

1992

Russian fire delegation in Alaska

Bruce Ford

**RUSSIAN FIRE
DELEGATION
IN
ALASKA**

Aug. 26 - Sept 9, 1992

**REPORT
by
BRUCE FORD**

Russian Participants

Nicolai Andreev, age 55, is Director General of "Avialesookhrana," or Aerial Fire Service, the Russian national aerial forest fire control center in Pushkino, just north of Moscow. He graduated as a Forest Engineer from the Forest Academy in 1959. Andreev oversees all aerial fire control operations in the country, and formerly did that job for the entire Soviet Union. He came to the U.S. in 1977 on the invitation of Doug Bird and Bill Moody (U.S. Forest Service), and in 1990 as a guest of Dick Stauber (BIFC). He says that, given the present state of the Russian economy, he does not plan to retire in the immediate future.

Eduard Davidenko, age 52, works under Andreev as head of science and technology. He graduated from the Leningrad Forest Academy as a Forest Engineer in 1962. Davidenko worked for the United Nations FAO as a fire control advisor in Mongolia in 1989-90. He has also done work in Greece, Israel, and Cuba.

Boris Khobta, age 38, is Chief of the Northeast Fire Center in Magadan. He is responsible for all aerial fire operations in the area from Yakutia to the Bering Strait (excluding Kamchatka). He is a Forestry Institute graduate.

Alexander Lyubyakin, age 39, is Chief of the Far East Fire Center in Khabarovsk. His area of responsibility is south of Yakutia and Magadan, between the Chinese border and the Pacific (excluding Sakhalin). He graduated from the Institute of Agriculture in forest fire protection.

Nicolai Belyaev, age 27, was a graduate student and researcher at the Leningrad Forestry Institute. He is currently a specialist in international relations for the northern Russian provinces. He served as interpreter for the delegation.

Itinerary

Wed. August 26, 1992 (Anchorage)

Delegation arrived via Aeroflot in Anchorage, and were met by Marv Robertson, Bill Robertson, and Bruce Ford

Thur. August 27 (Anchorage)

- Introductory meeting at BLM state office with Bill Calkins, Russ Hanson, Bish Buckle
- Meet with National Park Service Natural Resource Director Dale Taylor
- Meet with BIA Supervisory Forester Glenn Anderson
- Meet with George Hollett and Frenchy Mailott of Alaska Dept. of Natural Resources

Fri. August 28 (Kenai Peninsula)

- Visit Cooper Landing bug-kill salvage area
- Tour DNR field station and dispatch center at Soldotna
- Visit Pothole Lake Fire site (1991)
- Dinner at Bill Calkins' house

Sat. Aug. 29 (Anchorage to Fairbanks)

- Travel via Alaska Railroad to Fairbanks

Sun. Aug. 30 (Fairbanks)

- Meet Kieth Kepke of Canadian fire control (Yukon)
- Helicopter recon of Hess Creek fire site with Mike Silva
- Tour Alyeska Pump Station 7 and discuss pipeline with Alyeska representative Dave Holland

Mon. Aug. 31 (Fairbanks)

- Introduction and orientation to AFS
- Tour AIFCC, AFS Fire Cache, and Information Systems
- Dinner at Marv Robertson's house

Tue. Sept. 1 (Fairbanks)

- Tour smokejumper facilities
- Pump demonstration and practice jump
- Tour retardant site and view foam drop from KC-97
- Lawn party with smokejumpers

Wed. Sept. 2 (Fairbanks)

- Tour Geophysical Institute at UAF
- Tour and discuss Synthetic Aperture Radar (SAR) facility at UAF
- Visit University Museum

Thur. Sept. 3 (Fairbanks)

- Tour Poker Flats Research Range
- Meet Sen. Frank Murkowski
- Tour Gilmore Tracking Station (NOAA)

Fri. Sept. 4 (Fairbanks)

- Discussion at UAF Institute of Northern Forestry and tour fire effects lab
- Tour Bonanza Creek experimental forest and adjacent Rosie Creek burn
- Evening with smokejumpers

Sat. Sept 5 (Eagle - Ft. Yukon - Central)

- Sherpa to Eagle; walking tour of town and Ft Egbert
- Tour Ft Yukon field station and town with Steve Johnson; meet Rep. Don Young
- Tour Central field station and stay at Circle Hot Springs

