History of Aviation in the

BC Forest Service

A pictorial account for the BCFS Centennial

July 2012

Part 3: Helicopters

This is a brief pictorial account of the history of helicopters with the British Columbia Forest Service over the past 65 years.

Post World War II

Interest in the development of the helicopter by Canadian provincial agencies actually began in 1943, prior to the end of the war, following reports of successes in military roles. After serious consideration by the Ontario Department of Lands and Forests, the British Columbia Forest Service was probing the possibility of transporting firefighters to fires in remote locations. The 1943 B.C.F.S. annual report stated "This will call for increased air transportation in which connection, the development of the helicopter holds great promise". Unfortunately, the federal governments of the day were limiting the development and production of the helicopter to the current war efforts.

Following the end of the war, Sikorsky Aircraft were prepared to market a modified Sikorsky R-5 for civilian use. In April of 1946 the U.S. Forest Service and U.S. Army Air Force conducted a demonstration of the R-5 in California, attended by two B.C.F.S. foresters. The conclusion reached however was that the R-5 was limited in performance in the firefighting role, as well as it exhibited a high price tag.



Figure 1: USAAF Sikorsky R-5 demonstration, California April, 1946

Shortly after, the Bell Aircraft Corporation certified the Bell 47. This was the world's first commercial helicopter. It wasn't until the spring of 1947 that commercial operations commenced in Canada. Between May and August that year five spray model Bell 47B3's were imported into Canada. Two were written off in accidents in Ontario and Saskatchewan that summer, fortunately without serious injury. The remaining three eventually ended up in British Columbia and were registered as CF-FJA, CF-FZN and CF-FZX. Within the next year all three were also involved in accidents but not as serious as the previous two.



Figure 2: Bell 47B3 CF-FJA with the open cockpit spray configuration

Allow us to stray from the B.C.F.S. topic for a moment…… an interesting debate was uncovered during research for this paper, that being: what was the first commercial helicopter operation in B.C.? Three events occurred around the same time in 1947:

- An ex-military Sikorsky R-4B from California was working around Prince George in June and July doing mineral exploration work. The Canadian government soon shut the operation down as the aircraft did not have permission to fly in Canada.
- In mid August a Central Aircraft Bell 47 B was brought in from Yakima Washington to assist in the recovery of the body of a mountain climber from Mount Waddington, B.C.
- On August 9th, Carl Agar and Alf Stringer (two pioneers with the recently formed Okanagan Air Services Ltd.) brought the first B.C. commercially registered helicopter Bell 47 B3 CF-FZX to Penticton from Yakima.

We're awarding the winner of the debate to Carl and Alf.



Figure 3: Central Aircraft Bell 47 B, registration NC11H, with pilot Montgomery on Tiedman Glacier, Mount Waddington Aug. 1947. Okanagan's Carl Agar trained on this helicopter.



Figure 4: Okanagan Air Services Bell 47 B3 CF-FZX

It wasn't until the next year that the B.C.F.S. would use the helicopter for the first time in an operational role. A contract was entered into with Okanagan Air Services for the control of false hemlock looper over a 17,000 acre infestation of Douglas fir in the Windermere Valley, East Kootenays. Okanagan provided CF-FZX with 20 foot spray booms delivering an oil / DDT mix. Spraying commenced on July 1st, 1948 and was completed on the July 24th. Over 11,000 acres were treated with a total of 466 flights piloted by both Carl Agar and Paul Ostrander.



Figure 5: CF-FZX on a spray run near Windermere July 1948. Note the hydrogen filled marker balloon below the helicopter.

The success of this operation led to another agreement with the Department of Lands and Forests trialing the Bell on a photo – topographical survey in the Skagit Range southeast of Chilliwack. A handwritten agreement was signed with Okanagan on August 5th, just two weeks after the spray project, to provide FZX for $85.00 per hour. The area was intentionally chosen for it's ruggedness and high elevations and the trial analysed several facets including: density altitudes, wind directions, airflows at peak and ridge levels, helicopter landing areas, loads and takeoff and landing techniques. The crew consisted of a surveyor, eight helpers and their equipment.



Figure 6: FZX manoeuvring over a landing pad.

The success of this trial led to a large contract with the Provincial Government for topographical surveys in northern B.C. between Hazelton and Atlin between 1949 and 1951. This was the subject of a 1950 film produced by the Forest Service Public Relations and Education Department entitled "Flying Surveyors".

