German U-boats. It forced them to remain submerged and exhausting their batteries either while en route to or in operational areas. U-boats were found to be very vulnerable to air attack by air escorted convoys.¹⁷⁴

Yet in 1939, despite the lessons of World War I, most belligerents were ill-prepared to engage submarines by land based aircraft for a number of reasons.¹⁷⁵ Inter-service rivalry and competition certainly played a role, but adherence to strategic doctrine in that the bomber would always get through, certainly swayed both professional and popular opinion.¹⁷⁶

There was little visible evidence of the efficacy of land based aircraft in the Maritime surveillance and anti-submarine role. This discrepancy served to muddy the waters. Given the weight of evidence between 1939 and 1941, the inter-service rivalry for the control of air power, lent toward strategic bombing rather than optimizing efficiency amongst all competing resources. This struggle governed the organizational schemes concomitant with the force of personality at the time.¹⁷⁷

The Fall Out - The Clash Of Personalities

The fall out of Churchill's decision was that Air Chief Marshal Sir Frederick Bowhill; the top ranking officer responsible for Coastal Command, was removed from command and tasked to sort out the problem with a backlog in the delivery of vital strategic aircraft from Canada to the United Kingdom. Long range aircraft were urgently needed for the front on strategic bombing.¹⁷⁸ Bowhill arrived from Great Britain on a short two days notice. His new responsibilities were deemed

¹⁷⁴ *ibid* Hannable, 1998 pg. 3-4

¹⁷⁵ *ibid* Hannable, 1998 pg. 9

¹⁷⁶ *ibid* Kemp, 2004, pg. 101-102

¹⁷⁷ *ibid* Hannable, 1998 pg. 11 and pg. 14

¹⁷⁸ Major (Ret'd) G.D. Madigan, **Focus: Triumph and Tragedy of Operational Training Unit 31, Debert Nova Scotia**, 7 March 2011 (submitted for publication – 7 March 2011, The Canadian Air Force Journal)

more vital to Britain's defence interests than his then important function at Coastal Command.¹⁷⁹

Churchill also believed that employment of an air arm in an antisubmarine role was undeveloped in 1941 and therefore in his mind, its value was indeed limited.¹⁸⁰ He therefore concluded his plans for the three services and set his priorities accordingly that year. Churchill did augment Coastal Command but the lion's share of incoming air assets still went to Harris's Bomber Command.¹⁸¹

Yet matters came to a head in 1942 for Canada in particular. A re-organization of land based maritime assets would be necessary to meet the looming U-boat threat in Gulf of St Lawrence. A battle was in the offing.

The commencement of that battle played an important part in the consideration of the employment of land base aircraft in an anti-submarine role. This consideration would later be of much concern to the German navy at the conclusion of its operations in 1942. Constant air surveillance and air attack led the Kriegsmarine to withdraw from this theatre as it was considered too dangerous.¹⁸²

Although the German navy lost no U-Boats to air attack in the Gulf of St Lawrence, the persistence of its pursuers and the intensity of their attacks forced

¹⁷⁹ Time Magazine, **World War: IN THE AIR: One-Way Airline**, Monday, Oct. 20, 1941
Source: <http://www.time.com/time/magazine/article/0,9171,851303,00.html>
Accessed: 14 February 2011

¹⁸⁰ Ibid Churchill, **The Grand Alliance**, pg. 147-148

¹⁸¹ Ibid Churchill, **The Grand Alliance**, pg. 112 and
Ibid Churchill, **Hinge of Fate**, pg. 121

¹⁸² David Andrews, **The Battle of the Gulf of St Lawrence**, Royal Canadian Legion Branch # 98 © 2008 All Rights Reserved, pg. 9

Source:
www.kingstonlegion.com/.../Battle%20of%20the%20Gulf%20of%20St%20Lawrence.doc and
<http://www.kingstonlegion.com/Poppy/Call%20to%20Remembrance.html>
Accessed: 2 October 2010

Andrews cites ``His last five U-boats in the theatre had encountered too much opposition and had sunk only five ships. Dönitz believed that such results could not justify a continued presence in Canada's inland waters....Still; a victory of sorts had been won. Ever-improving defences had deterred the U-boats, although it would take a post-war examination of German war records to confirm how seriously.

the Germans out of the Gulf to more profitable hunting grounds in the mid-Atlantic.

Like World War I, it was air power that forced the U-Boats further away from land in order to be outside the range of aerial Air escorts and other patrols.¹⁸³ This task was largely accomplished by the cooperation and coordination of the Royal Canadian Navy and Eastern Air Command in particular.

The Dreary Battle of the “Gulf of St Lawrence”

German U-boat activities served to dislocate many Canadian military initiatives by delaying the construction of Gander/Goosebay airfield by 6 months, in diverting huge military resources to the U-Boat hunt, and by forcing the closure and restriction of merchant naval traffic in the St Lawrence itself. It was this “observed” effect rather than the unobserved that swayed the perception of defeat. The Gulf of St Lawrence was considered a black eye for the Canadian military and of the government preparations of the day.

However it was the unobserved effects that showed the true measure of Canadian actions at the time. But success at the time was measured in terms of concrete results. If results were not evident, it was often concluded that certain actions were ineffective. Thus it was the immediate and apparent results that often swayed the decisions of the day.¹⁸⁴ Results just had to be concrete, based on the hard facts of observable and conclusive evidence. Decisions, as a consequence, were often swayed in favour of events with the concrete, measurable, and direct evidence.

At the Start of the Gulf of St Lawrence operations

The Battle of the Gulf of St Lawrence is such an example. Its commencement was both expected yet was a complete surprise. U-553 laid the gauntlet down to the start of the campaign commencing on 12 May 1942 with an incursion where its torpedoes sunk the British freighter *Nicoya* a few kilometres off Anticosti Island. Less than two hours later U-553 once again destroyed a ship, the Dutch freighter, *Leto*.¹⁸⁵

¹⁸³ *ibid* Hannable, 1998, pg. 4

¹⁸⁴ *ibid* Hannable, 1998, pg. 14

¹⁸⁵ Fabrice Mosseray, **The Battle of the St. Lawrence -A Little-Known Episode in the Battle of the Atlantic**, UBoat.Net 1995-2010, 29 Mar 2002.

Source: <http://uboat.net/articles/?article=29>

Originally U -553 was on a patrol line just off Boston. But U-553 encountered some engine trouble. U-553 changed course northwards towards what was assumed to be calmer waters in the St. Lawrence for urgent repairs.¹⁸⁶

The Kriegsmarine had no plans for incursions into the St Lawrence. This first incursion was merely accidental. However the Kriegsmarine quickly realized it as an opportunity. U-553's attack truly struck at Canada's heartland and morale. Canadian military dispositions seemed to be lacking, were unprepared, and were largely disorganized.

The great prize then, was the blow to Canadian morale. Questions were soon raised by many "as to how German submarines could have carried out such vicious attacks with complete impunity within Canada's territorial waters?"¹⁸⁷

The Naval resources at Canadian disposal in the summer of 1942 protecting the Gulf of St. Lawrence amounted to one Bangor class minesweeper, two Fairmilies class motor launches, and an armed yacht. This naval task force was not sufficient for the requirements of patrolling much less protecting water course 575 km long and 110 km wide at some points.

The operational area roughly bounded an area from Sept-Îles, Quebec to the Strait of Belle Isles on the North Shore of Quebec and Labrador, and on the South Shore from Rivière du Loup to the Gaspé Peninsula, thence to New Brunswick, Nova Scotia, and Prince Edward Island with Island of Newfoundland as the cork in the bottle to the east.¹⁸⁸

Canada was unprepared and had to quickly reorganize its resources. But so too was the German navy. It too was most unprepared for war in 1939. It would be two years before U-boats began to seriously threaten the western Atlantic.¹⁸⁹

Accessed: 30 November 2010

¹⁸⁶ Ibid Fabrice Mosseray, 29 March 2002

¹⁸⁷ Ibid Fabrice Mosseray, 29 March 2002

¹⁸⁸ Ibid Fabrice Mosseray, 29 March 2002

¹⁸⁹ [Hugh A. Halliday, Canadian Military History in Perspective, Eastern Air Command: Air Force, Part 14 , March 1, 2006](#), The Legion Magazine

Source: <http://www.legionmagazine.com/en/index.php/2006/03/eastern-air-command/>

Accessed: 27 January 2011

Thus up until 1941 the German Navy up confined its activities largely in the approaches to the British Isles. It was inevitable though that they would come to operate in the western Atlantic and ultimately in the Gulf of St Lawrence so their untimely arrival was indeed expected. It was only a question of “when”?

Until it actually happened, Canada only planned contingencies for an eventuality. These plans included the employment of Quebec -Sydney convoys and the establishment of a naval base at Gaspé for a Gulf escort force. There was also consideration given to the need of routing materiel overland for cargo which normally went by river to Canadian Atlantic port facilities.¹⁹⁰ The St. Lawrence traffic was considered valuable but was secondary in importance to the needs of ocean going convoys to Great Britain and to that of the oil tankers transiting along the American coast from the Caribbean.

Canada’s contingency plans were not an afterthought. The Canadian Government had considered both its East and West Coast defence needs well before Second World War. Eastern Air Command was established on 15 September 1938 because of the threat posed by the Munich crisis in that year. Defence plans were developed that included bases and squadrons of aircraft.

East and West Coast Commands were placed under control of the Home War Establishment (HWE). At the end of 1939 HWE consisted of 14 active squadrons and No.110 (Army Cooperation) Squadron. But only two squadrons had aircraft for the mission at hand, far short of the 16 squadrons deemed necessary with 574 aircraft that were to be in place under the initial HWE defence plan.¹⁹¹

Based on Canada’s preliminary planning, a U-boat threat was anticipated but the practicality of dealing with it came down to a question of resource allocation. The disparity of resources and organization was not felt until the first action in May 1942; hence the surprise on their arrival there. Until then, because there was

¹⁹⁰ Canada, National Defence Headquarters, Directorate of History, **REPORT NO. 30 HISTORICAL SECTION (G.S.), ARMY HEADQUARTERS, Army Participation in Measures taken by the Three Services for the Security of the Gulf of St Lawrence and the Lower River during the Period of German Submarine Activity, 1942-45**, 18 Nov 49 republished July 1986, pg. 2

¹⁹¹ The Juno Beach Centre, **Home Defence, The Creation of the Home War Establishment (HWE)**, 2003

Source: <http://www.junobeach.org/e/4/can-tac-air-hwe-e.htm>

Accessed: 20 January 2011

virtually no action in the Gulf of St. Lawrence, the resources were simply allocated to where they were most needed and a level of risk accepted.

Although much thought and considerable effort had been put into Canada's defence needs, other priorities contrived to limit access to modern aircraft, technology, and other resources. Dealing with a theoretical U-Boat threat was deferred until events necessitated a re-evaluation.¹⁹² In any case, any plan would have to be augmented from resources at hand.

Stretching Resources

The Battle of the St. Lawrence stretched Eastern Air Command (EAC) resources. The air role became doubly important as the Royal Canadian Navy was heavily committed in 1942. There was a shortage of naval escorts due to demands of the North Atlantic convoy system. Eastern Air Command of the RCAF accepted the navy's request for a major share of the responsibility of the defence of shipping in the gulf.

Eastern Air Command diverted some of its assets from Atlantic duties in order to concentrate in the Gulf. EAC placed as many as 48 front-line anti-submarine bombers at the disposal of this battle for air protection in the gulf and its ocean approaches.¹⁹³ Coincidentally there were 44 Hudson Bombers on establishment at O.T.U 31 from May 1941 on. Some of these assets were employed in this role and along with the assets of other training establishments contributed greatly in this battle.¹⁹⁴

Despite reorganization and new dispositions of existing assets, resources still were sadly lacking. In the end the training schools and advanced training establishments were mobilized as well. For example, 31 General Reconnaissance School based at Charlottetown, PEI was mobilized to fly anti-submarine and convoy protection patrols where 31 General Reconnaissance School employed the Avro Anson carrying two, 250-pound bombs.¹⁹⁵

Operational Unit 31 at Debert, Nova Scotia was also brought into the fray. Thus an operational burden was placed on the training establishments in order to cope with

¹⁹² Ibid, The Juno Beach Centre, **The Creation of the Home War Establishment (HWE)**, 2003

¹⁹³ Ibid, Roger Sarty 2003, pg. 43.

¹⁹⁴ Canada, National Defence, Director of History and Heritage, File 74/13 No. 31 O.T.U., 3 February 2011 ,pg. 2

¹⁹⁵ ibid, [Hugh A. Halliday](#), **Eastern Air Command: Air Force, Part 14** , [March 1, 2006](#),

the threat. EAC's available resources in 1942 included 307 aircraft that were augmented by 259 training aircraft (84%). This figure rose to 483 aircraft in 1943 that were also augmented by 386 (80%) training aircraft available for the battle of the Gulf of St Lawrence.¹⁹⁶

The operational tempo was high once the decision was made to mobilize the schools. O.T.U. 31 carried out regular anti-submarine and convoy patrols for Eastern Air Command and did so until 21 December 1943. Four especially fitted Hudson bombers for the antisubmarine-convoy patrol were kept at the ready and available for the task.

It was agreed that O.T.U. 31 would diminish this role commencing 19 January 1944 because of the needs of its primary training role. Despite a diminished capacity, O.T.U. 31 maintained a commitment for the anti-submarine role of two days of anti-submarine patrols of 3-1/2 hour and 5-1/2 hours respectively, and one night patrol of 3 hours that was fitted into its training schedule starting 19 January 1944.¹⁹⁷

Some may question the utility of employing the operational training units in the anti-submarine role. But in the end, they were a value added asset that harkened back to the forgotten lessons of World War I which were only now being re-learned.¹⁹⁸ They were a force multiplier at a time when resources were short on the ground.

The lessons of World War I showed that shore based air patrols were indeed important to the fighting the U-Boat threat as the mere presence of any aircraft was a cause for concern to many a U-Boat captain.¹⁹⁹

¹⁹⁶ *ibid* Canada, National Defence, Report No. 30 18 Nov 49 (Original), republished Directorate of History, National Defence Headquarters Ottawa, Canada July 1986, pg. 7

¹⁹⁷ Canada, National Defence, Director of History and Heritage, File 181.002 (D237) - **Operational Commitments - 31 O.T.U.**, 3 February 2011 (letter RCAF G 32A 1100M-10-41 (1022) H.Q. 1062-9-36, Letter "R.A.F. Schools, Debart, N.S. 25th January 1941)

¹⁹⁸ *ibid* Hannable, 1998 pg. 3-4

¹⁹⁹ Time Magazine, **World War: IN THE AIR: One-Way Airline**, Monday, Oct. 20, 1941

Source: <http://www.time.com/time/magazine/article/0,9171,851303,00.html>

Accessed: 14 February 2011

"Sir Frederick decided to attack submarines with pure bluff. Banking on the well-founded fear that submarine men have of planes in general, he sent his flyers out in almost anything he could buy, beg or borrow. His motley "Honeymoon Fleet" consisted mostly of light Tiger-Moth trainers, no more lethal than the tiny yellow Cubs that put-put around U.S. airports. But against German submarine commanders, grooved in routine, the Tiger-Moths were almost as effective as dive-bombers. Whenever the U-boats saw a speck in the sky they submerged and stole away."

Land based aircraft forced German U-boats to remain submerged stretching their batteries to exhaustion, and limiting speed, hence range and operability, while en route or in operational areas. U-boats were vulnerable to air attack by air escorted convoys.²⁰⁰ Thus aircraft were direct contributors to limiting U-boat effectiveness and operations merely by their presence in the air!

Perceptions of the Enemy

Despite EAC's best efforts conditions were more favourable to the enemy. They made great strides in the Gulf. Air attack was very weather dependent and estuarine conditions shielded them from sonar-asdic contact by the navy whose Asdic was limited by the bathyscaphe effect.²⁰¹ They were vulnerable however when surfaced air power showed its true potential. When caught on the surface, the U-boats were attacked relentlessly. Air cover kept them submerged and dwelling in fear.

The German perspective provides some insight as to the effectiveness of the Canadian effort. They considered three pillars in the battle that was of grave concern. These pillars were radio intelligence direction based on radio direction finding, traffic analysis, and decryption. The enemy considered that it was the effect of radio intelligence that had the greater influence on Allied operational and tactical decisions.²⁰² This pillar place land based aircraft on or in the vicinity of known U-boat locations.

Admiral Dönitz , fastidious for daily position reports in his management of the Battle, insisted on daily positioning reporting. It was this insistence and the use of the box square system that was of value to fixing U-boat positions and concentrating Allied air and naval resources to great effect. This was probably the

²⁰⁰ ibid Hannable, 1998 pg. 3-4

²⁰¹ Nathan M. Greenfield, 2004, pg. 60:

Bathyscaphe effect the blending of fresh and salt, cold and warm water in an Estuary system.

²⁰² United States of America, U.S. Naval Academy Annapolis. **Ultra and the Battle of the Atlantic**, Naval Symposium, DOCID: 3726627, October 28, 1977, Approved for Release by NSA on 07-26-2010 FOIA Case # 62049, *The German View* Jurgen Rohwer, pg. 13

key to Dönitz's conviction of the dangers inherent in the confined area of the Gulf of St Lawrence.²⁰³

The Effects of EAC Persistence

U-517 was been found and located by such means. U-517 was actively pursued and land based aircraft were brought into the fray in its pursuit. U517 was attacked by Pilot officer Maurice Jean Belanger. Belanger not only attacked U-517 once, but on several occasions. His tenacity serves as an attestation to the efficacy of Canadian triangulation methodology. U-517 was almost brought to grief. U-517 crash dived leaving an impression with Belanger and his air crew that U -517 was sunk.

Belanger delivered three well placed depth charges. U-517 lingered in the area remaining submerged for several hours. When safe to do so, U-517 surfaced to survey the damages. Belanger`s skilful bombing and gunnery left U-517 damaged with one well place bomb lodged in its hull forward of the 10.5cm ammunition locker! U-517's Captain, engineer and two crew members dislodged the bomb and ditched it over the side. They considered themselves extremely lucky for they came with a hair's breath of certain death and destruction!²⁰⁴

Final Words

U-517 departed for home base at Lorient on 5 October 1942 severely damaged and with a lasting impression of their experience in the Gulf of St Lawrence. U-517's Captain calculated that he was on the receiving end of at least 27 bombs and 118 depth charges dropped near enough to his discomfort.²⁰⁵ Thus it is clear that triangulation of radio signals combined with fixed the box locations were of great assistance to land based aircraft on patrols as they were dispatched basically to known or suspected locations.²⁰⁶ This too likely had a great influence in suggesting to them that Canadian eyes and aircraft were ubiquitous too!

²⁰³ Ibid, **Ultra and the Battle of the Atlantic**, Patrick Beesly, pg. 7

²⁰⁴ Nathan M. Greenfield, **The Battle of the St Lawrence – The Second World War in Canada**, Harpers-Collins Publishers Ltd., 2004, pg. 154

²⁰⁵ A.R. Byers (Ed.), **The Canadians at War 1939-1945 Second Edition**, The Reader's Digest Association (Canada) Ltd, 1986, pg. 129

²⁰⁶Roger Sarty, **The "Battle We Lost at Home" Revisited Official Military Histories and the Battle of the St. Lawrence**, Canadian Military History, Volume 12, Numbers 1& 2, Winter/Spring 2003, pg. 44, Ibid, **Ultra and the Battle of the Atlantic, The British View**, Patrick Beesly, pg. 7,

In Canada the Battle of the Gulf of St. Lawrence is a little-known or forgotten event in Canadian History.²⁰⁷ It may well be that wartime censorship played role in stifling the story but it is more likely because this battle was viewed as an unmitigated defeat on Canadian shores. The post war view may have been an expedient to suggest we ignore it and leave it best forgotten.²⁰⁸

The cast of an “unmitigated defeat” was largely due to the significant shipping losses. There were heavy casualties in the Gulf of St Lawrence resulting from U-Boat activities in 1942.

But the reality was the “Battle of the Gulf of St Lawrence” was anything but an unmitigated defeat. It was in fact an unknown military victory. The Battle denied the enemy control over Canadian littoral waters. This victory was largely due to a combined arms effort of the Royal Canadian Navy, Royal Canadian Air Force, and Canadian Army, and that should not be forgotten!

Ibid, **Ultra and the Battle of the Atlantic, *The German View***, Jurgen Rohwer, pg. 13, Ibid, **Ultra and the Battle of the Atlantic, *The American View***, Kenneth Knowles, pg. 14-15, and **Battle of the Atlantic, Vol. 1, *Allied Communications Intelligence December 1942- May 1945, (SRH-009), Chapter II Section 3. *Communications Intelligence and Perspective on U-boat war from beginning of 1943 to end of war.**** Pg. 18-19

Source: <http://www.ibiblio.org/hyperwar/ETO/Ultra/SRH-009/SRH009-2.html>

Accessed: 15 August 2011

²⁰⁷ Sarty,2003, pg. 41

²⁰⁸ Sarty,2003,pg 42

The Odyssey of Pilot Officer S.F.C. Homer
The Forgotten War on the Canadian Home Front

Isaiah 40 (31)²⁰⁹

But they that wait upon the Lord shall renew their strength. They shall mount up with wings like eagles; they shall run and not be weary; they shall walk and not faint.

24 April 2014

²⁰⁹ The Living Bible, Holman Illustrated Edition, A.J. Holman Company, Philadelphia and New York, 1973

The fifteenth of May 1943 marked by fair weather and with a slight breeze was, a typical spring day in Nova Scotia that was basically good for flying too!²¹⁰ But it was not to be a typical day for Pilot Officer Homer posted to Operational Unit (O.T.U.) 31 at Debert. Homer and the crew of Hudson bomber 901/B3 were about to embark on the adventure of their lifetime!

Pilot Officer (PO) S.F.C. Homer, captain on a training patrol on Hudson Bomber 901/B3 on that fateful day, was on a regular, routine, and boring training mission.²¹¹ The weather was fine with light surface winds of 10 knots from 220 degrees. Cloud cover was 2/10ths at 1000 feet with twenty mile visibility in all directions.²¹²

Homer's Hudson Bomber 901/B3 flew back and forth in a fixed box pattern over an assigned training area off the Atlantic near Nova Scotia's coast line. Homer who departed from Debert, proceeded to his assigned position over the Scotia Shelf just off the south of Halifax without incident where he was to conduct both a training and protection mission in the approaches off Halifax and environs.