Sun. Sept 6 (Bettles - Tanana)

- Tour Bettles field station with Mike Silva
- Tour Tanana field station and town

Mon. Sept 7 (Fairbanks)

- Recap AFS structure, financing, cooperative agreements, contracting, and personnel procedures
- Discuss and draft agreement for further Russian/Alaskan fire control cooperation

Tue. Sept. 8 (Fairbanks)

- Meet with Red Sheldon, U.S. Fish and Wildlife Service
- Meet with BLM district managers
- Andreev gives presentation on Russian fire control to AFS all-employees' meeting

Wed. Sept. 9 (Anchorage)

- Sherpa to Anchorage; close-out meeting with state director Ed Spang and associate director Bill Calkins
- Delegation departs via Aeroflot to Magadan

Background and Objectives

In the summer of 1991, Steve Pyne of Arizona State University toured fire control and research facilities in the Soviet Union, in researching his forthcoming book on fire in Asia. Noting the similarities in fire regimes between Russia and Alaska, he suggested that the Russians contact the Alaska Fire Service to initiate cooperative exchanges. In the winter of 1991-2, Ed Spang, BLM Alaska state director, invited a Russian delegation to visit Alaska in the summer of 1992, and accepted an invitation to send an Alaska delegation to Russia in 1993. This exchange was intended to give each side an overview and to suggest the most fruitful areas for further information exchange and/or cooperation.

To best evaluate fire conditions and operations, the Russian delegation was to tour Alaska during the active fire season, if possible. However, due to a busy fire season in European Russia, the visit was scheduled for July, and was further delayed because of poor communications.

The Russian Delegation Tour

The Russian group had an opportunity to see a wide range of facilities, fire technology, and countryside in Alaska. They also were able to meet with many people and agencies involved both directly and peripherally with fire control and research. Unfortunately, they arrived after fire season and had no opportunity to see fires and the Alaska fire control system in action.

The group was struck with the geographic similarities between Alaska and parts of Russia, particularly the Far East and the Northeast. Many plants and animals range over both our territories, and fires burn in much the same way. The Russians also must deal with vast distances and the consequent logistical problems of fire control. They too have pipelines, mainly gas, in the Arctic.

The delegation was particularly interested in the pattern of land ownership and corresponding allotment of responsibility for fire suppression. This entails the partition of land between federal agencies, military, state DNR, and private owners (including Native allotments). They asked many questions about the division of fire fighting responsibilities between the BLM and DNR, and the finances of mutual help and cooperation.

The varying attitudes of different agencies toward fire control was very interesting to the group. While the AFS is strictly a fire detection and suppression organization, the National Park Service is more inclined toward a hands-off policy, and the Fish and Wildlife Service sees fire as a tool for wildlife habitat management. The past Soviet policy has been total suppression of fire so far as resources and practical circumstance permit. Consequently, they were interested in the Alaskan system

of designating suppression as full, limited, etc. and modifying the designation as fire conditions change. Several members of the group, Lyubyakin in particular, were concerned with the ecological benefits of fire and its use as a land management tool. Lyubyakin and others were also very interested in the "Yellowstone dilemma," wherein one must accept the practical and political consequences of allowing fires to burn. In weighing the possible benefits and risks of this policy, they seemed to hope for some concrete answers from the Americans, and were rather amused to find that we also agonize over it, particularly in the more populated lower 48.

There was also much interest in the way AFS employs and pays people. Russian fire service employees are all full-time, and the feeling seems to be that many people are needlessly idle in the off-season. They were rather surprised that such a large portion of AFS employees are seasonal, and that many live all year on summer earnings. Andreev mentioned that they may look into the possibility of paying their people more and working them seasonally, thus freeing them to do other work in winter. The Russian aerial fire service has a firefighter/support ratio of about 4:1, and the delegation seemed to feel that extra support people could help their organization run smoother. Interest was expressed in the concept of organizing and training village crews, and the delegation was impressed with the mobility of such crews, as they witnessed some returning from duty in the lower 48.

The group was interested in tanker operations, as this is something not used extensively in Russia up to now. There are apparently only four retardant tankers in operation there. Some members of the delegation expressed doubts about the efficacy of retardant, and felt the vast distances in Russia would make fixed retardant bases impractical. They thought that mobile retardant bases might be more practical, and were impressed by the comparatively simple system at Bettles. They witnessed a demonstration foam drop on the runway at Ft. Wainwright.