Around 1950, the three Bell 47B3's underwent gradual conversion to the 47D-1 model. This entailed replacing the wheels with skids, installing a full bubble, removing the covering from the tail boom, replacing the tail rotor skid with a "harp" and raising the fuel tank behind the rotor mast.



Figure 7: Survey crewmember lowering himself from the helicopter by means of a rope ladder to prepare an area for landing – undoubtedly one of the first "hover exits" in the province.

The 1950's – Building Years

Following these projects, F.S. use of the helicopter became hit and miss, utilizing them if they were close and available. The 1952 annual report mentions the "Successful experimental use of commercial helicopter for transporting pre-fabricated lookout building, Beaver Bluff, Prince Rupert Forest District." The accompanying (washed out) picture shows a bubble configuration indicating the Bell 47 D-1 may have been a converted B3 model. CF-FJA (figure 2) was in northern B.C. that summer conducting provincial government surveys.

1955 saw the use of the helicopter for forest inventory surveys between Kitimat and Prince Rupert.



Figure 8: Okanagan Helicopters CF-FZX as fully converted B47 D-1 model - 1955.

In 1955 Pacific Western Airlines (PWA), who provided fixed wing aircraft under contract with the Forest Service, acquired their first Bell 47 G-1. By the end of the year they had six. The company soon succeeded in winning many of the forestry contracts available. In 1956 the Forest Surveys and Inventory Division flew 240 helicopter hours in forest sampling work in the northern interior of

the Province. The helicopters successfully shuttled sampling crews in areas with limited access. This work continued the next year.

In 1957, a contracted helicopter was used for the first time for fire protection flying. Operating entirely within the Kamloops Forest District, the machine flew 147 hours over a two month period. It provided services including lookout cargo hauling, reconnaissance, fire patrol, ferrying, and lookout visibility mapping. Over 36,000 pounds of freight was hauled during that period.



Figure 9: Okanagan Bell 47 D-1 conducting forest sampling work - 1955. BC Archives NA-15623

By 1958/59, several operators had obtained the upgraded Bell 47 G-2 with the 220-hp Lycoming engine and 43 US gallon saddle fuel tanks.

The 1958 fire season went down as one of the worst in history with over 4000 fires burning 2 million acres. As well as this being the first use of fixed wing air tankers, 1958 saw a substantial increase in helicopter activity with the Forest Service. A total of nearly 1200 hours were flown by the Bell 47 G1's and G2's, Sikorsky S 55 and S 58 types providing crew and equipment moves and water bombing services. The bulk of the flying was done in the northern Districts with the light machines.



Figure 10: A pair of contracted PWA Bell 47G's assisting with forest sampling work – 1958. BC Archives NA-17521



Figure 11: Okanagan Helicopters Sikorsky S 55

Okanagan first acquired the S 55 in 1953 while assisting with the Alcan Kemano project. Their first S58 was obtained in 1956 to support the DEW Line radar contracts in northern Canada. By 1957 the company (in addition to the Bell 47's) operated twenty one S 55's and thirty one S58's - mainly working on the DEW Line.

Other developments in 1958 included the use of an S 58 with an internal 225 gallon fire fighting tank. The company soon realized that this system severely restricted the versatility of the machine and new externally slung gated tanks were trialed, also with the same volume. While one tank was airborne with the helicopter, the second was being filled on the ground. Over a two day period in late August, the S 58 successfully delivered 6,000 gallons of water on a fire north west of Squamish.



Figure 12: Fire crew being briefed in the shade of an OK S 55 - 1958. BC Archives NA-17456



Figure 14: A crewman secures the load on a PWA B47 G supporting the Skoonka fire in the Rupert District – July 1958



Figure 13: A later shot of an OK S 58 on a newly constructed pad at Lytton.

By 1959 Pacific Western Airlines had disposed of their helicopter fleet and the new company was named Pacific Helicopters. It wasn't long before Okanagan absorbed them as well as several other companies in Canada. Helicopter flying by the Forest Surveys and Inventory Division that year was unprecedented, accounting for 945 hours, assisting in the classification of over 10 million acres of forest. In the Protection world, one contract machine flew 382 hours and other casual hires an additional 158 hours.



