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Canada

The *ROYAL CANADIAN AIR FORCE JOURNAL* is an official publication of the Commander Royal Canadian Air Force (RCAF) and is published quarterly. It is a forum for discussing concepts, issues and ideas that are both crucial and central to air and space power. The *Journal* is dedicated to disseminating the ideas and opinions of not only RCAF personnel, but also those civilians who have an interest in issues of air and space power. Articles may cover the scope of air-force doctrine, training, leadership, lessons learned and air-force operations: past, present or future. Submissions on related subjects such as ethics, technology and air-force history are also invited. This journal is therefore dedicated to the expression of mature professional thought on the art and science of air warfare and is central to the intellectual health of the RCAF. It serves as a vehicle for the continuing education and professional development of all ranks and personnel in the RCAF as well as members from other environments, employees of government agencies and academia concerned with air-force affairs.

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ROYAL CANADIAN AIR FORCE JOURNAL

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ITEM	WORD LIMIT*	DETAILS
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ARTICLES	3000–5000	Written in academic style.
BOOK REVIEWS	500–1000	Written in academic style and must include: •the book's complete title (including subtitle); •the complete names of all authors as presented on the title page; •the book's publisher, including where and when it was published; •the book's ISBN and number of pages; and •a high resolution .jpg file (at least 300 dpi and 5 by 7 inches) of the book's cover.
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* Exclusive of endnotes

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COMMANDER'S **MESSAGE**

Defence of Western Canada during the Second World War

When one thinks of the Royal Canadian Air Force (RCAF) during the Second World War, one's thoughts quite naturally turn to the British Commonwealth Air Training Plan, the Battle of Britain, Bomber Command or the Normandy Campaign. It is rare that you dwell upon the Home War Establishment (HWE), wherein thousands of men and women focused on the defence of North America, in general, and Canada, in particular. Yet, by November 1943, there were 37 HWE squadrons and a network of air stations dedicated to the defence of the nation. Units on both coasts would be engaged in combat. On the east coast, HWE personnel made a valuable contribution to the Battle of the Atlantic and the defeat of the German U-boats. While RCAF units belonging to Western Air Command (WAC) were prepared to face a threat from Japanese forces, very few units would actually see any fighting. Instead, the main adversaries would be boredom; remote locations; and harsh environments, ranging from the rain forests of British Columbia (BC) to the treacherous arctic weather conditions of Alaska's Aleutian Islands. Still, arguably, the young men and women who defended Canada's west coast sowed the seeds of what would become a binational approach to the air defence of North America

The role of WAC in the Second World War can be seen as a precursor to our current involvement in the North American Aerospace Defence Command (NORAD). Early in the war, few, if anyone, foresaw that Western Canada and Alaska would become an active theatre of operations, yet the 7 December 1941 attack on Pearl Harbor by Japanese forces sent panicked ripples through both Canada and the United States (CANUS). Binational defence cooperation between the two countries was relatively new, having been formalized through the auspices of the Permanent Joint Board on Defence (PJBD) only months before the December attack. However, these documents became the basis for a CANUS approach to air defence.

The opening forays by our Japanese adversary were mere pinpricks, ranging from the sinking of a few merchant vessels to the shelling of coastal installations on the Pacific coast, including a Canadian lighthouse at Estevan Point, BC. The level of the threat changed in the summer of 1942 when, as a diversionary part of a much larger assault in the South Pacific, Japanese forces bombed an Alaskan port and occupied two of the Aleutian Islands. As the United States (US) was short of air combat units, RCAF squadrons were moved north to Alaska under the auspices of PJBD planning. At the same time, again based on work undertaken by the PJBD, airfields were established linking the continental US with Alaska. The Northwest Staging Route became a conduit for ferrying aircraft and supplies to Alaska and the Soviet Union. In an ironic historical twist, the same airfields would serve as defensive aerodromes during the opening stages of the Cold War, countering a now hostile Soviet Union.

In Canada, additional units and squadrons were stood-up or transferred from the Atlantic coast. Aerodromes and radar sites were, in some cases, quite literally "cut" out of virgin forest. Airmen and airwomen were deployed to stations throughout BC, Alberta and the Yukon, not only to ensure the safe and efficient conduct of air operations but also to act as a national counter to the thousands of American service personnel who flooded into Canada to assist with the myriad of construction projects.

It was a massive undertaking to counter a threat that was, for the most part, non-existent. After the defeat of a Japanese carrier force at the Battle of Midway (4–7 June 1942), the small Japanese detachments on Kiska and Attu were, for all practical purposes, left to their own devices with minimum support. By the summer of 1943, they had either been defeated or removed. From then until the end of the war, the only other overt Japanese attack on North America would be through the use of balloon-borne explosive devices from November 1944 to April 1945. This last gasp of a soon-to-be-defeated enemy caused few casualties and little damage.

Although the defence of Western Canada did not involve intensive combat operations, it is a worthy topic of study for a student of air power in a Canadian context. It offers insight into the challenges associated with coordinating binational continental air defence. This is especially true with respect to sensitive issues for Canada and the US, such as stationing military forces in each other's countries as well as command and control. Experience gained during the war benefitted both sides in the lead-up to the establishment of NORAD.

The Aleutian Campaign was the first time that RCAF units actively fought in arctic, or near-arctic, conditions. The effort necessary to operate in austere surroundings—at the end of a long, fragile supply chain and in an environment that was more deadly than the enemy—was astounding. Both American and Canadian experiences in this theatre of war are worth mining for insight into operating in the far North.

This aspect of our history should also be examined by all Canadians to better understand the complexities associated with working with an ally as large as the US. Frequently, the Canadian government was more concerned about protecting Canadian authority and sovereignty from the Americans than it was defending against an attack by the Japanese. A similar, but more RCAF-focused, concern centred on command and control of installations on Canadian territory and aircraft transiting through national airspace. These important concerns are still with us today.

As well, the RCAF's role in the forced evacuation of Japanese–Canadians needs to be acknowledged and understood. Decisions taken by the Canadian government to implement the policy of forced evacuation were made, in part, based on military appreciations of the potential threat of Japanese attacks on the west coast that painted a bleak, but unrealistic, picture. This tragic affair underlines the importance of ensuring that military advice is factual and that conclusions drawn are supported by solid information.

The defence of Western Canada is not the most thrilling chapter in the story of the RCAF, but it should be studied in depth. All of the challenges encountered by RCAF commanders during this period are still aspects of today's operational environment. With this in mind, we should glean as much information and insight as we can from our history and heritage. Not only will this assist us in developing an understanding of air power from a Canadian context, but hopefully, it will also go a long way in maintaining a strong continental and national air defence.

Enjoy the read.

Sic Itur Ad Astra

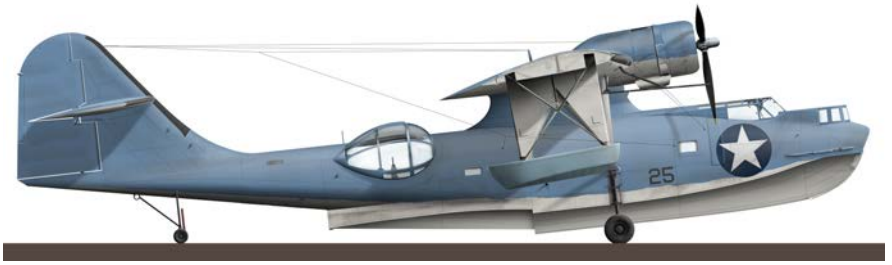
Lieutenant-General M. J. Hood, CD, MA
Commander Royal Canadian Air Force

MILITARY AIRCRAFT IN WESTERN CANADA AND THE ALEUTIANS CAMPAIGN DURING THE SECOND WORLD WAR

BY TERRY HIGGINS

Bristol (Fairchild Canada–built) Bolingbroke Mk.IV 9051, as aircraft YO•L of No. 8 (Bomber Reconnaissance [BR]) Squadron (Sqn), X Wing, Royal Canadian Air Force (RCAF) at Anchorage, Alaska (AK), circa late 1942. Formerly with No. 115 (BR) Sqn as BK•G, this Bolingbroke was refinished in the markings of No. 8 (BR) when the reference photo was taken during an engine change at Anchorage.

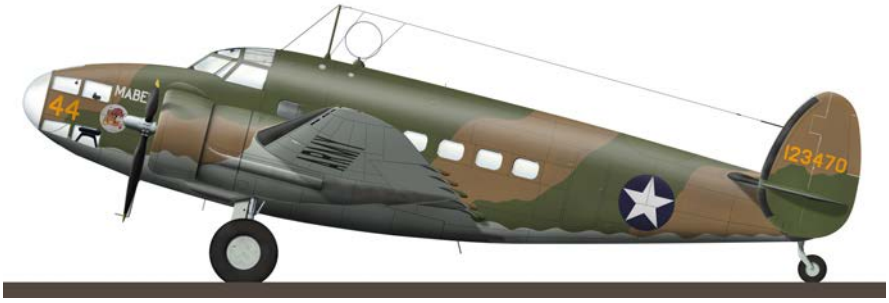
Curtiss Kittyhawk Mk.IA AL194, as aircraft V of No. 111 (Fighter) Sqn, RCAF, deployed to Anchorage, Alaska, in the summer of 1942. The sqn's "Thunderbird" emblem has been applied to the nose.



Consolidated PBY-5 Catalina, "Boat 25" is an example of the pure flying boat PBYs operated by VP-61, United States Navy (USN) at Dutch Harbor, AK, in 1942. By this date, this sqn was the sole user of the non-amphibious version in Patrol Wing 4. This aircraft was one of a number of PBYs damaged during a williwaw that roared down Dutch Harbor on 21 November 1942.

Blackburn Shark II (Target Tug [TT]) 504, No. 122 (Composite) Sqn, Patricia Bay, BC, through 1942. Shark 504 was one of the earliest examples of the type delivered to Canada in the pre-war years.

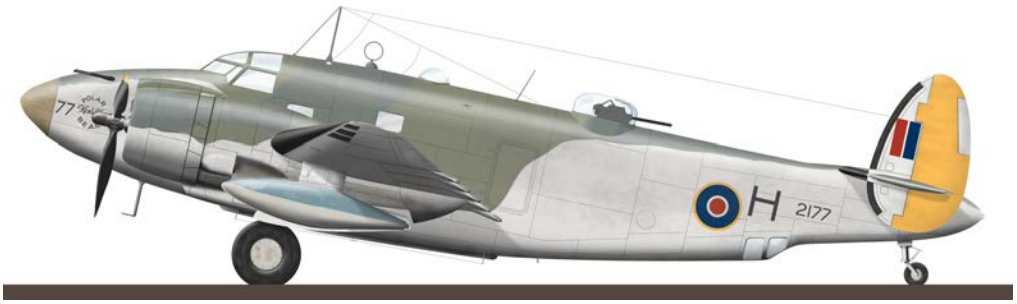
Supermarine (Canadian Vickers–built) Stranraer 916, No. 9 (BR) Sqn, Bella Bella, BC, summer 1942. Western Air Command (WAC) made do with pre-war Stranraers. Eventually, the WAC long-range sqns got more modern equipment as well but the last of the "Strannies" were not withdrawn from service until 1944.



Lockheed A-29 Hudson 123470. This is one of two specially configured photo-survey Lockheed A-29 Hudsons, of the 2nd Reconnaissance Sqn, 1st Photographic Group, United States Army Air Forces (USAAF) 2nd Air Force, temporarily based at various locations in western Canada, primarily to support ground survey work in connection with plotting the route for the Alaska (Alcan) Highway through mid/late 1942.

Consolidated B-24D Liberator 123938 (41-23938), 21st Bombardment Sqn, 30th Bomb Group, Eleventh Air Force, USAAF. The 21st was in combat in the Aleutians Campaign as part of the 28th Composite Group.

Douglas A-20C Boston (built as Royal Air Force serial no. [s/n] AL323), Lend Lease destined for the Soviet Air Force, Fairbanks, Alaska, circa late 1942. Soviet markings were applied to the aircraft before the final ferrying leg to Russia was undertaken by Soviet crews staged in Alaska.



Lockheed Ventura GR.V (built as USN BuNo 33273 s/n 5244) was taken on strength by the RCAF as Ventura 2177, first entering service with No. 8 (BR) Sqn in WAC on 29 May 1943. The Ventura represented a major step in the RCAF's wartime equipment-modernization efforts.

Curtiss P-40K Warhawk s/n 246004, was one of nine USAAF "big tailed" P-40s used by Canadian pilots during the Aleutians campaign—initially as a Canadian flight within the US sqn and later borrowed aircraft in RCAF sqns in 1943.

Mitsubishi A6M2 "Zeke," Navy Type 0 Carrier Fighter Model 21 (s/n 4593). Piloted by Flight Petty Officer Tadayoshi Koga, this Imperial Japanese Navy (IJN) fighter was part of a force from the IJN Carrier *Ryujo* that attacked Dutch Harbor in the Aleutians on 3 June 1942.

Ontario-based designer, illustrator, and writer Terry Higgins is a native of Norris Arm, Newfoundland, who has had a lifelong fascination with all things aviation-history related. Terry's firm, SkyGrid Studio, specializes in aviation-history-focused research, illustration, design, and editorial work for clients ranging from aviation-specialty publishers and scale-model manufacturers to museums and aircraft restorers. Produced under the Aviaeology imprint, SkyGrid Studio's own range of books, prints, and model-decal sets are well known to enthusiasts worldwide for their historical accuracy. Terry has been the graphics editor of the flagship publication of the Canadian Aviation Historical Society (CAHS), the *CAHS Journal*, since 2010. He also assumed the role of managing editor in 2012. His series of articles "The Last of the Buffalo Beaux"—an account detailing the final 404 Squadron combat operation of the Second World War—received the *CAHS Journal's* C. Don Long Best Article Award for 2015.

Defence of Western Canada Timeline

By Major William March, CD, MA

1935

Canadian Department of Transport (DoT) surveys a possible air route to Alaska.

1938

MARCH 1

Although authorized in 1937, Western Air command (WAC) is formed with its headquarters in Vancouver, British Columbia (BC). It is responsible for all Royal Canadian Air Force (RCAF) units in BC, Alberta (AB), Saskatchewan and Manitoba. Its first commanding officer is Group Captain G. O. Johnson, Military Cross.

Portrait Air Commodore G. O. Johnson in Office at Headquarters, 6 August 1940.

19 NOVEMBER

The RCAF is placed on equal footing with the Canadian Army and Royal Canadian Navy when the Senior Air Officer, Air Vice-Marshal G. M. Croil, Air Force Cross, is made directly responsible to the Minister of National Defence.

Portrait Air Vice-Marshal Croil in Office at Headquarters, 6 August 1940.

1939

Construction of small airfields, as per the DoT survey of 1935, commences.

Guarding Canada's coastlines, these Stranraer flying boats travel thousands of miles, constantly on the lookout for enemy activity and lurking submarines, #937 3/4 Port Rear Air to Air, 20 July 1942.

AUGUST 26

RCAF squadrons (sqns) move to their war stations.

SEPTEMBER 3

Great Britain and France declare war on Germany.

SEPTEMBER 10

Canada declares war on Germany. There are eight serviceable operational aircraft on the West Coast: one Supermarine Stranraer, two Vickers Vancouvers and five Blackburn Sharks.

DECEMBER 17

British Commonwealth Air Training Plan agreement signed.

DECEMBER 31

The RCAF has 14 operational sqns. No. 4 Bomber Reconnaissance (BR), No. 6 (BR), No. 111 Coastal Artillery Cooperations and No. 120 (BR) are located in Vancouver and represent the combat strength of WAC.

1940

AUGUST 17

Established under the authority of the Ogdensburg Agreement, a Permananent Joint Board on Defence (PJBD) is created. Consisting of both military and civilian representatives from Canada and the United States (US), it is to consider and make recommendations to two governments on military issues of interest to both.

AUGUST 26

First meeting of the PJBD is held in Ottawa. The RCAF representative is Air Commodore A. A. L. Cuffe. The following day, the Board issued Recommendation No. 7, calling for the "preparation of a detailed plan for the joint defence of Canada and United States... ."[1]

The first PJBD meeting, Ottawa, October 1940.

OCTOBER 10

Joint Canadian-United States Basic Defence Plan–1940, also known as Basic Plan No. 1, is approved. This plan focuses primarily on the European war and the possibility of Germany defeating England, but it takes into account rising instability in the Far East.

NOVEMBER 14

PJBD Recommendation No. 10 calls for the establishment of "suitable landing fields ... on route across Canada between the [US] and Alaska."[2]

DECEMBER 31

There were three RCAF squadrons overseas and eleven in Canada. In WAC, No. 4 (BR) at Ucluet, No. 6 (BR) at Coal Harbour and Nos. 111 Fighter (F), 120 (BR) and 13 Operational Training (OT) at Patricia Bay, all in BC.

1941

JANUARY - DECEMBER

As part of the air route to Alaska, airfields are established at Grand Prairie, AB, Fort St. John and Fort Nelson in BC as well as Watson Lake and Whitehorse in the Yukon.

MARCH 1

To prevent confusion, overseas squadrons of the RCAF are renumbered in the 400 series. Home War Establishment (HWE) sqns retain the 100-series numbers.

JULY 2

Canadian Women's Auxiliary Air Force authorized by Order in Council. It will be renamed the RCAF (Women's Division) on 3 February 1942. The majority of the members will serve within the HWE.

OCTOBER 15

Joint Candian-United States Basic Defence Plan No. 2, also known as ABC-22, is approved by Ottawa. Although there are differences in opinion with respect to command definitions and authorities, the plan states that "the forces of one nation will, to their utmost capacity, support the appopriate forces of the other nation. "[3]

Women from the Royal Canadian Air Force Women's Division, 1941.

DECEMBER 7

Japan attacks US forces at Pearl Harbor, Hawaii. Canada declares war on Japan.

DECEMBER 8-24

Seven Japanese submarines positioned along the US West Coast launch a number of attacks against merchant shipping, sinking two vessels and damaging two more.

DECEMBER 31

There are 21 RCAF sqns overseas and a further 16 at home. Among those 21 sqns, Nos. 13 (OT), 111 (F) and 115 (F) are at Patricia Bay. No. 4 (BR) is at Ucluelet, No. 6 (BR) at Alliford Bay, No. 120 (BR) at Coal Harbour, No. 7 (BR) at Prince Rupert and No. 9 (BR) at Belle Bella, all in BC.

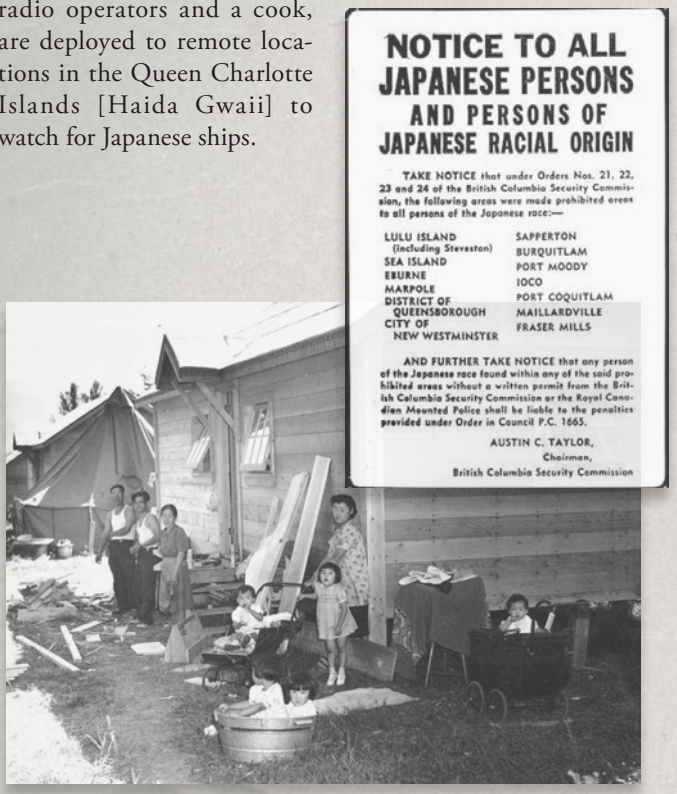
1942

FEBRUARY

Eight detachments of No. 1 Coast Watch Unit, each consisting of a woodsman, two radio operators and a cook, are deployed to remote locations in the Queen Charlotte Islands [Haida Gwaii] to watch for Japanese ships.