Like every other mission Homer flew mile after mile, hour and hour after hour as the grey Atlantic swells swept under the wings of Hudson 901 until suddenly, his observer noted something odd. There at 42 degrees 8' north, 64 degrees 28' west

²¹⁰ Canada, National Archives of Canada, **3 Radio Detachment - Tusket, Nova Scotia, 1943 - Extracts from Daily Diary**, 15 May 43

Source: <http://67.69.104.76:84/Pinetreeline/rds/detail/rds3-2.html>

Updated: March 28, 2003

Accessed: 18 March 2014

²¹¹ Dean C. Ruffili , **Operational Research and the Royal Canadian Air Force Eastern Air Command's Search for Efficiency in Airborne Anti-Submarine Warfare, 1942-1945**, Wilfrid Laurier University, 2001 (thesis), pg. 29

Source: <http://www.nlc-bnc.ca/obj/s4/f2/dsk3/ftp05/MQ65204.pdf>

Accessed: 1 February 2014

²¹² Canada, National Defence, Directorate of History and Heritage, Public Record Office (PRO) file ADM 199/435 – **RCAF attacks on U-Boats**, 3 February 2011

4:45PM (2049GMT) he observed a U-Boat, one nautical mile off the Hudson bomber's position on a bearing of 197 degrees!²¹³

The observer saw a periscope, barely visible, breaking the surface. A U-boat was proceeding on a course of 060 degrees at a speed of 5 knots relative to Hudson 901.²¹⁴ It was likely in the process of crash diving perhaps having spotted Homer's Hudson bomber. It would have been the natural response as the sudden realization set in of the imminent danger that Homer's Hudson bomber posed!

Homer maintained his course for 10 to 15 seconds then descended rapidly from an assigned height of 3200 feet to finally approach the U-boat at a height of only 100 feet. Homer attacked the U-boat from a 15 degree angle astern and on its starboard side.²¹⁵ Homer let loose with four 250 lb, MK VIII amatol depth charges just as the U-boat's periscope passed under the nose of his aircraft.²¹⁶

The amatol depth charges were set for detonation at 25 and 40 feet. After their release, Homer climbed to 400 feet and awaited the explosions. These came but were observed to be off 40 feet to port of the periscope feather. He missed! Nothing further was seen. Homer circled for 5 to 10 minutes in the vain hope that the U-boat was at least damaged and would have to surface. If proved to be so, Homer was ready to re-engage it with his guns.²¹⁷

Nothing happened. He employed baiting tactics, leaving the area then returning 10 minutes later in the vain hope that the U-Boat would re-surface. Homer flew over the area for a further 20 minutes. No further sightings of the U-boat were made. He finally left the area departing around 5:23PM (2123 GMT).²¹⁸ His attack lasted a total of 79 minutes.

[A Common Perspective](#)

We tend to forget that World War Two was often fought right here, on our front doorstep. Many Canadians seem unaware or oblivious to the reality of those

²¹³ Ibid DHH (PRO) file ADM 199/435, 3 February 2011

²¹⁴ Ibid DHH (PRO) file ADM 199/435, 3 February 2011

²¹⁵ Ibid DHH (PRO) file ADM 199/435, 3 February 2011

²¹⁶ Ibid DHH (PRO) file ADM 199/435, 3 February 2011

²¹⁷ Ibid DHH (PRO) file ADM 199/435, 3 February 2011

²¹⁸ Ibid DHH (PRO) file ADM 199/435, 3 February 2011

times.²¹⁹ The stories of Pilot Officer Homer and many of his peers here at home are important to our understanding of Canada's total contribution to the war effort. Their stories are the mosaic of the battles hard fought on Canadian soil.²²⁰ Sadly our appreciation of Canadian history on that score is often lacking.²²¹

Our modern Homer's odyssey was the quest of finding and sinking a U-Boat. Homer's story illustrates the combination of training, tactics, air assets, dispositions and munitions that were necessary to stave off the U-boat threat employed while in training or on operations. It was here, in the hard lessons learned, where the U-boat problem was addressed by air assets.

But beyond that it is also indicative of the difference in character and nature of the Canadian air battle on Canada's eastern shores to the air sea war fought elsewhere.

Debert – A Microcosm of the Day

Debert Nova Scotia is a place of forgotten and unexplored history. It was both an air training and an operational unit during the Second World War. It also happened to be a major Army training centre.²²² The airfield was just one of a number of operational units, located both on the east and west coasts in the Canadian Order of Battle. Debert was tasked specifically to train personnel for Coastal Command units. In addition it was also tasked to protect Canadian shores and maritime passages at a time when our resources were scarce.²²³

²¹⁹ Roger Sarty, **The "Battle We Lost at Home" Revisited Official Military Histories and the Battle of the St. Lawrence**, Canadian Military History, Volume 12, Numbers 1& 2, Winter/Spring 2003, pg., pg. 41

²²⁰ **Chris Herhalt**, **Top soldier says interest in military highest in years**, Guelph Mercury, 14 February 2014

Source: <http://www.guelphmercury.com/news-story/4368056-top-soldier-says-interest-in-military-highest-in-years/>

Accessed: 15 February 2014

²²¹ **Kelsey Rolfe**, **Less than half of Canadians know which war the Battle of Vimy Ridge was fought in: new poll**, National Post, 7 April 2014

Source: <http://news.nationalpost.com/2014/04/07/less-than-half-of-canadians-know-which-war-the-battle-of-vimy-ridge-was-fought-in-new-poll/>

Accessed: 7 April 2014

²²² Major (Ret'd) G.D. Madigan, **The Crucible for Change – Defence Spending in Debert, Nova Scotia, During Second World War**, The Royal Canadian Air Force Journal, Vol. 2. No.1 Winter pg. 15-16

²²³ Dr. Jean Martin, **The Great Canadian Air Battle: The British Commonwealth Air**

Debert, a small rural community in central Nova Scotia before the war, had a population ranging between 500 to 600 people at a time. Debert epitomized the rural small town in Nova Scotia whose existence depended on mixed farming and lumbering. One would think nothing of importance or significance would ever happen there, but something did.

Debert was an integral part of the engine of war. In the confines of its woods, fields and farmlands, men were trained as airmen and soldiers. The airmen from Debert would seek an enemy prowling within our coastal boundaries. Protecting those boundaries was important because they were part of a critical centre of gravity of the convoy lifeline sustaining our allies throughout the war.

The air unit at Debert, and other British Commonwealth Air Training Plan (BCATP) units in maritime Canada, operated in the Bay of Fundy, the Gulf of St Lawrence and the Atlantic off the continental shelf. These operations were often at the extreme limits and endurance of their aircraft. They provided maritime protection projecting Canadian military power at a time when resources were scarce.

The activities in and around Debert and Operational Unit 31 were a microcosm of the daily grind of war time Canada. Homer's Hudson Bomber patrol on 15 May 1943 was part of the air battle mosaic following the Battle of the St. Lawrence that is an insight to the complexity of those combat operations and the problems facing O.T.U. 31 and Eastern Air Command (EAC) in the day.

[The Air Role in Eastern Canada](#)

The air role was critical to Canada's war effort at the time. The need became evident especially during 1942 as the Royal Canadian Navy was heavily committed. There was a shortage of naval escorts due to demands of the North Atlantic convoy system.²²⁴

Eastern Air Command (EAC) as part of the RCAF accepted the navy's request for a major share of the responsibility of the defence of shipping in the Gulf of St.

Training Plan And RCAF Fatalities During The Second World War, Canadian Military Journal, Spring 2002 , pg. 65

²²⁴ *ibid* Sarty, pg. 43

Lawrence. The weapon of choice in the beginning was the Hudson Bomber although other air frames were also employed.²²⁵

Eastern Air Command (EAC) first diverted some of its assets from Atlantic duties and concentrated them in the Gulf of St Lawrence. EAC placed as many as 48 front-line anti-submarine bombers at its disposal for this battle for air protection and guarding the gulf and Canadian ocean approaches.²²⁶

Despite these early dispositions, EAC's resources were thin and there remained a critical shortfall of air assets. This shortfall was met in part through an extension of an operational burden to the embryonic training establishments. This was the necessity required to bolster and cope with the threat that the U-boat posed off Canadian shores.

EAC's available resources at the start of the campaign in the Gulf included 307 aircraft that were augmented by 259 aircraft (84%) from training units in 1942. This figure rose to 483 aircraft that again were augmented by 386 (80%) training aircraft in 1943.²²⁷

Coincidentally there were 44 Hudson Bombers on establishment at O.T.U 31 from May 1941 on. Four of Debert's Hudson bombers were exclusively tasked and devoted to this role.²²⁸ Thus all air assets in Atlantic Canada, including those from the training establishments, played an important role and contributed greatly to managing and containing the U-boat threat.²²⁹

The operational tempo rose considerably once the decision was made to mobilize the schools. O.T.U. 31 and others carried out regular anti-submarine and convoy patrols for Eastern Air Command.

²²⁵ *ibid* Sarty, pg. 43

²²⁶ *ibid* Sarty, pg. 43

²²⁷ Canada, National Defence Headquarters, Directorate of History, **REPORT NO. 30 HISTORICAL SECTION (G.S.), ARMY HEADQUARTERS, Army Participation in Measures taken by the Three Services for the Security of the Gulf of St Lawrence and the Lower River during the Period of German Submarine Activity, 1942-45**, 18 Nov 49 republished July 1986, pg. 7

²²⁸ Canada, National Defence, Director of History and Heritage, File 74/13 No. 31 O.T.U., 3 February 2011 , pg. 4 (D.D. 4/7/43), and pg. 5 (192-10-22/31 V.2 10/4/44 F.168)

²²⁹*ibid* DHH File 74/13 No. 31 O.T.U, pg. 2

The Hudson Bomber

The Hudson bomber was the weapon of choice because it was readily available to Canada and Great Britain. The Hudson bomber was widely employed by EAC and O.T.U. 31. This airframe traces its origins back to the Lockheed's Model 10 Electra, a ten-passenger civil airliner first flown on 23 February 1934.

Because of the exigencies of a pending war, some 250 aircraft were ordered by the the British Purchasing Commission on 23 June 1938 to be delivered not later than 31 December 1939. All were delivered well before that date.²³⁰

These first early deliveries were all Hudson Mark I. But by the time O.T.U. 31 came into existence, all Hudson Bombers employed at Debert were Hudson MKIII variants. The MKII, a variant in the series, provides an insight on the Hudson's evolving capabilities. It was powered by two 1,200 hp GR-1820-G-205A engines and was ostensibly armed with a ventral .303 machine gun.²³¹

²³⁰ Forest Garner & Emmanuel Gustin, **Fighting the U-boats, [Aircraft & Air forces](#)**, Lockheed **Hudson Patrol Bomber**, U-Boat Net, © 1995 - 2014 Guðmundur Helgason
Source: <http://uboat.net/allies/aircraft/hudson.htm>
Accessed: 14 January 2014

²³¹ Ibid DHH File 74/13 No. 31 O.T.U, pg. 6 (92-10-22/31 V.1 22/6/42 F.13)
And ibid Forest Garner & Emmanuel Gustin, 1995-2014



Gerry Madigan archives – Debert Machine Gun Zeroing Emplacement- Backside 5 Sep 2014

By the time Homer conducted his attack in May 1943, O.T.U. 31 may have been equipped with Mark V series.²³² The Mark V series carried a crew of 5, powered by two 1,200 hp (895 kw) Pratt & Whitney Twin Wasp R-1830-S3C4-G radial engines.²³³ The Mark V had a range of 2160 miles with a cruising speed of 224 mph.²³⁴

Regardless of the variant employed, the Hudson was well suited for the role it was employed in on the home front. But it was ill-suited for long range forays out into the mid-Atlantic gap.

²³² Canadian Wings, The History and Heritage of the Royal Canadian Air Force, Canadian **Hudson Bomber Serial Number Search 901**, Copyright 2012 © AEROWAREdesigns

Source: <http://www.canadianwings.com/Aircraft/Database/listpage.php>

Accessed: 3 February 2014

²³³ Canadian Wings, **Lockheed HUDSON**, The History and Heritage of the Royal Canadian Air Force ,Copyright © AEROWAREdesigns 2010

Source: <http://www.rcf.com/Aircraft/aircraftDetail.php?HUDSON-156>

Accessed: 13 April 2011

²³⁴ Ibid., Forest Garner & Emmanuel Gustin

O.T.U. 31 maintained a standing commitment to the anti-submarine role until 19 January 1944. Following that date it was agreed that O.T.U. 31 would diminish this role and concentrate on its primary training role.²³⁵

Despite a diminished operational capacity following 19 January 1944, O.T.U. 31's commitment to the anti-submarine role was a mere two days of anti-submarine patrols of 3-1/2 hours and 5-1/2 hours duration respectively that also included one night patrol of 3 hours, all fitted into the training schedule.²³⁶ Regardless, O.T.U. 31 was in the fray and, more importantly, it had some contact with the enemy that despite the task, contact with the enemy and the results seemed desultory at best.²³⁷

Official Analysis of Hudson Bomber 901/B3 on the Day

The official analysis of Homer's attack is indicative of the considerations of the day. The official report on Homer's attack stated he overshot the periscope and his depth charges fell too far to port to do any lethal damage.²³⁸ To some this may seem inexcusable. What we often tend to forget is that O.T.U. 31 was a training unit but more importantly, the results were consistent with expectations at the time!

The Command Air Staff at the time remarked "from the crew's description of the attack it would appear "that this *inexperienced* crew carried out a very good attack". The official analysis concluded that the depth charges overshot the submarine by 50 feet. These should have been released before the periscope passed under the nose of the aircraft.²³⁹ No matter what, Homer and crew must have put the fear of God into what was a very lucky U-Boat crew on that day!

Inexperience

Homer's attack does provide some valuable insights into the problems of his day. Reading through the official report suggests that a number of lines of inquiry should have been pursued but weren't.

²³⁵Canada, National Defence, Director of History and Heritage, File 181.002 (D237) - **Operational Commitments - 31 O.T.U.**, 3 February 2011 (letter RCAF G 32A 1100M-10-41 (1022) H.Q. 1062-9-36, Letter "R.A.F. Schools, Debert, N.S. 25th January 1941),

²³⁶ Ibid DHH File 181.002 (D237) - **Operational Commitments - 31 O.T.U.**, 3 February 2011

²³⁷ Ibid DHH File 74/13 No. 31 O.T.U, pg. 4 (D.D. 4/7/43)

²³⁸ Ibid DHH (PRO) file ADM 199/435, 3 February 2011

²³⁹ Ibid DHH (PRO) file ADM 199/435, 3 February 2011

First, was a question of inexperience, did the inexperience of the crew of Hudson bomber 901/B3 play a role in this failure? O.T.U. 31 was an advance training unit. Its main task was training of pilots for such operations. One hundred hours of advance O.T.U flight training was set aside in the curriculum for the task. At this juncture, training also included time spent on instrument flying and night cross-country exercises.²⁴⁰

So perhaps when measured in the number of logged air hours, the crew was indeed inexperienced. But the training was not simply a matter of air time it was also a matter of training in all aspects of the attack in the coordination of all air crew positions from the pilot to wireless air gunner, navigator, and air observer.

The syllabus for operational training proper was designed for a course of twelve weeks for pilots and wireless operator/air gunners and eight weeks for observers. Training of each group was conducted separately until the final stages. The crews, consisting of one pilot, one observer and two wireless operator/air gunners, were joined together as a crew.²⁴¹

The coordination of the crew training occurred with bombing and gunnery practice. Practice bomb ranges were established at Economy and Greenwood Nova Scotia. There in the shallows of the Bay of Fundy, crews conducted bomb training and had their proficiencies assessed.

²⁴⁰ Ibid Hatch, pg. 108

²⁴¹ Ibid Hatch ,pg. 75



Gerry Madigan Archives – October 2017 – Replica Leaning Tower of Economy, at Economy NS, now tourist bureau and focal point of local history

Two nine-meter wooden towers were constructed at Greenwood and Economy Nova Scotia that served the purpose. These towers assessed both bomb ranging and gunnery exercises as observation platforms. The aircraft from Greenwood and Debert were dispatched under the control of range safety officers who would then assess their performance.²⁴²

Once a satisfactory performance level was achieved, crews were tasked with longer range patrols. So we must make the leap of faith that the crew of 901 had achieved all the minimal requirements before they were both allowed to conduct operations in Canada before posting onward to advance training and operational units overseas.

The crew may have been inexperienced as a team. They were simply a group of men, thrown together, who learned their individual trades, but lacked the cohesiveness of a functional unit. It was only after advanced operational training overseas that permanent crews formed and jelled as teams and permanent units.²⁴³

²⁴² Greenwood Military Aviation Museum, WWII Observation Tower, 18 Nov 2009, Page 5.1 Rev. 0

Source: <http://gmam.ca/tower.htm>

Accessed: 30 November 2010

²⁴³ Ernest E. Allen, **An RCAF Pilot's Story 1939-1945 from the memoirs of Ernest E Allen**, 1996, pg. 13 of 46

What Homer and his crew of Hudson 901 achieved on the day was indeed phenomenal! It was an attestation to the quality of the training plan and the intelligence, perseverance, and skill of a crew still under training!

Clearly all performance objectives under the training syllabus were achieved! A contact was identified, pursued, an attack was made. Regrettably, the failure to hit or sink the target was a sullen result, but it was a result nonetheless. If training was not the problem, then what was?

Tactics

Second was the question of the tactics employed, was the attack profile correct? Homer was on the southern leg of his patrol when the observer sighted the target at 197 degrees. At that time of day the sun was on his right. He rapidly descended from a height of 3200' to a height of 100' keeping the target on his left. He turned 15 degrees to target at the end of his descent to attack a target that was still heading 60 degrees attacking on his starboard side with the sun roughly positioned at his back.

Homer let loose his full load of ammunition *from* 100 feet on the periscope feather. The post-operation analysis suggested that he let loose too late just as his aircraft passed over the periscope. Still from that height and the depth of the depth-charge settings, some severe damage may have resulted due to the hydrostatic pressures of the explosion. Homer stayed on the area 10-20 minutes hoping for the eventuality of a surfacing U-boat so he could re-engage the target with his guns.

The experience of Ernst Allen, one of the first Coastal Command pilots trained at Debert in 1941 is indicative of the consistency of the training and these tactics. By 1943 Allen was much more experienced than Homer. He too attacked a similar target in 1942 but in the Bay of Biscay. Allen's attack in 1942 was patterned on the same attack profile learned at Debert and later employed by PO Homer on 15 May 1943.²⁴⁴

Like Homer, Allen attacked a U-boat then circled and waited for 10 minutes as his initial result proved indeterminate. Then the nose of Allen's U-boat unexpectedly

Source: <http://www.seawaymall.com/eallen/>
Accessed: 13 August 2010

²⁴⁴ Ibid Allen, 1996, pg. 25 of 46

breached the surface at the 10-minute mark and at an extreme angle. One third of the U-Boat suddenly became exposed. Allen turned his aircraft about the U-boat where his gunners engaged the exposed portion of the now distressed U-boat. After half an hour the U-boat slowly sunk beneath the waves. Unlike Homer, Allen's official result was a confirmed kill.²⁴⁵

Strikingly, the attack profile and tactics employed from rookie to experienced pro were similar! We may conclude then that Homer and crew were indeed very well trained and, in very short order! This attests to the success of the British Commonwealth Training Plan marked the culmination of the initial training at O.T.U. 31. So training in and of itself was not an over-riding factor in the performance of Hudson 901/B3 then on 15 May 1943.

Dissecting Target Acquisition, Munitions and Target Engagement

If Homer's attack profile was correct, where did the breakdown occur? There were several variables at play at the release point of the munitions that were beyond Homer's immediate control.

Bombing and anti-submarine missions were conducted by observer pilot teams using pilot-director indicator (PDI) signals. The observer while tracking the target, coordinated the attack by instructing the pilot to turn left or right and line up as needed.²⁴⁶ In the case of Hudson 901/B3, this was effective as a target was acquired and engaged. Therefore the lack of success may have been at the point of release or with the munitions themselves.

What was available to the crew to assist them at this juncture of the attack were fairly simple and rudimentary mechanisms that pre-existed from 1930 for bombing targets at altitude. These mechanisms allegedly guaranteed accuracy of hitting targets below 5000 feet. But these mechanisms were designed for aerial bombardment of ground targets. Attacking a submarine was a totally different matter.²⁴⁷

²⁴⁵ Ibid Allen, 1996, pg. 25 of 46

²⁴⁶ Lloyd Searle., **The bombsight war: Norden vs. Sperry**, High Tech Promotions Inc., SPECTRUM IEEE #0018-92235/89/0900-0060, September 1989
; and
Captains of the Cloud -Training sequence

²⁴⁷ Ibid Searle, 1989

At the time, the bomber was thought of as an unstable aerial platform that was fought above the range of anti-aircraft guns. This was not always the case in anti-submarine work. Still the strategic thought of the day regarding the bomber, which a Lockheed Hudson was designed as, was to attack from great height. Bombers were designed to travel rapidly in three dimensions, rotating about three axes, and were expected to be buffeted by air turbulence.²⁴⁸

This simply was not the case in an anti-submarine role. An anti-submarine attack was a low-level affair and, thus the employment of the airframe was markedly different from its designed role. More importantly, low flying aircraft faced the very imminent threats of anti-aircraft guns of the U-boat from a target that was willing to fight back!

Despite these differences, the final target solution problems were much the same. There was a degree of difficulty for the bombardier or air observer. It was difficult to calculate in real time a proper release point for the munitions. The problem was compounded by a number of factors. The path of the dropped munition was a function of:

1. the acceleration of gravity;
1. the speed of the plane;
2. its altitude;
3. the wind direction; and
4. the ballistics of the specific munition.²⁴⁹

A 250 pound bomb dropped on a stationary target at training range has a very different profile than a depth charge dropped on a moving target at sea. Thus there were a lot of variables to consider. To successfully attack a submarine, all these variables had to align and come together at the right instant and at the right point!

Targeting was very problematic. Coastal Command units lacked proper bombsights from the very beginning of the war. Munitions were a problem too. By the time of Homer's attack, the primary munition used were amatol loaded depth charges.

²⁴⁸ Ibid Searle, 1989

²⁴⁹ Ibid Searle, 1989

The problem of attack in the antisubmarine role maintaining a proper height. A proper height had to be maintained to avoid self-destruction from the blast of one's own munitions. So if height was a factor, dropping too high meant, the target would be missed, dropping too low, meant self-emulation from blast effects.²⁵⁰

Then again, gravity bombs and other ordnance had a tendency to skip back off the water's surface or exploded on the surface from low height whose effects were often catastrophic for the crew.²⁵¹

Finding Solutions

Dropping the munition from the proper height was recognized early on in the development of the anti-submarine role. Coastal Command's early research suggested an attack profile and a munition drop at 100 feet of altitude and at a speed of 115 mph for the Anson bomber.²⁵² The 100 foot level became the standard for the Hudson bomber as well.²⁵³

Despite this height, EAC's success rates were very low from 1940-1941 prompting further study.²⁵⁴ It was found that there was nothing essentially wrong with the weapon, the depth charge, or the general attack profile. But it was found that depth charges fused to explode at 100 foot of depth were unsuitable depth settings for EAC's conditions. A fuse depth setting change was recommended and changed to discharge a higher depth level of 25 feet to engage a surfaced or recently submerged U-boats in a lethal zone. A detonation zone below this depth was found to be a relative safe zone for a submerged U-Boat.²⁵⁵

A second factor found was the spacing of the munitions themselves. Most Coastal Command Squadrons through to 1942 set their munition dispersion spacings set to 50 feet in order to set the ordnance astride a target. This spacing was thought to be optimal in crushing the target between two opposing forces.²⁵⁶

²⁵⁰ Dean C. Ruffili, **Operational Research and the Royal Canadian Air Force Eastern Air Command's Search for Efficiency in Airborne Anti-Submarine Warfare, 1942-1945**, Thesis, Master of Arts, Wilfrid Laurier University, 2001

Source: <http://www.nlc-bnc.ca/obj/s4/f2/dsk3/ftp05/MQ65204.pdf>

Accessed: 1 February 2014, pg. 20 & 76

²⁵¹ Ibid, Ruffili, pg. 20 & 23

²⁵² Ibid, Ruffili, pg. 23

²⁵³ Ibid Canada, (ADM 199 435 YIN 08543), 7 June 1943

²⁵⁴ Ibid Ruffili, pg. 79-80

²⁵⁵ Ibid, Ruffili, pg. 42-43

²⁵⁶ Ibid, Ruffili, pg. 49

At around the time of Homer's attack, Coastal Command experimented and changed its dispersion settings. Coastal Command recommended a tight dispersion setting of 36 feet between charges. Further operational research adjusted this setting to 38 feet to avoid overlap and maximize blast area. Both Coastal and EAC used these tighter settings in 1943.²⁵⁷

Sundry Factors

The final variable to consider was the effectiveness of EAC and O.T.U. 31's munitions. Some considered that the depth charge was not at all the answer to the U-boat threat. A charge exploding 10 or 20 feet within the hull of a U-Boat indeed could often prove fatal.²⁵⁸ But the likelihood of hitting that exact mark was very slim. Homer's attack exemplifies that point, his munitions likely fell outside that range.

