Protection Branch
Ministry of Forests

Fire Review Summary for the Chilko Fire (C50214)

Fire Number:	C5-0214	Fire Name:	Chilko Lake
Date of detection:	July 22, 2003	Final size:	29,201.7 ha
Total cost:	$7.0 million (est.)	Total damage:	TBD

Background

Geographic Location

The Chilko Lake fire started in the early afternoon from an unattended campfire, approximately 2 km downstream from the lake adjacent a popular fishing spot on the Chilko River. Chilko Lake is about 76 km in length running in a north/south direction bounded almost entirely by the Coast Mountains. Inland winds from the Coast are constricted by these mountains, increasing the wind speed before it passes onto the Chilcotin Plateau. The point of ignition was directly in the path of this wind just as it was starting to fan out over the plateau. Winds in this area are common.

This area of the Chilcotin Plateau is known as the Brittany Triangle and was once under heavy attack from the Mountain Pine Beetle (early 1980s) and under contract for logging. However, the logging was halted after concern was expressed by First Nations. A large portion was later turned into Nunsti Provincial Park, however, there are no significant resource features to develop; and without logging, very little industrial road access has been established into this area.

Fire Weather Indices and Forecast

On July 22, a fire behavior advisory was in effect. The wind from the Coast was in excess of 20 km/h at the point of ignition. Higher gusts were noted later in the afternoon. Fishermen on the Chilko River reported the fire to a river lodge. Weather readings for July 22 were:

TABLE 1. WEATHER INDICES

Station	Temp.	RH	Wind Dir.	Wind Speed	Precip.	FFMC	DMC	DC	ISI	BUI	FWI	DGR Class
Nemaia	24.4	19	277	14	0.0	93.9	107	621	15.1	150	47.9	5
Tatla	25.3	33	225	1	0.0	92.3	110	638	6.2	153	26.9	4

Forecast weather for Tuesday, July 22, 2003 at 0800. A ridge of high pressure will give sunny skies and very warm temperatures to the fire centre today and Wednesday. There is a slight chance of dry lightning Wednesday evening or overnight. Sunny and warm. In the west, winds variable 5-10 km/h in the morning becoming southwest to west 15-20 km/h with local gusts to 30km/h in the afternoon. Minimum RH 20-27 per cent in the east and 15-21 per cent in the west. Highs 27-32. .

FIRE CENTRE SITUATION

Resources committed to the 16 fires burning in the Cariboo Fire Centre were 229 personnel, 7 helicopters, and 91 pieces of equipment.

Resources available were 13 initial attack crews on standby, 8 helicopters on standby, air tankers on one-half hour alert, 3 unit crews had been requested but none were available, and 8 pieces of heavy equipment on standby.

OTHER FIRE ACTIVITY IN THE FIRE CENTRE WHEN C50214 STARTED:

- 4 expanded attack fires
- 3 were controlled and one was being held at 16 ha with aircraft
- 1 Fire Management Team (FMT) and camp set up for Tatla Lake Fire (C50199) that was 45.5 km north of Chilko Lake fire, straddling Highway 20. By July 22, fire C50199 had been contained and resources were in the process of being released from the fire
- Staff and crew resources from outside the fire centre were required to fill resource requests
- Equipment resources were strained but we were still filling requests from Cariboo contractors
- Cariboo Fire Centre had 16 fires burning
- Campfire and Category 1-7 restrictions were initiated that day for 2 days hence.

PROVINCIAL SITUATION

There were 785 fires burning in the province on the day the Chilko fire started. There were notable fires burning in the South East (N60145, N60189, N40188) and Kamloops (K50195) listed on the provincial situation report.

Fire Start and Response

Ignition was July 22, 2003 at approximately 1300. The initial phone report (IPR) was received by Fire Centre Dispatch at 1523. The caller was ½ mile away, could not see the fire directly but knew the area, and knew about wind in the area. This information was enough to have the FCO and air attack react immediately.

Air and ground attack was extremely fast on this fire as crews and air tankers were already taking action on another fire in the area.

Initial fuel type was C3 modified, that did not have a really deep duff layer. There were no real time delays between report and dispatch because of the confidence in the report(s)

One group of air tankers was dispatched and they called for backup right away. The initial attack was supported very well by the Provincial Air Tanker Centre (PATC) and had 5 groups involved.