FEBRUARY 23

Japanese submarine I-17 shells land facilities near Santa Barbara, California.



Beginning after the attack on Pearl Harbor on December 7, 1941, and lasting until 1949, Canadians of Japanese heritage were removed from their homes and businesses and sent to internment camps in the BC interior, and to farms and internment camps across Canada. Images: National Library and Archives of Canada.

FEBRUARY 24

Cabinet approves Order in Council P. C. 1486, authorizing the forcible expulsion of approximatley 22,000 Japanese Canadians from a 160 kilometre (km) exclusion zone along the West Coast. Housed in internment camps or required to work in labour camps, their property and possessions were sold off during the war. Their unfair treatment was not redressed by the Canadian government until the late 1980s.

FEBRUARY 25-26

PJBD Recommendation No. 24 calls for the construction of a highway to Alaska, following the general line of the existing airway.

MARCH 8

Construction begins on a land route linking Dawson Creek, BC, to Delta Junction, Alaska. It is built almost entirely by the US Army Corps of Engineers, and at its height, more than 10,000 American servicemen work on the project. The presence of such large numbers of Americans is a source of concern for the Canadian government.

MARCH 17-18

An exchange of notes between Canada and the US formally approves construction of the Alaska highway.

APRIL 27

PJBD recommends that local Canadian and US commanders should be ready to send air units to Alaska if required. They will operate in support of Alaska Defense Command, commanded by Brigadier General Simon B. Buckner Jr., as part of the 11th Air Force, commanded by Brigadier General William Butler.

1942

MAY 5

No. 115 (F) Sqn's Bolingbrokes are operating out of Annette Island, Alaska. It is the first RCAF unit to operate from American territory. It remains under WAC direction.

JUNE 2

RCAF "X" Wing is stood up at Elmendorf, Alaska.

JUNE 3-4

Japanese forces attack Dutch Harbor in the Aleutian Islands.

JUNE 3-8

Additional RCAF sqns deploy north to support US defences. No. 8 (BR) Sqn, equipped with Bolingbrokes, and No. 111 (F) Sqn, equipped with Kittyhawks, move from Sea Island to Yakutat, Alaska. An 8 Sqn Bolingbroke flies the first operational patrol in support of Alaska Defense Command on 3 June.

Fighter version of Bolingbroke 115 (F) Squadron.

JUNE 4

Wing Commander (W/C) G. R. McGregor, Distinguished Flying Cross (DFC), a Battle of Britain veteran, arrives at Yakutat to take command of X Wing.

Japanese naval forces suffer a major defeat at the Battle of Midway in the Pacific.

JUNE 5

General Buckner requests the transfer of the two Canadian sqns at Yakutat—representing approximatley one-quarter of his air combat units—to further north to Elmendorf, Alaska.

W/C G.R. McGregor DFC; Headquarters, Jackson Building, Ottawa, Ontario, 19 September 1941.

JUNE 6

Japanese forces occupy Kiska Island.

JUNE 7

Japanese forces occupy Attu Island.

1942

JUNE 13

Now located at Anchorage, No. 8 (BR) Sqn commences antisubmarine patrols in the Gulf of Alaska. Detachments will operate from various Alaskan locations.

JUNE 14

Y Wing is stood up under the command of W/C A. D. Nesbitt, DFC, a Battle of Britain veteran. It will oversee RCAF operations based out of Annette Island.

JUNE 20

The lighthouse at Estevan Point, BC, is shelled by Japanese submarine I-26. Despite firing a number of rounds, no damage is caused.

Aircrew and their aircraft of 8 (BR) Squadron, Royal Canadian Air Force, probably in Anchorage, Alaska, 1942.

JUNE 21

No. 118 (F) Squadron P-40 Kittyhawks are transferred from the East Coast of Canada and take up residence on Annette Island.

132 Squadron, Kittyhawks, Patricia Bay, British Columbia.

JULY 4

The Minister of Defence for Air, C. G. Powers, and the Chief of the Air Staff, Air Marshal L. S. Breadner, meet with General Buckner to discuss combat employment of RCAF units. Buckner agrees to forward deploy most of 111 (F) Sqn to the Fort Glenn airfield on Umnak Island.

JULY 7

A Bolingbroke from No. 115 (F) Sqn attacks and reportedly damages a Japanesse submarine. Two days later, it is claimed sunk by United States Navy ships.

JULY 13

W/C McGregor leads the 111 (F) Sqn Kittyhawks on the first leg of the move to Umnak Island. Two aircraft are lost due to weather and rough conditions, but the pilots are saved.

JULY 16

After a two-day weather delay at Cold Bay, McGregor takes off with the remaining 111 (F) Sqn pilots. Shortly after passing Dutch Harbor, the weather deteriorates badly, and McGregor aborts the flight. While attempting to return to Coal Harbour, five aircraft and their pilot are lost. Four are killed when their aircraft crash into the mountainous terrain of Unalaska Island, while one—Flight Sergeant G. D. Baird—simply disappears.

1942

AUGUST 19

Cabinet War Committee approves the use of US Army engineers to build eight airfields along the Alaskan highway. Airfields or emergency landing strips would be located approximately every 100 miles (160 km), with radio-ranging sites to assist in navigation every 200 miles (320 km). Originating in either Great Falls, Montana, or Minneapolis, Minnesota, aircraft were ferried to Edmonton, AB, and then along the Northwest Staging Route to Fairbanks, Alaska. The aircraft were destined for use by US forces or transferred to the Soviet Union as part of the Lend-Lease Programme.

SEPTEMBER 25

During an attack on Japanese forces at Kiska, Alaska, Squadron Leader K. A. Boomer, No. 111 (F) Sqn, destroys an enemy seaplane fighter (code-named "Rufe"). This is the only RCAF aerial victory scored on the North American continent.

411 Canadian Fighter Squadron, Ontario, is well represented in a Canadian Spitfire squadron headed by Squadron Leader P. S. Turner, DFC, of Toronto; Left to right: Sgt. Pilot J. A. McLaughlin, Toronto; Sgt. Pilot W. B. Randall, Toronto; Flight Lieutenant K. G. Calvert, Toronto, squadron medical officer; Flight Lieutenant K. A. Boomer, Ottawa, flight commander; Pilot Officer F. E. Green, Toronto, January 30, 1942.

OCTOBER 28

The Alaska, or Alaska-Canada (ALCAN), Highway, is officially completed. A gravel road open year-round, approximately 1,700 miles (2,700 km) in length, its impact on the war effort is minimal.

DECEMBER 31

WAC strength has grown from eight to seventeen squadrons.

1943

MARCH 1

W/C R. E. Morrow, DFC, takes over command of X Wing from McGregor.

MARCH

14 (F) Sqn, equipped with Kittyhawks, replaces No. 8 (BR) Sqn as part of X Wing.

MARCH 31

Twelve pilots from No. 14 (F) Sqn begin the process of moving to Amchitka Island, where they will form a fourth flight attached to 18th Fighter Sqn, Unites States Army Air Forces.

No. 14 Squadron, Royal Canadian Air Force, Umnak Island, Alaska, 1943.

APRIL 18

RCAF pilots from No. 14 (F) Sqn take part in attacks against Japanese positions on Kiska. From now until the end of the campaign, pilots alternating from No. 14 (F) and No. 111 (F) Sqns will spend a month on Amchitka, weather permitting, flying a mix of attack sorties and defensive patrols.

MAY 11

US forces land on Attu Island for an anticipated three-day campaign. In three weeks of intense combat, 2,350 Japanese are killed and 28 captured at a cost of 560 American lives.

JULY 28

Unbeknownst to Allied planners, the Japanese evacuate their garrison on Kiska.

AUGUST 8

111 (F) Sqn redeploys back to Canada.

AUGUST 14

An Allied invasion force, including the 13th Canadian Infantry Brigade and the 1st Special Service Force, land on the now-abandoned island. Despite the absence of the enemy, booby traps, mines and friendly fire will result in 313 casualties, including 4 Canadian dead.

SEPTEMBER 15

X Wing is disbanded.

SEPTEMBER 21

111(F) Sqn returns to Canadian soil. This marks the end of active Canadian participation in the Aleutian Campaign. Eight Canadian airmen were lost due to accident or misadventure.

NOVEMBER 18

Y Wing is disbanded and RCAF personnel return to Canadian territory.

1944

JUNE 1

As a result of increased air traffic through north-western Canada, North West Air Command is formed, headquartered at Edmonton.

AUGUST 23

No. 115 (BR) Sqn is disbanded at Tofino Bay, BC.

NOVEMBER 3

Japan launches its first balloon bomb (*fūsen bakudan*) against North America. These weapons consist of a hydrogen-filled balloon that is equipped with a mixture of loads ranging from anti-personnel to incendiary devices. More than 9,000 of these weapons will be launched by the end of the programme in April 1945.

The bomb load of a Japanese balloon, Fu-Go, is attached to a "chandelier" with an automatic release mechanism.

1945

FEBRUARY 21

Pilot Officer (P/O) E. E. Maxwell While, No. 133 (F) Sqn, WAC, operating out of Patricia Bay, BC, intercepts and shoots down a balloon bomb.

MARCH 10

P/O J. Gordon Patten, No. 133 (F) Sqn, destroys a balloon bomb near Saltspring Island, BC.

MAY 8

Germany surrenders.

AUGUST 15

Japan surrenders. There are six sqns operating as part of WAC.

SEPTEMBER

For all practical purposes the Northwest Staging Route is closed, as Soviet personnel depart Alaska and the airfields revert to civilian use or caretaker status. During the approximately 21 months of operation, just under 8,000 aircraft are delivered to Russia, with the loss of 133 for various reasons.

Major Bill March, a maritime air combat systems officer, has spent over 41 years in uniform. He is currently a member of the Air Reserve, serving as the RCAF Historian within the Directorate of RCAF History and Heritage.

ABBREVIATIONS

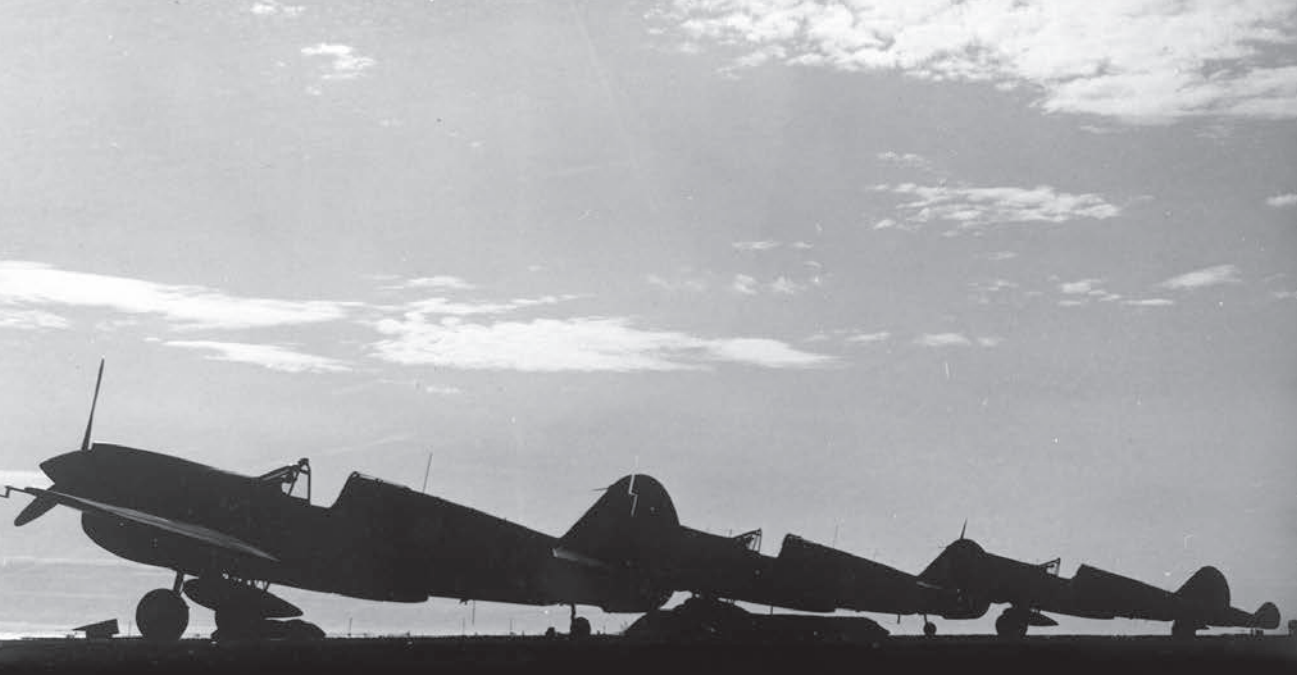
AB	Alberta
BC	British Columbia
BR	Bomber Reconnaissance
DFC	Distinguished Flying Cross
DoT	Department of Transport
F	fighter
HWE	Home War Establishment
km	kilometre
PJBD	Permanent Joint Board on Defence
P/O	pilot officer
RCAF	Royal Canadian Air Force
sqn	squadron
US	United States
WAC	Western Air Command
W/C	wing commander

NOTES

1. C. P. Stacey, *Arms, Men and Governments: The War Policies of Canada, 1939–1945* (Ottawa: Queen's Printer, 1970), 345.

2. Stacey, *Arms, Men and Governments*, 345.

3. Stacey, *Arms, Men and Governments*, 353.



All Quiet on (Canada's) Western Front:
The RCAF and the Defence of the West Coast

By Bill Rawling

On the last day of June 1940, eight years after it was formed and 10 months after the declaration of war against Germany, No. 111 Squadron[1] sent aircraft aloft on their first operation. It was a beautiful day, and visibility was unlimited when the unit received warning of a submarine a mere 8 kilometres (km) off the coast. Flight Lieutenant W. J. McFarlane was instructed to take a Lysander—a single-engine monoplane more appropriate to reconnaissance work than combat—to investigate, to drop two smoke flares on the water to mark the enemy's location and then to fire two flares from a Verey pistol to alert other aircraft or any naval vessel that might be in the area. If there was no one to support him, McFarlane was to land and make a verbal report to headquarters by telephone. The aircraft would then be loaded with antisubmarine bombs, which had so far in the war proven ineffectual, in order to attack the boat if it "acted in a suspicious manner." The Lysander took off as ordered at 10:50, conducted five passes over the area, found nothing but other aircraft engaged in the same search and landed at its base at 13:10.[2]

This was not one of the opening moves in the Battle of the Atlantic or the Battle of Britain (France having agreed to an armistice with Germany a few weeks before) but a sortie conducted in defence of Canada's west coast by No. 111 Squadron, which had moved from Sea Island, in Vancouver, to Patricia Bay, outside of Victoria, the month before. While most of the world's attention was on the Blitzkrieg, which would temporarily deliver Western Europe into Nazi hands, elements of Canada's three armed services, including the Royal Canadian Air Forces's (RCAF's) Western Air Command (WAC), were preparing to defend Canada's westernmost territories against enemy incursion, bombardment or raid. Not that any general, admiral or air marshal feared invasion; they were well aware that the focus of enemies—both actual and potential—was in other theatres. However, they had a responsibility to protect all of Canada's regions against enemy threats, even if the latter fell far short of any operation leading to the long-term occupation of Canadian soil. There would be tension, however, between the residents of British Columbia (BC), who as taxpayers and voters wanted the best security system possible, and the fighting services, which sought to provide the level of security they considered appropriate so as to focus their forces in critical theatres, mainly in Europe.

PEACE AND WAR

In BC, potential threats had a long history. In the 19th century, for example, the Russian and British empires engaged in a cold war, mainly in Afghanistan, leading to the creation of defences at key points along the west coast. It is interesting to note that Alaska was Russian territory until 1867. During the First World War, the Tsar was an ally of the British Empire, but Germany sent cruisers to conduct a *guerre de course* in the Indian and Pacific oceans, and it was necessary to defend lines of communication and their termini at Vancouver and Prince Rupert. Thankfully, Japan, a British ally since 1902, could provide ships of the Imperial Japanese Navy to help with such protection. The war over, Japan and the United States (US) became competitors in the Pacific, so the British ended their alliance with the former in order to strengthen their relationship with the latter. Then, in an unrelated development, the Great Depression led to the militarization of Japanese politics, as it did elsewhere in the world, and an autonomous Imperial Army invaded Manchuria in 1931 and began expanding into the rest of China in 1937 and Indochina after the June 1940 fall of France. The Japanese Empire was, therefore, on a collision course with the US, Britain and the Netherlands (the latter's government in exile retaining its colonies in the Dutch East Indies while the country was under German occupation).

In the late 1930s, the Canadian government and its military planners tried to determine what threats Japan and Germany posed to the country's west coast and how best to meet them. The first line of defence would be at sea, with the American and British navies protecting their Asian

and Pacific possessions as well as the lines of communication between them and the Western Hemisphere. As a result, Canada would only be responsible for defending the BC coast and its adjacent waters. The RCAF would play a major role in this second line of defence, with flying boats and bombers patrolling hundreds of kilometres out to sea to attack enemy ships and fighters intercepting aircraft that might take-off from a cruiser or aircraft carrier—or even a submarine, as the Japanese were developing submersibles capable of launching float planes.

In case of war, both Germany and Japan would have their forces fully engaged in Europe and Asia, respectively, meaning that the only likely threat against Canada's west coast was a raid or bombardment, so the armed services were unwilling to allocate substantial forces to BC. The residents of that province, of course, wanted security against attack regardless of the resources required and made that clear through their elected representatives. The five squadrons deployed on the west coast at the outbreak of war against Germany in 1939 were, therefore, the result of several years of military and political evolution. As Canada emerged from the depths of the Great Depression in 1934 and 1935, it increased its defence spending, with the RCAF at the head of the list of priorities and BC the main focus of attention (given that Japan had been on the march since 1931 and Germany was still seeking normal relations with Great Britain, signing a naval agreement in 1935). Part of the support for the RCAF may well have been consequent to the institution's aid in the development of civil aviation, the bush pilots in uniform, but it is worth noting that No. 4 Bomber Reconnaissance Squadron, based at Jericho Beach, Vancouver, began focusing exclusively on learning how to operate as an armed reconnaissance unit.[3]

Another example of the evolution of aviation on the west coast was the aforementioned No. 111 Squadron, formed as No. 11 Squadron on 1 November 1932, but without the funds necessary to recruit to its authorized strength, so that over a year later, in January 1934, it could count only five officers and nine other ranks. However, 1934 was a year of expansion for both the RCAF and the squadron and by its end, a dozen officers and 86 other ranks could claim membership in the unit. Additionally, it received its first aircraft, a Tiger Moth, in October of that year, which was used for training once a week. Another piece of well-appreciated equipment, a one-and-a-half-ton truck, was delivered in early 1935 and transported ground crew to the airfield and rifle ranges, the unit being based on Georgia Street in downtown Vancouver, some 20 km from the Sea Island aerodrome. By the end of 1935, the squadron could count 13 officers and 90 other ranks and had conducted 700 flying hours.[4]

Subsequently, every summer the squadron spent a week or two in camp, as had the Canadian Militia since the 19th century. In 1934 and 1935, the squadron began to operate from the municipal airport; in 1935, the camp began on 17 May with a dozen officers and 53 other ranks. Wing Commander E. L. McLeod attended in order to supervise exams, but clearly, there was also time for extra-curricular activities. For example, two horses were rented so the officers could go riding in their spare time, again very much like their counterparts in the Militia. As for more formal training, pilots conducted 146 hours and 50 minutes of flying. Among the skills tested were instrument flying; radio operations; and pinpoint exercises, where the pilot had to fly to a map reference. Also on the menu were acrobatics, to prepare for the day when aircraft would engage the enemy in aerial dogfights, such as those their ancestors had fought in the First World War. Training continued after summer camp was over, but there was also administration to see to. In January 1935, for example, the squadron negotiated with the management of Vancouver airport to shelter its aircraft, the goal being to rent half of a new hangar the city was building. The following year, the squadron moved to a more military structure in Stanley Park.[5]

