

Forest fire

It started like countless other fires in British Columbia's mountain valleys - as a single lightning strike. Even after flames spread through the tinder-dry timber, they appeared contained to the forested plateau atop the Fly Hills. But then two things conspired to turn this garden-variety forest fire into a lethal maelstrom last August.

One was its location overlooking Salmon Arm, which like many interior B.C. communities is rapidly spreading from the valley floor up into the lovely, deadly timber. The other was the unpredictable winds that regularly swirl through the Salmon River Valley. As if to mock modern technology - infrared heat detectors, spotting planes, water bombers - fierce gusts of wind propelled the fire, like an avalanche, down the treed slopes at about 90 metres a minute.

When the fire reached bottom, the only thing slowing its gallop up the nearby flank of Mount Ida was the narrow valley of Silver Creek and its scattering of small farms and houses on the southern outskirts of Salmon Arm. Untroubled by the interruption of fresh wood, the boiling fire shot thousands of softball-sized embers nearly two kilometres ahead of the main blaze. They touched down, capriciously, like the finger of God on the unlucky chosen. A day later, it was astonishing to see some houses reduced to charred rubble while others a hundred feet away were unscathed, their sprinklers arcing over tiny islands of green lawn.

But in the panicked heat of the moment, there was no time to ponder fate. Families fled houses in vehicles packed with pets, photo albums and bronzed baby shoes. One man, dazed and disoriented by smoke in his hay field, kept running into a barbed wire fence until a cell phone call to his wife brought help. Others, ignoring evacuation orders, stayed to douse sparks that landed on their roofs and lawns. They were helped by firefighters and by helicopters and air tankers dumping buckets of water and fire retardant.

"It was like trying to stop a freight train with a hose," says firefighter Johanna Gunn. "There were balls of fire all over the place and 200-foot flames. I was foaming one house when all of a sudden the grass I was standing on was spotting" from landing sparks. When the firefighters, too, finally fled down a road flanked by flames, the inside of their trucks felt like ovens.

Amazingly, no one was hurt. But 16 homes were lost, and the widespread anxiety was just beginning. After swirling through the valley, the fire swept in 15 minutes up evergreen slopes to the summit of Mount Ida, where it paused ominously above the 15,000 residents of Salmon Arm. Some 7,000 of them were summarily ordered from their houses - the largest evacuation in B.C. history - while hundreds of firefighters and soldiers from across Canada sped to the scene. Their ability to withstand nature's onslaught and save the homes in the south end of Salmon Arm, however, was never tested as expected high winds mercifully moved a few valleys away, blowing down trees with their ferocity. Aided by massive aerial bombings of water mixed with fire retardant and the strengthening of fire guards, bleary-eyed crews finally contained the blaze. In two weeks, the Salmon Arm fire consumed 40 buildings and 6,500 hectares of forest, some 40 per cent of it merchantable timber. It also scarred lives, a scenic valley and a hiking trail climbing to the summit of Mount Ida. But it was by no means the only forest fire drama of 1998.

During that same, parched stretch of August, nearly 1,000 wildfires were burning across Canada, more than half of them in British Columbia and about 12 per cent of them out of control. The Salmon Arm fire was dwarfed by a 115,000-hectare blaze in northern Saskatchewan and a 35,000-hectare inferno near Slave Lake in northern Alberta. Even a later 10,000-hectare fire near Princeton, B.C. was more persistent and unpredictable, running nearly six kilometres in less than two hours. It forced a ban on hiking, camping and hunting in the Merritt Forest District and put 700 area residents on evacuation alert.

By late September, almost 10,500 wild fires had burned across Canada in 1998, charring nearly 4.5 million hectares of forest. These totals were blamed on everything from global warming and El Niño to a buildup of fuel from insect-caused disease and fire suppression policies. Yet the 1998 numbers, while high, were not unusual for what has always been a cyclical act of nature. In the previous 25 years, five fire seasons had been worse, including 1989, when nearly 12,200 fires burned 7.6 million hectares of Canada's forests.

Two things were unusual last year. One was the high number of volatile fires, in which dry fuels and erratic winds combined to keep fires racing ahead of firefighters' best containment efforts. The other was the threat to civilization - the dramatic evacuations of homes not just in Salmon Arm but in Swan Hills, Alberta, northern Saskatchewan and northern Ontario. At one point, more than a dozen fires were burning near B.C. communities, forcing half to be evacuated or put on alert.

And perhaps that is the lesson. Often forest fires burn in remote areas, affecting, from a human perspective, mostly timber. But as houses are built ever higher into the woods and as more people venture further afield in search of recreation and wilderness, the more we will be directly impacted by forest fires.

"Last year was another wakeup call," says Kamloops Fire Centre Manager Denis Gaudry. "We're getting them about every four years, which is just enough time for people to forget."

The threat to communities has already grown tremendously in places like B.C.'s Okanagan Valley, which prior to settlement was routinely swept by large fires. But over the past 80 years, fire suppression policies have allowed the buildup of brush, dead timber and foot-deep piles of pine needles, none of which rots quickly in the arid climate. While the Shuswap Lake area around Salmon Arm is wetter than the Okanagan, its fuel buildup is three times as great, which spelled disaster during last summer's drought. Added to this volatile mix is an influx, over the past 15 years, of people into interior B.C. and the construction of tens of thousands of houses worth billions of dollars.

"People are moving farther from the valley bottom and up the slopes into the fire freeway," says B.C. fire information officer Wendy Stewart. "Fires are starting in forests where people are living. That's the problem."