They were favorably impressed by the convenience and light weight of the Shindaiwa pumps, and of the chain saws. A parachute maneuvering simulator is currently being developed for them by former military programmers, and should be completed within a year. They had previously expressed interest in buying one from the American developer, STI, but were deterred by the cost. The Stevens system of reserve parachute deployment was of special interest, as was our system of hanging parachutes for inspection. The Russians apparently have lightning detection systems which identify general areas of lightning activity, rather than the location of individual strikes.

Andreev expressed some skepticism concerning the benefits of satellite technology for fire control, and the applicability of computer modeling and high-tech in general. He felt that too much fire research in Russia was directed toward purely theoretical goals with little thought to practical application. There was a noticeable tendency on the part of some hosts to (probably unconsciously) "talk down" to the Russians when presenting technology, and to assume the lack of comparable technology in Russia.

Russian Fire Situation

Russia is currently undergoing changes similar to those that have occurred in Alaska since statehood. After statehood, Alaska lands were partitioned between federal and state jurisdiction. Further partition of lands by ownership and jurisdiction came with the D2 Lands Bill in 1978. All this entailed reassessment of fire management responsibilities. Most recently, the policy of total suppression has given way to a more balanced approach that allows more fires to burn.

In Russia, the tentative steps toward a market economy are leading to land ownership, which did not effectively exist before. The collapse of strong central control has led to much greater local autonomy in resource management. And economic limitations, perhaps even more than ecologic concerns, have necessitated a re-evaluation of the policy of attempting to put out most fires. Disappearing budgets are forcing a search for more economical ways of managing fire and for more creative financing.

Previously, all aircraft used in aerial fire protection were leased from Aeroflot. Now, Aeroflot no longer has a monopoly, and the Aerial Fire Service must deal with other leasers of aircraft. Russian/foreign joint ventures and foreign firms are gearing up to exploit vast timber resources, particularly in the far east of Russia. In the future, the Aerial Fire Service may well be working with these interests. In Oct. 1992, a meeting of several companies in Khabarovsk will discuss forest management and fire protection. Dick Stauber of BIFC should be attending.

Fire regimes across the Bering Strait, in Chukotka, are very similar to those in Alaska. Where Alaska has white and black spruce, however, the Russian northeast has stands of Siberian larch and dwarf Siberian pine. Dwarf Siberian pine grows in low, tangled mats and is full of volatile oils; it apparently burns very intensely, like black spruce. Much of the native population in the interior engages in reindeer herding, and human-caused fires seem to be more of a problem there than in interior Alaska. Natives are not systematically trained and used as firefighters. As in Alaska, villages have problems of underemployment and alcoholism. A common conveyance in the backcountry is the "vezdikhod," a caterpillar-tracked ATV which, according to Lyubyakin, causes much damage to the tundra.

Fire detection in remote areas is carried out almost exclusively by patrolling AN-2 biplanes, loaded with 6-8 smokejumpers and gear. FLE is apparently carried on routine flights. Small, single and twin-engine aircraft are very rare in Russia and generally unavailable for detection. Most fires are initially attacked by smokejumpers, and reinforcements may be brought in by helicopter. The workhorse of the helicopter fleet is the MI-8, with twin turbines and a single rotor, capable of carrying up to 20 rappellers or other firefighters. It can fly at 150 knots and has a range of up to 6 hours. Helicopters are also used extensively for cargo, crew retrieval, and bucket work.

Mechanized ground vehicles seem to be in more common use in Russia than here. Besides the "vezdikhod," there are various wheeled and tracked engines, trench diggers, and earth casters, as

well as hand-operated trench diggers. Fireline explosive is used quite extensively.

Communication is a major problem on very remote fires. Shortwave radios are used when fires are very distant from ground stations.