Second, the pressure hull of a U-boat was designed to withstand a great deal of pressure and abuse. Accurately placing the munition that close to the U-boat was an extremely difficult prospect. U-boats were not passive targets. They could take drastic evasive maneuvers, return effective anti-aircraft fire, and at the very least, evade by rapidly diving to evade destruction if caught on the surface. They would not remain exposed unless totally surprised. But Homer's lack of success may have had its foundation elsewhere bound up in an internal struggle for scarce war materiel.

²⁵⁷ Ibid, Ruffili, pg. 78

²⁵⁸ Anon., **Fighting The U-Boats, [Weapons And Technologies](#), Depth Charges**, U-Boat Net, © 1995 - 2014 Guðmundur Helgason

Source: http://www.uboaat.net/allies/technical/depth_charges.htm

Accessed: 27 January 2014

Coastal Command – A Poor Second Cousin

Coastal Command was the poor second cousin in the internal battle of the allocation of scarce resources amongst the demands of the various allied services during world war two.²⁵⁹ O.T.U. 31 was also very caught up in this struggle.

Coastal Command would have to work with a set framework of priorities. The consequences would extend to its own internal assignments through its allocations, priorities, and distribution of resources. It would be even more taxing for O.T.U. 31 as a Coastal Command Unit within the Canadian Order of Battle on Canada's East Coast. The allocation and training priorities were simply elsewhere that would come to bear in the ongoing U-boat battle.²⁶⁰

Homer's aircraft carried four 250 lb Mk VIII amatol depth charges set for 25 feet detonations. His dispersion spacing was 36 feet for 150 knots of aircraft speed. He dropped from 100 feet of height on the periscope feather.²⁶¹ Clearly Homer's attack was within the parameters specified by Coastal Command's operating procedures for the aircraft type. He may have indeed overshot the target but then again, his munitions may have not been totally effective!

Canadian 250 lb depth charges were amatol filled and lacked the killing power of Coastal Command's torpex filled depth charges. EAC ordered torpex filled depth charges by May 1942 but the delivery of these munitions was delayed by Coastal Command's priorities elsewhere.²⁶²

Canadian production of torpex filled munitions was further delayed because of a lack of Canadian production facilities.²⁶³ It is clear that the torpex filled munitions had not filtered down to the O.T.U's at this point in time. Homer's aircraft had no choice but to be armed with the less effective 250 lb Mk VIII amatol depth charges.²⁶⁴ The lack of killing power may have been key to the lack of evidence of a U-boat destruction or damage.

²⁵⁹Ibid, Ruffili, pg. 10.

²⁶⁰ Ibid, Ruffili, pg. 45-48

²⁶¹ Ibid Canada, (ADM 199 435 YIN 08543), 7 June 1943

²⁶² Ibid, Ruffili, pg. 49

²⁶³ Ibid, Ruffili, pg. 50

²⁶⁴ Ibid Canada, (ADM 199 435 YIN 08543), 7 June 1943

Consensus of Opinion

The consensus of opinion was that most U-boats sunk by depth charges alone required, *repeated* depth charge attacks. There are many documented cases of U-boat's surviving 300 or more depth charge attacks over many hours.²⁶⁵ To be effective, Homer's munitions would have had to definitely straddle the boat and, at very close range indeed! Homer used only four depth charges in his attack as he only had four available! These fell beyond the U-boat's imminent danger zone. One wonders what the results would have been had torpex filled charges been used!

More to it than depth charge placement

The munition question opens up the potential for possible outcomes beyond sinking a U-Boat. Notwithstanding the minimum payload of four depth charges, there was always a possibility of a greater pay off if the boat was not sunk.

An incident on 27 August 1941 was instructive. A Coastal Command Hudson bomber captained by Sqn Ldr J. H. Thompson in his Hudson 'S' was on anti-submarine patrol out of Iceland. He noticed the dream target and placed several well placed depth charges all around U-570 severely damaging her.²⁶⁶

U-570, under the command of Kptlt Hans Rahmlow, was on her first operational patrol just south of Iceland. U-570 was caught flatly on the surface in the North Atlantic south of Iceland, in position 62.15N, 18.35W.²⁶⁷

U-570's crew was both inexperienced and had a bit of bad luck. Kptlt Hans Rahmlow raised his periscope at 1100hrs on 27 August and saw nothing. He surfaced in the flight path of Sqn Ldr Thompson's Hudson Bomber that presented him with an almost stationary target. Thompson's Hudson Bomber was directly

²⁶⁵ Ibid, Anon., **Depth Charges**, U-Boat Net, © 1995 - 2014

²⁶⁶ Gudmundur Helgason, **Captured U-boats**, U-Boat Net, 4 May 1997

Source: <http://www.uboaat.net/fates/captured.htm>

Accessed: 28 January 2014

²⁶⁷ibid Gudmundur Helgason, 4 May 1997

above in U-570's periscope blind spot. Sqn Ldr Thompson dropped several well placed depth charges all around U-570, severely damaging her.²⁶⁸

Regardless of the circumstances, Thompson's Hudson Bomber attacked U570 with four well placed depth charges that did not sink Rahmlow's boat. The Hudson returned and proceeded to use their guns on the now disabled U-boat. In short U-570 sent up a white flag and signals of surrender. The Hudson remained on station guarding a captive U-boat crew until relieved by a Catalina flying boat, that was followed by an armed trawler that eventually took the boat under tow. It also proved to be a major intelligence coop having captured U-570 intact despite the fact that U-570's codes and Enigma machine were thrown overboard!²⁶⁹

Homer's Hudson 901/B3 may not have enjoyed a similar success, but the point is it had the potential to do so! His attack served a purpose though. Homer carried the same number of depth charges, and so, had the same potential for similar success. But beyond that, there was a psychological value to the attack. British anti-submarine warfare experts of the day stated that air power was the most potent and feared weapon that was brought to bear in the U-Boat fight.²⁷⁰ Air frames were feared by the enemy!²⁷¹

Capitalizing on U-Boat Weaknesses

A German U-boat of the period made seventeen knots running on the surface. Its primary means of surface propulsion was the diesel engine. U-boats then had to switch to battery powered electric motors when submerged.²⁷²

U-boats were limited by battery storage capacity. Submerged U-boats were only able to achieve a maximum speed of eight knots. They could only stay submerged as long as the batteries held out. That subsurface time was often less than a day.

²⁶⁸ ibid Gudmundur Helgason, 4 May 1997

²⁶⁹ Stephen Budiansky, *Air Power – The Men, Machines, and Ideas the Revolutionized War, From Kitty Hawk to Iraq*, Penguin Books, 2005,pg 274

²⁷⁰ Ibid Budiansky, 2005, pg. 274

²⁷¹ David Andrews, *The Battle of the Gulf of St Lawrence*, Royal Canadian Legion Branch # 98 © 2008 All Rights Reserved, pg. 9

Source:

www.kingstonlegion.com/.../Battle%20of%20the%20Gulf%20of%20St%20Lawrence.doc

Accessed: 2 October 2010

²⁷² Ibid Budiansky, 2005, pg. 274-275

Once the batteries were depleted, the boat was forced to surface to recharge, day or night.²⁷³

The mere presence of an aircraft was often sufficient to cause a boat to dive to avoid detection or attack. This severely hampered the U-boat's operability and ability to find, maintain contact, or catch up with their prey. This ultimately was the alternate end achieved by Homer and his crew.²⁷⁴

The Value of Operational Research

But there was much more to getting an aircraft in the position to attack. Resources were scarce and economy of effort was paramount. Operational Research played a role here too! At this juncture of the war, disposition of air assets was guided by operational research. Air assets were directed to areas of known concentration of U-boats based on a combination of intelligence and probability analysis. There were four zones based on density analysis that were guided by EAC's operational unit. Table 1 provides a picture of these zones in February 1942:

Table 1 – Density Analysis Zones²⁷⁵

Zone - miles from Base	Probability of Finds- Uboats
0-200	48
200-400	82
400-600	106
600-800	47

Source: Ruffili, 2001, pg. 70

EAC would place its dispositions accordingly in order to achieve a contact for maximum concentration and thence achieve a resulting attack.

²⁷³ Ibid Budiansky, 2005, pg. 274-275

²⁷⁴ Ibid Budiansky, 2005, pg. 274-275

²⁷⁵ Dean C. Ruffili , **Operational Research and the Royal Canadian Air Force Eastern Air Command's Search for Efficiency in Airborne Anti-Submarine Warfare, 1942-1945**, Wilfrid Laurier University, 2001 (thesis),pg. 70

Source: <http://www.nlc-bnc.ca/obj/s4/f2/dsk3/ftp05/MQ65204.pdf>

Accessed: 1 February 2014

Homer’s attack was one of two attacks made by O.T.U. 31 during 1943. A second attack was made by Sgt Wallace and crew in position 43 degrees 37’ north by 64 degrees 3’ west on 4 July 1943 a few months later. Homer’s attack was not mentioned in official historical summaries save a brief unattributed comment of “no. of attacks 2 of which one did any damage and the casualties suffered two missing.” Wallace’s attack rated a damaged while Homer’s an undamaged, so no mention was made in the official *summary* record at war’s end.²⁷⁶

Results

A summary of O.T.U. 31’s results for 1943 is indicative of the value of the operational research during Second World War that placed air assets in the right place and time. O.T.U 31 as a subset of EAC’s operational data (Table 2) has a high positive correlation (.92) to its 1942 summary profile.

Table 2 – 1942 1943 U-boat Contact Summary East Coast Canada

<u>Unit</u>	<u>Year</u>	<u>Number of Sorties</u>	<u>Hours</u>	<u>U-Boat sightings</u>	<u>Attacks</u>	<u>Damaged</u>	<u>Destroyed</u>
EAC	1942	8600	51000	63	40	16	3
O.T.U.31	1943	1404	6541	7	2	1	
				0.928773893			

Ref: Ruffili, 2001 pg. 74-75

DHH File 74/13 No. 31 O.T.U, pg. 4-5, D.D. 14/7/43

Despite this positive Canadian correlation, Coastal Command had an expectation of 1 U-Boat kill for every 50 sorties. EAC’s profile was markedly different at 1 in 134 sorties. But this difference was due to several variables that highlight the conditions and differences of operations in Canadian waters.

EAC’s theatre of operations shared little in common with the geographical factors associated with Coastal Command’s theatre of operations in the Bay of Biscay. The bay of Biscay offered natural choke points and transit paths for determining U-boat operations proceeding to and from patrol lines that tended to concentrate U-boat density.

U-boat operations off Canada’s east coast were different. The area was vast. Canadian shores did not offer the same probabilities based on choke points and

²⁷⁶ Canada, National Defence, Directorate of History and Heritage, DHH File 74/13 No. 31 O.T.U, pg. 4-5, D.D. 14/7/43

transit paths except in the Strait of Belle Isle.²⁷⁷ Regardless O.T.U 31’s attack results fit to EAC’s expectations (Table 2).

Operational research played a role in assisting Homer’s attack by focusing and concentrating effort. Table 3 is also indicative O.T.U. 31’s effort.

Table 3

Unit	Year	<i>TO EAC 1942 Totals</i>					
		<u>% of Sorties</u>	<u>% of Hours</u>	<u>U-Boat sightings</u>	<u>Attacks</u>	<u>Damaged</u>	<u>Destroyed</u>
O.T.U.31	1943	16%	13%	11%	5%	6%	0%

O.T.U. 31 is not recorded in EAC summaries noted above.²⁷⁸ O.T.U. 31’s efforts were additional to that study that indicate the operational units as a supernumerary force added to EAC resources with additional capacity of 16% of sorties and 13% of flying hours leading to 11% of U-boat sightings, 5% of attacks causing an additional 6% of U-boat damages.

Concluding Remarks

The virtual presence of aircraft, whether on operations or training, kept the U-Boat fleet at bay minimizing their activities merely by the threat of aircraft on patrol on Canada’s east coast. Homer’s Odyssey is indicative of those complexities, the variables, and the lessons that had to be learned to successfully deal with the U-Boat problem.

It would seem that everything was done to enhance the odds of a successful attack through training, operational research, and analysis. But ultimately, even with having the odds line up on your favour, sinking a U-boat successfully, was often a matter of pure luck.

PO Homer and his contemporaries played a vital role in that task and the control of the U-boat threat on Canadian shores. EAC reported 84 attacks on U-Boats between 1941 and 1945 with a resulting confirmation of 6 U-Boat kills. This was quite an achievement given the resources at hand.²⁷⁹

²⁷⁷ Ibid, Ruffili, pg. 74-75

²⁷⁸ Ibid, Ruffili, pg. 172 Appendix 6, Table 3 and Table 4

²⁷⁹ [Hugh A. Halliday, Canadian Military History in Perspective](#)

Hunting U-boats From The Air: Air Force, Part 15 , Legion Magazine
[May 1, 2006](#),

Seventeen units were acknowledged for their participation in the Battle of the Gulf of St Lawrence. EAC's Twelve Bomber-Reconnaissance squadrons, one Fighter Squadron, and four advanced operational training units/schools were recognized for their participation in this defence. Sadly none of the non-EAC operational training/schools nor fighter squadron were accorded a similar Battle honour in this effort!²⁸⁰

The O.T.U.s are owed a special debt of gratitude and respect. Many Canadians feel nothing ever happened on the home front in Canada. The war is often thought as far from Canada. In fact, war was waged on our very door step even if it was out of sight for most Canadians!

Source: <http://www.legionmagazine.com/en/index.php/2006/05/hunting-u-boats-from-the-air/>
Accessed: 22 March 2011

²⁸⁰ Canada, Veterans Affairs Canada, **The Battle of the Gulf of St Lawrence, Royal Canadian Air Force Squadrons/Units that Participated in the Battle of the Gulf of St. Lawrence** , 10 February 2006

Source:
<http://www.veterans.gc.ca/remembers/sub.cfm?source=history/secondwar/battlegulf/airforce>
Accessed: 20 December 2010
Date Modified: 2006-02-10



Gerry Madigan – Archives 23 July 2017 Commonwealth War Graves, Terrace Hill Cemetery, 22 souls buried here from Operational Training Unit 31

The war on Canada's home front was very real with a very real loss of life whose number lie buried in Nova Scotian soil or in unknown watery graves. One hundred and ten young lives were lost at in air training and operations at Debert alone during the Second World War.

These young men were from New Zealand, Australia, Great Britain, and Canada who paid the ultimate sacrifice never to return to their homes or grow old in the care and comfort of their loved ones.²⁸¹ That is surely something well worth remembering, "*Lest we forget*".

²⁸¹ Hosted by RootsWeb Ancestry.com, **No.31 Operational Training Unit June 3, 1941-July 1, 1944 - No.7 Operational Training Unit July 1, 1944-July 20, 1945 Debert, Nova Scotia, Roll of Honor, 2010**

A Profile of Operational Unit 34 Pennfield, NB

By Major (Ret'd) G.D. Madigan

Dated: 5 September 2015

Source:

http://www.rootsweb.ancestry.com/~nbpennfi/penn8b1RollOfHonour_No31O.T.U._TrainingCasualties.htm

Accessed: 20 December 2010

Introduction

Many of us have “normal” routines. The spring and summer of 2015 was anything but the “normal” for me. Since my retirement from military life eight years ago, I’ve engaged in researching and writing on military history and defence issues, subjects that are of interest to me. This research increasingly became routine and cyclical, conducted mostly over the winter months and sometimes continues well into the spring. However there was always a pause for fishing season, another life passion.

Mother Nature always cooperated in what was a repetitive cycle, but the winter of 2014/15 was anything but normal. There was a persistent and long to delay to summer did not favour an early start to the active fishing season. In fact, the weather was so poor and the fishing so bad, the season long was so long delayed, that it seemed doubtful the fishing season would ever happen at all in 2015. The weather kept my activities close indoors, which an opportunity to expend my time elsewhere.

I continued to do some research, most of which concerned Debert and its role during the Second World War. Several chance encounters concerning air crashes in Guysborough County during this period in 2015 led me further afield. It would prove to be the most productive writing that I have accomplished to date.

I was at the time pre-occupied with the publication of two articles and one other draft in the mill for publication. But the extended research led beyond Debert that broadened my understanding and history of operational training units both in Nova Scotia and New Brunswick.

All this new research began with local air related incidents during the war. The first story investigated an Anson crash in August 1945, resulting in an article entitled “Girl on the Wing.” This was the stuff of local legend and legend that turned out to be fact. The second story arose from another chance encounter concerning an unidentified aircraft that turned out to be a Ventura bomber that went down near Country Harbour. That lead to a serialized story over eight weeks in the Guysborough Journal entitled “Mystery on the Lake”.

“Mystery on the Lake” was indeed a true mystery. The “Mystery” was the in the type of aircraft that turned out to be a Ventura bomber, with USN markings, that forced landed on Archibald Big Lake in Guysborough County on 4 March 1944. There was much written on this incident, but the details were inaccurate. The

aircraft, unit of origin, and other points were shrouded in the mist of time as the details were recorded with some inaccuracy. It took time to resolve but the search led me to the Pennfield Parish Military Historical Society and G. Christian Larsen whose assistance helped resolve some of those outstanding issues.

Other fine people also helped, but I was finally able to track down the actual crash record with the help of Major Mathias Joost, Operational Records Team, Directorate of History and Heritage (DHH), Canadian Armed Forces Ottawa, On. This “found” record finally resolved all the outstanding issues and put the true story of this incident in its proper historical context with a final story on the matter titled “What’s in a name” that was also published.

Christian Larsen of the “Pennfield Parish Military Historical Society” graciously allowed me to use many of his photographs for my written work. He was also very helpful in my understanding of the provenance of the Ventura bomber that I was investigating for “Mystery on the Lake”.

The result of what was to be an interim project, led to a profile of training at Pennfield Ridge conducted by Operational Training Unit (O.T.U.) 34 from 1942 to 1944. So begins this account, that was sent to Christian Larsen and the “Pennfield Parish Military Historical Society” for their archives in appreciation of their most generous help and assistance. And so...

[“I’ll begin at the beginning – \(The Quiet Man\)”](#)

Our story begins at Port Portmarnock Beach, Ireland of all places. It may seem to be the strangest of places to begin the story of Pennfield Ridge. Port Portmarnock Beach is known as the velvet strand beach, now right it’s on the flight path to Dublin international airport, only minutes away from my daughter’s home in Sword Co. Dublin. But it is a place with a direct connection to Pennfield, New Brunswick.

Portmarnock Beach was the launch point for two aerial exploits of the early 1930s. This was at a time when the public’s interest was piqued in all things aviation as it was all new and exciting. The exploits of Captain Charles E. Kingsford-Smith was widely followed in the presses. Kingsford-Smith with a crew of three in a Fokker Tri-motor called the Southern Cross attempted one of the first trans-Atlantic flights from there on 25 June 1930.

Kingsford-Smith's adventure was closely followed two years later by James Mollison. Mollison wanted to be the first pilot to perform an East-to-West solo trans-Atlantic flight. Mollison planned a flight from Portmarnock, Ireland to of all places, Pennfield Ridge, New Brunswick, Canada.



From the author's files: Portmarnock Beach Monument June 2015 marking Kingsford-Smith's and Mollison's start points for their epic trans-Atlantic journeys

No reason was given as to why Mollison chose Pennfield as a final destination on this East to West solo flight. We must surmise though that he might have gone there perhaps that an airfield of some note already existed. Thus Mollison would have some support for him and his aircraft at the conclusion of his epic journey.



Files Pennfield Parish Military Historical Society (with permission) – Mollison at Pennfield

It may well-have been that Mollison’s journey to Pennfield had some later influence to its eventual selection as a British Commonwealth Air Training Plan airfield many years later. In any case, Pennfield became an integral part of that plan that contributed greatly to Canada’s ongoing efforts during the Second World War.

The British Commonwealth Air Training Plan (BCATP) was a great enterprise, arguably Canada’s greatest contribution to the Second World War, and indeed there are many others. But there was some doubt at the beginning of the Second World War as to what “Canada’s” limits and contribution should be.

The prevailing thought at the beginning of the war was that Canada’s major contribution would solely be the British Commonwealth Air Training Plan (BCATP), in becoming its “aerodrome of democracy”. It was a vain hope of limiting Canada’s participation in the war solely to the training of Allied aircrews on Canadian soil.²⁸² Mackenzie King signed the BCATP on 17 December 1939, which was coincidentally his birthday, three and a half months after the declaration of Canadian hostilities.²⁸³

²⁸² F.J. Hatch, *Aerodrome of Democracy: Canada and the British Commonwealth Air Training Plan 1939-1945* (Ottawa: Minister of Supply and Services Canada, 1983), 1-2

²⁸³ *Ibid* Hatch, 1

King's plans for the BCATP were ambitious. The facilities simply did not exist in 1939. They had to be created and built largely from the ground up. What Mackenzie King's declaration of 17 December did was not only to increase the Canadian defence establishment but also it set in motion commitments to a growing contribution to the war effort.

The government's actions had a contrary effect. It did not limit our participation. In fact, the declaration set Canada's economy firmly on a war footing. The government of the day not only mobilized defence establishments, but it also mobilized the country's economic and labour capacity to achieve those ends, often under extremely tight deadlines.

The airfield at Pennfield would come to be a part of that plan, and eventually the home of Operational Training Unit (O.T.U.) 34 in 1942. But in the meantime an airfield, supporting infrastructure, and facilities had to be constructed!