At the end of May 1937, camp began with 74 participants and introduced the squadron to the role it would play in the conflict to come, as members concentrated on specialty skills, such as bombing enemy ships and adjusting the fire of coastal batteries. Aircrew wrote exams on the subject, while their comrades with duties on the ground took courses on technical matters and administration.[6] At a higher level in the hierarchy, on 1 August 1938, No. 111 and the other squadrons of the region came under WAC's authority, which had the same status as the navy's Commanding Officer Pacific Coast and the army's Pacific Command. When war broke out a year later, however, it would only have four operational squadrons to deploy: No. 4, No. 6 Bomber Reconnaissance and No. 113 Fighter Squadron in addition to No. 111.[7]

2 RCAF Station Bella Bella, 6 Nov 1943.

MOBILIZATION

Until September 1939, British Columbians and those responsible for their defence had looked mainly to Japan as the main threat, but even though war actually broke out in Europe, the armed services had to consider the possibility that ships of the *Kriegsmarine* might bombard cities and facilities on the west coast, especially given the enemy's construction of three heavy cruisers armed with 11-inch [28 centimetre] guns, known popularly as pocket battleships, while allied navies equipped their equivalent vessels with 8-inch [20 centimetre] cannons. Jericho Beach, near downtown Vancouver, became the principal base for amphibious aircraft that were capable of patrolling hundreds of kilometres out to sea. Beginning in 1941, No. 7 Bomber Reconnaissance Squadron was located in Prince Rupert to guard the Dixon Strait. Four other stations were established to cover a zone beginning halfway up the Alaskan panhandle and ending in the Olympic peninsula in Washington State. These included:

- No. 6 Squadron in **Alliford Bay**, in the Queen Charlotte Islands [Haida Gwaii], conducted patrols from May 1940 to April 1944.
- No. 9 Bomber Reconnaissance Squadron was posted to **Bella Bella**, between Prince Rupert and Vancouver, from December 1941 to 1944.
- The station of **Coal Harbour** was established on Vancouver Island for No. 120 Bomber Reconnaissance Squadron.
- No. 4 Squadron was transferred from Jericho Beach to its wartime station of **Ucluelet** in May 1940, so as to be closer to the Olympic peninsula.[8]

It is clear from the dates that these units were operational and that mobilization was a process requiring months or even years, not surprising given priorities elsewhere. Only two reconnaissance squadrons, Nos. 4 and 6, were operational in 1939. Although two fighter squadrons, Nos. 111 and 113, were available from the first days of the war, the second of the two was soon transferred to eastern Canada, leaving one to defend the Vancouver region, as we have seen. On 3 September, a week before Canada's declaration of war, 11 officers and 94 other ranks of No. 111 Squadron reported to the armouries, the unit having been mobilized on a volunteer basis, as would the RCAF as a whole throughout its existence. The next day, it began to run courses in order to learn the role of army cooperation, especially adjusting fire for coastal batteries. Pilots conducted flying training at the civilian airport almost every day in September, and everyone underwent vaccination at Jericho Hospital on the 29th.[9]

Bureaucracy made its own demands, and administratively many members of the wartime RCAF volunteered twice, first for the defence of Canada, then in a second phase when they filled out Form R83 for overseas service. For No. 111 Squadron, this legal necessity was carried out on 19 October, the same day the officers engaged in more warlike preparations as they practised firing their revolvers. Foreshadowing operations to come, on the 28th, Flight Lieutenant McFarlane, accompanied by Flying Officer J. W. Gledhill, flew out to Patricia Bay, on Vancouver Island, in order to inspect landing strips and buildings, also aiming "for the furtherance of complete co-operation" between the coastal artillery detachment and the squadron. During the return flight, the aircrew overflew Esquimalt, McCauley Head and Albert Head to familiarize themselves with the area and the locations of various batteries.[10]

Summarizing the month of October, the daily diary related how the officers practised flying mainly in the afternoons, with the exceptions of two flights to Patricia Bay. Following morning inspection, officers focused on administering their sections before concentrating on radio operations and cooperation with the army. Non-commissioned officers, meantime, looked to training maintenance specialists, both in theory and practice. The signals section was congratulated for doing "particularly good work in setting up a station at Patricia Bay in a very short time. Communication between the Detachment and the Squadron continues to be excellent." From 14:15 to 15:15, Sergeant R. J. Ounsted taught weapons handling, and the band conducted rehearsals every Tuesday and Thursday from 16:00 to 17:00. Most of the squadron was still based at the Vancouver Armouries in Stanley Park.[11]

In November, the squadron conducted flight training on two machines, two others being added during the month. However, it was only in December that it received a "phono," no doubt a phone call, to send aircrew to Ottawa to take possession of two Lysanders, its operational aircraft. Regardless of the machines available, those who would fly them had much to learn, and to give just one example, in the field of meteorology, a Mr. Muskrat made a presentation on the nomenclature used by Trans-Canada and several American airlines. It was well appreciated, as squadron members needed clarification on several points that came up in weather reports that had previously caused confusion. The German enemy not putting in an appearance, training continued in the months that followed, including flights in the Link Trainer, one of the world's first simulators, beginning in April 1940.[12]

DEFENDING BC AGAINST THE THIRD REICH

For No. 111 Squadron, the mobilization period could be said to have ended in May 1940, when its commander ordered the unit's equipment moved from Sea Island to Patricia Bay. The Avro and Atlas aircraft, which had served for flight training, went into storage in the municipal hangar, and the Lysander had its machine guns tested for the first time. The squadron had not, however, received the machine normally used to fill the belts with ammunition, resulting in several jams. Still, four pilots were able to practise shooting at targets placed out to sea.[13]

Such was the state of affairs when the squadron conducted its first operation on 30 June, as we saw in the introductory paragraph, searching for a possible U-boat which could attack lines of communication between Vancouver and other ports in the Pacific. (No one in the RCAF could know that the closest any U-boat would come to Canada's west coast would be a 1944 foray to Australia and New Zealand.[14]) McFarlane having returned from his sortie, Flight Lieutenant G. W. DuTemple took off at 12:55 in another Lysander and conducted a second reconnaissance, without locating any sign of the enemy; he carried two 250-pound [113 kilogram] bombs, and his machine guns were armed. Next to fly was Flying Officer G. G. Diamond, on patrol from 14:30 to 16:00, followed by Flying Officer J. W. Gledhill, in a shorter sortie that lasted from 15:20 to 16:30. Upon his return, ground crew discovered that the bomb's two safety clips were missing, as a result, the weapons had been armed when the Lysander landed. The incident was blamed on the lack of experience working with such ordnance. Next day, WAC ordered that the fuses be tossed into Patricia Bay as too dangerous to handle. The main threat the squadron was preparing to meet was still from Germany, but two months later, it received Operational Order 6/40, warning of possible unfriendly relations with Japan and of a potential attack against the telegraph cable station at Bamfield or somewhere in the Juan de Fuca Strait. No. 111 Squadron, therefore, instituted patrols in the region to counter hostile acts on the part of the Imperial Japanese Navy.[15]

It would not be until early 1941, however, that the unit would again send aircraft on operational sorties. At 13:00 on 4 January, it received warning of a submarine observed off of Sooke, west of Victoria, so two Lysanders were armed with bombs and remained on alert, while a two-engine Hudson bomber conducted a reconnaissance. At 21:00, a report of another marauder was received, and ground crew prepared a third Lysander, which required repairs. Therefore, all the armourers were recalled from their evening's rest to put a Fairey Battle into service; that machine was capable of carrying four 250-pound [113 kilogram] bombs, but its bomb racks had been removed. Lysander 416 carried one bomb, Lysanders 425 and 428 two bombs each, and two Sharks a 500-pound [227 kilogram] bomb each. The armourers were kept busy all night in order to arm six aircraft of three different types. Next day, a Goose, a twin-engine flying boat, conducted a patrol, while a Lysander waited on 20 minutes' notice, and another Lysander as well as the Battle remained armed. No enemy being found, the RCAF on the west coast returned to normal routine, but two Sharks, a Lysander and the Battle remained armed at all times.[16] What the institution lacked in numbers, it made up for in variety.

In addition to its antisubmarine role, WAC was, of course, also responsible for defending the country against air attack, and to do so, it incorporated a rather unique organization made up entirely of volunteers—in the sense that they worked without pay. The Aircraft Detection Corps was first created in Canada's eastern provinces; even in August 1940, one could find some of the corps' members in the Northwest Territories, keeping an eye on possible incursions of German cruiser-launched aircraft into Hudson Bay. WAC followed suit a little later; by April 1941, it could report the incorporation of 532 observers covering every community within 800 km of the coast. Their task was to report any unidentified aircraft and any machines flying in groups. From 1 January to 12 April, they made 87 such reports from the coast and 43 from BC's interior, requiring an average of 8 and 19 minutes respectively to relay the information to WAC,[17] a testament to the efficiency of the British Columbia Telephone Company.

OPERATIONS AFTER PEARL HARBOR

With the Imperial Japanese Navy's 7 December attack on Pearl Harbor, the RCAF faced yet another enemy, but that did not change its strategy on the west coast. The aim was not to protect the huge territory that was western Canada but only the most important facilities within it. During a meeting of the three services on New Year's Day, they decided that these were:

- Patricia Bay;
- the Sea Island airport at Vancouver (site of a Boeing factory in addition to the Jericho Beach air station);
- the modes of communication within the province such as roads, railways and the telegraph lines unifying east and west;
- the facilities of the Consolidated Mining and Smelting Company in Trail;
- the Esquimalt naval base;
- the dry docks and naval establishment in Prince Rupert;
- the oil refinery in Ioco;
- the oil tanks in Prince Rupert;
- the RCAF's advanced air stations (Ucluelet, Coal Harbour, Bella Bella and Alliford Bay);

- the terminus of the telegraph cable in Bamfield;
- the Queen Charlotte Islands [Haida Gwaii]; and
- Ocean Falls.

The tri-service committee acknowledged the possibility that the enemy could establish temporary bases for submarines and flying boats at deserted locations along the coast and would, thus, be able to conduct raids against isolated communities in order to create alarm and confusion.[18]

In order to protect these varied facilities at disparate locations, the RCAF was able to increase its strength from five to eight squadrons in the weeks following Pearl Harbor, but Air Commodore L. F. Stevenson, in charge of WAC, needed aerodromes; a variety of aircraft types; anti-aircraft artillery (an army responsibility); the completion in short order of the radar network; and, of course, trained personnel. The latter would help improve coordination with the Royal Canadian Navy (RCN), which in the weeks and months following Pearl Harbor was often problematic. A ship might observe an aircraft dropping a smoke flare to the surface of the sea, usually indicative that it was in contact with the enemy, only to find after reaching that location at flank speed—and no little strain on the engines—that the bomber was merely practising its technique. In April 1942, the minesweeper *Outarde* received a signal indicating that an aircraft was in contact with a submarine, but upon arrival on the scene, it was unable to solicit further information. After flying a few circles over its compatriots, the aircraft left without making a signal, and the written complaint to the RCAF that followed does not seem to have received a response.[19]

To reach peak efficiency, it was necessary to add experience to training, but operations on the west coast were never of a very high intensity. For example, when the US Army launched its first raid against Tokyo on 18 April, there was no indication of any reprisals against North America. It was the air force's headquarters in Ottawa that ordered an alert.[20] In more general terms, that same month, US Navy decoders provided information that led allied intelligence to conclude that the Japanese were focused on the central Pacific, the Aleutians and Prince Rupert.[21] It was only two-thirds accurate; in June, when Japanese forces launched their one and only attack against Canada, it was further south. Part of the Imperial Japanese Navy, the submarine I26 operated in support of the planned invasion of Midway, which as its name implies is in the middle of the Pacific. The aim was to entice the US Navy into an epic naval battle that would decide the outcome of the war. It succeeded; although, it was the US that emerged the clear victor, having sunk four Japanese aircraft carriers, three of them in a matter of minutes. I26, engaged in diversionary operations, shelled the lighthouse and telegraph station at Estevan Point, on the west coast of Vancouver Island, on 20 June. Both the RCN and RCAF despatched forces to the scene; No. 4 Squadron being only 80 km away, it conducted a reconnaissance the next day and found no signs of damage—I26 would earn no prizes for gunnery.[22] No. 9 Squadron, at Bella Bella, despatched a Stranraer, a twin-engine flying boat, which found nothing, and No. 32 Operational Training Unit at Patricia Bay also contributed, but the duty aircraft, a Beaufort twin-engine bomber, crashed on take-off.[23] I26 survived its mission thanks to its hit-and-run tactics but did little to advance Japan's war effort.

The lack of a substantial threat may have led to a certain atrophy of the skills and alertness required for effective flying operations in wartime. On 16 January 1943, the Single-screw Steamship (SS) *Northolm*, a small freighter of 1000 tons [907 tonnes] displacement, with a complement of 17, sank following an accident off Cape Scott, the northernmost point of Vancouver Island. There were only eight survivors, and the lifeboat drifted 25 km to a small bay, leaving only two crew members still alive. The RCAF radio detachment at Cape Scott was aware of the loss of the ship and immediately reported the tragedy to the officer commanding at Coal Harbour,

to the south-west, who transmitted the message to group headquarters, who in turn advised the RCN. Unfortunately, no one in the chain of command knew of the presence of the lifeboat, which was discovered by civilians. According to a report two months later, the reaction of the acting officer commanding at Coal Harbour had been unsatisfactory, as he had not despatched aircraft to the scene quickly enough and the crews of the two aircraft that were eventually sent conducted a search without accurate information. Worsening the tragedy, a navigation error took one of the aircraft 50 km from the site of the sinking, while the other aircraft conducted its search in the wrong direction because wind (a factor in determining how a lifeboat drifts) was not taken into account. The two survivors reported having seen both aircraft. Nor was that all; the RCAF logistics vessel *BC Star* arrived at Cape Scott some three hours after the sinking but did not begin a search until an hour later. The ship then abandoned the search after an hour and a half because of darkness and returned to its normal routine. Perhaps its captain was unaware that lifejackets were equipped with lights so that survivors could be found at night. He was fired.[24]

More encouraging was a 29 August 1942 exercise that put the observers of the Aircraft Detection Corps, with a strength of 692, through their paces. Three fighters followed a predetermined course, and all the observers along the route made their reports, which created "a perfect track of the aircraft on the Filter Board." In several cases, the aircraft's position was established a minute after the observation, as accurately—and more quickly—than the pilots' own reports. At the beginning of September 1943, there were 2,008 observers, who made 1,612 reports in one week alone, in nine different categories: aircraft movements, submarines, aircraft in distress, mines and wreckage, suspicious surface vessels, patrol and service vessels, flares, pigeons (it was believed spies could use them to transmit information), and other.[25] It should be noted that the infantry battalions of the army's Pacific Command also reported the passage, type, altitude and other information about every aircraft they saw or heard.[26]

THE WEST COAST SECURED

In the end, it was the army that further reduced tensions in BC; although, the fighting services had always insisted that the threat to the west coast justified only the deployment of the forces necessary to guard against a naval bombardment, an air raid or an amphibious coup de main. In August 1943, the 13th Canadian Brigade Group was part of an American–Canadian task force that assaulted the island of Kiska; it was not known that the Japanese had evacuated the island a few weeks before and that the nearest Japanese garrison was now in the northern Japanese islands. Subsequently, the expectation was that the enemy could do no more than land a hundred troops from submarines (some of which had been developed for that purpose) or launch an air raid from an aircraft carrier.[27] From the RCAF's perspective, it was over deployed to meet such a threat. In the year or so after Pearl Harbor, the RCAF had doubled the number of squadrons posted to the west coast, and 17 of them were operational at the end of 1943.[28] The squadrons were part of a two-nation force that numbered about 150,000,[29] but after the successful invasion of Kiska, headquarters in Ottawa could consider shifting some of its commitment to theatres it had always considered more important, mainly in Europe.

And BC continued to be a difficult theatre in which to maintain aircrew skills. WAC analysed the operations that bomber-reconnaissance squadrons conducted from 1 June to 30 November 1943, and the results were cause for concern. Squadrons were not flying sufficient sorties to cover their patrol zones adequately, and long-range aircraft were not patrolling a sufficient distance from the coast. WAC noted that enemy aircraft seeking to carry out a raid could take-off from 650 km out at sea; therefore, patrols should have been ranging out to 800 km. The Chief of the Air Staff, Robert Leckie, was sympathetic to a certain degree, admitting that these squadrons

Minister of National Defence for Air Charles (Chubby) Power steps down from an Anson aircraft inside hangar at Rockcliffe.

had encountered almost no enemy activity since the beginning of the war, so that aircrew, squadron commanders, station commanders and staff officers had become used to the idea that they operated in a quiet theatre. Sympathy had its limits, however, and Leckie pointed out that the enemy still possessed aircraft carriers, warships capable of launching aircraft and submarines with the same capability. The patrols were, therefore, reorganized along lines determined by Ottawa and not by local commanders.[30]

Chubby Power, Minister of National Defence for Air, seemed more in tune with the squadrons on the west coast than with headquarters but in no way interfered with the latter's policy making. During a speech in the House of Commons, he mentioned the efforts of the RCAF in BC but discussed their accomplishments in the past tense. When he made reference to the "barbarians" that threatened to advance through the Aleutian Islands, he noted that

> we were in a position in those anxious days after Pearl Harbor to offer and render assistance to our immeasurably more powerful neighbour. By our pre–Pearl Harbor activities in the construction of the northwest air staging route and the coastal chain of aerodromes, we prepared the way for the rapid transit to Alaska of troops, of munitions, of planes and materials of war.[31]

The implication was clear—the RCAF had made its most important contribution in the west while supporting the US Army Air Force and not in defending the BC coast.

A fire balloon reinflated by Americans in California.

BALLOON BOMBS

Military, naval and air force authorities had argued from before the war that the only threat to Canada's west coast was a raid, possibly a desperate attempt to create a diversion for operations elsewhere. Their conclusions were accurate but could not possibly predict the means that Japanese forces would adopt at a time when their army and navy were incapable of launching any kind of attack against North America. The weapon would be somewhat unique, pilotless, with the aim of forcing the US—and Canada—to divert resources to operations on the home front such as firefighting. The Japanese leadership could even hope that the weapon in question—balloons capable of crossing the Pacific to drop bombs and incendiaries on enemy forests and industrial facilities—would contribute to bringing the US to the negotiating table.

Although conceived in the days following the April 1942 air raid against Tokyo, it was not until the end of 1944 that the bombardment plan was put into effect. In January 1945, WAC reported the first strikes on Canadian soil; balloons measuring 7–9 metres (m) in diameter were observed over Vancouver Island. An aircraft was kept on alert at each of the command's bases. An early conclusion made was that the pilotless aircraft served a psychological purpose or gathered meteorological information; although, the Americans had found anti-personnel bombs and incendiaries among the debris left by devices that came down on US soil. Other theories were that the Japanese were measuring wind strengths and directions so as to start forest fires or sought to spread spores to destroy trees with biological agents. The balloons might have been launched from submarines (analysts mistakenly suggested, indicating the presence of the enemy off the coast) and were thought capable of landing and taking-off.[32] The latter was factual, as the balloons ejected sandbags to regain altitude if they struck the ground.

The balloon offensive came at a time when the RCAF on the west coast was in transition. A directive of 23 January ordered the observer corps to provide as much detail as possible on each sighting even though that branch had been abolished. Still, following a directive from Ottawa, WAC established a "uniformity of action to be taken" with regard to the threat and ordered that after the balloons had landed they or their debris needed to be kept under guard and no one was allowed to approach closer than 50 yards [45 m] because of the presence of explosives and incendiaries. Aircrews received instructions to shoot balloons down if they were flying over open terrain. All pertinent information was to circulate among RCAF Headquarters in Ottawa and the various commands, WAC included.[33] Next day, a committee with representatives from the army, the National Research Council, the Royal Canadian Mounted Police, the Department of

Agriculture, the RCN and the RCAF divided up responsibilities. The army would send bomb disposal experts to deal with the ordnance; the RCAF was responsible for transporting these teams and any materials they might salvage.[34] A report of 2 February listed 37 incidents, and someone had added in ink, "From Texas to Aleutians!"[35]

Aircrew flying sorties against the inhuman enemy were not using exclamation marks in their reports. No. 133 Fighter Squadron, based at Patricia Bay, conducted a dusk patrol on 4 March, "After Paper," but reported "Nothing Found." It had better luck on the 10th when it "Sighted Paper," but simply related how "Black Section shot it down." In June there were several entries in the unit's "Details of Sortie or Flight" to the effect that "No paper sighted." There does not seem to be a combat report on file for the one balloon No. 133 Squadron shot down. No. 6 Squadron, operating out of Coal Harbour, was more loquacious on 12 March as it dealt with a multiple attack. It reported how:

> At about 1650 hours a partially deflated balloon was sighted over Rupert Inlet at an altitude of 500 feet [152 m] drifting easterly and losing altitude quickly. Canso 9702, captained by Flight Lieutenant Moodie, returning from patrol, sighted and forced it down. It landed on the south side of Rupert Arm. Two Kitty Hawks were scrambled from Port Hardy. At 1710 hours another balloon passed over the station on an easterly track at an altitude of about 7000 feet [2,134 m]. This balloon disappeared before any attack could be made. In the evening a land search party found the balloon. It was caught on some tall trees and out of reach.[36]

Still no exclamation marks.

