



**Protection Branch  
Ministry of Forests**

## **Fire Review Summary for the Kuskanook Fire (N70820)**

**Fire Number:** N70820      **Fire Name:** Kuskanook  
**Date of detection:** 08/27/2003 16:28      **Final size:** 4,832 hectares  
**Total cost:** TBD      **Total damage:** TBD

### **Background**

The fire burned in the vicinity of Kuskanook Creek at the southeast end of Kootenay Lake, approximately 25 kilometres north of Creston. Lightning is believed to have started the fire.

Akokli Creek is the weather station closest to the fire. Fire weather indices on August 27 were as follows:

<b>FFMC</b>	<b>BUI</b>	<b>DC</b>	<b>ISI</b>	<b>RH</b>	<b>Temp</b>
92.3	213	760	20.6	28	24.7

Weather forecast:

**Aug. 27** - afternoon thunderstorms developing in the Arrow/Kootenay zones, wind 10 to 30 km/h, temperature 25. Forecasted fire behaviour for Pendoreille (similar to Akokli) was intensity class 5, rate of spread for C3 fuels - 5.3 meters per minute.

**Aug. 28** -the forecast was for continued sunny and warm conditions.

**Aug. 30 to Sept. 1** - clear skies and temperatures approaching 30 degrees.

The drought in the area was ongoing. Akokli had recorded just 7 millimetres of precipitation since July 1.

A campfire ban was in place. On Aug. 27, The Southeast Fire Centre (SEFC) anticipated further backcountry closures to be in place for Aug. 29. Compliance and Enforcement patrols were scheduled for the Labour Day long weekend – Aug. 29 to Sept. 1.

### **FIRE ZONE SITUATION**

Actual weather for August 27 was close to the forecasted conditions. The peak temperature recorded at Akokli was in the forecasted - range. More significantly, the forecasted lightning developed throughout the fire centre.

Preparedness for the zone was as follows: Preparedness Condition 4 - Level 5.

Canyon Camp is within the Kootenay Lake Zone. At the time of this fire, Canyon Camp was operating as a Ministry Zone Operations Centre (MZOC). It was administering fire suppression



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action in the southern portion of the Kootenay Lake Zone. Resources based at Canyon Camp included two IA crews, MZOC Director on 24-hour standby (S/B), Fire Officer on 24-hour S/B, Logistic support on Modified S/B, 1 Tank truck and 1 piece of heavy equipment on S/B. Due to limited resources, there was no Plans Chief in the MZOC, and no other certified person available. Within the complex there were 260 persons on the fire line and 40 persons in support roles. There were four Protection staff members in key positions. Other key positions were staffed by B.C. Timber Sales (BCTS) and Ministry of Forests field service staff. With the exception of the IA crews, all of the above resources were committed to other fires at the time of ignition.

Within the area of the MZOC there were three Type 2 fires and one Type 3 fire burning at the time N70820 started.

### FIRE CENTRE SITUATION

No anomalies are obvious in the weather that was forecasted for the SEFC. Lightning was predicted and was widespread. With few exceptions, the weather stations in the SEFC were recording extremely dry conditions. FFMCS were exceeding 90 at most stations. With the exception of White River at 98, BUIs were above 100.

Preparedness levels: Prep Con 4 Level 5. Due to the level of activity, there was not a completely accurate account of the number of Initial Attack crews available in the SEFC as crews were either on fires or in transit. Prep Rep called for 24 Initial Attack crews to be available throughout the SEFC.

There had been 40 new starts within the Fire Centre during the 72 hours prior to the ignition of N70820. Of that number, two were within the Kootenay Lake Zone. On Aug. 27 the SEFC was challenged with an additional 58 starts, of which 13 were within the Kootenay Lake Zone.

### PROVINCIAL SITUATION

The provincial forecast for Aug. 27 was for a high-pressure ridge building, but with lightning from an intrusion of subtropical moisture in the southeast – similar to the forecast produced in the SEFC. The province was in Prep Con 4. Resources available: two IA crews and two Unit Crews. A Canadian Interagency Forest Fire Centre (CIFFC) request placed on Aug. 26 indicated the following resources en route: one Type 1 Unit Crew, one Agency Rep, two Div Sups and one AAO.

The southern portion of the province was extremely dry and there were numerous large fires still being aggressively attacked throughout. Thousands of firefighters were on the fire line.

### Fire Start and Response

- **Ignition** – Aug. 27 at 16:22 – A lightning storm in the area ignited three separate fires (N70820, N70821, and N70822) in close proximity. The three fires were located on a steep slope with N70820 the lowest and N70822 the highest. Fires N70820, N70821 and N70822 eventually grew together and were then called N70820. A fourth fire, N70823



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(in the same general area) was ignited from the same lightning storm at about the same time. It was successfully initial-attacked and didn't spread past the first burning period.