The BCATP infrastructure and aerodrome building program was most ambitious. It required detailed organization, thought, and planning. It was eventually achieved because of standardization. Standardization was the goal. Almost all the training establishments were built on the same pattern achieving efficiencies that helped save time and effort.²⁸⁴

Contractors were thus able to rapidly build standardized facilities. The aerodromes were often completed with all buildings, including hangars, barracks and workshops, and hard surfaced runways within the incredibly short period of eight weeks from the shovel in the ground to planes on the tarmac.²⁸⁵

King placed great importance to the BCATP as Canada's great contribution to the war effort.²⁸⁶ The aim of the plan had to be achieved given this importance. The reality was that Canada had only 235 pilots on the air forces' strength in August 1939 when Canada signed the agreement in December.²⁸⁷

But from 17 December 1939 on, the die was cast.²⁸⁸ Nine hundred and eighty nine million dollars were set aside to achieve its aim that was designed to train 850 pilots, 510 air observers - navigators and 870 wireless operator/air gunners

²⁸⁴ Ibid Hatch., 64

²⁸⁵ Ibid Hatch., 64

²⁸⁶ Ibid Hatch 1983, pg. 1-2

²⁸⁷ Ibid Hatch, 1983, pg. 5

²⁸⁸ Ibid Hatch., 33

monthly. The hope was the program would momentum and annually train a total of 29,000 aircrew.²⁸⁹

Some 130000 personnel passed through the program and were eventually trained as pilots, navigators, flight engineers, and sundry flight crew.²⁹⁰ But in December 1939 that outcome was doubtful as the “Plan”, scheduled to start only a few short months away in April 1940, had much to do to be ready.

So a great enterprise began and grew from very humble beginnings in December 1939, an organization built from the ground up. Stating intent in December 1939 was all was well and fine, but it stretched the bounds of reason, practicality, and reality. Getting there was a monumental effort.

The aerodromes including all buildings, hangars, barracks and workshops, and hard surfaced runways were often built within an incredibly short space of eight weeks. It was a testament to Canadian will, tenacity, ingenuity, skill, , and determination that got them most of the way there. Standardization helped and although course started on set dates, there was much left undone. Still as construction continued, men were trained.



Files Pennfield Parish Military Historical Society (with permission) - Construction

Runways were built on the standard pattern of one hundred feet (30 m) wide and twenty-five hundred feet (750 m) long laid out in triangular form.²⁹¹

²⁸⁹ Ibid Hatch., 16

²⁹⁰ Ibid Hatch, 1983, pg. 1-2

²⁹¹ Ibid Hatch, 1983, pg. 64



Files Pennfield Parish Military Historical Society (with permission)- Air Field today

Canada met the start date of 29 April 1940 and received the first arrivals to the plan. It was miraculous but it was largely achieved through the dint of hard work and determination.

The BCATP training commenced 29 April 1940. Indeed all the schools were fully operational by April 1942.²⁹² Coincidentally Operational Training Unit 34 stood up and was ready to commence training at Pennfield in May 1942.

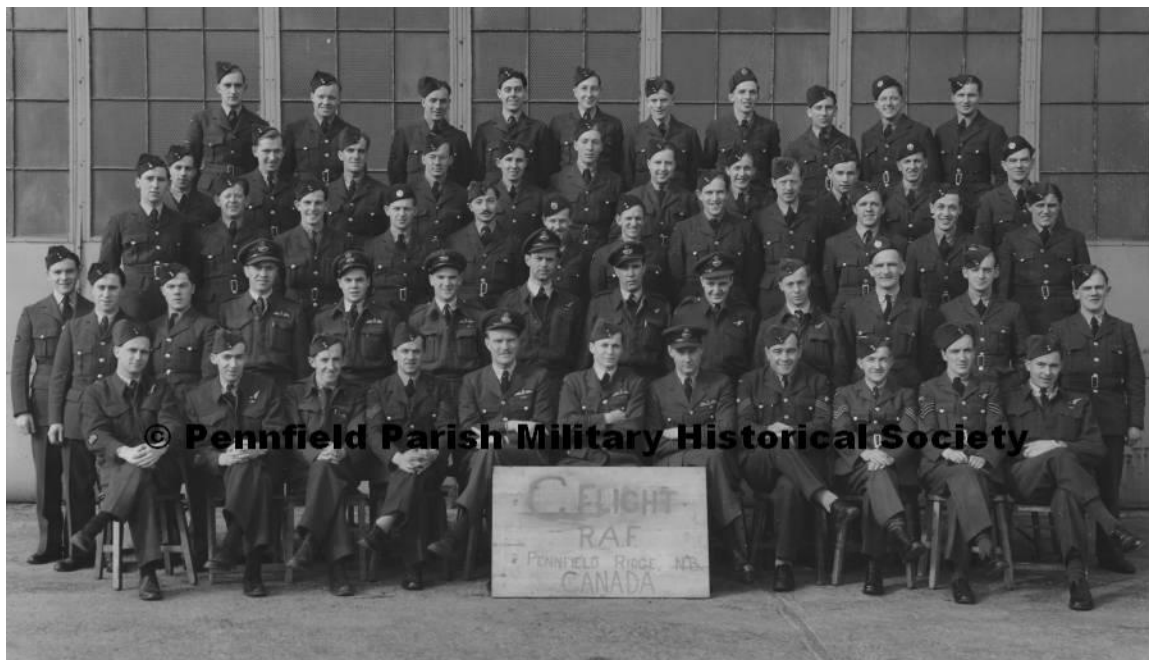
National Defence, Director of History and Heritage, File 74/13 No. 34 O.T.U. Penfield, NB

Operational Training Unit (O.T.U.) 34 as its sister unit Operational Training Unit 31 that began training one year earlier, originated from a transfer of a training unit from the United Kingdom, from Greenock Scotland. This unit departed 8 April

²⁹² ibid Hatch, 1983, pg. 33

and arrived at Halifax on 16 April 1942.²⁹³ O.T.U. 34 was originally formed in Canada to train crews for torpedo bombing on the Hampden bomber. It didn't quite work out that way.

O.T.U. 34 was supposed to be a sister squadron to O.T.U. 32 then training at Patricia bay in British Columbia. The first change to its fortunes was that of location. It was formed by Organization order No 54 and was to commence training effective 1 June 1942 at Yarmouth NS. But that order was amended 2 May 1942. O.T.U.34 was subsequently transferred to Pennfield NB. The reason was simple, Yarmouth was considered the better base for *operations* and not training at the time.²⁹⁴



Files Pennfield Parish Military Historical Society (with permission) – “C” Flight 1942

The second change of fortunes was in the assignment of aircraft to O.T.U. 34. At this time the Hampden Bomber, previously providing yeoman service in England, was simply considered obsolete. The unit was converted to the Ventura Bomber and assigned to train pilots with a similar mandate as O.T.U. 31 Debert, NS.

²⁹³ Canada, National Defence, Director of History and Heritage, File 74/13 No. 31 O.T.U., Debert NS 3 February 2011 , pg. 8

²⁹⁴ Canada, National Defence, Director of History and Heritage, File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 1

Training at Pennfield as at Debert, also included a “ferry” training component so its graduates could transfer this type of aircraft to England on completion of their course. The sole reason why the Ventura bomber was selected and not the Hudson Bomber, was that there were no Hudson Bombers available in quantity to train at Pennfield.²⁹⁵

The move by O.T.U. 34 to Pennfield was neither smooth nor was it easy. Like Debert a year earlier, much remained to be done before the unit’s arrival. The airfield lacked considerable infrastructure to properly accept and begin training as a functioning training unit. There was a shortage of hangar accommodation and the runways were incomplete. There was also a shortage of taxiways that limited access to the runways.

But it was space and the lack of accommodation that was the real problem, so much so that it was necessary to leave a detachment of 200 airmen behind at Yarmouth until the situation was rectified. This detachment was an important one too. It was responsible for armament training that involve gunnery and bombing. The detachment was eventually expected to be returned to Pennfield.²⁹⁶ The absence of a gunnery and bombing detachment in which the separation of key personnel integral to the unit’s training created problems deeply impacting the quality of the training.

The unit’s aircraft establishment was also problematic. In addition to the Ventura Bomber, O.T.U. 34 was equipped with a small variety of other aircraft, one of these was the Lysander. The Lysander’s prime task was gunnery practice designated to tow aircraft for gunnery targets for its students. The problem, was that the Lysander was too slow and the towing gear was ineffective in this role.

²⁹⁵ Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 1

²⁹⁶ Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 1-2



Files Pennfield Parish Military Historical Society (with permission) – Lysander

There was also a lack of a 400m firing range which meant that the first serials were graduated out of O.T.U. 34 with no air to air firing or bombing practice. Other equipment, flight and maintenance shortfalls came to impact wireless and other training, especially night and low-level flying. It was all a shambles and unit morale was very low.²⁹⁷ All these issues had to be sorted out before things eventually improved.

So the Pennfield training was initially scaled back to a half production cycle with the hope of resolving these problems. O.T.U. 34 started small then built up to full scale production. Thus O.T.U. 34 began training 14 of 28 crews desired on an 8-week training program.

Crew training was designed across four positions comprised of pilot, air observer, wireless air gunner, and air gunner. Fifty four Ventura II Bombers were provided for that purpose, which began arriving at the unit between May and August 1942.²⁹⁸



Files Pennfield Parish Military Historical Society (with permission)- Ventura at take-off

²⁹⁷ Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 2

²⁹⁸ Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 1

Still there was continued concern with O.T.U. 34's low production. A solution was determined to increase the course length to 12 weeks, that saw the student population increased by 50%, so the production targets could be achieved. This changed the intake throughput that saw 15 crews commencing training every four weeks. These modifications were implemented in Organization Order 95 with a new and revised mandate with the cancellation of Organization 54 upon which O.T.U. 34 was originally formed.

It was Organization Order 54 that mandated O.T.U 34's move from Yarmouth, NS on 24 May 1942 to Pennfield effective 1 June 1942. With that move, the unit was also mandated to commence training its first course 8 June 1942.²⁹⁹ It was a very rapid move for in less than three weeks' time, O.T.U 34 had to be up and running! So the revisions of mandate likely played a role in the low first productions too.

Then as if a new and revised mandate was not enough, Operational Training Unit 34's scope and mission were added too as well. Like Debert, O.T.U. 34 was assigned the additional task of "ferrying". It also trained pilots that recently completed and graduated from operational training at O.T.U. 31 Debert.

The Debert pilots were to be converted to fly the Ventura aircraft simply because there were no more Hudson Bombers to move at the time. They were given additional training of five hours dual and solo for the task ahead of them. Thus Pennfield received an additional 20 pilots and had to accommodate the additional students from Debert that was now included as a part of throughput to O.T.U. 34's production cycle. As a result, an additional strain and burden was thrust upon the training, accommodations and infrastructure.³⁰⁰ All in all, the plans, desired outcomes thrust upon Pennfield were most ambitious indeed.

There was an expectation that the situation would settle out. It did not. By October 1942 Pennfield had an aircraft establishment of 9 Anson (Mk I & Mk II), 4 Lysander, and 52 Ventura (Mk I & Mk II) on strength for operational training requirements. But the state of affairs at Pennfield was about to become a little more complicated as Pennfield's mandate was to grow once again by leaps and bounds!

It was November 1942 when the Air Ministry decided to allot 18 B-25 Mitchells to Pennfield's aircraft establishment with a view to reduce the number of Ventura on

²⁹⁹ Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 1

³⁰⁰ Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 1

establishment down to 39. There were a number of on-going maintenance issues with the Ventura. It was surmised that the introduction of the new type would ease the situation.³⁰¹ The mention of the maintenance issue in the official history is suggestive and will be discussed at length elsewhere in this paper.

The unit was also bolstered with Hudson aircraft from O.T.U. 31 and O.T.U. 36. These aircraft were used at Pennfield for air firing training exercises.³⁰² All in all there came to be an eclectic mix of aircraft at Pennfield, but the Ventura remained the predominant asset for the duration of its existence.

The selection of the Ventura was a result of a very definitive decision by the UK who directed the Chief of Air Staff to allot the Ventura to O.T.U. 34. It was likely chosen based on the merits of the Lockheed Hudson that was successfully used in the early part of the war.

The Ventura was a similar type of aircraft but was much faster and carried a heavier load than the Hudson. They were a well-built aircraft. The proximity of American factories likely influenced their purchase and use. The aircraft were supplied at a rate of 14 per month from May to July and 12 in August 1942 for a total of 54 aircraft that comprised Pennfield's Ventura establishment.³⁰³

³⁰¹ Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 4

³⁰² Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 4

³⁰³ Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 3



Files Pennfield Parish Military Historical Society (with permission) – Ferrying of US procured Ventura to Pennfield (Note US star insignia –aircraft were transferred direct from USN inventory)

Training Syllabus

O.T.U. 34's official history states the unit would conduct antisubmarine training. The role seemed simple enough. But the gyrations around establishing the mandate for Pennfield were seldom simple. The training syllabus suggested that other roles in training were also considered in night bombing and light bombing role. This may seem confusing.

The official history is a collation of snippets of the decisions made and history of the unit over a two-year period. They are very suggestive of the volatility and perhaps the confusion resulting from the change of roles and functions that were made over the two-year period of the unit's existence.

The original training syllabus O.T.U 34 was drafted in response to the production of crews for night bombing operations. That training syllabus was drafted by W/C

Hallam in May 1942. Hallam used No 6 Group and the RAF standard O.T.U. syllabi as a guide.³⁰⁴

but this, however, was changed and Venturas substituted. At its

the unit began its instruction on an ambitious general Night Bom...

syllabus written in Ottawa by W/C Hallam in May, 1942, using copies of 2

and 6 Group R.A.F. standard O.T.U.s syllabi as a guide. The finished

product was as follows.

Flying Training Times for Crew

<u>Conversion</u>	<u>Flight</u>	<u>Pilot</u>	<u>Navigator</u>	<u>W.A.G.</u>	<u>A.G.</u>
<u>Operations</u>	"	30		8	
		35	35	35	
<u>Armament</u>	"	35	35	35	35
		100	70	78	35

Sequence of Training in Conversion Flight

Ventura --- Day

<u>Flying characteristics of type</u>	<u>Dual</u>	<u>Solo</u>
(a) Taxiing and use of brakes		
(b) Stalling with and without engine with and without flaps and with under carriage down.		

Pennfield's program was to be conducted over three phases, conversion training (30 hrs), operations (35 hours) and armament (35 hours) for a grand-total of 100 hours for pilots then under training. Navigators, Wireless Air Gunners (WAG) and Air gunners (AG) received less air time and their training was generally spaced over the operations and armament training phases usually in 35-hour training slots allotted there. Navigators and WAGs received 70 and 78 hours total training.³⁰⁵



Files Pennfield Parish Military Historical Society (with permission) – Poissant/Ryan/Bing/ Saumer 1943

Flying was only a small part of the training. Considerable time was given over to ground lectures whose subjects ranged widely. They included airmanship, army air support, bombing, gunnery, instructional fuselage, intelligence, meteorology,

³⁰⁴ Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 4

³⁰⁵ Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 4

navigation, operations photography, signals and tactics. Ground lectures varied but were geared to the needs of crew positions.

The time devoted to flight training in the original syllabus was thought to be much too high. There was much debate within the community. It was suggested that too much effort was devoted to armament exercise. Training was geared to light bomber training and 100 hours there was thought to be too much for that effort.

A heated argument and a debate involving Pennfield, the Department of Transport (DOT) (Canada) and the Air Ministry (London) evolved. Pennfield argued that that *more* not *less* time was needed on operational exercises. Much of the armament training they argued could be combined in the operational exercise along with the photography portion and other elements as much as possible.

The Air Ministry demanded a reduction of training to 72 hours. Pennfield argued for the retention of the original 100 hour minimum with more time on dual. They hoped would that this would reduce the accident rate and thus improve morale with the attendant benefit of pushing crews to operations sooner.

The argument was finally settled by the DOT who deemed that 80 hours was sufficient for the task at hand. The argument was settled on the point that the “Light Bomber work was essentially straightforward requiring very little night flying”, and so 80 hours was the amount decreed.”³⁰⁶

Apart from the additional of fighter affiliation flights in April 1943, there were no more changes to the syllabus and training programs at Pennfield. Training proceeded smoothly until the O. T. U. was closed on April 28, 1944.³⁰⁷

Instructors

The instructors at O.T.U. 34 came from the first and second echelons in the unit transferred from the Greenock, UK. They were tour expired pilots rested from operations. Training began ahead of the arrival of the second echelon on 20 June 1942. This created a staff shortage.

³⁰⁶ Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 7

³⁰⁷ Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 7-8



Files Pennfield Parish Military Historical Society (with permission) – Ferrying of US procured Ventura to Pennfield – Gunnery Section 1943

A request was made to the RCAF for additional personnel to make up this deficiency that was deemed necessary for the efficient training of the student load. The request included the need for:

- a. Signals - 6 NCS WAGs, operational experience (if possible)
- b. Navigation –
 - 1 Observer (S.N. Astro)
 - 2 Observers (S. N.)
 - 4 Observers to be attached to flights for instructing.
- c. Gunnery -
 - 1 Flying Officer,
 - 1 Pilot Officer - Gunnery Instructors
 - 2 NCO WAGS, for ground lectures.

The RCAF was only able to meet one request for an air observer, the rest of the instructor establishment was eventually provided by the Air Ministry. This meant that there was insufficient staff at the outset of Pennfield's program with the concomitant impacts to training.³⁰⁸

Thus, it happened that a necessary reduction to intakes occurred by September 1942 because of this staff shortfall. A novel approach was sought to bolster their ranks and eliminate wastage of effort. Six pilots on a reduced course of training were retained as instructors. These pilots were already trained to an extent. More importantly, they had certain knowledge and familiarity with the Ventura Bomber.

They were all qualified first officers for day operations. Their usefulness came in the application and training of fuselage and cockpit drill instruction. This effort was thought to greatly assist the aerodrome control officer toward the production

³⁰⁸ Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 8

of qualified pilots in the light bombing role that the unit was originally tasked to do.³⁰⁹

We see in this decision another change to O.T.U. 34's mandate and role, in the change from "night" to "light" bombing that was less complicated. It was provident that it also required less training time.

The light bomber role had some consequences as it involved some Army - Air Force cooperation. Mechanized Warfare was au fait and it was thought that an officer with recent operational experience, staff-trained at Royal Military College, Kingston, would be a boon to the unit. A suggestion was made for the creation of a position at Pennfield to be refilled every three months with new blood from the steady flow of Army Officers who had recently gained this experience. Thus this would ensure that the Air Force's training was up to date with the current tactics and developments.³¹⁰

The unit was manned by RAF personnel until April 1944 when it ceased to exist. The instructors were posted back to the United Kingdom for second tours or to new positions at other operational training units.³¹¹

³⁰⁹ Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 8

³¹⁰ Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 8-9

³¹¹ Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 9

Training

There was an eclectic mix of trainees at Pennfield. The intakes to 34 O.T.U. for its first six months of operations consisted of RCAF, RNZAF and RAF pilots, navigators and gunners. These were followed by personnel from RAAF and several Dutch crews over its two year life span. By the end of 1942, O.T.U. 34 accommodated the in-take of RCAF, RAAF, RNZAF and RAF including several Dutch crews at the rate of:³¹²

- RCAF - 39%
- RAAF - 14%,
- RNZAF - 16%, and
- RAF - 31%.

The training of the Dutch crews was singular. They were trained on the B-25 Mitchell to augment a Dutch Squadron then in the United Kingdom. Their serial was filled out with RAF personnel who were also included in this quota and who then would go on to serve on the B-25 in the United Kingdom.

Training at Pennfield in 1942 was problematic but the unit was largely back on track by 1943. Notwithstanding the optimism for 1943, there were some further delays. There arose a personnel shortage in August and September of that year that also delayed and impacted training.



Files Pennfield Parish Military Historical Society (with permission) – No.1 Course W/AG (1942)

In the end once training was completed, all O.T.U. 34 Pennfield's outputs were destined for the United Kingdom. The journey there upon completion of training was by one of two methods, boat or air. Pennfield sometimes attached air crew to Ferry Command for their use as one-trippers in the movement of aircraft overseas to the United Kingdom.³¹³

³¹² Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 9

³¹³ Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 9

Wastage Rates

Wastage was an amorphous term. It described anything from a fatality to administrative loss as a training failure.³¹⁴ Wastage was also a sublime term. It shielded the public from the harsh reality of facts, of the pain and suffering hidden in the content of statistics.

Wastage reduced expectations to acceptable levels of loss for the return on investment made in the charnel house of war. “Wastage” came to symbolize the “normal” but it may have also masked what was acceptable to the public. The problem though is “what is an acceptable rate?” There is no good answer to that question, especially in the time of war.



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Files Pennfield Parish Military Historical Society (with permission) – Ventura AE907 (1944)

There will always be loss and casualties in war. That is the nature of the beast.

This section will attempt to delve into the statistics of Pennfield’s wastage rate (figure 1) through an analysis of all the crash details from the Accident Mishap Reports that are found on the Pennfield Ridge Air website.

³¹⁴ Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 10 (see “leg measurement”)

The official record of Pennfield's wastage is found in Figure 1:³¹⁵

Figure 1 _DHH 74/13 Pennfield O.T.U. Wastage Synopsis 1942-44

INTAKES, OUTPUTS, WASTAGE AND PERCENTAGE AT 34 O.T.U., PENNFIELD RIDGE													Note Figures for Pilots - to be taken as Crews.						
	BCAP	BAAP	RUZAP	DAP	Misc.	Total	BCAP	BAAP	RUZAP	DAP	Misc.	Total	BCAP	BAAP	RUZAP	DAP	Misc.	Total	Percent
From 1/6/42 to End of /42	21		11	39		71	18		11	33		62			3			3	4.5
From 1/6/42 to End of /43	124	50	72	102		348	106	38	58	82		284	12	7	11	13		43	13.1
From 1/6/42 until Closing, 28/4/44	183	63	72	143		461	160	50	58	117		385	18	8	11	19		56	12.7

The record indicates that the accident rate within the first six months of operations in 1942 averaged 2.5 airframes per month with an aircrew wastage rate of 4.5%. It subsequently rose to 13.1% at the end of 1943, then declined to 12.7% at the close in 1944.³¹⁶

The DHH 74/13 history files available for O.T.U. 34 do not segregate or provide the casualty or fatality lists in Figure 1. All the data is lumped together.

It is interesting to note that the figures for pilots was taken to mean “all aircrew” per aircraft incident that was usually four. This was misleading. Not all air incidents had a “full” compliment of crew aboard. Some had more, carrying passengers, some had even less; for example, a simple two man administrative flight.

There were 461 aircrew who are included in the wastage rate from 1942 to 1944.

The expected crew number for wastage can be roughly estimated. The expected wastage rate from the air crash records available for Pennfield should be roughly (136 * 4) totalling about 544 crew members assuming that all the aircraft were of the same type and that all carried the same crew compliment. It is obvious from this difference that that was not the case. Not every flight flown, therefore had a full crew compliment.

³¹⁵ Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 11

³¹⁶ Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 10

The official records emphasis on the number of crew wastage, and not the airframe wastage, tends to suggest the reason for accidents and other incidents lay in some aspect of their training. Training certainly played a role. There are many instances where youthful exuberance led to tragic and often fatal consequences. But the training program itself was designed to safely train pilots on the employment and safe handling of Ventura aircraft given the emphasis from the training syllabus.

Seventy-six hours of 100 total flying hours allotted in the first program were flown within controlled areas and under specific parameter designed to enhance pilot skills. Twenty six of the 100 hours pilot flight training happened outside of controlled areas, where crews were left largely to their own discretion and devices.

It was outside of controlled areas where conditions approximated operational conditions that were mission oriented “exercises” where things could go wrong. It was all very well controlled and fixed.³¹⁷ Still there were problems. It would seem the choice of the Ventura, played some role as well apart from student exuberance.