CONCLUSION

The balloon bombs created no more panic than I26's bombardment of Estevan Lighthouse or the Japanese capture of islands in the Bering Strait, and it is clear from the above that WAC's main challenge was maintaining squadrons at peak efficiency when it was clear to those on the front line as well as their superiors that the enemy was very distant indeed. Headquarters may have met that challenge somewhat imperfectly, but the professional manner in which aircrew dealt with the balloon bombs of 1945 indicated that they had maintained their skills in spite of the low intensity of operations. WAC carried out its duties to the end, merely requiring reminding, occasionally, of what those duties entailed, evidence that the chain of command in its entirety needs to take its duties seriously in all the theatres for which it is responsible, even if it considers some to be more important or prestigious than others.

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ABBREVIATIONS

AOC	Air Officer Commanding
BC	British Columbia
CAS	Chief of the Air Staff
DND	Department of National Defence
HQ	headquarters
km	kilometre
LAC	Library and Archives Canada
m	metre
RCAF	Royal Canadian Air Force
RCN	Royal Canadian Navy
RG	Record Group
US	United States
v	volume
WAC	Western Air Command

NOTES

1. The squadron underwent name changes and had several roles. It was established as No. 11 Army Co-operation Squadron on 1 November 1932. It became No. 111 Army Co-Operation Squadron in 1932; No. 111 Coastal Artillery Co-operation Squadron in 1937; and, finally, No. 111 Fighter Squadron in September 1939.

2. Library and Archives Canada (LAC), Record Group (RG) 24, v. 22,616, "Daily Diary," 30 June 1940.

3. Chris Weicht, *Jericho Beach and the West Coast Flying Boat Stations* (Chemainus: MCW Enterprises, 1997); and Peter T. Haydon and Ann L. Griffiths, eds., *Canada's Pacific Naval Presence: Purposeful or Peripheral* (Halifax: Dalhousie University, Centre for Foreign Policy Studies, 1999), 90.

4. LAC, RG 24, v. 22,616, "Extracts from a Manuscript Record Book of 11 (AC) Squadron," n.d.

5. LAC, RG 24, v. 22,616, "Daily Diary," May 1936, 20 June 1936, 5 July 1936 and 31 March 1937.

6. LAC, RG 24, v. 22,616, "Daily Diary," 30 May 1937 and 7 June 1938; and LAC, RG 24, v. 22,616, "No 111 Sqn, 17 May 39 – 31 Jan 41."

7. W. A. B. Douglas, *The Creation of a National Air Force*, vol. 2, *The Official History of the Royal Canadian Air Force* (Toronto: University of Toronto Press, 1986), 138 and 402.

8. Weicht, *Jericho Beach and the West Coast*; and Haydon and Griffiths, eds., *Canada's Pacific Naval Presence*, 91.

9. LAC, RG 24, v. 22,616, "Daily Diary," 3, 4 and 29 September 1939.

10. LAC, RG 24, v. 22,616, "Daily Diary," 10, 28 and 30 October 1939.

11. LAC, RG 24, v. 22,616, "Daily Diary," 31 October 1939.

12. LAC, RG 24, v. 22,616, "Daily Diary," 30 November, 2 and 8 December 1939, and 18 April 1940.

13. LAC, RG 24, v. 22,616, "Daily Diary," 13, 16 and 27 May 1940 and 9 June 1940.

14. Lawrence Paterson, *Hitler's Grey Wolves: U-Boats in the Indian Ocean* (Barnsley, South Yorkshire: Frontline Books, 2016), location 3070.

15. LAC, RG 24, v. 22,616, "Daily Diary," 30 June 1940 and 10 August 1940.

16. LAC, RG 24, v. 22,616, "Daily Diary," 4–6 January 1941.

17. LAC, RG 24, v. 5237, HQS 19-40-3, Headquarters (HQ) Eastern Air Command to Air Officer Commanding (AOC), 28 August 1940; and LAC, RG 24, v. 5237, Officer Commanding WAC to Secretary DND for Air, 17 April 1941.

18. LAC, RG 24, v. 3826, NSS 1014-9-3, Joint Services Committee, Pacific Coast, "Appreciation of the Situation as of 1st January, 1942."

19. Michael Whitby, "The Quiet Coast: Canadian Naval Operations in Defence of British Columbia, 1941–1942" in Haydon and Griffiths, eds., *Canada's Pacific Naval Presence*, 63–64 and 70.

20. LAC, RG 24, v. 5199, HQS 15-24-3, v. 1, Chief of the Air Staff (CAS) to AOC WAC, 2 May 1942.

21. LAC, RG 24, v. 5199, HQS 15-24-3, v. 1, AOC WAC to Air Force Headquarters, 21 May 1942.

22. LAC, RG 24, v. 22,599, 20–21 June 1942.

23. Douglas, *Creation of a National Air Force*, 420.

24. LAC, RG 24, v. 5215, HQS 19-5-4, v. 3, Air Member for Air Staff to CAS, 23 March 1943.

25. LAC, RG 24, v. 5237, HQS 19-40-3, WAC to DND for Air, 30 August 1942; LAC, RG 24, v. 5237, WAC to DND for Air, 3 September 1943; and LAC, RG 24, v. 5237, v. 2, WAC to DND for Air, 26 October 1944.

26. LAC, RG 24, v. 15,182, 30 September 1942.

27. Directorate of History and Heritage, Air Headquarters Report No. 3, "The Employment of Infantry in the Pacific Coast Defences," 1 June 1944, 27.

28. Douglas, *Creation of a National Air Force*, 402.

29. Stetson Conn, Rose C. Engelman, and Byron Fairchild, *The Western Hemisphere: Guarding the United States and Its Outposts* (Washington, DC: Center of Military History, 2000), 299, accessed January 11, 2018, https://history.army.mil/html/books/004/4-2/CMH_Pub_4-2.pdf.

30. LAC, RG 24, v. 5215, HQS 19-5-4, v. 3, CAS to AOC WAC, 12 January 1944.

31. C. G. Power, *A Party Politician: The Memoirs of Chubby Power* (Toronto: Macmillan of Canada, 1966), 239–40.

32. LAC, RG 24, v. 5195, HQC 15-13-9, v. 1, HQ WAC to RCAF HQ, 19 January 1945.

33. LAC, RG 24, v. 5195, HQC 15-13-9, v. 1, Air Member for Air Staff to AOCs WAC, Northwest Air Command, No. 2 Air Command, 23 January 1945.

34. LAC, RG 24, v. 5195, HQC 15-13-9, v. 1, "Report on Co-ordinating Meeting re Japanese Balloons," 24 January 1945.

35. LAC, RG 24, v. 5195, HQC 15-13-9, v. 2, Canadian Army Operational Research Group, Memorandum No. 19, 2 February 1945.

36. LAC, C-12256, 133 Squadron, Images 205 and 216; and LAC, C-12231, 6 Squadron, Image 1661.

The RCAF in the Aleutians

by Bill Rawling

Within the Fort Richardson Post Cemetery, a one-time United States (US) Army facility in Alaska, one will find several headstones in the shape standardized by the Commonwealth War Graves Commission. Each of them marks the place where a member of the Canadian armed services was buried, having died during the Second World War, including one from the Winnipeg Grenadiers, another of the Rocky Mountain Rangers, two from the Régiment de Hull and eight from the Royal Canadian Air Force (RCAF). How they came to be laid to rest in the northernmost state of the US is a story that has not often been told; historians and other writers having focused on the much larger campaigns in Europe, North Africa and Asia, but it may still be of interest to learn why these young men came to serve in one of the least populated and most inhospitable regions in the world.

The story of the contribution that the RCAF made to operations in Alaska and the Aleutians begins in the 1930s, when the RCAF was tasked with helping to defend Canada's west coast against naval bombardment, air raids or an incursion by a company-sized amphibious force. With the outbreak of war in 1939, the country's political leadership and military planners considered the possibility of German commerce raiders bombarding important facilities in British Columbia (BC) and, after Pearl Harbor, the aircraft carriers and submarines of the Imperial Japanese Navy had to be taken into account. As a consequence, the front-line strength of Western Air Command, responsible for the defence of the west coast, rose from 5 to 17 squadrons. When *I26* bombarded Estevan Point, on the west coast of Vancouver Island, in June 1942, it confirmed both the existence and the nature of the threat.

THE ALASKA AIR ROUTE

Further confirmation came with the Japanese invasion of Attu and Kiska, islands of the Aleutian chain located between Alaska and Kamchatka. Originally, the Japanese aim was to divert US forces from the central Pacific, where the Imperial Japanese Navy planned to confront the United States Navy in a decisive battle, but after losing four aircraft carriers in two days—and the initiative in the Pacific War—Japanese authorities decided to hold on to the two Aleutian islands as obstacles to any invasion of Japan the Americans might try to launch from the north. The US and its Allies, however, saw Attu and Kiska as stepping-off bases for further expansion of the Japanese empire or, at least, as useful submarine facilities capable of wreaking havoc among lines of communication that had to rely on sea transport, given Alaska's limited road system. The first order of business, therefore, was logistical, and Canada's first contribution to the defence of Alaska was to establish airfields so that American aircraft could be flown to the front line. Canada's Department of Transport had already shown an interest in such a route, and in 1941, five airfields had been built at Grande Prairie, Alberta; Fort St. John and Fort Nelson in BC; and Watson Lake and Whitehorse in the Yukon.[1]

Bombers, with their larger fuel capacity, had no difficulty making their way along these stepping stones, but fighters sometimes flew to the limits of their endurance before reaching the next aerodrome, which might not be equipped with radio communications. Brigadier General Simon Bolivar Buckner, commanding the army in Alaska, warned that single-engine aircraft should not be despatched too hastily from Spokane, Washington, and he was proven correct. In the first week of the operation, P40 Warhawks found themselves scattered throughout the Canadian west, landing on frozen lakes and in farmers' fields when they ran out of fuel. In all, it took eight weeks to get the first batch of fighters to Alaska, 8 out of 20 never arriving; fortunately, their pilots were all found safe and sound.[2]

Bolingbrokes of 115 Sqn RCAF on 'B' Runway, Annette Island, Alaska, June 1942.

Clearly more construction work was required. When the US offered to put its engineers to the task, Canada suspected that their American Allies had an eye on post-war aviation development, so agreement did not come immediately. It was eventually decided that Canada would take responsibility for the permanent infrastructure, while the US subsidized facilities such as emergency landing fields that would only be required in wartime.[3] In the end, the air route proved more useful to the Soviets than the Americans, and of 7,000 aircraft shuttled to Alaska from 1943 to 1945, 6,340 were to serve in the Great Patriotic War, with Russians (as well as Ukrainians and others) taking possession of them in Fairbanks.[4] Eventually, operations were on such a scale that the RCAF created Northwest Air Command to coordinate them and ensure effective liaison with the US. It was one of only three such headquarters; Western and Eastern Air Commands were responsible for the defence of Canada's coasts.

THE RCAF IN ALASKA

When the RCAF first began deploying its own aircraft to Alaska, it was not by way of the air route. The aim was to set up a base on Annette Island, at the southern end of the Alaska panhandle, a move that would contribute to the defence of Buckner's rear areas as well as BC's northern coast. In March, the US requested the transfer of a bomber and a fighter squadron to the island, which the Canadian government and the RCAF were willing to view favourably since they would serve to defend Prince Rupert, 200 kilometres to the south-west and the second most important port on BC's mainland. In keeping with the nature of binational relations, the US Army, which had set operations in the Pacific as a much higher priority than Alaska, requested that Washington formally approach Ottawa for the transfer. According to the subsequent agreement, once in theatre, Canadian units would remain in place until replacements could arrive from the US, but Air Vice-Marshal L. F. Stevenson, in charge of Western Air Command, admitted that in his view much time would pass before the southern ally would be in a position to provide units of its own, and the RCAF had to be prepared to occupy Annette for an indefinite period.[5]

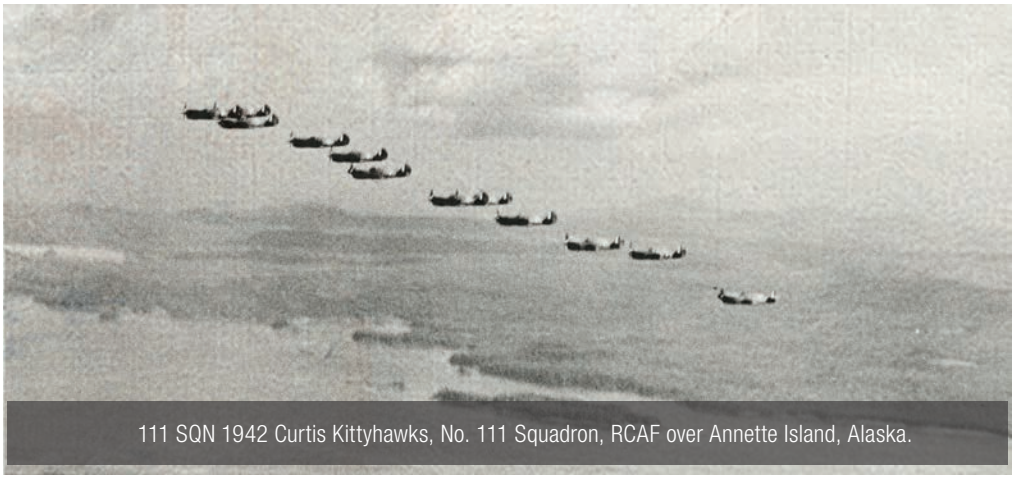
No. 115 Bomber Squadron—armed with 14 twin-engine Bolingbrokes, a maritime-patrol aircraft manufactured in Canada—was in position on Annette Island on 5 May, the first Canadian unit in history to enter the US in order to assist in its defence.[6] Evidence that it remained very much a Canadian squadron was the fact that it was under the authority of the officer commanding the defences of Prince Rupert, as were the army's anti-aircraft detachments and the specialized—and heavily armed—aerodrome defence company. The Air Officer Commanding on the west coast noted

Aircrew and their aircraft of 8 (BR) Sqn RCAF, probably in Anchorage, Alaska 1942. Lt to R: F/S GA Anderson (WAG), J.M. McArthur (Plt), WJ Smith (Plt), F/S FW Johnston, (WAG).

that No. 115 Squadron was only the front line of a defence in depth and that assisting the Americans effectively would depend on the development of bases at Prince Rupert and Port Hardy,[7] the latter in the northern part of Vancouver Island. In the meantime, No. 115 Squadron did not have long to wait to engage in operations. On 7 July, one of its Bolingbrokes reported the presence of a submarine and dropped depth charges, which the crew believed had damaged the marauder. Vessels of the United States Coast Guard (USCG) initiated a hunt, leading to a battle ending with the collision of USCG vessel *Foremost* with the submersible, which disappeared beneath the waves. The officer commanding the USCG reported that air and surface forces had sunk a marauder, but it seems that the enemy was *RO32*, which was still operating at the end of the war.[8] A later target proved to be a submerged log, but the pilot "had the satisfaction at least of scoring direct hits."[9]

While No. 115 Squadron was operating in the rearmost areas of Alaska's defences, the United States Army Air Forces (USAAF) were moving units closer to the front line, even if airfields to the west of Anchorage were primitive, to say the least. As a consequence, bases more to the rear were left without defences, so the Americans requested two more Canadian squadrons.[10] Stevenson noted to his superiors that there were five squadrons under his command that could move to Alaska: No. 115 Squadron, already in Annette and capable of transferring further to the north-west; No. 7 Bomber Reconnaissance Squadron in Prince Rupert; No. 8 Bomber Reconnaissance Squadron at Sea Island; No. 14 Fighter Squadron also at Sea Island; and No. 111 Fighter Squadron at Patricia Bay. In case of a Japanese assault on Alaska, however, it would be necessary to keep Nos. 7 and 115 Squadrons in place, leaving Nos. 14 and 111 Squadrons capable of making their way to Annette by way of Prince George. No. 8 Squadron would have to fly by way of the more complicated north-west air route and stop at four different airfields.[11] Evidently, assisting the Americans would be no easy task logistically, and in order to do so, the RCAF moved a squadron from Sea Island; another from Patricia Bay; a third from Dartmouth to Patricia Bay; and a fourth from Rockliffe, near Ottawa, to Sea Island.[12] At least one American historian has noted that among the pilots of the aircraft headed to Alaska were veterans of the Battle of Britain,[13] and several wore the ribbon of the Distinguished Flying Cross (DFC) for the courage and leadership they demonstrated while on operations in Europe.

The two squadrons in question, Nos. 8 and 111, following rather complex routes, made their way to Yakutat, on the south coast of Alaska. To follow the adventures of just one of these squadrons, No. 111 Squadron was at Patricia Bay on 1 June, as it prepared for its transfer to



111 SQN 1942 Curtis Kittyhawks, No. 111 Squadron, RCAF over Annette Island, Alaska.

Elmendorf Field, near Anchorage. Two days later, 12 Kittyhawks, accompanied by a twin-engine Hudson carrying ground crew, took off; although, their first stop was at nearby Sea Island, in Vancouver, roughly a 20 minute flight. Already, however, attrition began to take its toll on the aircraft, one of them having to remain on the mainland. Next day, then, 11 fighters flew to Prince George, to then refuel at Fort Nelson, where another aircraft broke down. The others carried on to Watson Lake, where a pilot was injured because the landing strip was in terrible condition. Thankfully, the aircraft which had remained in Fort Nelson caught up after three and a half hours in the air, the pilot having lost his way. The 10 remaining fighters flew an hour and a half to reach Whitehorse, where bad weather kept them on the ground the next day.[14]

The transfer of just one squadron could, thus, become a major operation. Refuelling in Yakutat, the Kittyhawks made their way to Anchorage, with Wing Commander G. R. McGregor, DFC, in charge of RCAF units in Alaska, accompanying them at the controls of a Bolingbroke. An aircraft had to turn back because of an oil leak and was accompanied by another member of the squadron, but the two made it to Anchorage with only a few hours' delay. Meantime, the rest of the ground crew arrived at Annette Island by ship and camped out under tents. Travelling on board the Single-screw Steamship (SS) *Denali*, they made their way to Valdez by way of Wrangell and Juneau, while the machines at Anchorage were already flying operational sorties, given the Japanese presence in the Aleutians. They suffered their first loss on 24 June, when an aircraft entered a spin, crashed and burned; the pilot, thankfully, was able to bail out. A few weeks after the move, No. 111 Squadron could count 160 all ranks and 19 P40D Kittyhawk fighters, of which five had been delivered by pilots of No. 14 Squadron using auxiliary fuel tanks.[15]

According to the agreement between the US and Canada, Nos. 8 and 111 Squadrons were to have remained until 8 June, but that was the very day they began to operate, so Buckner requested an extension. In the weeks that followed, fighter operations could be conducted without difficulty, since the American-manufactured P40s were so easy to maintain. The Bolingbroke squadron, however, was equipped with a Canadian type and required the logistical support of an RCAF depot. Establishing such a facility was no easy task, priorities being elsewhere, such as the construction of airfields on the west coast (namely at Abbotsford, Tofino, Port Hardy, Terrace, Woodcock and Smithers).[16] If that was not enough, a high-ranking staff officer in Ottawa saw fit to remind the institution that there was still a U-boat menace in the Atlantic demanding the RCAF's attention.[17]

No. 111 (F) Sqn RCAF, Kodiak, Alaska, 1942-43. "Bitsa" was reputedly the aircraft flown by S/L K.A. Boomer when he shot down a Japanese "Rufe" on Sept. 25, 1942.