- **Detection** – Aug. 27 at 16:28
- **Grounding time** – All aircraft must be on the ground at 20:18, August 27- Daylight time for August 28 is 05:27

### INITIAL ATTACK

**Aug. 27** – 17:21 – Ground attack began on N70823, an adjacent fire. SE 72 had assessed all four fires. Due to difficult terrain, time of day, access and safety considerations, SE 72 chose not to attack N70820, N70821 or N70822 from the ground. Air tanker action commenced on this day on N70820, N70821 and N70822. The Air Attack Officer (AAO) reported all three fires at 0.2 hectares at the commencement of action. At the end of action on the first day, fire sizes were two hectares for N70820, one hectare for N70821, and three hectares for N70822. N70820 was surrounded with fire retardant. Objectives were not met on N70821 and N70822 due to the approach of grounding time and low visibility. SEFC issued a Fire Notice to the local public, which identified structures at risk.

### CHALLENGES DURING THE INITIAL ATTACK PHASE

Two heavy and one medium helicopter were diverted to these fires to provide bucketing support action. For the safety of all pilots, the helicopters all remained on the ground for 1.5 hours while the air tanker action proceeded.

Site sensitivity was identified at an early stage as a concern. The fire was burning on an unstable slope that would limit the use of heavy equipment. In addition, the area was part of a community watershed.

The IC in consultation with the AAO requested support action through SEFC using the CL215/415s. The strategy was to use these aircraft to cool the three fires creating safer conditions to allow fire fighters to access the fires and begin direct suppression action.

The IA crew assessment to prioritize and attack N70823 was a good decision. They were able to hover, exit and suppress this fire safely, however fires N70820, 821 and 822 were left for reasons stated above.

### Expanded Attack

**Aug. 28** – At 06:00 a DC6 bulldozer began work opening up a road to access the fires from the highway. The slope was extremely steep and this work had to be temporarily stopped as rocks were rolling down - towards the highway. The request for the air tanker support could not be filled by PATC as other fires were assigned the resources

Ground crews on site included 15 contractors working with equipment. At 09:13 and 10:19, two heavy helicopters and at 14:26 and 15:19, two light helicopters arrived and started bucketing on the fires. At 15:30 the first IC arrived on site.

Air tankers continued action on N70822, which grew to 25 hectares by the end of the day and remained uncontained.



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**Aug. 29** – At 07:05 Valhalla unit crew, Provincial Wide Flame Busters, 24 crew from Quebec, and Summit Smokies were on site. Air tanker support action was initiated early on the day. N7822 had grown to 150 hectares, spreading both uphill and downhill. All five CL215/415 A/C were scheduled to work the fires, but not all were serviceable for the day. They provided support action. By the end of the burning period, all 3 fires had grown together and were now called N70820.

**Aug. 30** – The fire was turned over to a Type 3 IC. One more skidder was added. There was no significant change in fire status. There was no air tanker action on this day.

**Aug. 31** – Radio operations were transferred from SEFC and an Information Officer attached to the MZOC. In the afternoon the fire went to the ridge top. It was now 400-500 hectares. Air tankers provided support action on the northwest and southwest corners of fire. The incoming SEFC MROC Director and the IC flew the fire and put together an action plan identifying the following requirements: Type 1 FMT, retardant pit and fuel bowser, two more heavy helicopter, additional four Type 1 unit crews and an AWIS scan. Resource requests were faxed at 21:00.

**Sept. 1** – No air tanker operations were conducted. Fire suppression continued on the west flank to prevent the fire spreading downhill towards structures. Guard and burn off opportunities on the top of the ridge were assessed, looking at a combination of machine guard and helicopter delivered retardant.

**Sept. 2** – Smoke hampered early access to the fire area via helicopter from this day through Sept. 5. The first map was available to the IC. Work was started opening up the west flank roads for burn off. The air tankers provided support action on the west flank to back up established line, to prevent fire from spreading downhill towards homes. The air attack officer was able to work safely with the helicopters bucketing other areas of the fire by providing clear separation and direction. There was a tactical withdrawal on the east side of the fire. The estimated size was 820 hectares.

**Sept. 3** – The fire was very active and challenged guards in most areas. It spread east past Wooden Shoe Lake. A tactical withdrawal was conducted in this area. Discussions were held with Tembec and a large burn off was conducted on the ridge west of Skelly Creek. An Astar helicopter was used for the burn off due to heat and elevation considerations. Compared to a Bell 206, it provided much better maneuverability. Work was continued on the north end of the guards. Burn off of roads on the west side was completed. The retardant pit was operational. No air tankers were deployed on this day.

**Sept. 4** – The fire started to grow on the southwest corner going down hill. There was ground lost on the northwest corner.

Danger tree assessors cleared the Boulder Creek Main in the middle of the fire, gave access to the south side and worked on the west flank with the Alberta crews. The fuel bowser was operational.

**Sept. 5** – Ground was lost in the Jenson Creek area (northwest corner). The fire took a three kilometre run in the vicinity of Wooden Shoe Lake. Direct attack was continued on the north flank from the ridge east to Sanka Creek. There was no significant spread to the east on the southern part of the fire as it had run into a plantation that had previously been prescribe-burned. Plantation stock was 2-3 metres high. Air tankers were used to construct guard on the south flank to prevent spread into Duck Creek. The fire was turned over to the Type 1 FMT.