CHRONOLOGY – JULY 22

1523 – first IPR received at Cariboo Fire Centre from Provincial Forest Fire Reporting Centre (PFFRC) (detection and first report)

1526 – Vedan Lookout (L/O) asked Chilanko L/O if smoke was visible at Chilko Lake. The view of the area was obscured from direct view from the lookout.

1527 – Tactics Chief dispatched one IA crews from Puntzi Base by air and requested the air tankers at Puntzi be dispatched as well.

1529 – Vedan L/O: "Can (now) see smoke coming over mountain."

1530 – Tactics called the person submitting the first IPR for an update but no answer.

1537 – Vedan L/O: "Getting really bad – medium to dark gray smoke."

1537 – A Senior Protection Officer and a Forest Protection Officer lift off Tatla Camp for a reconnaissance of fire C50199.

1540 – Vedan L/O: "Getting bigger by the minute".

1541 – Bird dog (BD) 9 off Puntzi for fire.

1548 – BD 9: "Ordered backup. Fire 4 ha, rank 4."

1551 – BD 9: "Over fire, is now 7 ha - need more backup."

1554 – Forest Protection Officers headed to C50214. Advised Tactics that surplus equipment at 199 would be made available to 214.

1554 – Air tanker action commenced. PATC supported BD 9 request for air tanker support. By end of first day two groups of Firecats, an Electra L188, a Convair 580, a DC 6, air tractor on floats and three birddogs worked this fire.

1609 – 1710 – Forest Protection Officers land at Chilko River Lodge, Charlie's Guest Ranch, Chilko Lodge and Linkfield Guest Ranch to alert owners and issue verbal 30-minute evacuation notices.

1612 – Second IA crew at Puntzi dispatched by truck.

1811 – cats (bulldozers) commence guard construction

2113 – last air tanker drop. Fire now rank 2/3 and 50–60 ha in size. Fire crossed Chilko River and air tankers were not able to work the head of the fire because of extreme fire activity and spotting ahead of the main fire. Good retardant line built down west flank and cat guard one-third completed. This checked threat to downstream lodges and residences.

INITIAL ATTACK

The first I.A. crew experienced poor radio communication with the Fire Centre once they were deployed because there were in a radio blind spot and could not send or receive signals. As a result they were unaware of resources being deployed to their fire. Personnel from C5-0199 (Tatla Lake fire) landed where they could to let residents around 4 lodges know of the fire situation. Residents weren't always home and some were out trying to assist with initial attack on the fire. While air tankers were working, fire personnel were contacting residents and tourists and letting them know of the potential danger. In an isolated community without a local radio station or similar communications infrastructure, it is challenging to inform residents of the risks.

Although there were a few other fires burning, the Chilko fire became the highest priority fire. Significant expanded attack resources were requested. Due to the aggressive fire behaviour and growth of this fire, the preference was to use Type I unit crews. The Fire Centre requested that 3 Unit Crews be made available.

AIR ATTACK OFFICER

First impression of the fire was that lots of resources would be needed to control it. The priority was to keep the fire away from the lodges and push it back into the river. Air attack could not cut across the head (or leading edge) of the fire because of the fire activity as a result of the extreme indices, and new fires being started ahead of the main fire from flying embers. An 802 aircraft was reinforcing the retardant lines and was dropping retardant on the new spot fires. At 1615 the fire was across the river, changing the priorities. There was no retardant allowed in the water and there were fishermen drift-fishing in the river. The head of the fire was obscured by smoke and it was evident that eventually the air tankers would fall behind in attack efforts.

The fire was wind driven and challenging with lodges at risk. All air tankers available were working the fire. Ground attack crews, cats, and an IC were on site quickly because they had been taking action on another fire in close proximity (C50199) For a Chilcotin fire where there are vast distances and limited access, initial attack was extremely quick. However, the air attack officer felt that the fire was spreading so quickly, that air tankers would never be able to gain the upper hand. The winds were gusting to 40 km/hr and the lodges, due to their construction, were not fireproof.

The probability of success was unpredictable because of the quickly-developing and often erratic winds. The air attack officer knew they would be bombing the fire until dark.

The air attack tactics worked well because there were no lost structures, no injuries, and during the first burning period, the fire was steered away from the residences along the river.

Ground attack wasn't considered completely successful, partly because it only occurred on one side. The air attack was followed by ground attack that was successful on the west side where there were interface issues.

Initial Attack Crew Leader

The first initial attack crew, NW37, was dispatched in helicopter KPM from Puntzi base. When they were on the ground, they only had communications with the AAO until more ground equipment arrived. They were advised by air attack of the unfolding situation and were forced to remain at their point of exit for their personal safety. Crews were safe where they landed because they were on a clearing on the riverbank. However, walking up the road was not safe because the road passed through burning timber near the point of origin of the fire.