Figure 15: A Pacific Helicopters Bell 47 being serviced at Ashcroft Manor while supporting the "Lang" fire - 1959

The 1960's - Changes

As with fixed wing aircraft, the search was always on for better helicopter performance and increased payload. A number of Hiller 12E machines were imported to Canada and B.C. in 1960 and 1961 by several operators including Okanagan and Highland Helicopters. The performance of the 12E provided serious competition for the B47 G2.

In 1960 the Forest Service contracted three helicopters for Protection work including two Hiller 12E's and a B47 G2. They flew 874 hours in four of the five Districts. This was in addition to the nearly 1000 hours flown by the Surveys and Inventory Division that year.



Figure 16: Lookout construction. An Okanagan B47 G2 moving building materials from a pad above Lions Bay to the site on Mount Artaban on Gambier Island – May 1959



Figure 17: Okanagan Hiller 12E CF-OKC. The tail boom configuration easily identifies it compared to the Bell 47's.

Over 1,700 fire suppression hours were flown throughout the province that season - over 1,500 of those in the Nelson, Kamloops and Prince George Districts. Some assistance was received from the Royal Canadian Air Force on large fires in the Kamloops District. The contract fleet in 1961 remained at three machines, all H 12E's. They flew nearly 1000 hours and overall fire suppression hours were nearly double that of the previous year.



Figure 18: One of two R.C.A.F. Piasecki H 21 "Banana" VERTOL helicopters assisting on fires, this one flying the perimeter of the "Mill" fire - 1960. BC Archives NA-20285

An interesting demonstration took place on Vancouver Island near the end of April, 1961 comparing the three concepts of fire bombing. These involved the Martin Mars (waterbombing), Grumman TBM Avenger (landbased airtanker) and two Hiller 12E's with buckets. The demo took place at Nanaimo's Cassidy Airport. The buckets were modified fuel drums with door systems installed at the bottom. The Pacific Helicopters 12E demonstrated 60 foot high water drops and was filled on the ground while the Okanagan bucket had the capability of filling from a water source in flight. Okanagan's concept was a joint project with Stevenson Machinery Ltd. of Nelson B.C., and led to a patent application in 1962 for the "Monzoon Bucket Kit".



Figure 19: Remember the reference to CF-FZN on Page 2? Here is FZN over a decade later in the Bell 47 G2 configuration near Brookmere September 1960



Figure 20: Hiller 12E demonstrating the early Monzoon Bucket

As if to celebrate the first half century of the B.C.F.S., the Service greatly expanded the aviation programme in 1962. Thirty six aircraft were put on contract and included fixed wing transport, air tankers with birddogs and twelve helicopters based throughout the province. These included Hiller 12E's and Bell 47 G2's operated by Okanagan Helicopters. They flew nearly 3,000 hours that season.



Figure 21: Okanagan Bell 47 G2 registration CF-FSR - 1962

By the mid 1960's the contract helicopter fleet remained the same with the exception of the 47 G2's being replaced by 47 G3B's with the turbocharged 260 hp engine and increased fuel capacity of 63 US gallons.

1965 had the Inventory Division continuing the investigation into the application of 70 mm photography to forest sampling. The Forest Protection Division flew over 5,800 hours that season, mainly in the north. The next year the Inventory Division would use the B47 G5 type for higher elevation work.

Bell Helicopters introduced the first civil version of the Bell 206 in early 1966. This turbine model first flew in late 1962 in competition with the Fairchild Hiller FH1100 and the Hughes 369 (500) for the U.S. Army Light Observation Helicopter (LOH) role.

1967 saw the first operational use of both the turbine powered FH1100 and Bell 206 types in fire suppression by the B.C.F.S. The number of fires in the province that season exceeded 3,200.



Figure 22: A B 47 G2 assists with a slashburn operation near Hope - 1963

Of the 20,000 aircraft hours that year, contract helicopters accounted for 3,600 hours and non-contracted machines over 4,800 hours. Staff in the Kamloops and Rupert Districts were very impressed with the performance of the two turbine types, especially in comparison with the Hiller 12E. The FH1100, operated by Transwest Helicopters, carried four passengers and had a 100 gallon bucket. Bell 206 A's were operated by Alpine and Okanagan. The FH1100 was also operated by Highland and Okanagan that year.