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### CHALLENGES DURING THE EXPANDED ATTACK PHASE

The MROC Director at Canyon Camp felt that the CL215/415s might have been able to control the fire on August 28, if all had been available. As it was, 2 heavy helicopters were utilized. They were able to hold the fire for much of the burning period, but they just couldn't deliver enough water.

After the fire burned over the ridge, it burned through a number of old cut blocks in which there had been no hazard abatement. There was little or no opportunity to use these openings to advantage due to the heavy fuel loading and associated fire behaviour. This is in contrast to the situation in Skelly Creek where the fire behaviour was considerably reduced in the plantations, which had been prescribe-burned prior to planting. This made direct attack safe and feasible.

Concern was raised by the AAO during the review interviews that air tanker support requests came too late in the day. It was clarified by the IC that they were severely hampered on a number of days by smoky conditions and poor visibility resulting from overnight/morning inversions. It was not possible to fly in the area of the fire until later in the day.

During the support operations, the AAO was able to safely coordinate the air tanker operations with the helicopter bucketing flights. This allowed both operations to be conducted without significant interruptions.

There were a number of changes in command on the fire, up until the time that the Type 1 team assumed control. Radio traffic was heavy until the Canyon Camp MZOC took over radio operations on August 31. The heavy volume of radio traffic and changes at the IC level made it difficult for the AAO entering the fire area on support actions to communicate effectively with the personnel on the fire.

Access to the east end of the fire was via the road network in Skelly Creek. This required a 3 hour round trip, which seriously reduced the productivity of crews working this area of the fire.

Resources were stretched. Type 1 crews were requested, but the fire centre was unable to supply most requests. Challenges existed in using and prioritizing critical resources most efficiently. Some positions remained unfilled or uncertified staff were utilized. The Planning Section for example was tracking staff, but did not have the experience to deal with all aspects of planning.

Safety was a major focus. Because resources were stretched, there was no dedicated Safety Officer attached to the fire. Operations staff took extra precautions through briefings and work assignments to assure that fire line staff were not put at risk.

Line locators generally did a good job. Some contingency lines could have been located further from the fire's edge.

### Chronology of Other Significant Days

**Sept. 6** – A local resident built guard on his private land on the Kootenay Lake side. Burn off was conducted along guards on the west side of fire. Discussions took place with the Fire Chief regarding resources and where they were located. A zone representative discussed resources and any other requirements needed.



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**Sept. 7** – A wind event occurred during the night and resulted in a fairly large escape on the north side. North and east sides of the fire were evaluated for contingency guards. Fixed wing air tanker support was requested in the Boulder Lake area – approximately three kilometres.

**Sept. 8** – A substantial amount of rain fell during the night. There were access problems the next morning with fog. The retardant pit was operational but helicopters were unable to fly due to reduced visibility. Wynndel Logging was concerned about starting up harvesting.

**Sept. 9** – No significant events.

**Sept. 10** – The military arrived to assist.

**Sept. 11** – The retardant pit was demobilized. The south and west branches were put in patrol stage. There was a delay in extraction of crews as the helipads had been constructed for light helicopters.

**Sept. 12** – Crews were downsized and the military released. The west side of the fire was scanned.

**Sept. 13** – Rehab considerations on all guards were identified. Turnover to a new FMT was completed.

## Rehabilitation

Some rehab work was required on the steep front face. No grass seeding was required. Integration of rehab work with ongoing fire suppression resources/activities was challenging.

## Significant Innovations and Challenges

- Forest Service field service and BCTS staff would benefit from more fire suppression training.
- Contract – Some contractors on the fire were not on the MSO list but performed well. It would be beneficial to have a contract administration person with the FMT.
- Military – Performed well in the limited time they were on the fire.
- Emergency Firefighters (EFF) – Were unavailable. With the shortage of resources on this fire it was suggested we re-examine the process of training, hiring and utilizing EFF.
- Out of province crews – Some of the experiences with the Type III crews were not positive. Several had to be returned home because they did not perform to standard. It was suggested we carefully examine our policy of importing other than Type 1 crews and equipment.
- Aircraft – Performed well. It was suggested that the protection branch further explore the use of the Griffin (military helicopter), particularly as a support to night operations where ground access is not possible.



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OFC – There were 28 homes in the area defined in the Fire Notice. The local fire department was working independently from the IC on N70820 providing protection and contingency planning. The costs incurred in this were not significant. It would have been preferable to incorporate this operation into the command structure for the fire.

RCMP – Marijuana grow ops were in the area and the RCMP required access to the area to investigate. Fire line persons were asked about coming and going traffic.

Military – Arrived to work on the fire Sept. 10 and departed Sept. 12. Brought their own camp and set up in a separate location. They found the terrain steep and very challenging compared to their previous deployment. They did utilize their Griffin helicopters, but mentioned most pads they were asked to land on were too small for their skids. Pads need to be large enough to accommodate a Bell 412.

Local Government – A town hall meeting was held Sept. 5 and was well received by local residents.