He was not the only one to second-guess the deployment of RCAF units to Alaska, another being McGregor. Transmitting a report from Elmendorf Field, he noted how near the end of June, US intelligence reported a threat to Nome, on the Bering Strait. The Canadian squadrons were ready to move westward, but the equivalent of three American units arrived in theatre. As the US authorities preferred to deploy their own forces in the first instance, the Canadians served only to permit the transfer of USAAF squadrons out of the Anchorage area. McGregor understood the American position but voiced personal doubts if, considering the strength of the RCAF's Home War Establishment, using two Canadian squadrons in this manner was in the best interests of the service. Another source of worry for the wing commander was an interception exercise that had failed completely. During a 29 June conference, the Americans and Canadians agreed that the source of the problem was the American controller on the ground, who lacked the training to properly process available information to effect an interception. McGregor recommended the despatch of two Canadian controllers to Alaska.[18] The expression "mission creep" had not yet been coined, but it looked as if the Canadians were going to experience that phenomenon.

According to the official history of the US Army, however, the Canadian effort was significant. On 2 June, the Americans located a Japanese task force, which launched aircraft to bomb and strafe Dutch Harbor on the 3rd and 4th, but against considerable opposition. "The concentration of the US air units in the critical area had been facilitated by the expected arrival of the RCAF squadrons in the areas that had been stripped of their US defences."[19] But even reinforced with two Canadian combat squadrons, the US 11th Air Force could count its aircraft by the dozens, an entirely insufficient number to carry out the instructions of Admiral Chester Nimitz, in command of the Pacific Theatre, to force the enemy to abandon Attu and Kiska by means of aerial bombardment.[20] It was also becoming increasingly clear that at least one of those squadrons—No. 115, which flew the Canadian Bolingbroke—was inappropriate to Alaskan operations, as the aircraft lacked the necessary range, performance and defensive armament. Equipped for antisubmarine warfare, they could attack enemy ships if necessary, but Stevenson recommended the two-engine bombers be replaced with single-engine fighters, which were much easier to maintain.[21]

As for the fighter squadron, soon after its arrival in Anchorage, No. 111 Squadron began to operate in detachments. One of these took off for Umnak on 13 July, arriving on the 16th; it was another odyssey typical of operations in this immense and sparsely populated region. One aircraft crashed near Naknak, but the pilot survived without injury. At the same time, two transports carrying two officers and eleven other ranks took off for Cold Bay to then make their way to Umnak.

Squadron Leader Ken Boomer.

On 16 July, seven Kittyhawks began to follow but encountered poor weather after passing Dutch Harbor. McGregor ordered a return to Cold Bay, but five pilots lost their way in the fog; four aircraft and the bodies of their pilots were found soon after. According to Elmendorf's war diary, "the weather gave literally no visibility in that vicinity," even if the sky had been clear shortly before, and "an instrument climb or loss of touch with the shore in an area of mountainous islands was considered suicidal."[22] The remains of Sergeant G. C. Baird were never located, but those of Pilot Officer Dean Whiteside, Flight Lieutenant John Kerwin as well as Flight Sergeants Stanley Maxmen and Frank Lennon were first buried on Umnak, "one of the world's loneliest graveyards,"[23] and eventually reinterred in the Fort Richardson Post Cemetery. The 24-year-old Kerwin was a veteran of the Battle of Britain. The enemy could not have executed a more tragic ambush, but the survivors had to continue performing their duties, and Section F was established at Umnak on the 18th, the remainder of No. 111 Squadron remaining at Anchorage with five Kittyhawks. At Umnak, bad weather in August proved a constant nuisance to training and operational flights, but scrambles, battle formations and exercises in company with the 54th Pursuit Squadron were carried out nonetheless.[24]

KISKA

Operational sorties soon followed, and four pilots were part of an air attack against Kiska on 25 August. No doubt the pilots were unaware for several weeks that Kiska's anti-aircraft defences were the most concentrated of any advanced base the Japanese held in the Pacific. On 22 September, the four aircraft took off in the direction of an airfield called Fireplace to take part in a USAAF operation. Refuelling, they left for Kiska on the 23rd, but bad weather forced them to turn back, and one of the American aircraft disappeared. Making another attempt on the 25th, they arrived over Kiska at 10:00. Executing a rendezvous over Little Kiska, an island off the main harbour, the fighters had three minutes to attack anti-aircraft cannons before the bombers released their ordnance, while at the same time other fighters protected the twin- and four-engine aircraft that were operating at a higher altitude. One group of bombers aimed at shipping, while another concentrated on ground facilities, especially an aerodrome the Japanese were attempting to build. The Canadian task was to attack naval ground targets and radio stations as well as the camp in general. Squadron Leader K. A. Boomer shot down an amphibious Zero in the port, and subsequently, he and his compatriots took part in an attack against a submarine, returning to Fireplace at 11:50. The four pilots received the US Air Medal and Boomer the DFC.[25] In effect, in the last months of 1942, the waters of the North Pacific were proving hazardous for Japanese submarines, and among others, two submersibles were damaged during "American and Canadian bombing raids against the Kiska anchorage."[26]

14 Sqn Quonset huts, 1943, Umnak Island, Alaska.

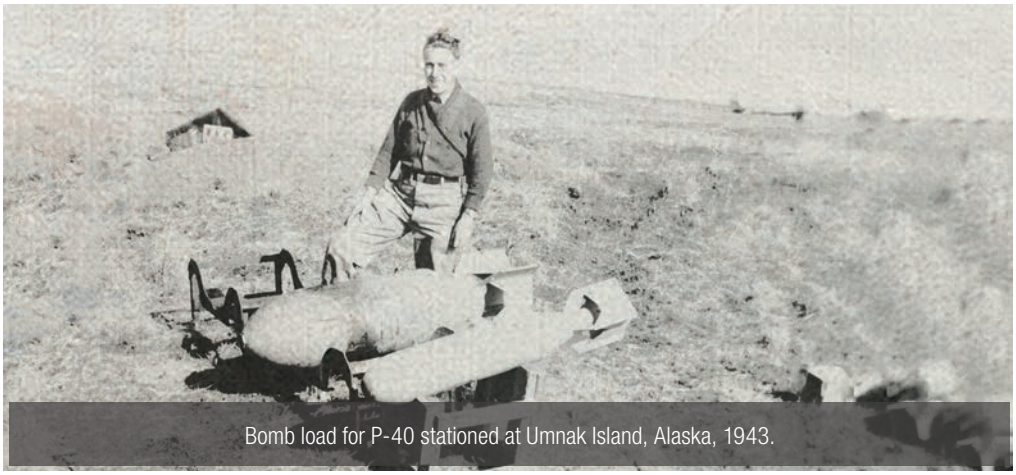
However, the Canadians, like their American Allies, did not have an easy time of it. According to one of the rare historians to have studied operations in Alaska, Ladd Field in Fairbanks and Elmendorf Field near Anchorage could boast of the best living conditions in the theatre, with cafés, grass, bars, sports, clubs and real beds. As one went west, however, conditions deteriorated dramatically. Kodiak could at least lay claim to a permanent facility, comfortable enough, even if aircraft often had to fly in circles while ground crew chased away bears that had wandered onto the runway. Dutch Harbor was more primitive and overrun with personnel who handled all the requirements of war as they headed further west. At Umnak, comforts were reasonable compared with facilities further along. However, the war had passed it by to a certain extent, and supplies did not arrive often enough to prevent its inhabitants from eating Spam three times a day, sometimes for weeks.[27] Visiting the island in his capacity as an official historian (he would later write several volumes of military history), Captain G. W. L. Nicholson noted that there was no doubt that Umnak was in an operational theatre, everyone carrying a rifle or a revolver to fight off the kind of surprise attack that had taken Attu and Kiska. As one participant noted, "When you drove in at night to see a movie at the fort, you packed your weapons with you."[28] Of interest were the fake anti-aircraft defences, made of wood and complete with mannequins, which would act as decoys for the real emplacements, located elsewhere and well camouflaged.

> The enemy, however, made no attempt to invade, and life dropped into a pattern that varied little from day to day. You'd haul yourself out of your cot in the morning, and go through the labour of washing and shaving. Hot water came from a five gallon [19 litre] gasoline can if you had thoughtfully placed one on the oil stove the night before. If you hadn't, you'd run around the tundra with a mess kit to the other huts, trying to scrounge some. At first the water had to be lugged from a central tank, but the Canucks soon installed "running water" in their Quonsets by putting up a big gasoline drum outside the hut, and connecting to it a length of pipe. Airmen took turns at filling the drums. Sinks were made from galvanized tin … .[29]

To make life even more comfortable, "They scrounged old packing cases and contrived arm chairs, tables and desks. The Quonset huts lost that bare look."[30]

Inside a Quonset hut of 14 Squadron, RCAF, Umnak Island, Alaska. The hut held about 14 men. The oil heater kept the hut pleasantly warm at all times. Umnak Island, Alaska, 1943.

Advanced Fighter Base, R.C.A.F., Aleutians, Alaska, Canadian fighter squadrons sent into the Aleutians moved into the active area streamlined, with just enough men for the right jobs. To avoid lost man-hours entailed by the familiar service job of dish-washing, the airmen personally purchased the chromium steel, six-compartment trays used by the U.S. Navy. All courses can be handled at once, eliminating the use of extra dishes that someone would have to wash. 12 December 1942.



Bomb load for P-40 stationed at Umnak Island, Alaska, 1943.

Getting back to daily routine, "after the morning ablutions, there'd be breakfast, eaten in the mess hall, which became the centre of community life."[31] The cook was Corporal John Kelly, who "could work wonders with powdered eggs and dehydrated food—could even make C ration taste like something to eat."[32] After breakfast various details would begin the day's work.

> Flying Officer Robert Kennedy … would take his crews out to check the planes. There were no hangars, or rather, there were nose hangars—canvas boxes about 20 feet high, 10 feet deep, 15 feet wide [6 metres (m) high, 3 m deep, 4.5 m wide]. They'd run the nose of the aircraft into it, drop the flaps, and enjoy comparative shelter from the weather as cold fingers fumbled with nuts and bolts. The nose hangar's frame of tube steel was rigged with little footholds, and it also held cross planks that could be used as a platform.[33]

General duties personnel cleaned the huts, hauled water and attended to "the hundred and one chores."[34] The parachute section, meanwhile, checked and rechecked packs. The enemy being obvious in its absence, RCAF members had few ways to break the monotony; although, "one day the caribou kept all the aircraft grounded at the Canadian field. They swarmed over the runways in hundreds, and airmen were out spanking them off with shovels."[35] If the Japanese had attacked, "little could have been done about it."[36]

It was from such humble bases that American and Canadian aircraft attacked Kiska almost every day, sometimes twice in a twenty-four hour period, for three weeks. In September, they dropped 116 tons [105 tonnes] of bombs, double any previous effort, and in October, that total was further increased, to 200 tons [181 tonnes]. But from November to February, bad weather limited missions to reconnaissance and the odd bombing sortie.[37] Meanwhile, the Umnak detachment returned to Elmendorf, a redeployment which took from 10 to 13 October, and on the 23rd, the squadron received the order to make its way to Kodiak. At the end of the month, 13 aircraft were ready to fly from there, personnel being sheltered in Quonset huts. A detachment was formed at Chiniak Point, on the island of Kodiak, on 5 November, with three officers, four non-commissioned officer (NCO) pilots and six aircraft; Chiniak was named Marks Field on the 13th. During an alert on 16 November, three patrols of two aircraft each took off in search of a submarine, without results. Evidently the weather conditions prevalent over Kiska were common to the theatre as a whole; as the squadron's history mentions, there were no further operations until February, when the squadron conducted four scrambles, without results. One of the most important events of the period was the arrival of 4,999 barrels of fuel.[38]

Air Vice-Marshal L. F. Stevenson, 30 March 1943.

Atrocious weather spiking Canadian aircraft to the ground, the RCAF chain of command could well wonder if the Kittyhawks, the most modern aircraft on the west coast, might provide better service elsewhere. Learning that the US was pulling units out of the theatre, McGregor had doubts as to whether the RCAF should remain, but at the beginning of 1943, No. 111 Squadron was still at Kodiak and No. 8 Squadron at Anchorage. Stevenson and his staff officers reviewed the situation following a visit to the two squadrons and submitted four possible options to headquarters (HQ) in Ottawa. The first was to substitute No. 14 Squadron for No. 8 Squadron and retain two units in Alaska; the second was to simply withdraw No. 8 Squadron; the third was to withdraw them both; and the fourth was to transfer two squadrons to Seattle so that the Americans could send two of their own to Alaska. Ottawa favoured complete withdrawal but was prepared to keep them in place if it received a request to do so from General John L. DeWitt, in charge of the Western Defence Command of which Buckner's forces in Alaska were a part. On 28 January, Stevenson and DeWitt met in San Francisco; the Canadian commander explained the situation (such as problems obtaining leave for personnel in Alaska), but the American general wanted the RCAF squadrons to remain in theatre for another three or four months. According to the Acting Deputy Chief of Air Staff, the American commander was most anxious for the RCAF to provide continuing assistance in Alaska and asked that No. 8 Squadron be replaced with a second fighter squadron; No. 14 Squadron was chosen.[39]

That squadron had been formed at Rockcliffe on 12 December 1941 and moved to Sea Island the following March, where it remained until it was sent to Alaska in February 1943. The intention was for No. 14 Squadron to occupy an airfield on Umnak Island and be ready to move further west, while No. 111 Squadron remained at Kodiak. A pilot exchange from time to time would ensure all would have an opportunity to operate against the enemy. Stevenson was under the impression that DeWitt's plans for the defence of Alaska were "somewhat more elaborate than Washington was prepared to support by providing him with additional air-power and that, therefore, he was obliged to make the most of his own resources and such Canadian assistance as could be spared." DeWitt and Buckner, still according to Stevenson, were "very Japanese conscious and, of course, have the responsibility of keeping the Japanese off United States territory."[40]

The Canadian squadrons were, therefore, useful but not essential, which from the political perspective was acceptable given that their presence in Alaska was temporary. On 14 April, Nos. 115 and 118 Bomber Squadrons were on Annette Island; No. 14 Squadron was on Umnak, and No. 111 Squadron was at Kodiak, with a detachment on Chiniak.[41] That the bombers and fighters were engaged in different types of operations was reflected in the percentage of aircraft

Bolingbroke, 115 (F) Squadron.

available, which varied from 32 to 86 per cent. As a staff officer explained to the Minister of National Defence for Air, the bomber squadrons conducted antisubmarine patrols and general reconnaissance, in addition to training flights, while the fighter squadrons kept aircraft on alert at all times in order to defend their bases and had, for a time, participated in an offensive against Kiska; they also conducted flight training.[42]

Given the abominable living conditions in Alaska, it is not surprising that No. 14 Squadron's most important announcement for the period 16 to 23 April was the arrival of four cooks and a driver.[43] The 11th Air Force, however, reported on the 24th how, to date, the Canadians had participated in several operations against Kiska, beginning on the 18th with eight aircraft on each of two missions. They returned on the 20th, flying three missions, and then launched attacks on each of the next three days.[44] No. 111 Squadron, meanwhile, was essentially a reserve for No. 14 Squadron and carried out only an hour's operational flying in the week ending 29 April, a scramble on the 22nd, with the unidentified aircraft proving friendly. No. 111 Squadron spent almost 29 hours in flight training using unarmed but easier to maintain Harvards in addition to the Kittyhawks. Pilots dropped seven practice bombs and fired 720 rounds at aerial targets. Its strength was 10 officers and 10 NCO pilots, with 10 more officers and 131 other ranks among the ground crew. Health was good.[45]

Including the two bomber squadrons at Annette, the RCAF represented about a quarter of the 222 aircraft of the 11th Air Force,[46] which explains DeWitt's anxiety at the thought of their withdrawal. No. 14 Squadron was now based at Amchitka where, in comparison with Umnak, "the huts were smaller, the ground under foot was a bog when you got off the roads, and the landscape was grimmer, if that could be possible."[47] A report on the period from 2 to 17 May noted that in the first week the squadron contributed aircraft to 14 operations against Kiska, and following these attacks, reconnaissance aircraft observed several craters on the runways in addition to damage in the camp. An eyewitness to the allied attacks was Sergeant Takahashi, who kept a journal, which the Allies found when they recaptured the island in mid-August. The first entry is for 20 June, and on 4 July, he noted that conditions were "Hazardous for aircraft," but that at 7:40 in the morning a "formation of enemy planes attacked us. Visibility was very poor, however many direct hits were scored." Also worthy of mention, "delayed action bombs were dropped in the vicinity of the Intelligence Office." On the 19th, it was a different story, Takahashi writing that "This island must be the enemy's practising grounds. It's amusing that so many bombs are dropped and

Flight Sgt. Vardy McConnell of 115 Squadron RCAF lies atop a bomb at Annette Island, Alaska.

none hit the target. They are very unskilful. Go back and do some more training. Today's objective was to destroy the radar." He concluded that they were "bombing blind," and did again on the 23rd, when "Reports from HQ inform us that the objective of the bombing was naval installations. Many hit the sea." On the 28th, the tables were turned once again, as the Japanese sergeant noted that while the garrison prepared to evacuate the island, "everyone is exhausted from the terrific bombing day after day, and are all sound asleep." Japanese forces left Kiska two days later.[48]

For the Canadian pilots carrying out some of these assaults, it was work only slightly less hazardous than flying through the atrocious weather conditions that plagued the Aleutians. Kittyhawks approached Kiska at 13,000 feet [3,962 m], "and the heavy calibre flak would be coming at them through the fog, bursting at their level. But they'd throw their planes around in the air, weaving and dodging. When they reached a spot where there was a big concentration of fire, they'd figure they had a target below, and the leader would peel off and dive."[49] Then again,

> tearing down through dense clouds at 300 miles an hour [483 kilometres per hour] plus, when you can't see your target, takes a special kind of nerve, particularly when you're diving into heavier fire all the time. Around 5,000 feet [1,524 m], the higher calibre flak would be arriving in storms, tracers spitting past all over the place. At 3,000 [feet, 914 m] the machine guns, light and heavy, were opening up. Still they'd go in, aiming the plane at something that was just taking shape through the haze. Maybe it was a revetment, sheltering trucks, maybe a gun position.[50]

Within seconds, "At 2,000 feet [610 m], perhaps even as low as 1,000 [feet, 305 m], depending on visibility, they'd dump that bomb and pull up the nose. Sometimes they went so low that the concussion of the 550-pounder [250 kilograms] lifted and tossed the plane."[51] The pilot would pull up quickly, given that another was on his tail ready to drop his bomb, and gain altitude to 13,000 feet [3,962 m] to get back into formation. They could then carry out a strafing run with their six .50-calibre machine guns. As one observer noted, trucks on Kiska were difficult to replace.[52]

According to Major General Charles H. Corlett, commander of the American–Canadian ground force that would retake Kiska, the air forces' role was to systematically destroy all vital installations on the island. On the day of the assault, scheduled for 15 August, they would maintain close liaison with observers on the ground in order to prevent the enemy from moving its

402 Squadron, Squadron Leader R. E. Morrow, Toronto, 15 July 1942.

reserves, report any changes in enemy positions and defend allied troops.[53] No. 14 Squadron's contribution was in the form of 33 sorties in seven missions from 3 to 12 August; although, the only sign of the enemy was a burst of anti-aircraft fire on the 3rd, which only one of the Canadian pilots reported. There were no reports of enemy fire on the 10th, and no sign of life whatsoever on the 11th. After the war, it was discovered that while evacuating the island, Japanese forces left munitions on delay fuses to mimic anti-aircraft fire.[54]

Meanwhile, No. 111 Squadron at Kodiak executed no offensive sorties but conducted patrols in defence of the base.[55] To that end, it scrambled a fighter on 24 April, determining that the "unidentified aircraft" was a Dakota; there were two other scrambles on 3 May, two on the 13th, and so on until July, entire weeks sometimes passing without an operational sortie.[56] Still, even in the absence of the enemy, any flight could become hazardous, as Wing Commander Robert Morrow could well attest. Taking off on a routine patrol in a Kittyhawk, he had trouble gaining altitude and struck a hill. Part of the landing gear pierced the left wing and the propeller was bent by the impact. Morrow continued to gain altitude even if the propeller was now causing horrendous vibrations; circling the aerodrome, he concluded that any attempt at a forced landing would endanger other aircraft, so he headed out to sea with the intention of bailing out near the coast. Misfortune continued to plague him, however, and while exiting the aircraft he struck the tail, injuring his spine, paralysing his legs and knocking him unconscious. His parachute must have deployed when he struck the tail, and when he regained consciousness, he was descending from an altitude of about 1,500 feet [457 m]. Before striking the water, he was able to inflate his Mae West and remove his boots. His dinghy inflated as required, but Morrow had difficulty getting in because of his injuries. An amphibious twin-engine Catalina spotted him but was unable to put down on the water because of heavy seas, so Morrow abandoned his little boat and began swimming towards the coast. Four American soldiers came out to his rescue, recovered his dinghy and used it as a stretcher. A US Army medical officer provided first aid, and Morrow was transported to Vancouver by air (how long that took is not mentioned), where treatment allowed him to walk again.[57]

The loss of a single aircraft could be worrisome, however, for even if the 11th Air Force appreciated the Canadian contribution, authorities in Washington would only authorize replacement Kittyhawks for the four American squadrons, and even then, they were insufficient given Alaska's abominable climatic conditions.[58] Another issue, Stevenson reminded DeWitt that in San Francisco the commander of the US Army for the Western United States and Alaska had indicated that he would not require the Canadian squadrons beyond 1 June. No. 14 Squadron had served

Bella Bella Aboriginal Village, Stranraer lands at Dusk, 20 July 1942.

four months at Umnak, and No. 111 Squadron 13 months in Alaska, eventually operating out of Kodiak. Buckner, as commander of US Army Forces in Alaska, had advised the Canadian wing commander that he intended to transfer No. 111 Squadron to Umnak, but Stevenson warned DeWitt that the squadron's efficiency had deteriorated due to isolation, a lack of leave and insufficient supervision and needed to be withdrawn. The RCAF wing commander suggested that if No. 14 Squadron could be maintained at a strength of 18 aircraft at Umnak, it could perhaps fulfil the dual role of fighter-bomber and interceptor, and No. 111 Squadron could return to Canada. DeWitt agreed to the withdrawal.