The Aerial Fire Service currently employs about 2500 smokejumpers and 4500 rappellers. Smokejumpers are cross-trained to rappel, but rappellers do not jump. Smokejumpers use three types of parachute: the ram-air Lesnik 2, and the round Lesnik and PTL. Spring-loaded, timed AADs are used on all jumps. The most recent fatalities involved water landings and one jumper who was using main and reserve canopies that he had modified himself. The smokejumper unit is less self-contained than in the U.S., and non-jumpers do many jobs such as loft work, driving, and cargo preparation. The "pilot-observer" in charge of each mission is trained as a forester, and may be trained to jump but does not generally jump fires. He decides jump spots and initial attack strategy, which he directs from the airplane. The pilot-observer receives bonus pay for flight time.

Initial attack firefighters are generally prepared to live off the land if need be. Like many Russians who live in the taiga, they are versed in what mushrooms and berries are edible, and which plants can be steeped to make tea. While aerial re-supply is also done, firefighters usually carry guns and have a blanket permit to hunt for food and to fish if necessary. Some have been known to parachute in their favorite hunting dogs.

Pay is based on a system which gives a bonus if a fire is controlled the first day. Andreev indicated that they have some problems with low morale and lack of work ethic, particularly since the economy is changing and people can make much more money in speculation or doing "business."

Large fires that require extended attack or "go project" require additional firefighters. These are often drawn from the "lesxoz," or timber industry cooperatives. Timber production workers are given training in firefighting, and the cooperatives have their own ground-based firefighting equipment. Crews may also be raised from among the local population, though these are not generally given prior training.

Future Cooperation

The Russians appear eager to continue ties with the BLM in Alaska. Informally, they proposed to mutually exchange a load of smokejumpers for the 1993 season, as well as host a delegation of BLM fire personnel. Ultimately, they would like to forge an agreement of mutual cooperation similar to that between Alaska and Canada. In Russia at the moment, joint ventures with foreign concerns are "all the rage," as state enterprises have more autonomy and seek market expertise and capital.

Previously, the USSR and Mongolia had a mutual assistance agreement whereby each could attack fires up to 50 km inside the other's border. In 1991, Andreev and Davidenko went to Greece with helicopters and rappellers to assist in fighting severe fires.

Any agreement for mutual assistance would have to address several problems that we don't encounter or are minimal in dealing with Canada:

1. Language. Any exchange of personnel or equipment would have to be expedited or accompanied by an interpreter. If these couldn't be found among the ranks on either side, they would need to be hired. Air traffic control might possibly be conducted in English on both sides.
2. Finances. Since the ruble is not a convertible currency, an agreement may have to be made for services in kind. It would be unrealistic to expect the Russians to reimburse in dollars for assistance rendered.
3. Logistics. Each side would have to be aware of what is and is not available in the other's country. This would apply to fuel, supplies, medical assistance, etc. A short supply line could be maintained with one's own country.

Mutual Benefits

Given only our cursory view of the Russian fire control system, there are several intriguing aspects of it that could merit a further look:

large helicopters. These may not be practical for us at the moment, but the Russians have used them successfully for many years.

rappelling. With 4500 rappellers, the Russians have much more experience in this area than we do.

FLE. They have used FLE longer and much more extensively than we have.

distances. The Russians must deal with distances even greater than those in Alaska, and it would be interesting to see what solutions they have found to the logistical problems presented.

organization. The Aerial Fire Service accomplishes its task with a firefighter/support ratio of about 4:1, much different than ours.

Strictly from a smokejumper's point of view, several ways in which we might benefit from a closer look at Russian techniques are:

AAD's. Russians use them on all jumps, and indicate they have had few problems with them. This may become an issue with us sooner or later.

letdown device. The Russian system is simple and self-contained. It appears to involve merely attaching two snaps before beginning a descent on a friction device.

face mask. Their mask slides down over the face rather than pivoting. Jumpers leave the mask up while descending and flip it down before landing.

jumpsuit. It is one-piece and seems convenient and comfortable, if a bit under-padded.

statistics and safety. The Russians made 70,000 jumps and 90,000 helirappels in 1990, and should have considerable input

on safety issues.

The Russians might learn most from us in the areas of retardant, interagency cooperation, fire ecology, prescribed burning, organizational structure, and smokejumper technology.

Whatever the technological and monetary benefits to any exchange between our organizations, I feel there is an even greater, though less quantifiable, potential gain. Any cultural exchange and mixing spawns new ideas and attitudes, whose influence branches and leads far beyond the original intent of the exchange. For two societies so lately at odds, and at such a critical time for both, few benefits could be greater.