At the same time, fires are impacting recreation and wilderness areas. A few years ago, the Anderson Lake fire near Lillooet, B.C. forced the closure of a popular recreation area on the August long weekend. While such closures are often short lived, the accompanying deadfall can block trails, standing snags can pose hazards to hikers and runoff from rains can choke streams and rivers with silt. Above all, fires can scar scenic landscapes for years, although from an ecological standpoint, that's not necessarily a bad thing (see attached story on fires in national parks).

When fires do start close to communities or major recreation areas, often the only thing standing in the way of devastation is a thin line of firefighters. Given the enormity of the task, it's not surprising that fighting forest fires in Canada has evolved into a sophisticated science. Perhaps nowhere is this more evident than in British Columbia with its steep, mountainous terrain, its rapidly-expanding populations and the overall importance of its forest industry.

The B.C. Forest Service tackles fires in military fashion, coordinating its campaigns from regional command centres and following this motto: hit hard, hit fast. This blitzkrieg philosophy is backed by the latest in technology, including computer programs that provide hourly weather updates, measure soil moisture in the forest floor, pinpoint lightning strikes (which cause half the province's forest fires) and predict the probability and location of fires and their rate of growth. Still, one third of all fires are reported by the public.

Once a fire is detected, initial attack crews are dispatched, by air and by truck, to quickly extinguish or control the fire (see attached story on rapattack crews). If they are unsuccessful or if the blaze is already too large, reinforcements are brought in to fight what are known as project fires. This includes an aerial campaign, in which bucket-wielding helicopters and air tankers, the latter guided by bird dog planes, drop fire retardant, foam or water onto hot spots. The bombing is aided by ground, or unit, crews of 20 fire fighters, whose principle mission is to build fire guards - swaths of forest floor stripped down to the mineral layer - either by hand or with the help of heavy equipment if bulldozers and the like can reach the site. Needless to say, it's exhausting, dangerous work, often done in searing heat, on steep, uneven terrain and for shifts that can reach 16 hours.

While aerial bombardments can corral a project fire, it's the ground crews who ultimately douse it. Once the fire is under control, mop-up crews are summoned to knock down snags and hose down hot spots. If these hot spots are burning underground, their location can often be detected by aerial infrared scanners or by the old-fashioned method of watching for collections of ants drawn to the heat. Even this mop-up activity is not exempt from the danger of being hit by toppling trees or of falling into hidden, hot holes where roots have burned away.

Because of its threat to civilization, the Salmon Arm fire commanded all these resources and more in what resembled a war zone. Some 300 fire fighters from across Canada were assisted on the ground by Canadian soldiers, while 100 RCMP officers coordinated the evacuation of 7,000 residents. Many other residents stayed on as volunteers, providing meals, answering phones and helping move cows, horses and even llamas. Rumbling into town were more than 100 pieces of heavy equipment and nearly 50 fire trucks, accompanied by the overhead whirring of 14 helicopters and the droning of air tankers. Each evening, the remaining residents were treated to the repeated spectacle of two immense Martin Mars water bombers filling their bellies on the fly with 6,000 gallons of Shuswap Lake water and then labouring above the smoking slopes of Mount Ida to drop their loads, like thimblefuls of water, on the massive blaze.

All these resources were scarcely a match for what some officials called one of the most difficult and unpredictable wildfires they had ever fought. And it wasn't enough to save 16 houses in Silver Creek when 80-kilometre-an-hour winds decided to take the week-old fire for a fast and deadly ride. Two days before, when the fire had spread to 300 hectares in the Fly Hills, some 60 Silver Creek homes had been put on evacuation alert. But no one was expecting all hell to break loose in the late afternoon of August 5.

When Steve Heiser was evacuated earlier that afternoon with his wife, Evelyn, and their two children, fire was burning on both sides of a nearby creek. But he figured the worst was over. Little did he know that less than an hour later, their house, barn and shop would be gone, along with some emus, half their trees and nearly all their possessions including baby shoes, sweaters knit by grandmothers and Sesame Street murals on the girls' bedroom walls.

It had been their dream home, an old farmhouse they had spent 11 years renovating and expanding. Over the years, they had planted 400 blueberry bushes and nearly as many fruit and shade trees. Evelyn had built a rock garden with a waterfall and fish pond, and together they had created a hobby farm with chickens, pigs, horses, goats, sheep and emus.

"It was getting to the point where it was all coming together. We were going to die in this house," says Heiser. "I wished I had stayed and at least tried to fight it. The fires were all starting with spot fires." Insurance money will help the family rebuild, he says, but their home will never be the same and the yard and hillside will bear the fire's scars for years to come.

Heiser appreciates the heroic efforts of firefighters the day fire leapt through his valley, and he is overwhelmed by the generosity of strangers who wrote cheques and sent clothing. But like some other Silver Creek residents who lost their houses, he feels not enough was done to contain the

fire in its early stages atop the Fly Hills. And he wishes he had been given more practical information to minimize the damage to his property.

Actually, the B.C. Forest Service wishes more property owners would take simple steps to protect their homes from fires. These include steering clear of untreated shake roofs and cedar sidings, removing shrubs close to the house, pruning overhanging branches, and moving woodpiles and propane tanks away from the house. Most of all, officials harbour the rather futile hope that fewer people will build houses up in the woods, where fires start and cannot always be contained.

"Fire is a natural part of the ecosystem," says Ron Racine, district manager with the B.C. Forest Service in the Salmon Arm area. "At some time, I can guarantee there will be another big fire near another community."