On 15 August 1943, US and Canadian forces launched their assault against the island of Kiska, which the Japanese had evacuated a few weeks before. The previous occupants had left booby traps, which accounts for the four members of the Canadian Infantry Corps buried alongside their RCAF comrades at the Fort Richardson Post Cemetery. The Japanese threat to Alaska having been eliminated, No. 14 Squadron joined No. 111 Squadron and the other squadrons that defended the west coast against naval bombardment and air raids, while the units on Annette also returned to BC. The veterans of the air assault against Kiska, however, would not spend the rest of the war on patrol against a non-existent enemy, but were renumbered Nos. 440 and 442 as they became members of the RCAF Overseas and took possession of the already famous Spitfire in time for the landings in Normandy.[59]

CONCLUSION

The extreme climatic conditions and horrific logistics that predominated in Alaska explain in part why American authorities decided to launch two offensives against Japan, but neither one of them from the north. With the enemy confronting the same challenges and being on the defensive after the catastrophe at Midway, it meant that fog and wind were the main problems confronting the Canadians who operated in Alaska. There may well have been over a hundred thousand people from two countries and five armed services defending the region against a single Japanese division, but there were times when the RCAF represented a quarter of the operational squadrons in the theatre, or a third of the fighter squadrons, perhaps a higher proportion than in any other major campaign of the Second World War. Kiska was retaken by US and Canadian troops in August 1943, ending the threat, such as it was, and all those Canadians remaining in theatre left for other fronts. The personnel flow then reversed itself somewhat; in the beginning of the campaign in Alaska, a few veterans of the Battle of Britain had made their way to the far

north-west, at least one of them dying there. Now many veterans of the Aleutian campaign made their way to Europe, considered by the authorities—and subsequent historians—to be a much more important theatre. Of greater importance to the members of the RCAF making the journey across the Atlantic, no doubt, were the more tolerable weather and real cities where one could take leave. They had certainly earned whatever benefits the new theatre could offer.

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ABBREVIATIONS

AOC	Air Officer Commanding
BC	British Columbia
DFC	Distinguished Flying Cross
DND	Department of National Defence
HQ	headquarters
LAC	Library and Archives Canada
loc	location
m	metre
NCO	non-commissioned officer
RG	Record Group
RCAF	Royal Canadian Air Force
US	United States
USAAF	United States Army Air Forces
USCG	United States Coast Guard
v	volume

NOTES

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25. LAC, RG 24, v. 22,616, "No 111 Squadron (Fighter)," n.d., 3; and Garfield, *Thousand-Mile War*, loc 2606 and 3276.

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Pilot Pat Kelly, 115 Squadron, RCAF, Annette Island, Alaska, shown at the campsite.

Northwest Staging Route

By Hugh Halliday

The Northwest Staging Route[1] was a chain of major airfields with intermediate landing fields, constituting an air route from Edmonton, Alberta, to Fairbanks, Alaska. During the Second World War, it was a major source of reinforcement for United States Army Air Corps (USAAC) Alaskan air operations and for the supply of approximately 8,000 American aircraft to Russia.

The first public notice of the route was in July and August 1920, when four American DH.4 bombers proceeded in stages from New York to Fairbanks, through Canadian territory, with Captain J. A. LeRoyer, MC, Canadian Air Force, serving as liaison to the party.[2] Subsequently, General William Mitchell advocated use of Alaska as a strategic base in the event of war with Japan. He was not alone in these views. In July 1934, a second American air mission was undertaken to that territory using ten Martin B-10 bombers commanded by Colonel H. H. Arnold. The outward flight staged through Edmonton and Whitehorse, Yukon. The homeward trip did not involve landing in Canada, although the run from Juneau to Seattle taxed the machines' endurance. On his return to Seattle, Arnold addressed a letter to the Governor-General, thanking him for "the warm hospitality and courteous assistance" which had been extended to his party.[3]

Canadian air efforts were concentrated elsewhere and spearheaded by civilian interests. The Mackenzie River basin offered the easiest and most commercially viable northward routes; airmail service to Aklavik, Northwest Territories, by floatplanes was established in 1930 (though subsequently cancelled with other airmail contracts by a cost-cutting Conservative government). The Department of Transport (DoT) survey of routes northwest of Edmonton, directed by A. D. McLean, commenced in July 1935.[4] Canadian Airways, headed by J. A. Richardson, contemplated Liberal sponsorship of new mail contracts, but the favoured party in 1937 was United Air Transport (renamed Yukon Southern Airways in 1938), which was the creation of Grant McConachie. It extended air services by land plane and floatplane from Edmonton to Whitehorse, with facilities at Fort St. John, Fort Nelson and Watson Lake. These became major airfields in the Northwest Staging Route. In 1939, the DoT funded more surveys of the route northwestwards from Edmonton with a view to establishing airfield sites and radio range stations at 100-mile [161-kilometre (km)] intervals. These were completed by the end of 1939, but their findings gathered dust for a year.

On 14 November 1940, the newly established Canada-United States Permanent Joint Board on Defence recommended to both governments that the Edmonton-to-Whitehorse air route be developed along the lines laid down in the 1939 surveys, the costs to be borne by Canada. A month later, funds were allocated, equipment procured and contracts let. Although this was being done under DoT auspices, the Department of National Defence (DND) laid out specifications for minimum runway length and width (4,000 x 300 feet [1219 x 91.4 metres]), dimensions which were successively enlarged during the war. By April 1944, the smallest runway was that at Watson Lake (5,000 feet [1524 metres] long) and the two longest were at Fort St. John (6,720 feet [2048 metres]). The Royal Canadian Air Force (RCAF) also requested that all buildings, and particularly living quarters, should be designed and built on a scale comparable with similar accommodation being provided by DND for the air force's permanent personnel.[5] By September 1941, aircraft were routinely flying the route by day and in fine weather. Radio range stations were in place at 200-mile [321-km] intervals by the end of 1941.

The construction of these facilities was welcomed in the region, now experiencing "boom days." In June 1941, a DoT official reported it as "reminiscent of the gold rush days of '98." Describing work around Watson Lake, he declared, "The Stikine River, the town of Telegraph Creek and Dease Lake in northern British Columbia today are throbbing with renewed activity." This was still a civilian rather than a military programme and one must acknowledge the ingenuity and determination of the contractors. The press story went on:

> The department said the activity was caused by movement of a "flotilla of power barges, tugs, stern wheelers and flat-bottomed boats" freighting more than 800 tons [726 tonnes] of machinery, equipment and supplies to the site of the new airport to be constructed at Watson Lake, 430 miles [692 km] from the Pacific coast and just north of the British Columbia border in Yukon Territory.
>
> Transportation of the freight to the outlying settlement presented many difficulties, including a seventy-two mile [116 km] portage, extensive use of river and lake transportation, and a final twenty-five mile [40 km] haul over a road being constructed through bush.[6]

Moving men and construction materials was complicated by the isolation of some sites. Grande Prairie and Dawson Creek were accessible by rail (Northern Alberta Railways), as was Whitehorse (the narrow gauge gold rush–era White Pass and Yukon Railway, which connected to Skagway).[7] Intervening sites were serviced by water. The DoT built barges, a stern wheeler and, at Telegraph Creek, a wharf to move freight.

In the winter of 1940–41, a tractor train operating from Fort St. John constructed a winter road to Fort Nelson, over which some 200 tons [181 tonnes] of material were hauled to the site of the new airport. The balance of material needed, some 400 tons [363 tonnes], was deposited on the banks of the Sikani River, 100 miles [161 km] from Fort Nelson, before the spring thaw made further haulage by road impossible.[8]

Early in its history, the Northwest Staging Route became an irritant in Canada-United States (US) relations. In the late summer of 1941, the USAAC decided that more air surveys were needed. The Canadian government agreed, but expected the Department of Mines and Resources would conduct the ground-control work that accompanied such surveys. It was also requested that the RCAF be provided with copies of all photos taken. The USAAC, however, was impatient. On 6 September 1941, Wing Commander R. A. Logan summarized the situation:

> The lateness of the season and developments in the Far East and in Russia made it necessary for this work to be proceeded with immediately, hence action outstripped negotiations, and the U.S. Army Air Corps commenced operations on this survey while negotiations were still in progress.[9]

Pearl Harbor (December 1941) and the Japanese occupation of Kiska and Attu in the Aleutian archipelago (May 1942) accelerated expansion and militarization of the route. The first operational test came early in 1942, as the USAAC moved fighters to Alaska. In 1942 and 1943, runways were extended, aids to navigation increased and accommodation and administration buildings enlarged and augmented, principally in response to US ferry command requests. Some American needs were quite ambitious, reflecting the scope of their operations. In Edmonton, for example, they needed an additional hangar, two 54-man barracks units, two 30-man barracks units, a double mess hall and a garage; an identical request was made for Whitehorse. The needs at intervening stations were more modest (chiefly barracks and mess facilities).[10] When the DoT could not immediately comply, American authorities sent additional men and tents to ensure rapid ferrying; two companies of United States Army engineers to Edmonton and one company to Whitehorse—roughly 525 men.

Canol pipeline Norman Wells, P-39 fighter aircraft taxi out to the runway past a Lodestar and Dakota transport at a station on the Northwest Staging Route, Whitehorse, Alaska, 16 October 1943.

The course of American-Canadian relations did not always run smoothly. Canadian construction had been done under the auspices of the DoT, but the only civilian carriers along the route were Canadian Pacific Airlines and the Minneapolis-based Northwest Airlines, the latter engaged chiefly in trooping to Alaska (subsequently joined by Pan American Airways operating under contract to the United States Navy). Throughout the war, Canadian authorities suspected that American commercial carriers were Trojan horses threatening domestic civil carriers. They insisted that such carriers be under American military control, carrying only such passengers and freight as was necessary for the prosecution of the war. Transportation of either for hire was to be banned.[11] On 27 June 1942, Air Vice-Marshal (A/V/M) N. R. Anderson raised an alarm. "The additional increase of American strength along the route will tend to further Americanize the route unless we can take immediate action to establish RCAF control."[12] In July 1942, responding to Anderson's worries, a conference was held at Air Force Headquarters (AFHQ), Ottawa, to consider the posting of RCAF officers to the area. On 15 October 1942, the route was formally handed over to the RCAF, ensuring a uniformed presence throughout. Nevertheless, Organization Order No. 100, designating the Northwest Staging Route, also showed how limited were the RCAF's duties: to exercise control of the Northwest Staging Route on behalf of the RCAF and to ensure that an efficient air route is maintained.

It further declared that the officers commanding the five staging posts (not "Stations") were analogous to airport managers in civilian life. Their actions were to be tempered accordingly, "without, of course, contravening any RCAF regulations or accepted customs of the Service." Air traffic control was to follow DoT procedures but it was also understood that "a responsible Officer representing the U.S. Army Air Corps may be present in the control tower for 'bringing in and clearing' United States Army aircraft."[13] Headquarters for the Northwest Staging Route would be in Edmonton; the Staging Posts were at Grande Prairie, Fort St. John, Fort Nelson, Watson Lake and Whitehorse.

In assuming formal control of the Northwest Staging Route (nominally administered by No. 4 Training Command Headquarters, Calgary), the RCAF acquired new responsibilities at Edmonton and the five staging posts. These included the formation at each of a base headquarters (HQ) staff, airway traffic control staff, aerodrome operating and maintenance staff, security staff, and personnel for refuelling and servicing of permanent and itinerant aircraft. Yet initially these were very modest; Organization Order No. 100 laid out an establishment of only 212 officers and other ranks, with 7 men at the HQ in Edmonton and the balance evenly distributed among the staging units. Postings were slow to materialize; as of 31 December 1942, only 77 men had been assigned to their units. The staging units, as defined in Organization Order 100, had limited operational capabilities. The establishment breakdown for No. 3 Staging Unit (Fort Nelson) was typical; only the commanding officer was general list (pilot). The remainder were all non-flying—four flying control, one carpenter, one clerk administration, two cooks, two electricians, one stationary engineer, one equipment assistant, four firemen, one nursing orderly, one diesel fitter, two diesel oilers, four tractor operators, eight security guards, two standard general duties and two general duties (messmen).[14] As of December 1943, the Canadian part of the system was composed of the following RCAF and American units:

- Station Edmonton (this also housed the American HQ, Alaska Wing, Air Transport Command)
    - Birch Lake (auxiliary airfield)
    - Mayerthorpe (emergency landing strip)
    - Whitecourt (emergency landing strip)
    - Fox Creek (emergency landing strip)
    - Valleyview (emergency landing strip)
    - DeBolt (emergency landing strip)
- Grande Prairie (No. 1 Staging Unit, refuelling and servicing; home of 1457th Army Air Force Base Unit, Air Transport Command)
    - Beaverlodge (emergency landing strip)
    - Dawson Creek (refuelling and servicing)
- Fort St. John (No. 2 Staging Unit, refuelling and servicing, home of 1459th Army Air Force Base Unit, Air Transport Command)
    - Sikkani Chief (emergency landing strip)
    - Beatton River (emergency landing strip)
    - Prophet River (emergency landing strip)
- Fort Nelson (No. 3 Staging Unit, refuelling and servicing, home of 1460th Army Air Force Base[15] Unit, Air Transport Command)
    - Smith River (emergency landing strip)

- Watson Lake (No. 4 Staging Unit, refuelling and servicing, home of 1461st Army Air Force Base Unit, Air Transport Command)
    - Pine Creek (emergency landing strip)
    - Teslin Lake (emergency landing strip)
    - Squanga Lake (emergency landing strip)
- Whitehorse (No. 5 Staging Unit, refuelling and servicing, home of 1462nd Army Air Force Base[16] Unit, Air Transport Command)
    - Cousins (emergency landing strip)
    - Champagne (emergency landing strip)
    - Pine Lake (auxiliary refueling)
    - Aishihik (emergency landing strip)
    - Silver City (emergency landing strip)
    - Burwash Landing (emergency landing strip)
    - Snag (emergency landing strip)

As the RCAF assumed control of its bases, officers were assigned to the sites, some with "northern experience." The selection of Wing Commander C. M. G. Farrell, DFC, for the Edmonton HQ was an inspired choice. His First World War record as a fighter pilot as well as his long service with Western Canada Airways and Canadian Airways (1928–1939) marked him as a gifted veteran. He was succeeded early in 1943 by Wing Commander W. J. McFarlane. At No. 5 Staging Unit, Whitehorse, Squadron Leader J. Hone, AFC, had been flying since 1928, building a reputation as an outstanding bush pilot and pioneer in Northern Manitoba mining exploration. The first commanding officer of No. 3 Staging Unit, Fort Nelson, Squadron Leader A. C. Heaven, MC, had flown eleven years with the Ontario Provincial Air Service.

The RCAF staging units had to be assembled almost from scratch. Staff arriving at Grande Prairie in 1942 were initially accommodated in No. 132 Canadian Army (Basic) Training Centre until barracks and offices were constructed, and these were not ready for occupancy until February 1943. The diary of No. 4 Staging Unit, Watson Lake, opened with a dismal description of confusion and dysfunction:

> On July 15th, 1942, C351 Squadron Leader G. W. du Temple arrived at Watson Lake Aerodrome to represent the RCAF and act as Liaison Officer between the U.S. Air Forces, DoT and Contractor, without any authority to speak of, being only in an advisory capacity. It was found at this time that the plans on the buildings on this Aerodrome had just been more than doubled and great activity was noticed, both in the construction of the buildings and runways, A great deal of difficulty was experienced in transporting building materials to Watson Lake due to the long and hazardous route by ship to Wrangal, down the Stikene River by river

> boat, then to Dease Lake by road and down Dease Lake and Dease River to Lower Post, then finally over 26 miles [42 km] of bush road to Watson Lake. A great deal of the materials were damaged and some lost due to this route being used which at this time was the only one available except by air. One runway only was in use, being 5,500 feet [1676 metres] long and a second one being built.
>
> A Detachment of 11 men and one Officer of the U.S. Army had arrived in the early part of July and were quartered in tents. Approximately 15 American civilians were also here taking care of the loading and unloading of the North West Airlines' Douglases which were using the route quite regularly on trips to Alaska with freight. All food and most of the gasoline was brought in by air. The cost of gas was $2.75 a gallon [3.79 litres], potatoes $28.00 a hundred pound [46 kilogram (kg)] sack and cement $24.00 a 100 pound [45 kg] bag. Canadian Pacific Airlines were handling an Airline from Edmonton to Whitehorse but had insufficient aircraft to handle passenger or freight traffic. The Contractor had great difficulty in getting his men in or out. A great deal of help in moving these people was given by North West Airlines and in certain instances RCAF aircraft.
>
> It was noticed that the men hired by the Contractor were either quite old or very young and a large number were very much unskilled although doing the work of a skilled artisan. At the end of August the U.S. Engineers moved in a detachment of personnel to help with the construction of buildings. It was quickly found that soldiers and civilians did not get along at all well together in their work and were consequently separated. The pay of civilian workers was very high in comparison to a soldier's pay and both were doing the same work, Civilian carpenters were getting between $300 and $400 a month and in many cases were very much hammer and saw men. Medical care was supplied by the U.S. Medical Corps with a doctor in attendance.
>
> On October 15th, 1942, the RCAF officially took over the operation of the aerodrome in cooperation with the DoT and using the Contractor's personnel for maintenance work. On November 18th an RCAF convoy arrived over the Alcan Highway bringing the majority of the major equipment and stores which were badly needed. On the same date RCAF personnel commenced to arrive in small numbers and although repeated requests were made to fill the small establishment of 37 airmen, by March 23rd, 1943, only 23 airmen had arrived.[17]

The DoT construction work had been handicapped by wartime shortages of civilian labour and transport difficulties. Building delays led to a War Department suggestion in February 1943 that DoT contracts be cancelled and that construction be undertaken by American Army engineers with local civilian labour. Still later, they suggested that all building (and labour) north of Edmonton be American. This was agreed to on 18 June 1943 by the Cabinet War Committee. The much-criticized DoT programme was wrapped up on 13 July 1943, by which time Canada had spent $25,000,000 on the project. As its contractors were withdrawn from the area, DoT washed its hands of airfield maintenance work, leaving American engineers to take up the slack. They continued to enlarge

runways and taxi strips, add buildings and even upgrade airfield lighting. In June 1944, Canada paid $77,000,000 to the US in recognition that the construction would be of lasting benefit to the Dominion. Meanwhile, DoT retained responsibility for meteorological and radio range services.