Figure 23: Bell's prototype JetRanger 206A reg. N8590F - 1966



Figure 24: Five place Fairchild Hiller FH1100

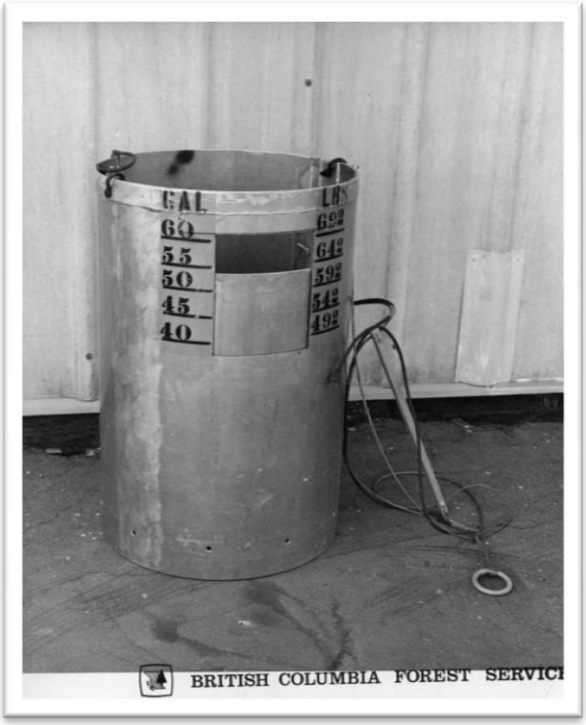


Figure 25: BCFS photo of a 60 gal. helicopter bucket capable of regulating loads between 40 and 60 gallons - 1969

A milestone in 1967 was the delivery of long term retardants on fires by helicopter with monsoon buckets in the Rupert District. Firetrol was dropped on spot fires over guards on several fires. A 1,000 gallon tank mounted on a flatdeck truck was moved to the vicinity of the fire and mixed retardant was gravity fed into buckets which were switched "on the hook". These operations were confined to Hiller 12E's and a Sikorsky S55.

In 1968, possibly due to increased local availability, the provincial contract fleet was cut in half to six machines. Inventory Division trialed a boom mounting two 70 mm Linhof cameras slung from a Bell 47.

In 1969 a decision by the Federal Air Transport Committee categorized Forest Service helicopter contracts the same as Class 4 charter operations which made the contracts impractical. Funds were made available to Forest Districts for casual hire which were acceptable to three of the Districts, however the two remaining Districts found that helicopter availability was lacking when required. Also that year, possibly the first fatal helicopter accident involving Forest Service staff occurred near Hope. A Bell 47 with an Assistant Ranger onboard collided with a glider near the Hope airstrip. All three occupants of both aircraft were killed.



Figure 26: Bell 206 providing support on a fire near Penticton - 1970

The 1970's & 80's

Another popular type to emerge in B.C. in the early '70's was the Aerospatiale line of turbine machines including the Allouette II & III and the Gazelle. Companies including Haida, Northern, Transwest, Vancouver Island, and Finning Tractor operated some of these models.



Figure 27: SA 341G Gazelle operated by Finning Tractor - 1973



Figure 28: SA 316 Allouette III bucketing hotspots - 1975

The only helicopter contract in 1970 and '71 was with the Vancouver District, who had problems with availability. By 1973 the Forest Service was back to three machines in Vancouver, Rupert and Nelson Districts – all still the light piston models. That year also marked the end of production of the Bell 47 line of helicopters. Over 6000 were produced. On April 17, 1973 near Lillooet, a Northern Helicopters B47G3B with the pilot and two senior ranger staff onboard, struck wires and crashed. All three occupants perished.



Figure 29: Crewmembers with the Mesachie Lake Forestry Crew offload gear from a Northern Helicopters B47 G3B, high above Alberni Inlet - May 1973

Some B.C. companies (including Vancouver Island Helicopters) were cautious about getting into the turbine market in the late '60's. They had valid concerns about the reliability of the Bell 206A's Allison 250 C18 engine. With the introduction around 1973 of the Bell 206 B (and conversion kits) with the C20 engine, companies such as V.I.H. and Northern Mountain Helicopters bolstered their fleets. Despite the trend, a number of operators hung onto some of their Bell 47's and Hiller 12E's for a while.



