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Trip to the USA

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EPT Regional Director

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Date

Khabarovsk

REPORT

on Khabarovsky krai Forest Service specialists visit to the USA
from April 19th to May 11th, 1996
under the forest fire prevention sub-project of RFE EPT Project

1996

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1 Russian fire specialists schedule

The group of Russian fire specialists visited the US from April 19th till May 11th, 1996 under the Russian/US project supported by the US government The group included

- Vasily V Rabsky - Chief Engineer of the forest protection department, Khabarovsk krai Forest Service
- Viktor A Korobkov - Director of Gursky Leskhoz
- Nikolay A Babarykin - Director of Avansky Leskhoz
- Viktor V Vorontsov - Chief of Komsomolsk Aerial sub-base
- Yuri P Serykh - Chief of the Smoke Jumpers Section, Khabarovsk
- Alexander P Lyubyakin - Director of Avialesokhrana, Khabarovsk
- Igor A Snitsky - EPT Project specialist, interpreter, Khabarovsk

The main objective of the visit was to get information about the forest fire protection program in the area populated and covered with the forest similar to those of Khabarovsky krai It should be mentioned, that due to the long-term co-operation with the US specialists and their competence, the program developed for the visit was busy and its objectives were completely achieved during the trip

April 19-20 Arrival to Anchorage, AK Discussion of the trip schedule

April 21 Leave Anchorage for Boise, Idaho

April 22-27 Boise, ID, visit the National Interagency Fire Coordination Center, tour Forest Service district offices, prescribed burn areas

April 28 Depart Boise, ID for Bimidji, MN

April 29-May 4 Tour the state Tour of Chippewa National forest Visit to Minnesota Interagency Fire Center in Grand Rapids Field-trip to prescribed fire site Tour of Seaplane base "Beaver" of the US Forest Service Tour outer field operations Tour of tanker bases in Bimiji and Ely, MN Visit to Voyageurs National Park

May 5 Leave Bimiji, MN for Anchorage, AK

May 6-May 10 Tour the state Tour of Alaska Fire Service facilities "BLM" in Fairbanks, visit training sessions of smokejumpers Tour the tanker base in Palmer Debriefing with Fire Service people

May 11 Leave for Khabarovsk

II US Fire Services work scheduling and coordination

Forest lands of the US are distributed among different land owners Those might be federal agencies such as US Department of Agriculture of the Forest Service, Land Management Bureau of Home Affairs Department But there are also municipal forests belonging to the state or indigenous peoples' forests, national forests and private forests Each land-owner possesses certain fire services, equipped and trained by the standard Coordination Centers have been established to coordinate activities and help fire fighting Directions on fire fighting resources allocations given by co-ordination centers are mandatory and unification of the services of all departments makes this task easier Those centers have available significant material resources along with the transportation means, that also allows efficiently organize activities intended to help any region where there is a necessity Considering that fire fighting operations are supported from the federal budget, the assistance provided by agencies to each other, usually is not paid Efficient regulation, centralized management, unification of the equipment and training programs form the system and make the latter easy manageable, as non-division on land and aerial departments contributes to task carrying out

III Financial and material-and-technical support of fire fighting activities in the US

Despite the market character of the US economy, all forest fire operations are supported by the government Considering the interest, the US taxpayers show for the federal money expense, financial support of the forest fire fighting programs is rather tight and constitute about 80% of the funds required according to the expertise of the specialists, we contacted to However, fire suppressing process itself is funded beyond the budget and along with "political" moments sometimes exceeds the reasonable ranges Thus, 2,5 thousand people, significant number of planes and helicopters were enlisted to suppress the fire occupying the square of 60,000 hectares and overall costs made up $50mln The fire was suppressed by precipitation The specialists are concerned about the problem of defining appropriate financing, when allotted means minimize the fire damage and are not wasted Naturally, in stable economic situation, financial planning for the coming year is approved and published 3-4 months prior its beginning

Considering the above mentioned factors the US fire fighting system does not experience any major problems in material-and-technical support, however, I'd like to verify some aspects First of all, there is a care of equipment and hence even old machines and mechanizms are in working condition, nowadays The personnel is proud about the working machines-veterans We happened to see the operating fire truck dated back to 1954 Besides, there are plenty of released from the army trucks and machines coming into the forest fire protection system Such machines are repaired, re-equipped into fire fighting pieces at the small workshops, all that from the federal budget, and still being used for a long time

The second typical feature of material-and-technical support is that all maintenance, replenishment and repair is implemented by fire protection service personnel directly in the

storage facilities and the equipment is delivered to the fire fighting sub-units in sets and ready to be used The equipment is packed according to certain standards and each set is meant by certain quantity of people