The formation of No. 4 Construction and Maintenance Unit (CMU)—and later Nos. 9 and 10 CMUs—went some way to mollifying our ally, adding RCAF personnel to expansion and maintenance projects. No. 4 CMU, created in December 1942, initially worked in the southern Prairies, upgrading British Commonwealth Air Training Plan fields, but in June 1943, it began sending personnel north. No. 9 CMU (originally called No. 1 Works Construction Unit) had been formed on the West Coast in March 1941. Although its headquarters remained in Vancouver, it began sending large parties northward in the spring of 1944; as of 31 May, the unit had 127 officers and men at Whitehorse and 210 by the end of September. No. 10 CMU was formed at Dawson Creek in October 1944. Such units boosted the numbers of Canadian servicemen at each site. For example, there were 42 RCAF staff at No. 3 Staging Unit, Fort Nelson as of 30 June 1943, but 65 as of 31 October 1943 and 92 as of 31 January 1944. There can be little doubt, however, that initially, RCAF personnel felt overawed by the United States Army Air Forces (USAAF) presence. As of September 1943, only at Grande Prairie was there parity of numbers (40 RCAF, 49 USAAF). Elsewhere the disparities were striking; at Fort St. John it was 41 RCAF vice 158 USAAF, at Fort Nelson it was 45 RCAF vice 250 USAAF, at Watson Lake, 39 RCAF vice 170 USAAF, and at Whitehorse, 64 RCAF vice 500 USAAF plus 3,000 American engineers.[18] RCAF personnel were happy when Canadian equipment was finally supplied to RCAF scales. The diary of No. 3 Staging Unit, Fort Nelson, dated 25 April 1943, provides one example of growing pride at the unit:

> At last we were able to return some of the entertainment that has been provided by our American cousins in the past. The various motion pictures put on by the RCAF-YMCA were very well attended and compared favourably with those of the Americans, in all nearly 500 personnel, 90 percent of whom were Americans, attended the four shows held. In the past few weeks we have been able to oblige the American Forces by assigning part of our tractor personnel and equipment to help carry out many small projects in and around the camp. We might mention, in passing, that the condition and serviceability of RCAF equipment at this Unit far surpasses that of our gallant Allies. All in all the "poor relations" are slowly but surely coming into their own, so that even yet the slogan "too little and too late" may not yet apply to the North West Staging Route.[19]

The appropriate files are filled with American complaints about slow expansion of staging-route facilities, leading to aircraft-delivery bottlenecks. In retrospect, one recognizes that the DoT's work in 1940–41 had been for a modest increase in light- and medium-weight traffic. The Aleutian crisis of 1942–43, coupled with a vast ferry programme to Russia, overwhelmed what DoT had built. Machines like the B-17 and B-24, acting as mother ships to formations of up to 50 fighters, were unexpected. "Liberators and Fortresses, as well as transport planes, use the route extensively, and because of their weight, they punch through and ruin the finest compacted surfaces."[20] Nor did these unforeseen factors stop at runways. Drilled and piped water supplies that had been adequate in early 1942 were often insufficient for the expanded bases. Indeed, during the autumn of 1942, the DoT's well-digging had lagged so much at Fort St. John and Fort Nelson that personnel there spent most of the ensuing winter without water for drinking, bathing or firefighting, except what could be hauled from neighbouring streams. Delayed construction also had operational implications:

Here is a general view of some of the buildings at Fort Nelson Air Base. Left to right: a barrack building constructed for future Air Force personnel; a storage-house building to house permanent personnel; and a garage.

> During the winter of 1942–43, at most of the stations the few men assigned could not even inventory the vast quantities of supplies which [had] been sent to them. These stores, in the absence of warehouses, had been deposited as fancy or circumstances directed. Covered perhaps with tarpaulin, they had presently been buried under the snow. Thus a plane might stand idle at one of the smaller route bases—out of doors, of course, since hangars were long available only at Edmonton and Fairbanks—awaiting parts which might well be present, though not accounted for, under the blanket of snow, Most stations as yet had no personnel capable of doing much more for transient aircraft than to supply them with gasoline and oil or, with good fortune and much labour, start their motors on a bitter winter's morning.[21]

The American presence at the staging units amounted to parallel organizations—USAAF and RCAF crash tenders stood ready for any emergency; an RCAF Norseman often faced a USAAF Norseman on the other side of the field; USAAF telephone and radio systems complemented similar Canadian systems. Given that the vast majority of traffic was American military, it was inevitable that "liaison" and "operational" staff would be predominantly American as well, generously supported by American logistics. There were unfortunate results. Consider the following from the diary of No. 4 Training Command dated 15 December 1942:

> Wing Commander [G. E.] Hall wired Ottawa regarding the situation created by lack of winter clothing and it is just possible that our supplies may be hastened. In the meantime our personnel are suffering from the cold. Wing Commander Hall mentioned in his wire that RCAF prestige "nil" at Whitehorse. Briefly, it is a case of being poor relations insofar as the RCAF is concerned. Not only at Whitehorse, but at every Unit we find it necessary to borrow equipment, rations, etc. from the Americans. Another comparison would be a small town grocer, capital $500, trying to keep pace with his million dollar chain store rivals.[22]

Supply problems could be overcome. About the time that Wing Commander Hall was observing RCAF difficulties, Wing Commander Farrell was reporting the passage of a large truck convoy which had left Calgary a month earlier to distribute supplies to the northern bases.[23] The June 1943 assignment of No. 164 Transport Squadron with Lodestar (and later Dakota) aircraft to the route helped greatly. However, the perception of a minimal Canadian presence in the area was insidious. In October 1943, Group Captain W. F. Hanna made an inspection tour. He was accompanied by Major-General H. W. Foster, whose summary was discouraging:

> It was also noticeable upon my trip that the U.S. authorities really dominate the present airfields on the Staging Route. The RCAF Forces, whilst very efficient, are limited in number and the Senior RCAF officer does not appear to have the authority that would warrant considering him in command.

Wing Commander Hanna was no less cautionary:

> While it is obviously both undesirable and impractical to attempt at present to compete with the United States on the Northwest Staging

> Route, either with respect to numbers of personnel or intensity of operations, there are, nevertheless, possible certain measures which would tend to strengthen the Canadian position and at the same time lend support to the RCAF officers in command.[24]

While praising some station commanders (notably Squadron Leader du Temple), he urged that more forceful or efficient officers might be posted to most RCAF stations. He also pointed out the need for strong symbols of Canadian control:

> At none of the stations is there a sign of the Administrative Building indicating clearly that the aerodrome is an RCAF aerodrome ... . There appears to be no uniformity in the flying of ensigns on the Administration Buildings. Some stations are flying the RCAF ensign, others the Union Jack, and still others the RCAF ensign and the Union Jack. In all instances the ensigns are relatively small and inconspicuous. Since these are RCAF aerodromes, differing in no essential respect from other operational aerodromes in Canada, it is considered that a large RCAF ensign should be flown conspicuously on the Administration Building.[25]

On 23 October 1943, A/V/M Anderson again emphasized the need to demonstrate Canadian competence to impress our ally:

> It is no secret that the United States was willing and eager to control the Route and this fact makes it all the more desirable that Canada should discharge the obligations it has assumed in such a way as to meet with the entire satisfaction of the U.S. forces. As the controlling authority on the Route, therefore, the RCAF is charged with upholding its own prestige and that of Canada as well.[26]

An incident in January 1944 freshened Canadian unease about the American presence. Watson Lake reported that the USAAF was building a new 51-foot [15.5-metre] control tower on one of their hangars which seriously impeded the view from the 31-foot [9.4-metre] RCAF tower. Group Captain V. H. Patriarche investigated and reported on the 17th. The American officer on the spot (Lieutenant-Colonel R. F. Kitcheningman) claimed that RCAF controllers were incompetent and that Washington had approved the project; Ottawa had not been consulted. Patriarche questioned both the colonel's premise and motives; the complaints were "of a general nature and fail to state specific cases."[27] He went on:

> It would appear that an effort is being made to move towards the establishment of USAAF control organization along the Route by a procession of limited objectives.[28]

The case was made; construction of the rival Watson Lake tower was halted and no more were begun elsewhere.[29]

At the working level (the staging units), relations between Canadian and American service personnel were reasonably harmonious. In May 1943, No. 1 Staging Unit reported that the new commander of US forces on site (a Captain Ponyman) had embarked on enforcing discipline, which had apparently been slack. "He gave a speech to his unit impressing on them that they are only visitors here and as such they should conduct themselves at all times in a proper manner."[30]

Dances, concerts and film nights were attended by both nationalities. Canteens were open to men of both air forces (even when there were beer shortages), and friendly rivalries arose in baseball games. All the same, there remained unease about national disparities. The diary of No. 5 Staging Unit (Whitehorse), entry of 23 August 1944, suggests as much:

> Command appointments carry the good name [news?] of the promotion of the Commanding Officer to the rank of Wing Commander. This will add greatly to the dignity of the RCAF in this district. The U.S. ATC officers will no longer outrank us so terribly.[31]

If interservice relations were cordial, the same was not always true of service-civilian interaction. It was occasionally expressed that USAAF personnel preferred working with the RCAF than with DoT personnel, who in turn had their own biases. Describing his arrival at No. 3 Staging Unit, Fort Nelson in July 1942, Squadron Leader Heaven found construction behind schedule, due in part to "a Department of Transport Resident Engineer who was unwilling to cooperate with anyone and who had an intense dislike of Americans."[32] Tensions were especially evident at the small fields between the staging units. Squadron Leader J. E. Rogers (commanding No. 5 Staging Unit), visited Teslin on 4 November 1943, accompanied by a DoT official. It was in response to a USAAF complaint that some of their pilots engaged in a search for a P-39 had been compelled to overnight there and had received little attention or assistance from DoT staff. Rogers reported:

> The matter had been straightened out, but it reveals a definite weakness in our organization set-up at Auxiliary Fields. The situation is particularly bad at present, as the senior RCAF man on the fields in all cases is only a Fitter Diesel Sergeant. They have very little knowledge of the organization and administration of an airfield and can easily be pushed around by DoT personnel, who in this area are not very cooperative.[33]

A report filed on 15 September 1943 by the RCAF Inspector General's Department drew attention to another irritant. It stated that American Military Police along the route tended to be "young, untrained, not overly educated" who adopted a "truculent and arrogant manner, much to the annoyance of Canadian civilians."[34] A suggested solution was to assign one RCMP constable to each station, under the direction of the local RCAF commander. The rationale was based in stereotyping:

> The Americans view the North Country as the land of the "Mounties" and a "red coat" would be symbolic of Canadian authority along the route.[35]

Operational disagreements were few. One involved snow removal on runways and taxiways. RCAF officers were familiar with snow compacting; Americans marshalled blowers and ploughs as if on campaign. Breaches of air discipline created tension. Such an incident occurred at No. 1 Staging Unit, Grande Prairie on 14 May 1943, when visibility was reduced by snow showers. An unscheduled flight of P-39s appeared and circled the field without contacting the control tower. They arrived just as a Canadian Pacific Airlines Lockheed piloted by Grant McConachie approached for a landing. Twice the P-39s nearly collided with the civilian aircraft, and McConachie finally flew on to Fort St. John.[36] On 21 June 1943, the No. 3 Staging Unit diary noted, "Squadron Leader Heaven has on several occasions protested to the U.S. Detachment Commander at Fort Nelson re the dangerous practice of 'buzzing the field' by U.S. pilots and a letter to this effect was filed with the USAAF last November."[37]

Authorities were surprisingly nervous about possible Japanese raids. As of June 1942, it was anticipated that fighter squadrons might have to be based at some stations if there was an "obvious threat of enemy attack."[38] This may have been understandable before the implications of the Battle of Midway had been absorbed. However, there is more than a hint of paranoia in the diary of No. 5 Staging Unit, Whitehorse, on 12 May 1943. The RCMP post at Old Crow had reported that unidentified aircraft had been heard and seen in their area. There were no resources other than RCMP and American forces to determine the nationality of these aircraft, and Fairbanks was contacted. "There is a possibility that such aircraft are enemy ships operating from a carrier base in the Beaufort Sea."[39]Almost as implausible was the chance that Japanese aircraft still in the Aleutians might conduct a strike, yet in June 1943, the American 62nd Anti-Aircraft Battery was installed at Whitehorse.[40]

Meanwhile, American Engineers had constructed the Alaska Highway. This was virtually an invasion of Canada done with the permission of Ottawa. It was built alongside the air route, the better to service the needs of the various air bases, and in some cases the path of the highway led through more difficult terrain to accommodate airway priorities. The oil field at Norman Wells (100 miles [161 km] south of the Arctic Circle) dated from 1920, but its expansion, plus the Canol pipeline to Whitehorse, and thence to Skagway, was essentially an American project.

Completion of the Alaska Highway meant a changing American presence in the north. Reporting from Whitehorse in May 1944, journalist Gordon McCallum noted that buildings previously housing highway and pipeline workers were falling vacant, but the American Air Transport Command was still a significant presence. He estimated that for every Union Jack flown in the area, there were five Stars and Stripes.

> Whitehorse has taken a great share of the Northwest Staging Route development. Its air field is operated by the RCAF, but it's predominantly American. The RCAF men at the gate at the top of the hill would tell you that nine times out of 10, it's an American car or truck for which they raise the red-and-white striped bar.[41]

For much of its history, the Northwest Staging Route (sometimes corrupted to the "Northwest Staggering Route" or the "Northwest Stage Route") had operated under the aegis of other commands—No. 4 Training Command until December 1943, Western Air Command thereafter—with scant structure of its own. It lacked a defining nomenclature; it was neither a station, wing nor group. On 18 February 1944, No. 2 Wing was designated as the supervising body, but this was not grand enough. At last, AFHQ moved to raise it to the status of a command. Having proved its ability to provide efficient passage of supplies, it was important to incorporate it as a player in Canada's international aviation plans, asserting more forcefully the national interest in the north. Accordingly, on 11 May 1944, AFHQ issued Organization Order No. 193 to take effect on 1 June 1944. This began with a statement of the obvious:

> A series of aerodromes and aircraft control facilities have been constructed and put into operation in North Western Canada. These are known as the North West Staging Route. The responsibility for the control, operation, maintenance and defence of this route has been vested in the RCAF. Certain formations, units and detachments have been formed at locations along this route for the purpose of discharging the RCAF responsibilities. No. 2 Wing was formed on 18 February 1944, as the controlling formation for this route, but it has been found that "wing

> status" is not sufficient to undertake these commitments, especially in view of the international implications involved. It has been decided, therefore, to form an RCAF Command which will replace No. 2 Wing as the controlling formation of the North West Staging Route.

The order set forth the geographical boundaries of the new North West Air Command (NWAC): on the east at longitude 110 degrees east, on the south by latitude 52 degrees 30 minutes north, on the west by the Alberta-British Columbia boundary to latitude 58 degrees, 30 minutes North, thence west to the British Columbia-Alaska boundary at Stewart (on the Portland Canal) and then northwards along the border with Alaska as far as the Arctic Ocean. Between October and December, the staging units were redesignated RCAF Stations; No. 1 Staging Unit, for example, became Station Grande Prairie.[42]

A/V/M T. A. Lawrence, then heading No. 2 Training Command, was appointed Air Officer Commanding, NWAC. He was widely known and respected for having led the Hudson Strait Expedition of 1927–28, although he had more recently been a diligent southerly administrator. His Chief Staff Officer, Wing Commander V. H. Patriarche, AFC, late commander of No. 2 Wing, Edmonton, had extensive northern and civil experience with Northern Aerial Mining Explorers (1929–31), Spence McDonough Air Transport Limited (1933–34) and Canadian Airways (1933–39). No. 2 Air Observer School (AOS) in Edmonton had been disbanded earlier in the year, and NWAC took over its buildings to accommodate the increased staff necessary to administer the staging route.

Improvement of facilities was always underway. The diary entry of NWAC for 18 October 1944 mentioned one such upgrade and confirmed the continuing presence of the Department of Transport.

> DoT has completed installation of high intensity approach lights at airfields at Edmonton, Fort St. John, and Whitehorse. By the end of the year the Department expects to have installed similar lights at Watson Lake and Fort Nelson. These lights, which are red, are the first of their kind to be used at any airfield in Canada and are designed to overcome low visibility conditions.[43]

Just how far afield the air force went to install new equipment was described by A/V/M Lawrence in a press release dated 4 January 1945. Maintenance of landline communications was important, and late in 1944, new repeater stations were being installed by American engineers; the equipment being considered "permanent" rather than "temporary," the costs were being borne by Canada. Unfortunately, there was none of the new equipment in North America, and manufacturers indicated a nine-month delay in providing it. Then it was discovered that there were large quantities of the items in North Africa, where they had been much used in 1942 and 1943. The equipment, now redundant, was rushed across the Atlantic for installation along the Northwest Staging Route.[44]

The diaries of the Northwest Staging Route units are surprisingly light on air-traffic details. Most commonly, flight operations were described as "heavy," "normal" or "light." On 10 May 1943, No. 3 Staging Unit (Fort Nelson) reported its busiest day up to then—"55 aircraft passed through or stopping over."[45] On 19 February 1944, No. 1 Staging Unit (Grande Prairie) noted, "we've had everything from Cubs to medium bombers on the ramp in the last eight hours."[46] No. 5 Staging Unit (Whitehorse) routinely cited daily "operations," defined as a single landing or take-off. Most were undoubtedly in transit, but the numbers include occasional arrivals and departures of RCAF transports; on 7 August 1944 they reported a record 207 "operations."[47]


WATSON LAKE
AERODROME
ADMISSION BY PASS ONLY
TRESSPASSERS
SUBJECT TO MILITARY LAW
NO QUARTERS OR RATIONS
AVAILABLE TO TRANSIENTS

Many (though not all) crashes and near-misses were reported in the Operational Record Books, ranging from tragic to comic. Two examples, drawn from the diary of No. 3 Staging Unit, Fort Nelson, may demonstrate the range of such incidents:

> 6 March 1943 - An American P-39 Bell Airacobra apparently caught fire in the air and crashed in flames in bush approximately 2 miles [3.2 km] north of the control tower. The pilot, 2nd Lieutenant John W. Bence, U.S. Ferry Command, was instantly killed.
>
> 30 August 1943 - Another near accident today when three P-39s came in at 1251 hours. The first aircraft landed O.K., the second had made his landing and was about three-quarters down the runway. The Tower Control officer on duty, F/O [Flying Officer] Fry, had turned to give No. 3 landing clearance, given the clearance, and when he again turned around he saw No. 2 off the left of the runway on its nose. Apparently the pilot had pulled off the runway, turned and pulled his landing gear instead of the flaps, causing the aircraft to stand on its nose. As usual, every American within a mile [1.6 km] of the scene piled into jeeps, cars, trucks, etc. and made a mad dash onto the runway without permission. The result was that so much dust was raised the runway was closed and an A-20 following the P-39s was forced to pull up and make another circuit.[48]

Not all the traffic was bound for Russia. Units frequently reported passage of Soviet officers heading for American factories and diplomats bound for Washington; the highest level delegation was in June 1945 for the San Francisco conference that established the United Nations. Another observer in the spring of 1945 was F/O P. G. Cowley-Brown, an official RCAF war artist, whose paintings now reside with the Canadian War Museum.