Challenges During Initial Attack Phase

Excessive winds made it impossible to contain the fire during its first burning period.

Chronology of other significant days

July 22, 2003: day one - the fire was beyond initial attack on first arrival.

July 27, 2003: There was a natural meadow and Team 4 was 75% confident that the fire would hold there. However, again, strong, erratic winds caused the fire to jump across the meadow.

Expanded Attack

The first incident command team was actually on a different fire and proposed to make it a complex as they were in the mop up stages of their fire. A fire complex was deemed unnecessary at the time and the official turnover to the team took place July 24, 2003 at 1200. The team encountered volatile conditions on arrival. The interface areas had been identified and were protected by the time the team was established.

Throughout the expanded attack phase of this fire, the FMTs had to use indirect attack methods due to the high and erratic winds that were present. There were several significant days in the span of the fire where it would make substantial runs. This was primarily due to erratic winds caused by influence of the local lakes.

Significant Challenges and Solutions

Operations

Branch directors should be considered being attached to the team. By attaching people, they get a chance for experience, fire behavior, large fire tactics, and these people are the future fire experts. It is part of the succession process.

AWIS mapping was excellent, but is expensive and a review of value for money should be considered.

Fire fighting crews established structure protection with basic fire sprinklers. From the 2003 fire season, residents and communities clearly need more information about sprinkler systems. The appropriate agency to do this should be identified and given the mandate to address this public awareness issue.

Line locating for fire line construction was a challenge. Line locators mark the route for the bulldozers to follow when building fireguards. When fires are not too aggressive, bulldozers, can direct-attack the fire front but on an aggressive

fire, bulldozers have to parallel-attack the fire – both these actions require many skills, training and experience for machine operators, line locators and staff supervising these operations. A solution to this challenge would be to review existing training on fire line location, and incorporate lessons learned from this fire on building an amended training course.

OTHER AGENCIES

There was an EOC established at the Alexis Creek RCMP; to facilitate information sharing within the community.

It was challenging to find a way of communicating with the local residents where there is no organized community and supporting communications infrastructure.

Although there was no unified command, representatives of PEP, OFC and RCMP were involved. All agencies had a good working relationship and learned much about each other's role in an emergency situation. Ministry of Transportation contractor (Cariboo Road Services) was excellent and a valuable service as far as upgrades went. Traffic control also went very well.

AVIATION

Rotary wing aircraft was key to successful deployment of ground crews. Because the fire was in a remote area, fuel availability and getting the fuel to the camp was challenging.

There were concerns with communications between the Martin Mars water bomber and other aircraft on the fire. It is recommended that Mars be equipped with VHF channels to make it easier to establish communications with them.

Duty days and days of rest for pilots and crews should be tracked provincially.

REHABILITATION

A rehab coordinator was hired in August and the public was invited to submit written suggestions for the preparation of the rehab plan. Other land managers were consulted directly and DFO and WLAP staff toured the fire. This consultation process was fast tracked by the other agencies and written comments were rapidly produced. It was determined that a Professional Engineer was required to address two site specific issues that involved high fish values and fresh water supplies. The P. Eng incorporated the other agencies comments directly into these rehab designs.

Many local issues involving the resident lodges came forward through the public consultation process and relevant recommendations were addressed to some degree of satisfaction. A local labour crew from the Xeni' Gwet'in First Nation was hired to build water bars instead of walking excavators or other pieces of equipment back onto the fireguards.

Rehab work including construction of the engineered design works was completed by mid October. The seeding work was tendered in September to reduce the cost. Once the groundwork was finished the seeding took place in two days, a week before the first snowfall. A seed mix compatible for the local site conditions was purchased and respected BC Parks concerns about invasive plants.

SUMMARY

The fire control action had the usual challenges associated with protecting life and property and containing a wind-driven fire during drought conditions. The shift from direct attack to parallel attack is a difficult step for fire fighting staff not experienced with working on a large fast moving wind driven fire. The fire management teams had to step up supervision to ensure the line location and cat guard construction was appropriate for burning off.

Rehab was accomplished after the fire was contained -normally this would be coordinated with the demobilization of fire control equipment. In this case the conflicting land use issues required special consideration be given to accommodate differing land uses and park values. Rehab was a little more expensive but met the land use requirements.