Figure 30: Northern Mountain Helicopters B47 G3B2 reg. C-FXFW - 1976

By this time many of the Sikorsky S55's and S58's had been converted with turbine powerplants. The first heli-logging trials took place in 1971 near Campbell River using the turbine powered S58T. Okanagan also acquired the first of their Sikorsky S61's in the early '70's.

Also in 1973, staff with the Canadian Forest Service in Prince George developed the first "aerial drip torch". The prototype device was a combination of a 10 gal. drum, frame, spout and electric solenoid suspended from a helicopter dispensing a flaming mixture of diesel and gasoline. Aerial Ignition Device (AID) spheres and dispensers were developed soon after.

By the mid 1970's a number of companies had developed various types of helicopter buckets. Both the helicopter operators and agency customers were looking for a combination of durability, light weight, mobility and delivery of decent coverage on the ground. Products included the Griffiths "Big Dipper", Chadwick, Simms "Rainmaker", and Hawkins and Powers "Waterbuoy" which all had their advantages and disadvantages. Many of these types were available in various sizes and volume capacities and could deliver both suppressants and long term retardants.



Figure 31: Bell 206B with aerial drip torch



Figure 33: Demonstrating the fully collapsible Waterbuoy at Langford - 1974



Figure 32: Bell 206B with the rigid Simms Rainmaker bucket

Often, it wasn't so much about helicopter performance and payload, but what the helicopter company could provide in the way of ancillary and specialty equipment and services. The late '70's and '80's provided many opportunities for these new services.



Figure 34: Sikorsky S58T with the semi collapsible Griffiths Big Dipper bucket.



Figure 36: Bell 206B with fixed 70mm camera boom.



Figure 35: V.I.H. Bell 47 C-FOGT with AGA 750 Infrared Scanner - Victoria 1976.



Figure 37: Hiller 12ET flying aerial fertilization work. Aerial grass seeding projects were also conducted using fixed and rotary wing aircraft. Aerial spraying with the Hiller 12 E and ET continues today.

In 1977, the concept of transporting firefighters directly to remote fires by helicopter was born in the far north at the Lower Post Ranger District. Rapattack started with the use of a Frontier Helicopters Bell 206B out of Watson Lake, Yukon. In 1978, Conair Aviation acquired Frontier and soon the program moved south to Salmon Arm.

By 1980 they were using the Bell 205A and Conair had developed a fixed bombing tank to support the fire crews. The 300 gal. tank had the capability of reloading in flight with the use of a hydraulic pump and "snorkel" system.



Figure 38: Early rappel operations with a Frontier B206B registration C-GFHI at Lower Post B.C.



Figure 40: Frontier Bell 206 L "LongRanger", also certified for the rappel role.



Figure 39: Frontier Bell 205A registration C-GFHN with B.C.'s first fixed bombing tank - 1980

1979 produced a bumper crop of cones for forest seed in the interior and some coastal areas. This sparked the imagination of some helicopter operators. One group had an individual with a chainsaw suspended in a modified water bucket. The cone laden tree tops were cut and choked around the bucket for delivery to crews on the ground. While one step ahead of the Worker's Compensation Board inspectors however, this method had to be abandoned. Other methods evolved later including the hydraulic cone clipper and the Fandrich cone rake.



Figure 41: "Man in a Bucket" cone harvesting, suspended from a Bell 206L1 somewhere on Vancouver Island - 1979



Figure 43: Bell 206B with the Fandrich cone rake system



Figure 42: OK 206B with hydraulically operated clipper

The increased mobility of long term retardant mixing systems expanded the use of helicopters in their delivery in the late 1970's.

In the 1980's, with the extension of some rappel contracts into the early fall, medium helicopters could assist in projects such as lookout relocation and aerial spraying.

In 1982, the Bambi Bucket was introduced by SEI Industries Ltd. of Delta B.C. With product input from both helicopter operators and agencies, the Bambi took advantage of all the attributes of previous bucket systems.



Figure 44: A Bell 205 takes a load of Fire Trol 931 from a rudimentary retardant pit on the Kat Fire, Prince Rupert District - 1978



Figure 46: Bell 212 with SEI Bambi Bucket



Figure 45: Frontier B 205 C-GFHN in spray configuration

Every now and again one of those fire seasons comes along that breaks a number of records and wakes everyone up. 1985 was one. The annual report for that season stated "both the area burned and timber volume damaged were more than 200% greater than the 10 year average". Over 3600 fires burned over 236,000 hectares, mainly confined to the southeast part of the province and the Chilliwack and Squamish Forest Districts. The "black hole" in the southeast was under the threat of major evacuations and over 150 helicopters were hired in the province siphoning pretty well all the resources in western Canada. Managing these resources became seriously challenged as experienced people were in short supply. A number of fatalities also occurred, both in the air and on the ground.