The Ventura’s promise didn’t bear out initially. There were problems that had to be resolved. It was noted that in the first five months of operation the Ventura’s at Pennfield were consistently unserviceable. Maintenance took much of that blame because of the lack of vital spares, such as tires and electrical equipment. More importantly there seemed to be high incidents of engine, airframe, and oleo leg failures.³¹⁸

The solution for resolving these deficiencies enhanced the move toward another airframe, the B-25 Mitchell. But it was more than that. A remark in the official history is suggestive of the real reason for the maintenance issue; “changing over to a completely new type would be offset by the fact that the winter would be nearly over and that the Maintenance group would be in a position to face the problem.”³¹⁹ The maintenance group was already overwhelmed with what they had on hand. They didn’t need a new type to add to their difficulties.

An attempt to resolve the deficiency happened with the introduction of a new Mark of Ventura. Pennfield commenced refreshing its Ventura Fleet in September 1943.

³¹⁷ Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 4-7

³¹⁸ Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 3

³¹⁹ Ibid File 74/13 No. 34 O.T.U. Pennfield, NB. Pg. 4

It Ventura I and II's were replaced with the Ventura GRV that began arriving in force November 1943 with the arrival of 20 from factories in the United States.³²⁰

But the real issues concerning the Ventura type may lie elsewhere. They may have been overlooked because no one had the time to deal with it. First, was the issue of the "weather"! The Ventura was quite likely not designed with the vagaries and demands of the Canadian winter in mind!

Second, was the issue of experience on type with the structural needs of the airframe. Pennfield was a training unit. Its pilots were inexperienced. The mention of oleo failures is suggestive. These aircraft were flown hard and took a lot of punishment and the resulting failures and lack of spare parts exacerbated production problems in the training cycle.

The Ventura was probably hard pressed and took great punishment in the training program. This is supported given the fact that the fleet was replaced twice over during the course of O.T.U. 34's existence. The accident records from this unit also attested to that fact!

[Ventura Bomber Analysis Accident Records O.T.U.34 Pennfield NB](#)

This section investigates the Ventura bomber accident by accident at Pennfield from 1942 to 1944. The accident records of O.T.U.34 at Pennfield NB reveal a great deal on the problems with the Ventura Bomber, and the difficulties in training and of the problems associated with the operations of the Ventura Bomber.

Pennfield's accident records contains data on 136 records that included all Ventura and other aircraft accidents. All accidents were reviewed between January 1942 to December 1944 inclusive. Ventura records were segregated from other aircraft accident incidents. The reader should bear in mind that the numbers reflected in the following analysis may not necessarily total to 136 records.

A data set was recorded manually over a period of days. Any errors or omission are the authors. There may be some slight variances to the total but a variance of +/- 2-4 records variance overall does not materially change the outcome of the analysis.

³²⁰ Ibid File 74/13 No. 34 O.T.U. Pennfield, NB Pg. 2-3

The distribution of all accidents and incidents is given in Table 1. All aircraft types are reflected in the total of 136 records given the eclectic nature of Pennfield’s aircraft establishment. Table 1 reflects the Ventura total of 132 records.

Ventura Accident Records Pennfield Table 1:

<u>Year</u>	<u>Accidents/Incidents (all types)</u>
1942	34
1943	79
1944	19

The highest frequency of accidents/incidents was recorded in 1943 when Pennfield operated on full calendar year. The year’s 1942 and 1944 were part years reflecting the start up in 1942 and the wind down of operations in 1944.

The data was broken down by month and category for all other and Ventura incidents between 1942 to 1944 and assessed using the guidelines found in Table 2:

Table 2 – Category Accident Rating Scale:

Terms and Abbreviations	
Category "A"	"The aircraft is destroyed, declared missing or damaged beyond economical repair."
Category "B"	"The aircraft must be shipped, not flown under its own power, to a contractor or depot level facility for repair."
Category "C"	"The aircraft sustains damage to a major component requiring repair beyond field level resources including those occurrences where: (1) The aircraft must be flown to a contractor or depot level facility for repair; (2) The damaged major component is shipped to a contractor or depot level facility for repair; (3) The repair is carried out by a mobile repair party from a depot level or contractor; or (4) The major component is damaged beyond economical repair."
Category "D"	"Damage to any component that can be repaired within field level resources."

SOURCE: "Canadian Military Aircraft Serial Numbers" website.

The first step was to segregate the Ventura data as there was an eclectic mix of aircraft at Pennfield between 1942 and 1944. Table 3 contains the accident history of the other aircraft at Pennfield.

Table 3 – Accident History of Other Aircraft

	1942	1943	1944		Cat A	Cat B	Cat C	Cat D		
Anson	5			5		2		3		5
Bolingbroke		1		1		1				1
Mosquito		1	1	2			1	1		2
Hudson		2		2	1			1		2
Total	5	4	1	10	1	3	1	5		10

Ten aircraft of varying types other than the Ventura bomber had accidents or incidents at Pennfield. It was also observed that some aircraft; Anson, Bolingbroke and Mosquito, were not necessarily a part of O.T.U. 34's establishment in the timeframe of its existence.

The incidents arose mostly from visiting aircraft from other units and airfields. The Mosquito was out of Greenwood, The Anson's were being transferred or ferried from Scoudouc, Chatham, or other units, the Hudson was out of Greenwood, while the Bolingbroke appeared to be a part of Pennfield's early establishment.

Isolating the eclectic aircraft from the grand total left 126 Ventura records available for analysis in the Pennfield data. The results of that breakdown and assessment are found in Table 4 (Category Breakdown by Month and Year).

Table 4_ Category Breakdown by Month and Year

Cat. A	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	
	1942								1				2	1	4
	1943		2	3	2	1	1	3		2			1	2	17
	1944		3												3
	total		5	3	2	1	1	3	1	2	0	0	3	3	24
Cat. B	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	
	1942									1	3	1	1	1	7
	1943		4	3	4		1		10	1	1	2	3	5	34
	1944		1	1	1										3
	total		5	4	5	0	1	0	10	2	4	3	4	6	44
Cat. C	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	
	1942								1	3	3	3	2	1	13
	1943			1	2		1	2	0	1		1	1	2	11
	1944		5	2		1									8
	total		5	3	2	1	1	2	1	4	3	4	3	3	32
Cat. D	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	
	1942												6	4	10
	1943		6	4	2					2				3	17
	1944		1	1	3										5
	total		7	5	5	0	0	0	0	2	0	0	6	7	32

There were 24 Category A, 44 Category B, 32, Category C, and 32 Category D incidents between 1942 and 1944. Category A incidents were largely catastrophic losses of an aircraft that most times resulted in a grievous loss of life or injury. But not all Category A accidents were fatal though. Some were survivable.

Categories B to D largely were repairable accidents. Yet assets in these cases could either written off or repaired and returned to service. Category B represented the

most serious incident level. The key determination was based on the air-worthiness of the aircraft. Category B incidents had to be physically returned and not flown to service depots for repair, suggesting a degree of fragility and complexity on the airframe that were unable to be corrected within the units maintenance assets.

Category C was similar in aspect as Category B. The key difference between the two was that Category C aircraft were capable of being flown to service depots or units for repair. Category D incidents were generally repaired in-situ, on site within unit assets. Thus we see the gradient from B to D categories.

This is the gross accident picture. But the analysis of the aircraft/incidents had an interesting slant. One could easily assume that all these accidents occurred over time and only on a single airframe. In fact it was not that simple. A number of multiple accidents/incidents occurred on the same airframe that was indicative of the stresses placed on the airframes during training.

The Ventura subset of data was further subdivided into multiple and single incidents on airframe. It provided additional insight on the training stresses on the aircraft.

There were 23 multiple accident/incidents that occurred on 11 single Ventura airframes at Pennfield. To arrive at the actual number of single airframes impacted by accidents/incidents at Pennfield we must deduct 23 from 126 incidents and add back 11 to determine the net number of airframes that were actually impacted by accident or incident. Thus some 114 (adjusted number) Ventura airframes suffered single or multiple damage during O.T.U.34's history between 1942 -1944 (Table 4).

It would appear then that nine percent (11 of 114) of Pennfield's Ventura aircraft incurred two or more accidents for the same airframe. The repetition of incidents was indicative of a high level of stress on the airframe as well as an indication of the intensity of the training.

It is also interesting to note that Pennfield's authorized Ventura establishment was 54 airframes. There 109 airframes that had single incident occurrences on type. We get a sense from this data that Pennfield's Ventura fleet was replenished and refreshed least twice over the course of its existence.

There were any number of reasons for the refresh of the aircraft establishment that included ferrying of aircraft to theatre of operations, catastrophic crashes, or

replacement of exiting aircraft with updated type. Still replenishment of a fleet within a two-year time frame was once again suggestive of the stresses placed on the airframe within the training program.

The “Multiple Incident” story is interesting (Table 5). It provides some insight on the total pool as there were 11 aircraft involved in multiple events.

Table 5 Multiple Accident/Incidents on Single Ventura Airframe

	<u>Serial number</u>	<u>Total this Ac/</u>	<u>Date</u>	<u>Cat</u>	<u>Crew</u>	<u>Passengers</u>	<u>Casualties</u>	<u>Reason</u>
1	Ventura I AE658		08-Oct-42	C	2			Ground Loop
			15-Dec-42	C	4			Oleo failure
		<u>2</u>						
2	Ventura II AJ211		29-Nov-42	C	-			ground loop
			08-Feb-43	A	3		3	crashed
		<u>2</u>						
3	Ventura Mk.I AE658		26-Aug-42	C	3			Tyre Burst
			23-Jul-43	B	2			Starboard U/C collapsed
		<u>2</u>						
4	Ventura Mk.I AE676		03-Oct-43	C	2			U/C Collapsed
			09-Jan-44	C	2			U/C collapsed (tail wheel)
		<u>2</u>						
5	Ventura Mk.II AE851		01-Mar-43	C	4			U/C failure
			14-Nov-43	C	2			heavy landing - engine failure
		<u>2</u>						
6	Ventura Mk.II AE887		25-Feb-43	C	2			U/C Collapsed - pilot inexperience
			29-Jul-43	B	2			U/C failure (port) - heavy landing
		<u>2</u>						
7	Ventura Mk.II AE907		06-Mar-43	-	2			diverted alterante airport - snowstorm
			31-Dec-43	D	2			Nosed up, tipped a/c on tarmac hard braking
			19-Jan-44	A	2			fuel starvation
		<u>3</u>						
8	Ventura Mk.II AE912		09-Mar-43	B	3			collision on runway, bomb doors opened
			26-Jul-43	B	3			collision with other A/C on ground
		<u>2</u>						
9	Ventura Mk.II AE925		17-Dec-43	C	4			collision while parking - taxiing
			02-Feb-44	D	2	1		collision while parking - taxiing
		<u>2</u>						
10	Ventura Mk.II AE926		16-Jan-43	B	3	5		U/C failure (starboard) - bad runway
			01-Jan-44	B	4			U/C failure (starboard) -icy runway
		<u>2</u>						
11	Ventura Mk.III FD697		16-Dec-43	C	4			low-level flying ex (below 250ft min) - hit ca
			19-Dec-43	A	4		4	low-level flying ex. Hit water tower crashed
		<u>2</u>						
Totals		23			61	6	7	

These 23 incidents involved a total of 67 personnel, 61 crew and 6 passengers, which also resulted in the deaths of 7 crew.

An analysis was conducted on all 126 records. The results are summarized in the Table 6 –Summary of Accident Records. This summary only reflects those incidents – accidents where material damage occurred. For example, diversions to alternate fields and other non-destructive incident were not considered for the purpose of this analysis.

Table 6 –Summary of Accident Records –Ventura (adjusted- accidents only)

	%
Unit Accident Profile	Ventura
Ventura 126 of 136 records	(all 126)
23 Multiple	18%
103 Single	82%
67 pers/pass involved	
61 Crew	91%
6 Passenger	9%
7 fatal Cat A	10%
2 Survive Cat A	3%
9 involved Cat A	
7 Cat A	78%
2 Cat A	22%
ratio fatal to survivable Cat A	3.5 to 1

The 23 multiple incidents represent 18% of all Ventura related incidents-accidents. Sixty-one crew (4 members per 1 aircraft) and 6 passengers were involved in these incidents. The clear majority of personnel were able to walk away safely or with some mild injuries. There was no record of fatality after the fact but that does not mean it did not happen. It means they were not recorded here.

There were three Cat A incidents in this cadre where aircraft were lost, destroyed, or totally written off. There were 67 service personnel involved in these incidents. Seven (10%) were killed or listed missing presumed dead while 2 (3%) crew members from one incident actually survived and lived to tell the tale. The fatality to survivor ratio was approximately 3.5 to 1. It would seem that the odds were not in the favour of survival in the event of a Category “A” incident.

The mission profiles of the Cat. “A” incidents were:

- Night - Cross country exercise
- Local flying - precautionary and single engine landings. Duration one hour.
- Low level formation cross county flight. One pilot only.

Only crew members were ever involved in Cat. “A” incidents. No passengers were either involved or were on board on any of these particular missions.

The multiple incident provides some insight on the effects of time of year regarding aircraft accidents (Table 7). It goes without saying that Canada has four seasons but these four seasons can generally be divided into a cooling and a warming season for the simplicity of this analysis. The cooling season had the higher the frequency of aircraft incidents which will be demonstrated in the next series of table and figure for aircraft incurring multiple incidents has an example.

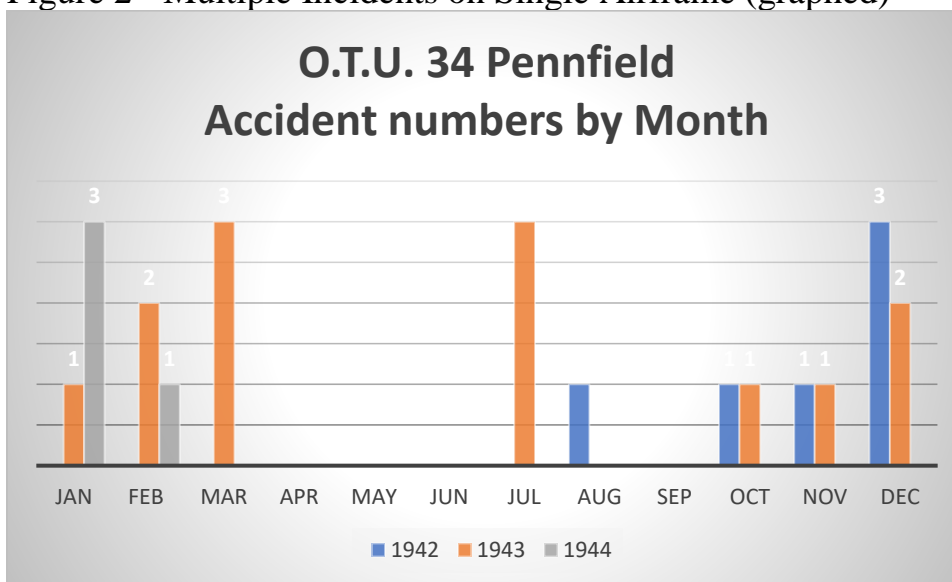
Table 7 – Multiple Incidents on Single Airframe (Numbers by Month)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1942								1					6
1943	1	2	3				3			1	1	2	13
1944	3	1											4
total	4	3	3	0	0	0	3	1	0	2	2	5	23

There were 23 known multiple incident events that occurred between 1942 and 1944. Six occurred in 1942, 13 in 1943, and 4 in 1944. The highest rate was in 1943 but 1942 and 1944 were only partial years that likely represented the stand up and stand down of O.T.U.34.

The graphic in Figure 2 might help our understanding of the situation:

Figure 2 - Multiple Incidents on Single Airframe (graphed)



The distribution of events is interesting. There are concentrations of events between Jan to Mar in each year that may be attributed to the cold cycles within a calendar year. There was a break or lull between April to Jun of each year during part of a warm cycle with sudden peak in July and August followed by a lull before an increase at the start of the next cooling trend in Oct through to December.

But if we look at this from nature’s point of view, the cool trend starts in Oct through to the following March, whence spring and summer commence and continue the warming trend. There are only two peaks in this distribution, the great chaos between Oct-Mar and a summer peak in Jul/Aug. The weight of numbers also suggest that the incident rate was highest in the cold period and less so in the warm, 19 incidents in the cold period vs 4 in the warm that may suggestive that many of the problems would have been weather related (Figure 2).

The information above is related to multiple incidents on a single aircraft. The picture is quite similar for single accidents particular to one airframe (Table 8).

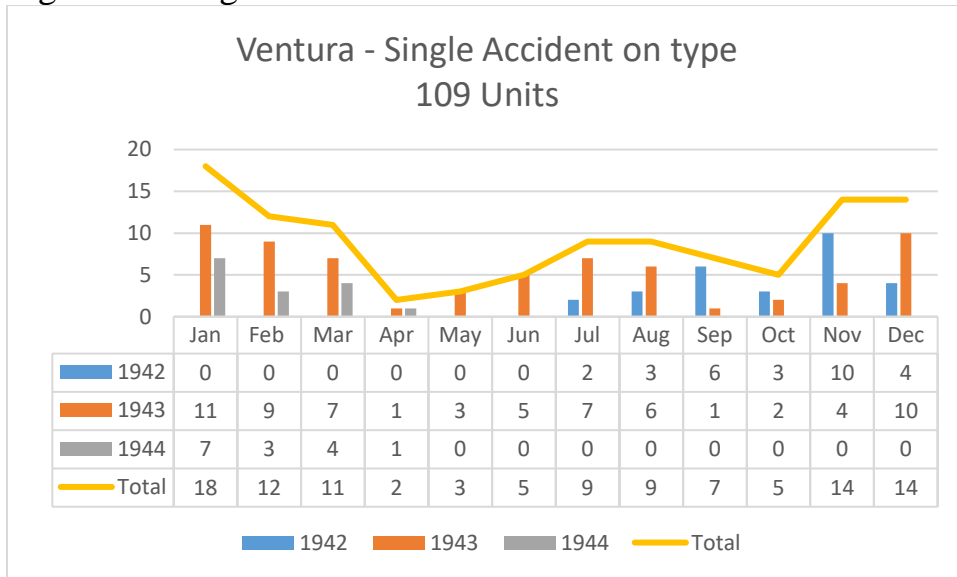
Table 9- Incidents on Single Airframe (Numbers by Month)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1942	0	0	0	0	0	0	2	3	6	3	10	4	28
1943	11	9	7	1	3	5	7	6	1	2	4	10	66
1944	7	3	4	1	0	0	0	0	0	0	0	0	15
Total	18	12	11	2	3	5	9	9	7	5	14	14	109

The pool of single incidents available for analysis was 109 Ventura Bomber airframes. The incident frequency occurred in the coldest periods between November and March and the lowest frequency between April to Oct between O.T.U.34’s start up 1942 and at its end in 1944. There were 28 incidents in 1942, 66 in 1943 and 15 in 1944. Seventy one of these incidents occurred in the cold period of November and March, while 38 occurred in the warmer period, a ratio of almost 2:1!

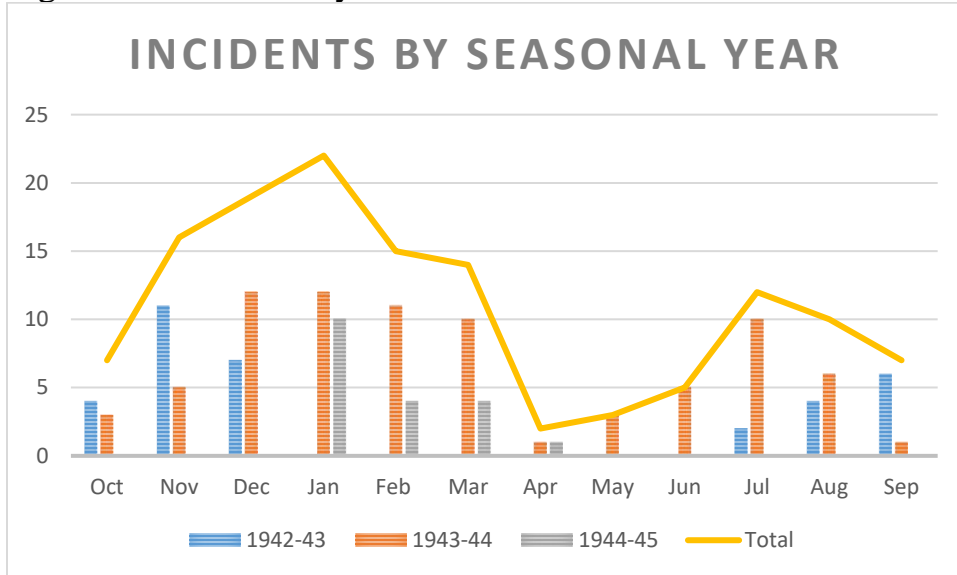
Figure 3 gives us some insight. It is a bar graph of recorded incidents by month and year. It clearly shows the highest and lowest frequency of all accidents from 1942 to 1944 with clear quarterly concentrations between Jan and March and October through to December. The lower frequencies between April to September.

Figure 3 – Single Accident-Incident Pool



But the calendar year view is deceptive. Grouping the data by seasonal year indicates clearly that weather had an impact on Ventura operations (Figure 4).

Figure 4 – Incidents by Seasonal Year



Distinctively the data is bi-modal with two clear peaks cold and war season. This data set contains 132 records. Nine three accidents occurred in the cold period with 39 in the warm period between 1942 and 1944. Cold weather incidents outweigh warm weather incidents by a factor of 2.4 to 1.

Table 10 is a breakdown of the accident categories by month and year.

Table 10 - Accident Categories by Month And Year (1942-1944)

numbers:	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	
	1942	0	0	0	0	0	0	0	2	3	6	3	10	4	28
	1943	11	9	7	1	3	5	7	6	1	2	4	10	66	
	1944	7	3	4	1	0	0	0	0	0	0	0	0	15	
	Total	18	12	11	2	3	5	9	9	7	5	14	14	109	
Cat. A	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	
	1942	0	0	0	0	0	0	0	1	0	0	0	2	1	4
	1943	2	2	2	1	1	3	0	2	0	0	0	1	1	15
	1944	2	0	0	0	0	0	0	0	0	0	0	0	0	2
	total	4	2	2	1	1	3	1	2	0	0	0	3	2	21
Cat. B	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	
	1942	0	0	0	0	0	0	0	1	3	1	1	1	1	7
	1943	3	3	3	0	1	0	7	1	1	2	3	5	29	
	1944	0	1	1	0	0	0	0	0	0	0	0	0	2	
	total	3	4	4	0	1	0	7	2	4	3	4	6	38	
Cat. C	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	
	1942	0	0	0	0	0	0	0	1	2	3	2	1	0	9
	1943	0	0	1	0	1	2	0	1	0	0	0	0	1	6
	1944	4	2	0	1	0	0	0	0	0	0	0	0	7	
	total	4	2	1	1	1	2	1	3	3	3	2	1	1	22
Cat. D	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	
	1942	0	0	0	0	0	0	0	0	0	0	0	6	4	
	1943	6	4	2	0	0	0	0	2	0	0	0	0	2	
	1944	0	1	2	0	0	0	0	0	0	0	0	0	0	
	total	6	5	4	0	0	0	0	2	0	0	0	6	6	29

The summary of accident incidents indicates that there were 21 category A, 38 Category B, 22 category C, and 29 Category D incidents between 1942 and 1944. Category A accidents were catastrophic. Thirteen of 21 incidents occurred in the cool period, the balance 8, in the warm. The Category A Cool to Warm ratio of events was 1.6 to 1.