The level of operations obviously varied with weather and seasons. Intense cold might affect liquid-cooled engines (the P-39s and P-63s were especially sensitive), but the dropping temperatures often spelled clear skies. Long summer daylight hours favoured flying; limited winter daylight brought the opposite.[49] Fog or blowing snow were frequent and unpredictable. In April 1944, forest fires along the Northwest Staging Route seriously affected operations. The situation worsened. On 25 May, 1944, H. F. Gordon (Deputy Minister for Air), writing to the federal Deputy Minister of Mines and Resources, reported:

> From Whitecourt to near Beetton River there are numerous fires with heavy smoke. There are several bad fires between Beetton River and Fort Nelson, and two serious fires now started between Fort Nelson and Watson Lake. Ferry traffic on the Northwest Staging Route between Edmonton and Fort Nelson is seriously delayed as a consequence of the heavy smoke and at certain airports along this stretch of the Route visibility is below minimum laid down for contact flying. The Air Officer Commanding Western Air Command has expressed the opinion that unless effective action is immediately taken, the same situation will develop from Fort Nelson to Whitehorse, as this section of the country is rapidly drying out.[50]

The problem went beyond operational resources; the federal government had complete jurisdiction in the Yukon Territory; Alberta and British Columbia seemed frozen in contemplating

and coordinating action. The fact that American air operations were being curtailed lent urgency to the situation; mobilization of National Resources Mobilization Act conscripts to fight the fires seemed to be the only measure possible. Once this was done, the soldiers on the ground were given much assistance by F/O J. Jaworski, a Norseman pilot who scouted the fires, dropped supplies to the men and, finally, brought them out when the job was finished.[51]

A close reading of unit diaries reveals the work performed by anonymous "other ranks." The Beaton River Detachment, enduring a prolonged blizzard in early January 1945, recorded the following on the 4th:

> Storm still raging and tractor section running full swing night and day to keep the snow under control. In spite of the conditions the tractor section are working under, such as no heat and only storing space for a third of their equipment, they keep their every day problems well under control as well as a cheery smile on their faces. (Men are brutes for punishment, eh). To date when winter first set in we have only lost nine hours time that planes could not have safely made landings here, due to a heavy rain which froze instantly, leaving our runway a sheet of ice, but in nine hours time with tractors and drags the runway was back in good condition.[52]

Northwest Staging Route Headquarters and its successor, Northwest Air Command, controlled few air assets—a handful of Dakotas and a communications flight equipped with Norseman aircraft, which performed light transport along the route, with occasional mercy and search and rescue missions, seasonally changing from wheels to floats to skis. Some pilots had extensive bush flying experience. A First World War veteran, C. C. Crossly (possibly the first RCAF Norseman pilot on the route), had flown more than 13 years with the Ontario Provincial Air Service before enlisting in the RCAF. The RCAF safety record for the route was remarkable, but on 28 December 1943, Norseman 3529 with six persons aboard crashed in a burned-over area surrounded by heavy timber. All aboard were injured; the pilot, Squadron Leader I. M. MacLean (Commanding Officer, No. 2 Staging Unit), died on 2 January 1944. Corporal W. W. Riglin was awarded a British Empire Medal for dragging MacLean out of the burning aircraft; Leading Aircraftman G. D. McCaffrey was Mentioned in Despatches for similar rescue efforts.[53]

Many stories of Norseman operations may be gleaned from the RCAF operational record books; few need be repeated here, given an existing publication.[54] One example may suffice, from 14 July 1944, when F/O J. S. Coombes, accompanied by F/O W. R. Burnap (Medical Officer) and Nursing Sister H. M. Brown, responded to a medical emergency in the Pembina district, which had been isolated by flooding. On arrival, the doctor advised that the patient would have to be evacuated to Edmonton. However, it would be necessary to enlarge the take-off area. Nearby farmers cleared a runway through the bush. In his take-off, Coombes clipped the trees. Both wings were damaged and the throttle was jammed open, but he remained airborne and successfully completed the mission. Coombes was awarded an Air Force Cross; Burnap and Brown were Commended for Valuable Services in the Air.[55]

Continuing cooperation between the RCAF and DoT was demonstrated in January 1945, again described in the diary of NWAC:

> Lockheed CF-CCT, Department of Transport aircraft with seven DoT officials, was forced down in the vicinity of Mink Lake on January 13th due to shortage of gas. Mink Lake is approximately 100 miles [161 km]

> East of Fort Simpson and approximately 25 miles [40 km] North East of Mills Lake on Horn River. Four RCAF aircraft joined in the search, and the missing aircraft was located during the afternoon of January 15th on an unmapped lake at 62 degrees 17 minutes North 118 degrees 43 minutes West. The party on board were moved to Fort Simpson and later on the same day the aircraft was flown out by the pilot, fuel having been supplied from RCAF stocks. In this connection the following message has been received from Mr. A. D. McLean, Controller of Civil Aviation: "Many thanks to you and to officers and men for hearty cooperation and congratulations on efficiency of search and rescue organization which we all hold in high respect."[56]

The Americans had established an Arctic Training Unit in Colorado. Not to be outdone, the manager of No. 2 Air Observer School, Edmonton, W. R. "Wop" May, initiated para-rescue teams, borrowing ideas from Montana "smoke jumpers." His work was taken up by the RCAF when No. 2 AOS closed in July 1944; four civilian mechanics who had received parachute training as part of May's team were enrolled as sergeants and carried on as before. The NWAC diary for 14 December 1944 noted, "the Air Search and Rescue Branch has organized a school to train 'parasearchers' for RCAF's Eastern, Western and North West Air Commands. This is now functioning at Edmonton." The Edmonton *Bulletin* of 13 December 1944 identified the man in charge as Flying Officer C. V. Godwin, and described a thorough curriculum which included parachuting, advanced first aid, bush lore, Morse signalling, and physical-fitness drill. The "final exam" was a drop into isolated bush along the North West Staging Route to demonstrate their survival skills.[57] Unhappily, records of both the school and the activities of its graduates are sparse, but the citation to a commendation for Sergeant O. S. Hargreaves (January 1946) paid tribute to his work at the school:

> This non-commissioned officer has shown extensive initiative in this new field of endeavour as a Jumpmaster of pararescue school. His sincere efforts and hard work have done much toward the development of Search and Rescue in the Royal Canadian Air Force.

In June 1946, he was awarded a British Empire Medal; the citation noted his "constant planning and attention to detail that had made the pararescue squad a closely knit, smoothly operating unit that has stood ready to render aid at a moment's notice."[58]

Canadian newspapers were prone to exaggerate and misinterpret the importance of the route. In November 1944, a Canadian Press despatch suggested that it might play a significant part in the continuing Pacific war. In fact, the major campaigns approached Japan from the south; after August 1943, the Alaskan theatre lapsed into a strategic backwater.[59] It was much more important in terms of Russian air operations against Germany. In the period 1942 to 1944, approximately 20 percent of all Soviet fighters and 30 percent of their bombers came from American factories. Some went by sea through Murmansk; many (such as P40 Kittyhawks) by air through Iran. Nevertheless, the Northwest Staging Route accounted for staggering numbers: 2,618 P-39s; 2,397 P-63s; 1,363 A20s; 732 B-25s; and 710 C-47s (not counted by other sources). Smaller deliveries encompassed 40 P-40s; 3 P-47s; 1 C-46; and 54 AT-6 trainers.[60]

Although it lies outside the scope of RCAF operations, one might look at where transfer of the Lend-Lease aircraft was accomplished. After prolonged negotiations between Russia and the United States, the process began in September 1942. The transfer point was Fairbanks, Alaska.

Joseph Stalin insisted that it not occur in Siberia, ostensibly because the presence of American fliers in Russia might endanger the existing Russian neutrality vis-a-vis Japan. Most Soviet ferry pilots were combat veterans taking a break from action. Following a quick conversion course from American aircrew, they embarked for Russia, following their own equivalent of the Northwest Staging Route to the front. How many aircraft crashed after Fairbanks is not known, but between Great Falls, Montana and Fairbanks, the USAAC calculated that 133 were lost through weather or pilot error.

Notwithstanding that Canadian politicians and senior officers had been sensitive about national sovereignty, American withdrawal from the Northwest Staging Route began after Victory in Europe Day and accelerated after Victory over Japan Day. Nevertheless, the pace of withdrawal did not satisfy A/V/M Lawrence (on whom our ally had just bestowed the honour of Commander, Legion of Merit). With a view to reinforcement of Alaska defences—even early in the Cold War—the USAAF was reluctant to exit completely. The pace and extent of departure was discussed at the Permanent Joint Board on Defence. The senior American Army representative, Major General G. V. Henry, wrote to his Canadian counterpart, A/V/M W. A. Curtis, assuring him that there was no tendency in the US to ask or suggest that Canada become a "camping ground" for US personnel, while reiterating American defence concerns. Curtis, for his part, admitted that it was difficult to make a "clean break" from wartime to peacetime, but was insistent that such a process should go forward.[61]

Behind the scenes, accountants calculated just how much one nation owed another for equipment left behind. A conference at Northwest Air Command Headquarters on 11 December 1946, heard General A. J. Old, USAAF, announce the withdrawal of almost all American personnel from the Northwest Staging Route by March 1947; transiting aircraft would accept Canadian procedures such as civilian weather briefings. The most substantial USAAF presence would henceforth be a B-29 LORAN Detachment at Edmonton and personnel specializing in servicing of C-54 transports.[62]

There was greater formality at Whitehorse on 3 April 1946, when the Alaska Highway was transferred to Canada, lock, stock and barrel. Facilities along the Northwest Staging Route itself were reduced. Unit diaries, which once recorded expansion and activity, lapsed into reporting the process of contraction. Station Grande Prairie's entry for 16 May 1946 was typical: "The former American Recreation Hall which the RCAF have been using for sports, shows and dances, has been cleared and closed. Most of the equipment and furniture has been moved to the Accommodation Building and the rest to the Freight Transit Centre."[63] The aerial highway continued into peacetime as a primary RCAF northern supply line. In the "boom and bust" tradition of the north, some of its assets were sold off or reverted to Department of Transport control—swords into ploughshares.[64]

Hugh Halliday is a former member of the RCAF, a historian and author with numerous books and articles to his credit. One of his more recent works, Valour Reconsidered: Inquiries into the Victoria Cross and Other Awards for Bravery (2006), examines how major gallantry awards were bestowed.

ABBREVIATIONS

AFC	Air Force Cross
AFHQ	Air Force Headquarters
AOS	air observer school
A/V/M	air vice-marshal

CMU	construction and maintenance unit
DFC	Distinguished Flying Cross
DHH	Directorate of History and Heritage
DND	Department of National Defence
DoT	Department of Transport
F/O	flying officer
HQ	headquarters
kg	kilogram
km	kilometre
LAC	Library and Archives Canada
MC	Military Cross
NWAC	North West Air Command
RCAF	Royal Canadian Air Force
RG	Record Group
US	United States
U.S.	United States
USAAC	United States Army Air Corps
USAAF	United States Army Air Forces
v	volume

A cluster of more than 500 humorous “Milepost” signs are located at Watson Lake Junction mile 635. Begun by workers during construction days, the cluster has grown year by year by passing motorists adding new signs boasting hometowns all over the world.

NOTES

1. Although Northwest Staging Route was the official title, it was often written as "North West" Staging Route in various documents. In 1945, in anticipation of an official RCAF history, Flight Lieutenant W. G. Goddard was assigned to write an account of Northwest Air Command (which had evolved from the Northwest Staging Route). His untitled narrative, now Directorate of History and Heritage (DHH), Document 74/6, has been the inspiration and primary source of this essay. The projected overall history, blighted by AFHQ indifference, was not commenced until 1968. Apart from other sources cited, liberal use has been made of the collection of wartime newspaper reports at the *Canadian War Museum*, "Democracy at War: Canadian Newspapers and the Second World War" website, accessed January 18, 2018, http://www.warmuseum.ca/cwm/exhibitions/newspapers/intro_e.shtml.

2. Anonymous, "The Alaskan Flying Expedition," *Flying*, (n.p.:1920). The route chosen differed from what later became more common; from Edmonton they proceeded through Jasper, Prince George, Hazelton, Wrangell (Alaskan Panhandle), Whitehorse, Dawson, Fairbanks and Nome.

3. Library and Archives Canada (LAC), Record Group (RG) 25, volume (v.) 1684, Department of External Affairs file 53-AB.

4. LAC, Manuscript Group 30 A 64, v. 1, "Progress Report and Photos, Yukon and Northwest Territories, 1935," A. D. McLean Papers.

5. LAC, RG 24, v. 5234, "North West Staging Route - Development of," RCAF file 19-24-2, vol. 1.

6. "Construction of Air Bases in B.C. Restores 'Boom Days' to Northwest," Toronto, *Globe and Mail*, 19 June 1941.

7. History was never far away. The diary of No. 5 Staging Unit (Whitehorse) noted the following under the date 10 October 1943: "Some of the airmen visited Miles Canyon where, they report, there are still some of the old tracks of the wooden railway which was used on the trail of '98. The remains of an old gold rush town were found, and relics of gold mining days were quite evident, along with pieces of animal skulls. According to one Old Timer in these parts, this was about the most notorious town in the Yukon in its day, the last resident moving out in 1922 when it was no longer possible to get supplies over the log railway which had rotted and broken up during the course of time."

8. Annual Report of the Department of Transport, 1940–41 (Ottawa, King's Printer), 23.

9. LAC, RG 24, v. 5234, "North West Staging Route - Development of," RCAF file 19-24-2, vol. 1.

10. Minutes of the Department of National Defence Aerodrome Development Committee, special meeting of 18 May 1942, in RCAF file 19-24-2, vol. 1.

11. The issue was one of many irritants in the US-Canadian wartime relationships. See Stanley W. Dziuban, "Military Relations between the United States and Canada, 1939–1945, Special Study," *United States Army in World War II* (Washington, DC: Office of the Chief of Military History, 1959), 309–11; and C. P. Stacey, *Arms, Men and Governments: The War Policies of Canada, 1939-1945* (Ottawa, Queen's Printer, 1979), 379–382.

12. LAC, RG 24, v. 5234, "North West Staging Route - Development of," Anderson to Chief of the Air Staff, 27 June 1942, in RCAF file 19-24-2, Vol. 1.

13. LAC, "North West Staging Route, Edmonton," Operational Record Book, microfilm C-12164.

14. Not surprisingly, the establishments grew; as of 26 May 1943, it had been revised to cover 440 persons on the whole Northwest Staging Route, including 51 at Headquarters; 55 assigned to the Communication Flight; 47 to No. 1 Staging Unit; 67 to No. 2 Staging Unit; 50 to No. 3 Staging Unit; 67 to No. 4 Staging Unit; and 103 to No. 5 Staging Unit. LAC, RG R.112, v. 41950, North West Staging Route, Organization and Establishment, RCAF file 895-100-37/0, vol. 2. Even so, numbers on the ground seldom matched those on the organization charts.

15. Remained a joint RCAF-United States Air Force base until 1949.

16. Remained a joint RCAF-United States Air Force base until 1949.

17. LAC, Operational Record Book, No. 4 Staging Unit, Watson Lake, microfilm C-12393.

18. LAC, RG 24, v. 5170, "North West Staging Route - Inspector General's Report on," Air Vice-Marshal A. A. L. Cuffe, Deputy Inspector General, to Minister of National Defence for Air, 15 September 1943, in RCAF file 14-16-10.

19. LAC, Operational Record Book, No. 3 Staging Unit, Grande Prairie, microfilm C-12393.

20. LAC, RG 24, v. 5235, Memorandum dated 4 January 1943, RCAF file 19-24-2, vol. 2.

21. Wesley Frank Craven and James Lea Cate, eds., "Services Around the World," *The Army Air Forces in World War II*, 2 (Washington: Office of Air Force History, 1983), 158–59.

22. LAC, Operational Record Book, North West Staging Route, Edmonton, microfilm C-12164.

23. "100-Truck Convoy Makes Trip Over Alaska Route for RCAF," *Globe and Mail*, 2 December 1942.

24. DHH, Document 74/6, Section 27, Wing Commander Hanna report.

25. DHH, Document 74/6, Section 27, Wing Commander Hanna report.

26. LAC, RG R.112, v. 41950, "North West Staging Route, Organization and Establishment," RCAF file 895-100-37/0, vol. 3.

27. LAC, DHH file 181.009 (D.3391), North West Air Command (RCAF) - North West Staging Route - U.S. North West Service Command, 31 December 1942 to 4 April 1944.

28. LAC, DHH file 181.009 (D.3391), North West Air Command.

29. LAC, DHH file 181.009 (D.3391), North West Air Command.

30. LAC, DHH file 181.009 (D.3391), North West Air Command.

31. LAC, Operational Record Book, No. 5 Staging Unit, Whitehorse, microfilm C-12393. Squadron Leader G. T. Steeves had assumed command of the unit on 8 August 1944; he was the first RCAF officer to hold wing commander rank at Whitehorse.

32. LAC, Squadron Leader A. C. Heaven to Wing Commander W. J. McFarlane, 9 September 1943, in Heaven's personal RCAF file.

33. LAC, Operational Record Book, No. 5 Staging Unit, Whitehorse, microfilm C-12393.

34. LAC, RG 24, v. 5170, "North West Staging Route - Inspector General's Report on," RCAF file 14-16-10.

35. LAC, RG 24, v. 5170, "North West Staging Route." RCMP manpower shortages rendered this impractical; RCAF Service Police were assigned.

36. LAC, Operational Record Book, No. 1 Staging Unit, Grande Prairie, microfilm C-12392.

37. LAC, Operational Record Book, No. 3 Staging Unit, Fort St. John, microfilm C-12393.

38. DHH, A/V/M N. R. Anderson, Air Member for Air Services, to Air Member Organization, quoted in Document 74/6, section 13.

39. LAC, Operational Record Book, No. 5 Staging Unit, Whitehorse, microfilm C-12393.

40. LAC, Operational Record Book, No. 5 Staging Unit, Whitehorse.

41. Gordon McCallum, "Oil and Air Transport Sustaining Yukon Town," *Globe and Mail*, 10 May 1944.

42. LAC, Operational Record Book, North West Air Command, microfilm C-12165.

43. Operational Record Book, North West Air Command, LAC, microfilm C-12164.

44. LAC, Operational Record Book, North West Air Command, microfilm C-12164; appendix to entry for January 1945.

45. LAC, Operational Record Book, No. 3 Staging Unit, Fort Nelson, microfilm C-12393.

46. LAC, Operational Record Book, No. 3 Staging Unit, Fort Nelson.

47. LAC, Operational Record Book, No. 3 Staging Unit, Fort Nelson.

48. LAC, Operational Record Book, No. 3 Staging Unit, Fort Nelson. For more comprehensive coverage of accidents along the route, see Blake W. Smith, *Warplanes to Alaska: The Story of a WW-II Military Supply Lifeline to Alaska and Russia Through the Canadian Wilderness* (Surrey, BC: Hancock House, 1998).

49. The highest numbers of deliveries were in August and September 1944 (403 and 350 aircraft respectively; Craven and Cate, eds., "Services Around the World," 165.

50. LAC, RG 24, v. 5235, RCAF file 19-24-2, vol. 4.

51. Jaworski's record brought him a Commendation for Valuable Services in the Air and an Air Force Cross. His unpublished memoirs are in LAC, Manuscript Group 30-E214, R2462-0-0-E.

52. LAC, Operational Record Book, RCAF Detachment Beaton River, microfilm C-12401.

53. RCAF Association Search Awards database, accessed January 18, 2018, http://rcafassociation.ca/heritage/search-awards.

54. Larry Milberry and Hugh Halliday, *Aviation in Canada: The Noorduyn Norseman Volume I* (n.p.: Canav Books, 2013).

55. RCAF Association Search Awards database.

56. LAC, Operational Record Book, North West Air Command, microfilm C-12164.

57. LAC, Operational Record Book, North West Air Command, microfilm C-12164.

58. LAC, Operational Record Book, North West Air Command, microfilm C-12164.

59. RCAF Association Search Awards database.

60. "Staging Route May Play Part in Pacific War," *Hamilton Spectator*, 17 November 1944.

61. WW2 Weapons: The World Wars 1914-18 and 1938-45, "Lend Lease Tanks and Aircrafts, accessed January 18, 2018, https://ww2-weapons.com/lend-lease-tanks-and-aircrafts/; and Stan Cohen, *The Forgotten War: A Pictorial History of World War II in Alaska and Northwestern Canada*, (Madison, WI: Pictorial Histories Publishing, 1988), II, 49.

62. LAC, RG 24, v. 5234, Lawrence to AFHQ, 20 July 1946; Henry to Curtis, 23 July 1946; Curtis to Henry, 29 July 1946; RCAF file 19-24-2, vol. 5.

63. LAC, RG 24, v. 5234, RCAF file 19-24-2, vol. 6.

64. LAC, Operational Record Book, Station Grande Prairie, microfilm C-12190.

65. For more on the post-war disposal of Northwest Staging Route (and other) facilities, see Bruce Forsyth's website, accessed January 18, 2018, http://militarybruce.com/abandonedcanadianmilitarybases.