Figure 47: First R/W Birddog Officer Course at Abbotsford, Jack Cawston front and center with the sign (look closely, you might recognize a face or two) - May 1986

As a result, the ensuing "Forest Fire Review Boards" made a number of recommendations. One of those was the development of Rotary Wing Birddog Officer training. In May of 1986 the first R/W BDO Course was held at Abbotsford chaired by Jack Cawston. The course continues today with the recently developed "Helicopter Coordinator" position.

"What goes around, comes around": In 1954 Okanagan Helicopters bought out the eastern based Canadian Helicopters Ltd. In 1987 the newly founded Canadian Helicopters (CHC) purchased Okanagan Helicopters.

No major changes were in store into the early 1990's for the contracted helicopter fleet. The Bell 205 remained the backbone of the Rapattack program.



Figure 48: VIH Hughes (MD) 500D at Kamloops: The "flying egg" could outperform the B206B but some pilots (and customers) preferred the extra elbow room of the Jet Ranger.

The 1990's – Bigger Things to Come

The 1990 season saw a major increase in fire activity in the Vancouver Region with 619 fires burning nearly 11,000 hectares (over three times the 10 year average). Much of the damage occurred in the Squamish / Pemberton area and a number of helicopters were brought in to assist.



Figure 49: Helicopter staging area at a Squamish school yard - 1990



Figure 50: Highland Helicopters B 206B with portable helipad at Nakusp - 1990

One of the more interesting developments of the decade was the increased use of “heavy” helicopters (those carrying over 14 passengers and/or carrying over 6000 pounds on the hook). The latter half of the ‘90’s witnessed a tenfold increase in the use of heavier types compared to the first half of the decade.

In early 1996, Canadian Aircrane Ltd. proposed an operational trial of the Sikorsky S64 Skycrane with the 2,000 US gallon constant flow tank. Unfortunately the fire activity in the southern part of the province that season didn’t allow for testing with long term retardants. The trial continued in 1997 near Lytton and results were very positive, in particular with retardant line building capability.



Figure 51: S64 drop trials summer of 1996 near D'Arcy.



Figure 52: S64 leaving the retardant pit at McGillivray Creek for the next drop – August 1997



Figure 53: Kaman K-1200 K Max with intermeshing rotor system refuelling at the staging area - 1997

One of the reasons for the spike in the use of the “heavies” was the nature of the fire season through the Shuswap, Thompson, Tulameen and Fraser Canyon areas in 1998. Record setting temperatures and dry conditions resulted in over a dozen fires threatening communities. Total firefighting costs that season exceeded $ 150 million.

The Salmon Arm fire consumed over 6,000 hectares and forced the evacuation of around 7,000 people.



Figure 54: Tundra Helicopters S58T "Hog" at Fort Nelson - 1996



Figure 55: Okanagan Helicopters S61 L registration C-GJDK - 1980's



Figure 56: The same C-GJDK, this time in Canadian Helicopters decor.... and somewhat shorter, as the “Shortsky” model at Salmon Arm airport - August 1998

The 2000's and Beyond

The command centre in Cranbrook was one of the largest assembled to date. In 2000, extremely dry conditions combined with lightning accounted for 630 fire starts in a fifteen day period – much of it in the southeast portion of the province.



Figure 57: Coulson Aircrane S61 L reg. C-FCLM at Port Alberni - 1999

One of the hotspots in 2001 was the Friday Creek fire along Highway 3 south of Princeton. At it's peak 10 helicopters provided transport and firebombing support.



Figure 58: Alpine Helicopters Bell 407 C-FALM operating from the Fairmont airport. A Conair Firecat group (background) also staged from Fairmont for a period of time - August 2000



Figure 60: "Bullseye" A Conair Helicopters Bell 205 drops on a hotspot on the Friday Ck. Fire – August 2001



Figure 59: B.C.F.S. Rotary Wing Birddog Officer directing traffic over the Friday Creek fire - August 2001

In the first half of the decade the use of heavy helicopters again nearly tripled over the previous five years.