Category B was more favourable. It had 21 incidents in the cool period with 17 in the warm. The Category B Cool to Warm ratio was almost 1:1. Category B events seemed to be independent of weather related causes.

Category C had 9 incidents in the cool with 12 in warm. Category C had the most favourable Cool to Warm profile of ratio less than 1:1. Category C events too seemed to be independent of weather related causes.

Category D incidents were greatly skewed in favour of cool weather. There were 27 Category D cool period incidents with only two warm period. The Category D Cool to Warm profile had a ratio of almost 14:1. This higher ratio suggests that weather may have been a contributing factor for Category D incidents, and given a higher ratio, quite possibly for category A incidents as well. The lower ratio at

almost 1:1 for category B and C suggests that weather was less likely a factor for those categories.

But these incidents only reflect what occurred at Pennfield Ridge, NB. They are merely indicative and are not conclusive. A fleet analysis of all Ventura Bombers would be required in order to make any definitive statement on the matter. But they do point the way to some of the problems with the Ventura airframe.

Another indicator may lie in where these incidents actually occurred found in the frequency of events. The rate and frequency of events may be indicative of activity within the unit's life cycle. It measures the height of training activity conducted especially at O.T.U.34, Pennfield Ridge, NB. The frequency of events is viewed from two perspectives; where and when an accident occurred, principle cause of failure, and its primary mission.

From the perspective of when, the highest frequency of incidents occurred in 1943 when O.T.U. 34 was at the height of its active training activity. The frequency rate for 1942 and 1944 were its lowest. The years 1942 and 1944 represent the building up and winding down of O.T.U. 34. Thus one would reasonably expect the majority of incidents would occur when the unit was most active.

From the perspective of where these accidents occurred is also a measure of and indicative of the unit's training activity. It provides a profile the day to day activities and where most incidents actually took place.

Table 11 is a listing of the projected flight end points that either originated or ended at Pennfield Ridge. This table includes all recorded category incidents as well as diversions and forced landings from other units.

Table 11 - Listing Projected Flight End Points

		<u>Projected Flight End Point</u>								
1942	Cat	<u>Pennfield</u>	<u>NB</u>	<u>Yarmouth</u>	<u>Greenwood</u>	<u>Other NS</u>	<u>Qc</u>	<u>US</u>		
	a	2				1		1		
	b	3		3						
	c	12		2				1		
	d	1	3	3			4	4		
		<u>18</u>	<u>3</u>	<u>8</u>	<u>0</u>	<u>1</u>	<u>4</u>	<u>6</u>		<u>40</u>
1943	Cat									
	a	6	5	1	1	3	1	1		
	b	25	1	7				1		
	c	11								
	d	3	3	6	2			3		
		<u>45</u>	<u>9</u>	<u>14</u>	<u>3</u>	<u>3</u>	<u>1</u>	<u>5</u>		<u>80</u>
1944	Cat									
	a	2	1							
	b	3								
	c	8	1							
	d	4	1							
		<u>17</u>	<u>3</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>		<u>20</u>
		<u>80</u>	<u>15</u>	<u>22</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>11</u>		<u>140</u>

Most flights staged from Pennfield ranged in New Brunswick. It was not surprising given the nature of its work, it was a training unit. Thus the highest frequency of accidents were local in nature within certain boundaries. There were 140 incidents in all recorded at Pennfield between 1942 to 1944. Ten were Category A accidents. Six Category A accidents did occur outside the local airfield boundary but these also occurred in New Brunswick.

Thus the frequency of where incidents occurred tells us a lot about Pennfield's training. There were 95 incidents at Pennfield alone that suggests the majority of training was indeed very localized and was firmly concentrated around the airfield and surroundings thereto.

The next higher frequency suggests more advance training that involved either cross country, operational, and ferry flights. There were 15 incidents outside the boundaries of the Pennfield area noted in the records. There was significant activity in the direction of Yarmouth suggestive of cross country training, 22 incidents in total and 11 incidents in the United States is suggestive of ferry and cross country training activities.

These incidents also suggested the area of highest concentration and boundaries where O.T.U.34 operated were bounded by Maine, New Brunswick and Nova Scotia. In other words, O.T.U. 34 operated principally in and around the Bay of Fundy. There were 5 incidents in Quebec suggestive of advance cross country and operational flights of which was the loss of an aircraft in a Category A crash occurred and where the crew and the aircraft were never recovered.

The second perspective of O.T.U 34's accident record arises from principal causes and reasons. There were 127 records reviewed for probable causes of accidents. All its category types were first viewed, then grouped and parsed by a "main" or "principal" cause. Accidents found to be catastrophic were difficult to assess a main cause of failure. Sometimes there was little or no evidence at hand and only speculation as to the cause.

There may have also been multiple causes in a resulting accident for any number of reasons. So to simplify this analysis, an accident cause stated in the first instance, was the recorded failure. For example an aircraft may have had an engine failure leading to a hard landing and a collapse of the landing gear. That accident would be ascribed to engine failure.

The system of assessment may not be perfect but it sketches a path of the day to day incidents and resulting failures on the Ventura Bomber at Pennfield NB.

Then again, not all records were complete nor were the incidents necessarily totally or properly recorded. Table 12 is a summary of the principle causes of failure.

Table 12. Summary Principle Causes of Failure O.T. U. 34 1942-1944 (All Categories)

Year	Catastrophic	Ol.M	Ol. T	Total Summary (127 records)			Col. O	A.F.	Other
				En	Tx	Col. Ac			
1942	1	5	3	9	2	1	3	1	10
1943	4	22	2	15	0	4	2	0	24
1944	0	2	1	3	0	0	2	0	11
Total by Type	5	29	6	27	2	5	7	1	45

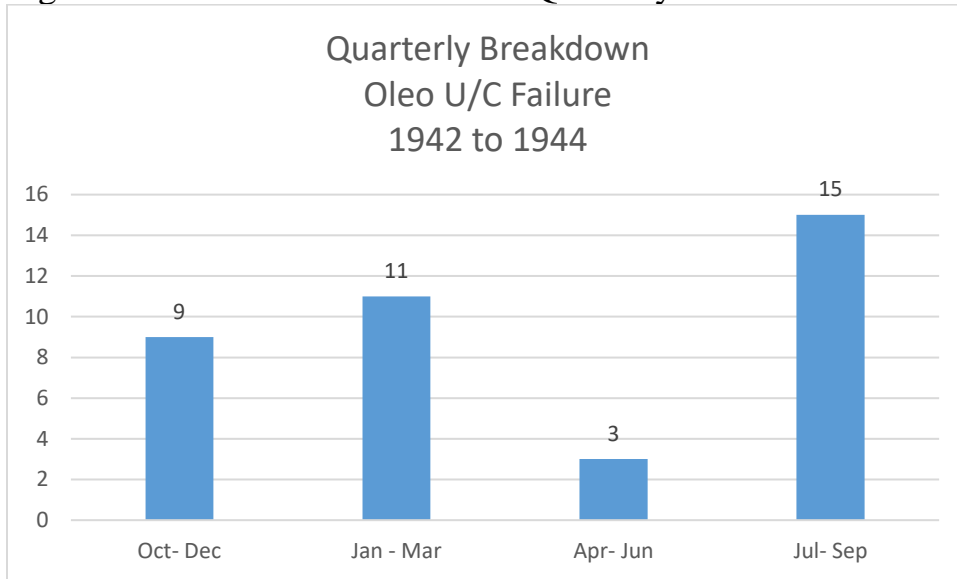
Legend	
Catastrophic	
Ol.M = Oleo Main	
Ol. T = Oleo Tail	
En = Engine	
AF = Airframe	
Tx = Taxi	
Col. Ac + Collison other aircraft	
Col. O = Collision with other obstacles	
Other - largely undefined	
3 records not accident summary info = 130 records reviewed	

Table 12 above lists the summary of accident causes. Five were catastrophic for which little analysis was done. The majority of causes related to oleo failures either on the main (29) or tail (6) gear. Causes related to engine failure totalled 28. Twelve incidents resulted from collision either with other Aircraft (5) or other objects (7). Two incidents related to taxing aircraft and one with damage to the airframe.

Considering that much of the training concentrated within 30 miles of the airfield. It is quite probable that many of the accidents were concentrated on or near the airfield itself. Most common accidents resulted from stress of frequent hard landings resulting in oleo failure suggested by the frequency that failure. Much stress appeared to be placed on the airframe at the airfield in the conduct of training these pilots.

Table 12 initially recorded a total of 35 problems with Oleo failure at Pennfield. Figure 5, a seasonal perspective, includes 3 three additional records where secondary causes of undercarriage failures were overlooked and not included in the initial review.

Figure 5 - Seasonal Oleo Failure – Quarterly 1942 -1944



Thirty eight records mentioned problems with either oleo or undercarriage failure. The seasonal quarterly data of oleo failure between cool and warm periods found 20 incidents in the cool period with 18 in the warm period. This is suggestive that in the case of oleo or under-carriage failure weather was not necessarily a key variable. Such failures were just as likely to occur at any time.

Figure 5 may also be indicative though of the pounding exerted on the airframes exacted by what was a relatively inexperienced group of airmen on this particular type. It may be indicative of the delicacy of the landing system whose airframe required a smooth touch in the landing. It may also be indicative of the mismatch of mission – training, to what the aircraft was designed for – operations.

The problem though is that at some point you simply have to do both types of flying on an aircraft type if anything is ever to be accomplished. This shows the very real day to day operating pressures and difficult choices facing both government and military who basically had to use what was best, readily available and what was at hand in the conduct of the war.

In the end the Ventura failure rate and deficiencies were simply accepted despite the fact that maintenance and supply problems were readily acknowledged. It was simply expedient for all to replace the aircraft and get on with the job!

Still, a good many of incidents related to other causes that were non-specific that required further review. The remainder related to engine failure that will be discussed next. Figure 6 is a seasonal and quarterly review of engine failures that occurred at Pennfield between 1942 and 1944.

Figure 6 – Seasonal Review of Engine Failures (All Categories)

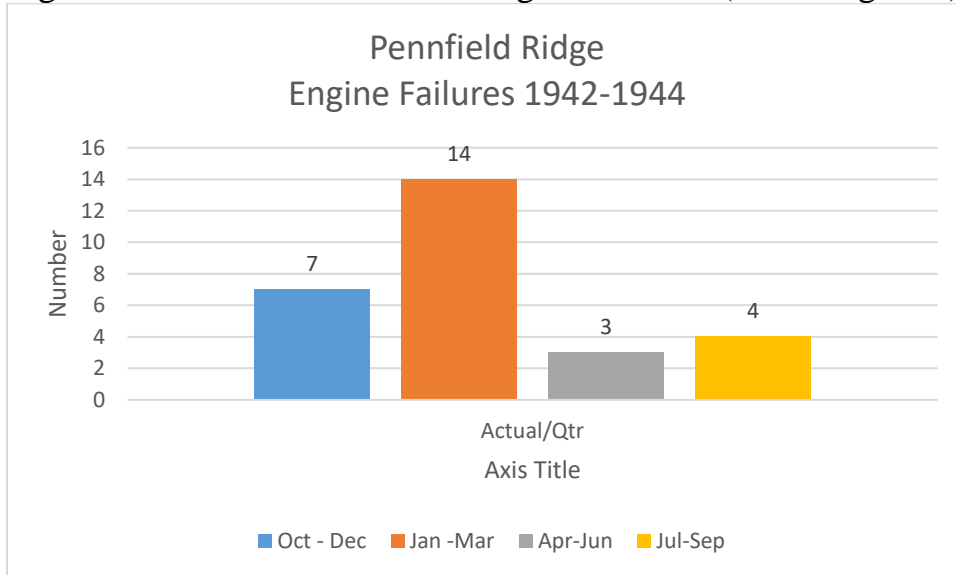


Figure 6 is indicative that engine failure was prone to occur during the cold weather cycle at Pennfield. There were 21 recorded incidents of engine failure between Oct to Mar, a cool season relative to 7 incidents of engine failure from April to September, the warm season. It is in ratio of 3:1 that is highly suggestive of a problem and possible temperamentally of the Ventura engine during cold weather use.

Finally there were 45 accidents found under “other causes” in Table 12. These were very hard to define or to provide a reason for a crash. Many notations expressed the thought that these were due to pilot inexperience but some were left totally unexplained and unresolved.

The attempted resolution of this subset 12 records provides some insight into the difficulties with ascertaining causes where there is a lack of physical evidence. There were several training flights where aircraft were lost at sea and the remains or wreckage never found.

Most notable was the loss of one Ventura bomber and crew at Point Escuminac QC in the Gulf or St Lawrence on 26 January 1943. Another was reported lost off Port Maitland, NS 13 March 1943, and one missing overdue on 10 August 1943. Two may have been to youthful exuberance and unauthorized low flying 8 Feb and 26 February 1943. While other remained truly obscure with no reasons given; 3 and 25 Jun 1943. But all that was left after the fact was speculation for the reasons why.

For the most part though, the accidents were concentrated in a very tight box and for the most part, within the boundary of Pennfield’s training area. Our final perspective , mission profile is found in Table 13. Table 13 is a Percentage Summary by Category Accident of all termination points of incidents that either occurred at or originated from Pennfield.

Table 13 – Percentage Incidents by Location

Annual Accident Incident rate									
1942	Cat	<u>Pennfield</u>	<u>NB</u>	<u>Yarmouth</u>	<u>Greenwood</u>	<u>Other NS</u>	<u>Qc</u>	<u>US</u>	
	a	5%	0%	0%	0%	3%	0%	3%	
	b	8%	0%	8%	0%	0%	0%	0%	
	c	30%	0%	5%	0%	0%	0%	3%	
	d	3%	8%	8%	0%	0%	10%	10%	
		<u>45%</u>	<u>8%</u>	<u>20%</u>	<u>0%</u>	<u>3%</u>	<u>10%</u>	<u>15%</u>	<u>100%</u>
1943	Cat								
	a	8%	6%	1%	1%	4%	1%	1%	
	b	31%	1%	9%	0%	0%	0%	1%	
	c	14%	0%	0%	0%	0%	0%	0%	
	d	4%	4%	8%	3%	0%	0%	4%	
		<u>56%</u>	<u>11%</u>	<u>18%</u>	<u>4%</u>	<u>4%</u>	<u>1%</u>	<u>6%</u>	<u>100%</u>
1944	Cat								
	a	10%	5%	0%	0%	0%	0%	0%	
	b	15%	0%	0%	0%	0%	0%	0%	
	c	40%	5%	0%	0%	0%	0%	0%	
	d	20%	5%	0%	0%	0%	0%	0%	
		<u>85%</u>	<u>15%</u>	<u>0%</u>	<u>0%</u>	<u>0%</u>	<u>0%</u>	<u>0%</u>	<u>100%</u>
Average (All years)		57%	11%	16%	2%	3%	4%	8%	100%

Fifty seven percent of 140 incidents occurred within the boundaries of Pennfield's training area. Eleven per cent occurred elsewhere within New Brunswick. These combined indicate that all 68% of all incidents occurred in New Brunswick alone. The remainder happened elsewhere.

Table 13 shows the balance of incidents, 21% in Nova Scotia, and 4% in Quebec, while the remainder 8%, the US. The preponderance of these incidents' location suggests where much of the "operational and exercise" activity occurred, bounding units on and around the Bay of Fundy.

It also affirms the "where" of the intended training took place. It also affirms the intent of the training syllabus. The training syllabus defined that 70% of the plan was to take place locally under area control that closely matches local percentage incident rate for New Brunswick of 68%. This is very indicative of the highest degree of activity where incidents occurred both in and outbound either from or to the Pennfield Ridge airfield.

We can readily conclude though that Pennfield was very busy place and was heavily engaged in the training of air crew.

Closing Remarks

Pennfield's story is incomplete. There is still much to learn and do. This only a small sketch that only expands our knowledge of O.T.U. 34 in some very small way. It is an insight into the world of O.T.U 34, of what happened, and of the conditions then that existed at Pennfield during the Second World War.

There is largely untouched story behind O.T.U. 34 Pennfield's activities. It is found in the individual accounts behind the numbers, the triumphs and tragedies, Pennfield and the surrounding community, the economies, and the life of a rural area at war. There is also the big picture of the relations and relationships between the community and the ever-changing face of the military personnel who passed through Pennfield while on training. Pennfield like Debert has a lot to tell about Canada's role and effort in the Second World War. It is there for all to explore.

Pennfield's story tells the war not from the perspectives of the big cities, major ports, or overseas. It tells the tale of the Second World War from the perspective of the small towns and villages of rural Canada. Sometimes the war seemed imperceptible, but at other times it was large as life and right in your face. It is an

important story, the history of a Canadian communities at war and their part that they placed in making that history, and perhaps that is the larger story that has yet to be explored and told.

The Picture on the Wall

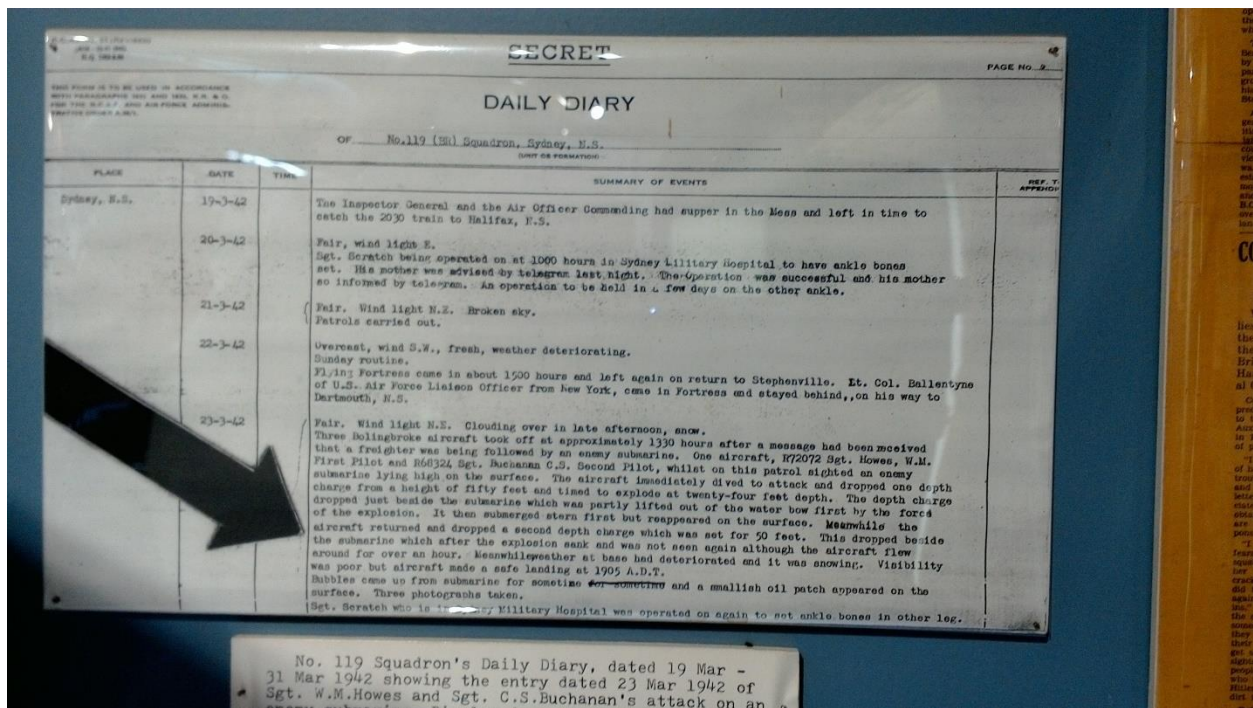
By Gerry Madigan

Dated: 19 Jul 2016

Introduction

The doors of the Atlantic Canada Aviation Museum are open to the public, 9am to 5pm, every day, May to September each year. The museum is found just off Highway 102, at exit 6 opposite Halifax's Stanfield International Airport. You can't miss it. It's the one facility with a CF 101 Voodoo jet interceptor just off its front entrance, that is quite visible from the highway as you drive by heading towards Halifax.

The museum is an overlooked treasure that contains many exhibits and display aircraft. Its hangars are chock a block full of historical aircraft that highlights Atlantic Canada's aviation history. Contextually the aircraft are the big draw to many visitors who make an effort to visit. But there are hidden gems amongst the aircraft displays that are often overlooked too. One such gem is a picture of the war diary of 119 Squadron that served in Nova Scotia at Yarmouth during the Second World War.



Daily Entry 23 March 1942- Picture from Main Hall Atlantic Canada Aviation Museum July 2016

There is a big arrow on the picture drawing the viewer's attention to an entry in the War Diary concerning an attack on a U-Boat on 23 March 1942. This air attack occurred at the height of the "Happy Times" when U-boat operations in North American waters were at its height and where its victories were most lucrative and successful.

Much transpired in and around the eastern Atlantic coast of Canada, the United States, and the Gulf of St Lawrence that spring, summer, and fall of 1942. Twenty-three ships were torpedoed in around Atlantic Canada with 22 lost in the Gulf of St Lawrence alone.³²¹ Canadian littoral waters had quite suddenly become, and somewhat surprisingly so to some, a battleground.

It came as a visceral shock to many Canadians that German U-boats actually entered our waters pointing a dagger at the very heartland of Canada. U-boats operated from Newfoundland in the north, up the St Lawrence estuary, and over far south below Halifax in 1942. In fact, if you look with a discerning eye at any map, it was a significant area of operation.

But the events of 23 March 1942 happened well before what became the intense Battle of the Gulf of St Lawrence. A U-boat was reported shadowing a freighter in Canadian waters. Aircraft from 119 Squadron were called upon for assistance that day. 119 Squadron dispatched three Bolingbroke aircraft in pursuit of the U-boat contact at 1330 hours ADT.

One Bolingbroke piloted by R72072 Sgt WM Howes and co-piloted by R68324 Sgt CS Buchanan made contact with a target of opportunity and attacked a surfaced U-boat. They eventually made two attacks on that U-boat that day which was quite unusual for a single aircraft.

Sgt Howes seeing the target, immediately engaged it by descending, discharging only one of his four depth charges rather than all four in salvo. He released his depth charge at a height of 50 feet set to explode at a depth setting of 24 feet.

This initial attack had little effect on the surfaced U-boat. Howes returned once again to re-engage the target with another round. This too was launched from a

³²¹ Colonel C.P. Stacey, O.B.E., C.D., A.M., Ph.D., F.R.S.C., Director, Historical Section, General Staff, **Official History of the Canadian Army - In the Second World War Volume I, SIX YEARS OF WAR, The Army in Canada, Britain and the Pacific**, published by Authority of the Minister of National Defence, First Published 1948, pg. 175

Source <http://www.ibiblio.org/hyperwar/UN/Canada/CA/SixYears/SixYears-5.html>

Accessed: 13 August 2010

Transcribed and formatted by Patrick Clancey, HyperWar Foundation

For access to full publication see:

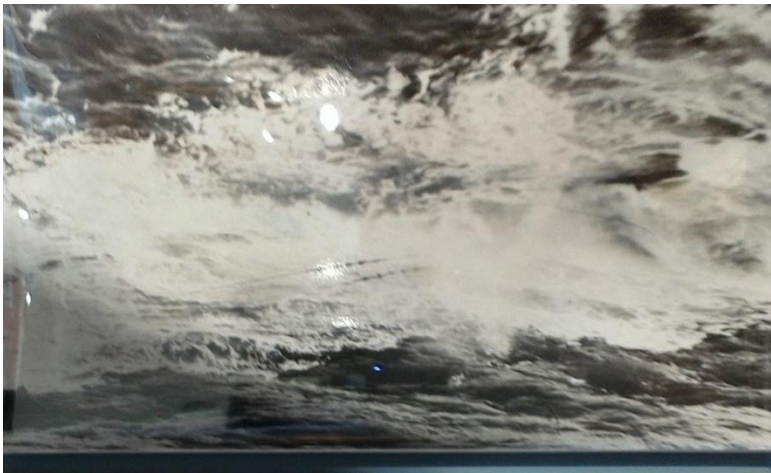
<http://www.ibiblio.org/hyperwar/UN/Canada/CA/SixYears/index.html>

height of 50 feet and was observed to land astride the U-boat's conning tower. This time his attack had a visible impact. The U-boat's bow lifted out of the water. The U-boat immediately submerged then re-appeared before sinking from sight again.

Sgt Howes and his crew then observed an oil slick and bubbles on the surface where the U-boat had once been. The Bolingbroke circled the location for an hour in the hope of a surfacing U-boat, so they could re-engage and attack it once again. That was not to be though. The weather deteriorated and it started to snow. Then again, they were running low on fuel too!

The "Picture on the Wall" - The U-Boat and its Crew

Sgt Howes and his crew landed safely back at Yarmouth in falling snow at 1905 hours ADT. Their patrol lasted approximately five hours and thirty-five minutes. There was no definite proof that they had conclusively destroyed a U-boat. But they did have proof in hand of their attack! Sgt Howes managed to get three photographs of the surfaced U-boat proving the freighter was under great duress!



Picture of submerging and surfaced U-Boat 23 March 1942- Picture from Main Hall Atlantic Canada Aviation Museum July 2016

It is all an interesting tale. The story can easily end there if you want it too! But there is much more to learn if you know where to look. The "Picture on the Wall" only tells a part of the story.

The first issue which can be investigated is the to determination of the who and what of Howes and Buchanan's attack. We were fortunate to have the German U-boat records publicly available on U-Boat.net. It is a website devoted to the fallen,

their memory and activities during the Second World War that sheds light on who was in Canadian waters 23 March 1942.

U-boats at sea and on patrol for 23 March 1942 numbered sixty-seven on this day.³²² The number stretched Allied naval resources thinly that stained the effort to protect merchant and other shipping. U-boat operations ranged far and wide from Canadian shores, the mid and north Atlantic, the Arctic, to the Mediterranean. Aircraft were also employed to counter this threat too.

At the time, there was little visible evidence of the efficacy in the employment of land based aircraft on the Maritime surveillance or in the anti-submarine role. This served to muddy the waters on airpower's effectiveness in the prevailing arguments on their use in the maritime patrol role. It also created a division on the distribution where Allied scarce aircraft resources should be devoted as well.

The weight of evidence between 1939 and 1941, in the inter-service rivalry for the control of air power, lent to a conclusion that the preponderance of resources should be directed toward strategic bombing rather than optimizing efficiency amongst all the competing resources for air assets.

In the end, all other requirements became secondary to the strategic bombing role. It had an impact. The coming Battle of the Gulf of St Lawrence was such an example. It would be fought with meagre resources, sometimes with obsolete equipment and with what was immediately at hand.

119 Squadron's attack on 23 March was a prelude to the coming events when U-553 finally laid the gauntlet down marking the official start of the campaign. The Battle of the Gulf of St Lawrence is marked as officially commencing 12 May 1942 when U-553 made an incursion into the heart of the Gulf of St Lawrence. Its torpedoes sunk the British freighter *Nicoya* just a few kilometres off Anticosti Island. Less than two hours later U-553 once again destroyed a ship, the Dutch freighter, *Leto*.³²³

³²² uboatnet.com, U-boats on Patrol this date, 23 March 1942
Source: <http://www.uboaat.net/boats/patrols/search.php>
Accessed: 22 Jul 2016

³²³ Fabrice Mosseray, **The Battle of the St. Lawrence -A Little-Known Episode in the Battle of the Atlantic**, UBoat.Net 1995-2010, 29 Mar 2002.
Source: <http://uboat.net/articles/?article=29>
Accessed: 30 November 2010

Little did 119 Squadron and others know how the situation on 23 March 1942 would develop or how soon it would intensify! The question all would be asking in the aftermath of 23 March was what U-Boat had Sgt Howes and crew attacked and, where they successful?

Sixty-seven German records for U-boats at sea were available for review for 23 March 1942. Each record was manually reviewed in order to determine what U-boat was in position for Howes' attack. A number of possible position reports were found that hinted so. The first record was that of U-202 found just off the south-east coast of Nova Scotia on the day at 38.51, -54.06, off the continental shelf. But nothing was mentioned in its daily reports concerning air attack and it safely returned to port 26 Apr 1942.

The second U-boat was U-404. It too was off the east Coast of Nova Scotia lying off the continental shelf at 40.38, -50.30. Again, there were no recorded observations of air attack in its daily logs or position reports. Interestingly U-404 had a successful patrol. It sunk four allied ships or 22653 tons of shipping and returned safely to port 4 Apr 1942. So it would have been hunted for vigorously.

The third record was U-552 that too was off the Canada's east Coast on 23 March 1942. It had sunk seven ships on its patrol. U-552 on 25 March 1942 attacked and sunk a Dutch Tanker conveying precious oil to England. U-552 sunk a total of 45,731 tonnes of shipping on its patrol and safely returned to home port 27 Apr 1942. There were no recorded reports of air attack in its logs or daily position reports too.

Other records included U-587 and its sister ship U-588. Both were sunk coincidentally on 23 March 1942. But these ships were both lost in the mid-Atlantic at 46.57, -25, 45 and 46.57, -25.45 respectively, too far away for an attack to be within 119 Squadron's reaches. Another U-boat, U-653, too was too far off the eastern seaboard on the day. It was in the mid-Atlantic at 44.15, -21.15.

The hunt for the U-boat record in question amongst the 67 data points proved arduous. Record after record after in the intervening sequences found false leads until the second to last record on the day, U-754!

U-754 was off Canadian waters in a position south of Newfoundland and east of Nova Scotia at 45.28, -56.13 on 23 March 1942. It was *inside* the continental shelf.

U-754 sunk one ship, the British Freighter Prudence, on 23 March 1942 out of Halifax from convoy HX-181.

The Prudence was 8620 tons whose demise was recorded in U-754's logs. But there were no recorded air attacks noted in U-754's logs or any other daily position reports! U-754 commenced its patrol at Brest France on 7 March 1942 and safely returned to home port 25 Apr 1942 that lends an air of an "uneventful-routine" voyage beyond its recorded shipping victories.

There was one other unassigned number that followed the U-754 record. An identified record "UA", was in a position east of Newfoundland off the continental shelf at 44.15, -37.45. "UA" was located mid-ocean and in deep waters. The nature of the boat and its mission are unknown at this time. What we do know, it returned safely to home port at Kiel on 24 Apr 1942. Once again its records reflect no hint of trouble, air attack or other in its reports in its daily log and position reports.

Hunting for Clues

The violence of Howes and Buchanan's attack suggested that the attack should have been recorded in German records, at least somewhere. The paucity of data and the inconclusiveness of the U-boat records on this event led to further investigation and web searches.

A further search for more insights proved more fruitful from the knowns and the careers of Sgt Howe and Sgt Buchanan. It happened that the investigation of their careers led to the most plausible contact that confirmed the record of U-754, to be one contacted and attacked, that was documented in the very last record previously investigated in the initial review. This slant proved to be the bonanza!

The clue to the identity of the attacked U-boat was found in an award of **Mention in Despatches (MiD) to F/O Charles Stewart of No.10 Squadron (Canada) - Award effective 1 January 1944 as per **London Gazette** of that date and AFRO 113/44 dated 21 January 1944. The citation reads in part "As pilot of Bolingbroke 9066 of No.119 Squadron, he attacked U-754 east of Sydney, Nova Scotia on 23 March 1942".**

How the identity of the U-boat was determined in the MiD citation of 1944 is unknown. But this citation record identified U-754 and is useful as it leads to other interesting points beyond the identity of the U-Boat including:

1. the serial number of the Bolingbroke employed on the attack;

2. honours acknowledging this attack were issued that may possibly include an award to Sgt Howe; and
3. the specific details of U-754 revealing its type, captain, crew, missions, and fate; and most importantly, the co-confirmation location of the attack in sundry records.

Buchanan's MiD citation thus gave us further insights into the events of the day! A review of these insights begins with the construction and details of U-754.

U-754³²⁴

U-754 was a type VII(c) boat ordered 9 Oct 1939 shortly after the declaration of the Second World War. Its keel was laid 8 Jan 1940, and U-754 launched 5 Jul 1941 with final commissioning for service 28 Aug 1941. Kptlt. Hans Oestermann was its first captain who had recently completed training in the 5th Flotilla training fleet. U-754's home port was Brest. U-754 was part of Wolfpack Ziethen (6 Jan 1942 - 22 Jan 1942).

U-754 was built by Kriegsmarinewerft (KMW) at Wilhelmshaven. The Type VII U-boat was the mainstay and most ubiquitous U-boat of the German fleet. U-754 had three war patrols. All three patrols were conducted under the command of Kptlt. Hans Oestermann. The first patrol was 30 Dec 1941 and ended 9 Feb 1942. Its second patrol commenced one month later 7 March and concluded 29 April 1942.

U-754 recorded 135 days at sea on these three war patrols. But on 23 March 1942, U-754 was off the east coast of Canada. U-754 had departed from Brest on 7 March 1942 and was ordered to conduct an eastern patrol off North American waters. It returned to port seemingly unscathed 25 April 1942.

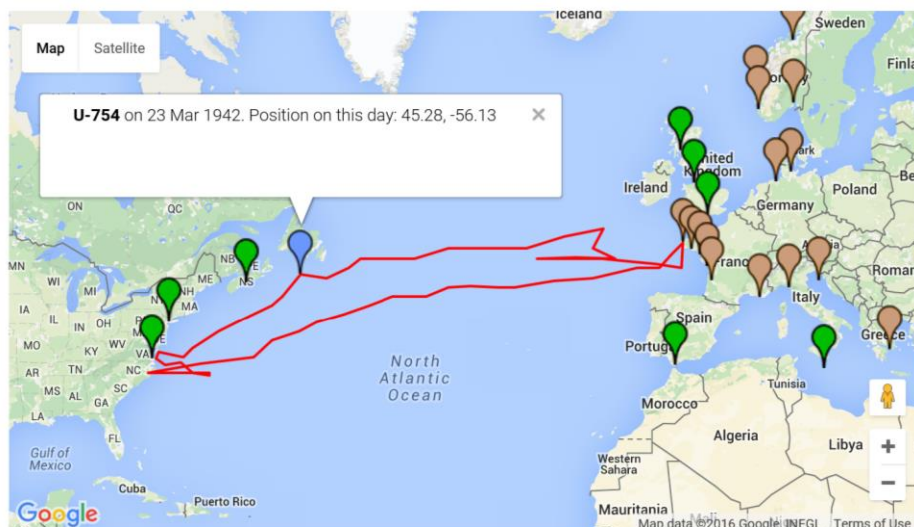
On 23 March 1942, U-754's daily position recorded its position as 45.28, -56.13. The boat was in a position inside the continental shelf, south of Newfoundland and east of Nova Scotia.

³²⁴ U. boat Net, Daily Position Report U-754, 23 March 1942

Source: <http://www.uboa.net/boats/patrols/search.php>

Accessed: 22 Jul 2016 (unless specifically cited – the section reference for all citations here)

U-754's position on 23 Mar 1942



Source: U-boat Net – Daily Position Reports³²⁵

During this patrol, U-754 sunk one ship out of convoy Hx-181. British Ship Prudence (8620 tons) was attacked, lost, and sent to the bottom.

Strangely despite a heavy aerial presence over Canadian waters at this time, U-754 did not any record of aerial attacks in its logs. Despite the strong photographic evidence of a surfaced U-boat from Buchanan's aircraft to the contrary, there was room for doubt that U-754 was the U-boat in question.

And yet, if U-754 was indeed the object of Buchanan's attack, why wasn't that attack recorded in U-754's logs? The reasons for this oversight in failing to record this attack in the daily log or position report are unknown. Such information was vital intelligence for survival of other U-boats who may have been in the area.

[British Motor tanker, British Prudence](#)

U-754's object on 23 March 1942 was clear though. U-754 attacked the British Motor tanker, British Prudence at 45° 28'N, -56° 13'W (German Naval grid reference- Grid BB 8631) at 1531hrs. Its master was George Albert Dickson. The Prudence was a straggler in Hx-181 when it was sunk.

³²⁵ Ibid U-boat Net, U-754, 22 Jul 2016

The Prudence had crew compliment of 50. The master, George Albert Dickson, along with 41 crew members and five gunners were picked up by HMS Witherington (D 76). HMS Witherington was commanded by Lt R. Horncastle, RN. The Witherington landed all of Prudence's survivors the next day at Halifax on 24 March.

The position of the Prudence and U-754 were compared for 23 March 1942. On 23 March 1942 U-754's daily position was recorded as 45.28, -56.13, the same as the recorded position of Prudence's loss at 45° 28'N, -56° 13'W. We can now safely say therefore that the pictures taken by Buchanan in Bolingbroke 9066 of No.119 Squadron on 23 March 1942 were that of the surfaced U-754. The recorded positions are indisputable as the same position reports were recorded by both opposing sides!

We do not know why U-754 surfaced in such a dangerous area where its position was relatively known and greatly exposed. But we can safely offer the following explanations. U-754 may have reached the limits of its endurance and had to surface to recharge its batteries.³²⁶ Secondly it may have been reporting its daily position that was a mandatory requirement of its Commander Admiral Dönitz for daily U-boat operations.

Admiral Dönitz was fastidious in the demand for daily position reports as they were necessary for his management and control of the battle. It was this daily positioning reporting and use of the box square system that was of value to fixing U-boat positions and concentrating Allied air and naval resources to great effect. This was probably the key to Dönitz's conviction of the dangers inherent in the confines of the Gulf of St Lawrence.³²⁷

[Kapitänleutnant Hans Oestermann](#)

This confirmed record leads us to an examination of the life and career of Kapitänleutnant Hans Oestermann who was born at Bremervörde on 19 May 1913. He joined the German Navy in 1933. He spent his early career as first watch

³²⁶ Roger Sarty, **The "Battle We Lost at Home" Revisited Official Military Histories and the Battle of the St. Lawrence**, Canadian Military History, Volume 12, Numbers 1& 2, Winter/Spring 2003, pg. 43

³²⁷ United States of America, U.S. Naval Academy Annapolis. **Ultra and the Battle of the Atlantic**, Naval Symposium, DOCID: 3726627, October 28, 1977, Approved for Release by NSA on 07-26-2010 FOIA Case # 62049, Patrick Beesly, pg. 7

officer on destroyers. Oestermann then transferred to U-boats in 1940 and began his training in July 1940.

Oestermann completed his U-boat training in December 1940. His first command was U-151, which he assumed 15 Jan 1941. Oestermann relinquished command of U-151 21 Jul 1941. U-151 had no combat patrols. Oestermann was subsequently given command of U-754, a newer type VII six months later.

Oestermann assumed command of U-754 on 28 Aug 1941. U-754 made three combat patrols that totalled 135 days at sea. During that time, U-754 sunk a total of 13 ships amounting to 55,659 tons of shipping losses with one ship reported damaged amounting to 490 tons.

Kapitänleutnant Hans Oestermann was on his second combat patrol at the time of Howes's attack on 23 March 1942. He successfully attacked and sunk eight ships including the Prudence before returning to homeport at Brest on 25 April 1942 after 50 days at sea. U-754 replenished and returned to sea towards North American waters departing Brest 19 Jun 1942.

This was to be Kapitänleutnant Hans Oestermann and U754's last trip at sea, when ordered back to North American waters on 19 Jun 1942. Oestermann lay off our shores and sank two more ships before U-754 was finally found, attacked and lost. U-754's third, fatal, and final patrol ended on 31 Jul 1942.

U-754 was destroyed by a Canadian Hudson bomber out of RCAF 113 Squadron. U-754 was sunk north of Boston, USA. There were no survivors amongst the 43 listed crew members.

Oestermann was very successful U-boat captain. Kapitänleutnant Hans Oestermann while in command of U-754 sank 13 ships amounting to over 55,000 tons of Allied shipping losses over his three patrols in the North Atlantic.

[Details of Destruction U-754 - 113 Sqn RCAF Squadron Leader N.E. Small](#)

Oestermann and U-754's story would not be complete without the detail of No. 113 (BR) Squadron's involvement. No. 113 (BR) Squadron RCAF was an east coast unit based at Yarmouth along with 119 Squadron during the Second World War.

No. 113 (BR) Squadron was originally an army cooperation squadron before the war. It was subsequently re-designated as a fighter squadron but it was disbanded in 1939.

No. 113 (BR) Squadron was resurrected and given a new life in 1942 as Bomber Reconnaissance Squadron operating principally an anti-submarine role. It had a very distinguished history, fought bravely, and most diligently during the Battle of the Gulf of St. Lawrence.

No. 113 (BR) Squadron's distinguished members included Pilot Officer R.S. Keetley and his crew who on 9 Sep 1942 dove in on U-165. On September 16, Keetley launched an attack on U-517. Both vessels escaped destruction but both boats noted the intensity of Keetley's attacks.

Between September 24–25 No. 113 (BR) Squadron registered three more attacks on seven sightings of U-517. U-517 eluded them but was spotted once again, engaged, and attacked on September 29. Flying Officer M.J. Bélanger conducted three of the last four attacks on *U-517*. Belanger was later awarded the Distinguished Flying Cross for that effort.³²⁸

But No. 113 (BR) Squadron's most notable achievement occurred 31 July 1942. Squadron Leader N.E. Small of No. 113 (BR) Squadron in Hudson 625 was conducting a patrol near Sable Island. Small sighted the surfaced U-754 . Small made three passes at U-754. His first pass dropped depth charges just as the submarine began to dive.

Small's second pass found U-754 just under the water in some apparent difficulty. It would seem that Small's depth charges damaged the boat. On his third pass, Hudson 625 fired its front guns at the boat's conning tower. The plane then observed the damaged boat for 55 minutes. To Small's surprise, U-517 exploded before him that seemed to finally settle the matter.³²⁹

U-754 was sunk with all hands lost.³³⁰

³²⁸ Gray, Larry (2007). *Canadians in the Battle of the Atlantic*. Edmonton, AB: Folklore Publishing. pp. 306–7. [ISBN 1-894864-66-2](#)

³²⁹ *Attack on U-754 by Hudson 625 of 113 (BR) Squadron, July 31st, 1942". Canada in WWII. Juno Beach Centre. 2003–2014. Retrieved 2014-02-02.*

³³⁰ "U-754". *uboat.net*. Retrieved 2014-02-03

Sadly, Squadron Leader Small was posthumously awarded the Distinguished Flying Cross later in January, 1943.³³¹ Squadron Leader N.E. “Molly” Small was killed on 7 January 1943 when the Canso in which he was flying, crashed shortly after taking off from Gander, Newfoundland.³³²

No. 113 (BR) Sqn’s primary role was in the anti-submarine role. The squadron was widely based on Canada’s East coast. It operated first out of Yarmouth, NS, then transferred to Chatham NB, but finally ended up at Torbay, NL.³³³ The squadron flew the Lockheed Hudson and Lockheed Ventura before being disbanded on 10 August 1944.³³⁴

Bolingbroke 9066 23 March 1943 – Sgt Howes

We now return to the story of aircraft employed and the men who attacked U-754 on 23 March 1942. Bolingbroke 9066 was an obsolete aircraft piloted by Sgt WM Howes (R72072) of 119 Sqn RCAF out of Yarmouth. His co-pilot was Sgt CS Buchanan (R68324). Each man led exemplary and distinguished careers during the Second World War.

Sgt Howes’ story is a rather interesting one. Bill Howes received his initial training at No.1 Service Flying Training School at Camp Borden. He graduated there and received his wings on 28 April 1941. It was to be No.1 Service Flying Training School’s first outdoor graduation parade since the previous fall.

The Globe and Mail made special mention of that fact. Also noted prominent amongst the seventeen Torontonians who graduated that day was a certain Bill Howes, age 21, of 395 Lauder Avenue. The Globe and Mail ran at length the attendance of Bill’s family at his graduation. Present were his brother Stoker Henry Howes, 20 RCNVR and his father Captain H.A. Howes, M.M. formerly of the Leinster Regiment of the Imperial Army in the Great War.

³³¹ Ibid Gray, 2007

³³² Richard Goette, **Squadron Leader N.E. Small: A Study of Leadership In The RCAF’s Eastern Air Command, 1942**, Canadian Military Journal, Spring 2004, pg. 49

³³³ Digplanet, [Military units and formations of Canada in Second World War](http://www.digplanet.com/wiki/No._113_Squadron_RCAF) , No. 113 Squadron RCAF, 2016

Source: http://www.digplanet.com/wiki/No._113_Squadron_RCAF

Accessed: 26 Jul 2016

³³⁴ "No.113 Squadron". *canadianwings.com*. *Canadian Wings*. 2012. Retrieved 2014-02-02

Also attending the ceremony were his mother (unnamed) and sister Maureen along with two younger brothers, Terry (12) and Brian (4) in tow. Bill's graduation must have been a very special occasion and a proud moment for his family, especially as words of praise were soon heaped upon the graduating class by Group Captain R.S. Granby (OBE).³³⁵

Sgt Howes then proceeded to Operational Training Unit at Pennfield NB for advance training before he was finally posted to 119 (BR) Sqn.³³⁶

Upon completion of a tour with 119 Sqn (BR) RCAF Bill Howes was transferred overseas. In fact, he made history in doing so. Now a Flying Officer (F/O), the Globe and Mail once again made mention of F/O Howes' concerning his "historic flight" from Canada to the United Kingdom.

Howes' flight was a unique odyssey that began 2 August 1943. It was the first non-stop operational B-24 Liberator sortie from North America across the Atlantic to the United Kingdom. F/O Bill Howes was in Command. His B-24 Liberator was responsible for provision of convoy air support and escort along the way.³³⁷ It most likely was the very first flight that was made to close what is now known as the "Mid-Atlantic Gap".