Books have been written about the 2003 fire season, it was unprecedented in cost and damage to property. In the world of helicopters, it was unprecedented as well.



Figure 62: Helifor Boeing 234 Chinook C-FFHB Salmon Arm - July 2003



Figure 61: VIH's coaxial rotored Kamov KA 32 demonstrating the 3,145 litre Simplex firebombing tank at Lake Cowichan – fall 2002



Figure 63: Yellowhead Helicopters Bell 204C loading crew and gear at Cache Creek airport - August 2003

Thirty-three different types operated by 91 companies flew over 54,000 hours that year. Helicopter bucketing and bombing accounted for over 18,000 hours at a cost of nearly $52 million.

Aside from the transport of men and equipment, helicopters delivered 26 million litres of long term retardants on fires and an estimated 190 million litres of water and suppressants.



Figure 64: Transwest Bell 214 fuelling at a staging area near Nakusp - August 22, 2003



Figure 66: Helifor Boeing Vertol (BV) 107 with Simplex bucket at a heliport near Chase – August 19, 2003



Figure 65: Kelowna fire Air Branch Director briefs a Remote Helicopters pilot at the Peachland heliport in the early stage of the fire. VIH Kamov KA 32 in the background - August 21, 2003

That year the most machines on hire in a single day were 220. There were 17 days where over 200 machines were operating on the fire lines. Major heliport staging areas in the southern portion of the province included Peachland / Kelowna, Nakusp, Cranbrook, Chase, Barriere and Cache Creek.

As with the air tanker program, the severity of the season did not deter managers from experimenting with new ideas and equipment. A Timberlands Puma 330J was trialed with the Rappel Program for forty two days that summer.



Figure 67: Timberland Helicopters AS 330J Puma C-FHDX at the Salmon Arm Rapattack Base as a Tasman B 212 departs - August 2003

Through 2006, the contracted medium fleet included three rappel machines and a Bell 212 out of Ft. Nelson. During this period the most sought after helicopter with Canadian fire fighting agencies was the medium type. If other agencies were busy it was often very challenging to find any available at home when required. In response to this issue, in 2007 the Province added four more contracted mediums to the fleet.



Figure 68: Eclipse Helicopters AS 350BA demonstrating the IFEX FireCopter water cannon - April 2006

The 2009 season was one of the busiest in recent history with costs exceeding those of 2003. Helicopters flew over 53,000 hours with intermediate and medium types accounting for over 75% of the activity. As of this writing the contracted medium fleet consists of three rappel and three additional provincial mediums.



Figure 69: SarvAir AS350 B2 at the Williams Lake airport CIFAC base shares the pavement with an L188 group during reconstruction of the tanker base pits - July 2010



Figure 70: Sequoia Helicopters Bell 212 on standby at Castlegar – August 2011

"New" Kids On the Block:



Figure 71: Interior Helicopters MD 600N (NOTAR) departs Prince George Tanker Base for Fort St. James – June 2012



Figure 72: V.I.H. Eurocopter EC 135 at Victoria - 2011



Figure 73: Wildcat Bell 412 SP at the Rapattack Base, Salmon Arm - June 2012



Figure 74: Canadian Helicopters Eurocopter EC 120B at Penticton - July 2012

Appendix

About the author

Gord Bell started with the B.C.F.S. in 1972, retiring after 35 years in 2007. He spent 25 of those years dedicated to aviation programs as Air Attack Officer in Kamloops and Superintendent Flight Operations and Aviation Management with the Protection Branch / Program in Victoria. He has been involved with aviation history and has been a member of the British Columbia Aviation Museum for a number of years. He remains active as an Air Attack Officer with the Provincial Air Tanker Centre.

Acknowledgements

Photos: The majority of the photos used were from the author's collection. Photos found on Pages 6, 7 and 9 that are identified by a call number such as NA - ##### are courtesy of the British Columbia Museum, B.C. Archives. Figures 3 and 30 are courtesy of the British Columbia Aviation Museum library. Figures 6 and 7 are from the film "Flying Surveyors" (1950). Figure 41 is courtesy of Kevin Dawson, Aviation Consultant.

Individuals (verbal and written information) : Lorna Wollner (Aviation Assistant, Coastal Fire Centre); Bob Petite (Aviation Historian and Air Attack Officer – Alberta Forest Protection Division).

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