F/O Howes was ordered to fly, protect, and escort a convoy then headed to Iceland. The weather deteriorated over the convoy and was so bad, that Howes had to break off the escort and make for England. He was later instructed by radio to make for

³³⁵ Globe and Mail, "[HAVE A JOB ON, AIRMEN TOLD AS WINGS AWARDED](#)"
29 April 1941

Source: <http://collections.civilisations.ca/warclip/objects/common/webmedia.php?irn=5013482>

Dated: 26 Jul 2016

³³⁶ Pennfield Parrish Military Historical Society, Pennfield Ridge Air Station
Remembering Those Who Served RCAF Station (May 20, 1944-October 1, 1945)

Source: <http://www.rootsweb.ancestry.com/~nbpennfi/penn8b6RCAFStation.htm>

Accessed: 26 Jul 2016

Only one record for Howes (little detail)

³³⁷ Globe and Mail, **Liberator Makes History Crosses Ocean in Sortie**, 3 August 1943

Source: <http://collections.civilisations.ca/warclip/objects/common/webmedia.php?irn=5020692>

Dated: 17 Jul 2016

Note: There was a typo in the article. FO Howe is mis-identified as FO W.H. Howe of Toronto. We know his initials to be W.M. from his graduation article. Conclude him to be the same person.

Northern Ireland. His journey lasted some 15 hours and 26 minutes. It ended when he landed in Northern Ireland. His flight was characterized as “uneventful”.

But his flight marked a passing. His effort was far from uneventful for it garnered the praise of no less a personage than Air Marshal John Slessor, Commander of Coastal Command.

Air Marshal Slessor sent a personal message to Air Vice Marshal G.O. Johnson air officer command eastern Air Command stating, “History has been made by Liberator “Y”. It is the first R.C.A.F aircraft to take off from America on an operational sortie and land in the United Kingdom. The commanding officer of this squadron attended our weekly anti-submarine staff meeting. I hope there will be many similar instances.”³³⁸

Although Howes may have modestly characterized his flight as “uneventful”, it was a significant milestone indeed! To Slessor this flight probably marked the first step and a key turning point in the conduct of U-boat war then raging. The Battle of the Atlantic hung in the balance. It could have gone either way. Howes’ flight marked the start of a change to come.

Bolingbroke 9066 23 March 1943 – Sgt Buchanan³³⁹

The other character in this story was Charles Stewart Buchanan, who was born in Montreal, 31 May 1921. Buchanan’s home town at the time of his enlistment though was Ottawa. Charles Stewart Buchanan joined the RCAF, 20 August 1940 at London Ontario. Buchanan proceeded to No.1 ITS where graduated 9 December 1940. Buchanan was only 19 years old at the time. He went on to No 10 EFTS and graduated 7 February 1941.

Buchanan then trained at No.2 Service Flying School from 28 January to 10 April 1941. He was a member of Course 19 and was one of about 60 candidates who graduated on this serial.³⁴⁰ No.2 Service Flying School would be his final destination in the training system before his first posting.

³³⁸ Ibid Globe and Mail, 3 August 1943

³³⁹ RCAF Association Web Page, 2016

Source: <http://rcfafassociation.ca/uploads/airforce/2009/07/ALPHA-BU.1.html>

Accessed: 11 July 2016

³⁴⁰ : No.2 Service Flying School, website, 2016

Source: <http://rcfafuplands.blogspot.ca/>

Accessed: 27 Jul 2016

Buchanan graduated from No.2 SFTS on 15 April 1941, as a newly minted pilot, and posted to 119 Squadron. He was Sgt Howes' co-pilot on the day they attacked U-754, 23 March 1942.

But two years after the fact, now a Flying Officer, Charles Stewart Buchanan was gazetted and Mentioned in Despatches for that action. The gazetted citation, posted 1 January 1944 read:

“This officer has taken part in a large number of operational sorties on anti-submarine patrols over the North Atlantic. The enthusiasm, coolness and courage with which he has completed his tasks under adverse conditions has set a high standard which is proving to be an example and inspiration to others.”

No such honours or awards were found for Flying Officer Howes.

Charles Stewart Buchanan went on to serve through out the remainder of the war with a distinguished record. Most notably, he survived!

Charles Stewart Buchanan loved flying and remained in the RCAF after the war. But sadly, Flight Lieutenant Buchanan, Charles Stewart, in DH 100 Vampire 17024 from 401 Squadron (Aux), was killed in a crash on 22 July 1952 at Bagotville, Qc.³⁴¹

Concluding Remarks

The story of maritime airpower and the anti-submarine role played out on Canada's east coast during the Second World War is an interesting and lesser known one. The application of airpower in the Gulf of St Lawrence and elsewhere in 1942 made a significant impression on Admiral Dönitz.

First, Admiral Dönitz was impressed by the number of their attacks, by both the RCN and RCAF despite the fact that not one of his submarines was sunk by Canadian pilots or the RCN.³⁴² The presence of air cover greatly deterred him

³⁴¹ RCAF Association Heritage Page, Post War Casualties, 2016

<http://rcafassociation.ca/heritage/post-war-data/post-war-casualties-rcaf/>

Accessed: 27 Jul 2016

³⁴² David Andrews, **The Battle of the Gulf of St Lawrence**, Royal Canadian Legion Branch # 98 © 2008 All Rights Reserved, pg. 9

from pursuing a campaign in the Gulf in 1943 because of this fear. It was indeed a dangerous place!³⁴³

Second despite this impression, Admiral Dönitz also concluded despite that the fact that Canadian defences proved to be comparatively weak, his forces were too exposed when surfaced. U-boats only returned to Canadian water in quantity in 1944 through the introduction of the `snorkel`.³⁴⁴ The snorkel was a technical advantage that protected U-Boats because of the ability to recharge their batteries while remaining and running submerged.³⁴⁵ It hid them from prying eyes of surface ships and loitering aircraft.

The use of land based aircraft against submarines was not a new concept during the Second World War. Land based air assets were employed in the maritime patrol role as early as the Great War. The basic lessons learned there was, aircraft proved effective against German U-boats forcing them to remain submerged and exhausting their batteries either while en-route to or in operational areas. U-boats were found to be very vulnerable to air attack, especially when convoys were supported by air support.³⁴⁶

This was the role and purpose that Howes, Buchanan, and others were trained for that was played out in Eastern Air and Coastal Commands as they served during the Second World War. It wasn't perceived as a glamorous role but it was a vital one. But it was the job that gave the allies breathing space and the time to survive to build their forces to achieve victory. It all took time. It all could have easily

Source:

www.kingstonlegion.com/.../Battle%20of%20the%20Gulf%20of%20St%20Lawrence.doc and <http://www.kingstonlegion.com/Poppy/Call%20to%20Remembrance.html>

Accessed: 2 October 2010

³⁴³ Ibid David Andrews, **2008**, pg. 9

Source:

www.kingstonlegion.com/.../Battle%20of%20the%20Gulf%20of%20St%20Lawrence.doc and

³⁴⁴ Richard Goette, **Squadron Leader N.E. Small: A Study of Leadership in The RCAF's Eastern Air Command, 1942**, Canadian Military Journal, Spring 2004, pg. 47

³⁴⁵ Fabrice Mosseray, 29 Mar 2002.

³⁴⁶ William S. Hanable, Research Studies Series, **Case Studies in the use of Land-Based Aerial Forces in Maritime Operations, 1939-1990**, Air Force History & Museums Program, Washington, D.C. September 1998, pg. 3-4

fallen apart at any time if the U-boats had succeeded in the Battle of the Atlantic. The U-boat was Winston Churchill's solitary fear during the war.³⁴⁷

Men and material were lost on both sides in what became known as the Battle of the Atlantic. It was the longest running battle whose course ran the whole length of the war. Many lives were lost in great number on both sides of the conflict. The material losses of life in U-boat service was akin to the lives lost in the service of the RCAF both in number and in kind.

A number can be placed on it. During the Second World War 28,000 of 40,900 German U-boat crew who serviced lost their lives. Five thousand were taken prisoners of war. On the other side of the ledger 30,000 men of the allied merchant service died, not including the untold number of Allied naval personnel.”³⁴⁸

The loss of Canadian life in the air war alone amongst RCAF aircrew amounted to 17,000 dead out of the total 55,000 allied air crew were lost during the war that was spread amongst RAF, RAAF, RNAZ air crews over the running battles of the air war.³⁴⁹

How do you translate all that suffering and sacrifice into real terms then? A picture on the wall only paints a part of the story. Yet in some small way it does. It paints one small measurable yardstick to that loss, which is largely a hidden story.

That indescribable loss was the pain and suffering endured by both sides of the conflict. It was the loss that was greatly felt through the grief of family, friends, and loved ones.

It is a loss felt in the many remembrances held each year that honor those who died, just doing their duty, oh so many years ago (Lest we forget). It is the story worth learning from any “Picture on the Wall.” All it takes is a little time to do so, but the dividends in the doing are so worthy.

³⁴⁷ Winston S Churchill, **The Grand Alliance**, Houghton Mifflin Company Boston, The Riverside Press Cambridge, 1950, pg. 122-123

³⁴⁸ Naval Historical Society of Australia, **British and German submarine statistics of Second World War**, 2016

Source: <https://www.navyhistory.org.au/british-and-german-submarine-statistics-of-world-war-ii/>
Dated: 27 July 2016

³⁴⁹ A.R. Byers (Ed.), *The Canadians at War 1939/45* (2nd edition), The Reader's Digest Association (Canada) Ltd., Montreal, 1986, pg.470

Epilogue

Many Canadians today still assume that Canada was largely untouched by the ravages of the Second World War. Many remain ignorant or are unaware of great battles or military operations that have occurred right here on our very doorstep. The effect of wartime censorship may have contributed to that which has deadened many Canadians to these facts.

At the same time many veterans have remained silent, act with humble regard and are reluctant to discuss or share their great achievements. That is understandable for remembrance too many veterans may be much too painful. Some wounds both physical and mental remain, and still are all too fresh even after so many years. Sometimes it's up to us, the current generation to remember, reflect and pay homage.

The truth is the legacy of Second World War is often unseen, lost, or hidden around us in abandoned forests, fields and waterways. The engines and tools of war some long abandoned or converted to peaceful use are masked in our surroundings are a tribute to the great Canadian effort that sustained our Allies throughout the war.



Personal Archives – Debert 5 September 2014 – Street Signs

Many barracks, administration, and other buildings have long been converted for other uses after the war. The facades of these structures were often changed masking its original intent or purpose. The only hint may be a nearby street name of some unknown aircraft, battle, or personage.



Gerry Madigan Personal Archives – Abandoned Administrative Area Debert September 2014

More importantly though has been the great reticence of veterans and the citizens to pass on the tale from one who lived through it all, perhaps because it was much to painful to remember. As the years pass by and as memory fades, the story of Canada’s war effort, sadly fades too unless it is remembered though.

Many books have been written on the “British Commonwealth Air Training Plan (BCATP). These documents made the invisible, visible, and the rumoured, real. There were real incidents of war that touched Canada. The old airfield and glider school at Debert Nova Scotia was one such place. There was indeed action on Canada’s home front and the casualties there, were very real.

Canada’s greatest contribution in Second World War was arguably, the British Commonwealth Training Plan (BCATP). But really it was one of three great

efforts, the others being the Royal Canadian Navy, built up to the third largest Navy in the world.

The other was the Canadian Army that defended Britain and Canada. The Army fought bravely through Western Europe, Italy and the Far East. The Army also defended the home front. It was truly a triad of Canadian military power that greatly contributed to an Allied victory. Canada's contribution though is often understated and underrated.

The reality of war in September 1939 was in truth that there was nothing really on the ground in Canada for an air training plan to begin with. The BACTP began with little or nothing. The situation wasn't much better for the Navy or the Army. The BCATP with an ambitious start date of 29 April 1940, was expected to receive the first of many trainees. The plan built to a crescendo with full operations by April 1942.³⁵⁰

Canada grew the organization of the RCAF that was essentially nonexistent at the beginning of the war as well. The RCAF had no administrative structure. It needed to engage its own administrative, pay, medical, dental, and most importantly constructing engineering support from scratch.

Canada was responsible for the overall administration of the plan that was under military command of the RCAF while safeguarding the interests of Great Britain, Australia, and New Zealand.³⁵¹

Debert was an ideal location for the plan and became a hub of activity. Over the next few years its population exploded in a boom of economic expansion. Approximately 6,000 civilian personnel were involved in construction of the facilities that supported both Camp Debert, and nearby army base. The airfield that eventually supported the flow through of various 30,000 air force personnel of many nations that passed through the gates of O.T.U. 31 under the BCATP.³⁵²

³⁵⁰ F.J. Hatch, **Aerodrome of Democracy: Canada and the British Commonwealth Air Training Plan 1939-1945**, Department Of National Defence Directorate Of History, Monograph Series No. 1, © Minister of Supply and Services Canada, 1983, pg. 33

³⁵¹ *ibid* Hatch, pg. 21

³⁵² Mr. William Langille, Chairman, Standing Committee On Veterans Affairs **Testimony - Debert Military History Society to Standing Committee On Veterans Affairs**, Halifax, Thursday, March 1, 2001, 9:00 A.M.
pg. 5-6

Operational Training Units were also “operational”. Training may have been the primary task, but trainees were also pressed in a pinch for operational duties. In fact, they were so tasked when U-Boats happened on the Eastern Shores of Canada.³⁵³

Why not? All training aircraft at some point in the curriculum were fully bomb loaded and armed. They could be easily diverted to more profitable targets, when such target or dangers presented themselves. There was always an air of realism to their duties!

Debert and other training units operated in the Bay of Fundy as well as well out to the Cabot Strait to Newfoundland at the time. According to Hudson plane historian Bill Walker, of London, Ontario, "The instructors also used the school's aircraft to search for German U-boats in Canadian waters when the U-boats moved into the western Atlantic in 1942 and 1943".³⁵⁴

Bill Walker documented Debert flew 1,041 operational missions. During these missions they sighted seven U-boats, attacking two and damaging one on July 4, 1943, about 160 kilometres south of Halifax.³⁵⁵

We often overlook that a battle was won in the Gulf of St Lawrence because of the efforts of Eastern Coastal Command, augmented by its O.T.U.s in the heat of battle. It was the virtual presence of aircraft whether they were fully operational or under operational training that kept the U-boat fleet at bay during the spring-fall 1942 to which the O.T.U.s are also owed a special debt of gratitude and respect.

The battle in the Gulf of St Lawrence reminds us that there were casualties on Canadian soil during the Second World War too. But casualties happened while training too.

³⁵³ ³⁵³ Greenwood Military Aviation Museum, WWII Observation Tower, 18 Nov 2009, Page 5.1 Rev. 0

Source: <http://gmam.ca/tower.htm>

Accessed: 30 November 2010

³⁵⁴ Monica Graham, **Dalhousie Mountain Crash, 1942 - Wartime plane crash lives in memory**, Halifax Chronicle Herald Fri, 11 Nov 2005 on [NSExplore](http://www.nsexplore.ca), Exploring Nova Scotia, Source: <http://www.nsexplore.ca/aircraft-crash-sites/dalhousie-mountain-crash-1942/>
Accessed: 13 December 2010

³⁵⁵ Ibid Monica Graham, Halifax Chronicle Herald Fri, 11 Nov 2005

Lance-Corporal Edwards, a non-commissioned officer (NCO) at Camp Debert (Army), attempted to rescue the crew of a crashed Hudson on his own initiative at approximately 0445 hours on 20 July 1943. Edwards was first on scene. He made his way in the dark of night to the crash, a considerable distance in the dark, with a fire extinguisher in hand, and through the Debert River.

Edwards found a fiery inferno when he arrived at the site and attempted to put out a fiery wreckage. Eventually with assistance of another NCO, they managed to pull the bodies of the pilot and another officer from the wreckage.

Edwards suffered injury but was saved from a severe burning because of his wet clothing. His attempted to rescue of the downed airmen was done without thought for his own safety conducted whilst there was the constant danger of explosions.

LAC Edwards was subsequently highly commended in a letter from the Officer Commanding the Royal Air Force station to which the plane and its crew belonged for his efforts. His was a selfless act, without thought of his own safety; he acted for the safety of others!³⁵⁶

A great many NCOs lost their lives as well. Sgt Leonard Hornsey (RAF) is an interesting example. Like many of his peers, Norman Leonard Hornsey, was born in the early 1920s. He was a schoolboy in September 1931. At the very early age of 16 or 17 he joined the Staff of the Wellingborough Co-operative Society in December 1935.

Hornsey eventually joined the Wireless School at Cranwell as an R.A.F. apprentice in January 1937 and posted to Coastal Command in Scotland after completion of his training September 1939. He took part in many flying operations over the Atlantic, Iceland and Norway. Hornsey spotted the prison ship Altmark while on aerial patrol that was subsequently captured by the Royal Navy.

Hornsey was promoted to Sgt. and posted to Nova Scotia as Wireless Instructor in recognition of this action. Regrettably he was killed on 23rd October 1941 when

³⁵⁶ [NSExplore](#), **Exploring Nova Scotia - Debert River July 1943**, in Canada Gazette 1 January 1944, 2010

Source: <http://www.nsexplore.ca/aircraft-crash-sites/debert-river-july-1943/>

Accessed: 13 December 2010

as a crew member of Hudson aircraft AM896, on a final long-distance exercise, crashed and burned at Great Village, Nova Scotia.

His aircraft met with some unknown disaster and flew into the ground disintegrating into pieces at Great Village, Nova Scotia.

Hornsey's remains were never repatriated to his grieving family in Bristol England. The late Sgt Norman Leonard Hornsey is buried at Terrace Hill Cemetery, in Truro, Nova Scotia.³⁵⁷



Gerry Madigan – Personal Archives -Sgt Norman Leonard Hornsey is buried at Terrace Hill Cemetery, in Truro, Nova Scotia

Death had a hand in the demise of others from O.T.U. 31, October 23, 1941 who were lost either in the same or separate incidents on that same evening.³⁵⁸ Along

³⁵⁷ Graham Tall, Webmaster, **In Memoriam - Sgt. Norman Leonard Hornsey** , grahamtall@wgsmemories.org.uk ,Web pages began on 12th February 2005 ,

Source:

<http://www.grahamtall.co.uk/wgs1955/War%20Memorial/War%20Dead%20letters/Hornsey%20Norman%20%20Coastal%20Command.htm>

Accessed: 13 August 2010

³⁵⁸ Ernest E. Allen, **An RCAF Pilot's Story 1939-1945 from the memoirs of Ernest E Allen**, 1996, Part One - Pilot Training

Source: <http://www.seawaymall.com/eallen/>

Accessed: 13 August 2010

with Hornsey in Hudson #AM896, PO Richard Aubrey Luard, PO Charles Beeching O'Hanley and Sgt (WAG) Robert Frederick Kelley, all RCAF, also perished at Great Village.³⁵⁹

In a separate incident, LAC Albert James Morris (RAF) from Haslemere, Surrey, England was killed at the age of 21 in aircraft # AN895 that too was engaged in the same a final night training exercise, but it met its disaster near Cartierville, Quebec later that day. P/O (P) J.F. Fisher (RCAF), P/O A.E. Wainwright (RCAF) and Sgt (WAG) A. Kirsch (RCAF) were also killed in this separate crash.³⁶⁰

All were young men in their early twenties who had very much to live for but who were now lost to the future, and sadly to their loved ones forever. Training and operational accidents touched many both in Canada and abroad from the humblest to the very great.

The plan was finally terminated 31 Mar 1945 and with it the end of the loss of so many young lives.³⁶¹

We should never forget their dedication or their loss. These young men did yeomen work that is often unappreciated. They were the thin red line over Fundy shores, the Gulf of St Lawrence, and stretches of the Atlantic at the extent of their operational reach. Whether armed or not they kept the U-Boat at bay.

There were some 856 deaths in the training of 131553 aircrew that trained in Canada. It was estimated that 70% of these may have been to youthful exuberance nominally known as disobedience, carelessness, and pilot error.³⁶²

One hundred and ten were lost at Debert out of 856 fatal casualties that occurred in the BCATP (13%) during training in the Second World War.³⁶³ However slight the

³⁵⁹ Ibid Graham Tall, 12th February 2005

³⁶⁰ Ibid Graham Tall, 12th February 2005

³⁶¹ ibid Hatch, 1983 Chapter 9 for full details

³⁶² . A.R. Byers (Ed.), **The Canadians at War 1939-1945 Second Edition**, The Reader's Digest Association (Canada) Ltd, 1986 pg. 86 and

ibid Hatch, 1983, pg. 202, Appendix B

³⁶³ Hosted by RootsWeb Ancestry.com, **No.31 Operational Training Unit**

June 3, 1941-July 1, 1944 - No.7 Operational Training Unit July 1, 1944-July 20, 1945

Debert, Nova Scotia, Roll of Honor, 2010

Source:

http://www.rootsweb.ancestry.com/~nbpennfi/penn8b1RollOfHonour_No31O.T.U._TrainingCasualties.htm

casualty rate, from October 1940 to March 1945, it does not bely the fact that some of these deaths may have preventable.

There were many trials and tribulations in conducting the air training plan. The greatest achievement was the creation of an air power that virtually came to dominate all aspects of the various air campaigns of Second World War.

Without the training establishments in conjunction with industry, air superiority, Overlord, and other combat actions, the end of the war would have been improbable. It took a great effort, and nothing was easily accomplished.

The truth is, the legacy of Second World War is here, in abandoned forests, fields and waterways around many places in Canada. Without a purpose, Debert came once again on the chopping block of Crown Assets Disposal. The firm decision made in 1943 to commence winding down the BCATP with the final termination in March 1945 proved significant.³⁶⁴ The financial taps for many communities were turned off as units disbanded and closed.

Debert and other airfields were briefly spared when there was a proven need. Concurrent to all this though was Canada's consideration for its post war future. There was always hope of a reprieve. But dark days lay ahead, economically, for many towns and villages as the war ground to an end. For some, as the airfields and stations closed, hard decisions were made leaving behind winners and losers after the war.

Demobilization proceeded as quickly as possible. But "Peace" was a two-edge sword. Without any purpose for its continued existence, the war time boom soon dried up. Where once there was a frenzied pace, now was only silence and a slow decay.

That was the situation faced by Debert and many other small Canadian communities in the Fall of 1945. The prosperity and boom of the war was all but gone. Many small Canadian communities languished after the bust! And the bust came ever so quickly.

Accessed: 20 December 2010

³⁶⁴ F.J. Hatch, **Aerodrome of Democracy: Canada and the British Commonwealth Air Training Plan 1939-1945**, Department of National Defence Directorate of History, Monograph Series No. 1, © Minister of Supply and Services Canada, 1983, 1983, 178- 183

At the time the Calgary Herald reported, 68 buildings had come under the hammer at Camp Debert with a total of 55 demolished. In the process some 1.25 million board feet of lumber, 12 tons of nails, 1000 windows, 39 bath tubs, 200 basins, 139 radiators, and 24,000 feet of piping and plumbing fixtures, assorted electrical supplies and other items were recycled, salvaged or re-purposed.

Camp Debert alone, once considered the jewel in the crown of an Army training system, was no longer needed and came under the hammer. Camp Debert was a ghost town by 1946.

Some days though training in Atlantic Canada was very real and very operational, especially for the air force. Lives were tragically lost, and for some, their graves, to this day remain unknown, as the dead lie in rest in deep waters off Canadian shores.