The main packaging material is cardboard boxes and packing tape As a rule, all packed equipment is supplied by special devices for carriage Thus, backpack-type straps are intended for one person, while special handles are meant for few people It's not a rare case when one person carries the luggage of 30-40 kg as a backpack All fire fighting tools and implements are manufactured and supplied ready-to-use, i e axes, mattocks and shovels with the handles Hence, the quality of hand tools is very high It should be mentioned that the convenience of the tools is a priority item, as fire suppression in the US as well as in Russia is mostly hard manual labour We should aim at the level of the US material-and-technical support of the forest fire fighting works, but it should be said that this level is based on significant financial basement First of all the storage facilities, repair workshops and auxiliary equipment not manually adjusted but specially projected and built with regards to all necessary conditions These are both facilities for repairing and chambers of hot and natural drying of fire hoses and parachutes, laundries and equipment for washing fire hoses after their use, test benches for pumps and saws, chains sharpening, etc Besides, there is highly qualified staff filled up Standard completeness and computerization allows to control availability of the equipment at all the storage facilities In case, something is needed in one of the regions, it's been delivered by special trailers from the nearest storage under the command of Co-ordination Center

The US specialists faced the necessity to assess all kinds of resources, their movements, effectiveness, etc to efficiently lead forest fire fighting work These objectives have been achieved with the help of a computer network The information is mostly transferred by X-25 stations, which are rather inexpensive in the US The global network Internet is used only for getting information of a common use The integration is achieved by the integrated database and its availability to the Co-ordination Center On the other hand it should be realised that the volume of the information, its regular analysis and prompt center reaction are possible with the availability of large number of dispatchers, which is true for the US system Thus, dispatcher staff of Alaskan center accounts about 25 people, and Boise, Idaho center has even bigger staff Such center receives and treats the information on weather, lightning situation, resource availability, aircraft work, appearing and existing fires, and prognosis data on possible fire development with regards to the weather conditions and vegetation Large-scale US map digitizing allows to have high quality GIS with inventories forest fuels availability, resources, historic fires, etc I would like to refer to the present situation in Russia then Federal Forest Service of Russia or Avialesokhrana (Forest Air-protection Service) should have a geographic information computer system staffed with highly qualified computer specialists and programmers This personnel should be in charge for not only information bulletin printouts for the leadership but also work on a whole system database, elaborate and set up software, such as GIS programs for regional departments, structures incorporated into networks with the help of package commutation (X-25) "Rospak", "Sprint" which have been started to be used in Russia Postpon[illegible] precedents of creation of computer programs on the base of non-

standard data base, which would make their future incorporation more difficult or present expenses useless upon the appearance of a new software

The US fire fighting centers dispose of a network of weather broadcast stations, which supply information to the Dispatcher Center, where it is treated by the specialists Moreover weather broadcast information may be used by any interested party free of charge, as it's been received by the federal service out of the federal funds Weather broadcast stations are sets of instruments with the transmitters set up on an aluminium frame supplied with the accumulator recharging from the solar battery They are set up in a geographically convenient point and left alone throughout a year The maintenance is conducted by the Center specialists according to the schedule It's possible to monitor data via remote control or automatically from the data treatment center, which has the appropriate software The lightning detection works on the same scheme except the transmission of the information which is conducted by X-25 networks The US government tries to prevent duplication of federally budgeted structures efforts, and therefore weather broadcast department of a fire fighting center in Boise, Idaho, provides weather broadcasts to businesses and public through the newspaper and TV It's hard to overestimate the significance of radio communication when coordinated actions are necessary Americans refused from short frequency signals connection having switched it for ultra short frequency range long time ago, as the first did not proved to be reliable Using the frequencies similar to those that we use, but developing the network of relay stations which enable the reception, amplification and signal transmission in super-high frequency range they managed to achieve high degree of reliability and continuous radio communication with the help of the same radio stations both between people, between aircraft and land between fire site and center Besides radio channels are compatible with the common telephone lines via base station Though centers dispose mobile satellite phone connection systems, radio communication via satellite is of no use, except the cases when they are used in field when necessary

Good communication means and their maintenance as well as movement control depend a big deal on material-and-technical support, in some moments though big funds are not needed while personal responsibility of each specialist is more important

IV Forest fire fighting works

Preparatory works for the coming year begin in September-October in fire fighting centers as the estimated costs being approved and federal budget being set up Workers are employed 3 6 or 9 months depending on their contracts and are supposed to take unpaid vacation during interim season Thus working personnel deals with preparatory works on repairing and replenishment of the equipment During the last month before the fire season starts, they begin to operate stations closed during winter time, bring equipment and workers to these stations Besides, instructors (alike Russian ones) select, train and certify volunteers in the remote settlements, who might be needed in case of wildfire These workers get paid on hourly basis for the time they work on fire suppression Considering the fact that other sources of income in such places are hardly available, the population highly appreciates the

possibility to make money There might be a probability that people cause fires intentionally with the purpose to get employed The US fire fighters do not neglect this probability but it does not cause any strong reaction, due to the exceptional character Dispatchers model the coming season in regard to snow cover, the information of which is collected and systematised as of a very important issue Prescribed fires are planned and costs of each site work are estimated Lately the attitude of the USFS specialists towards prescribed fires have been changed critically From the absolute denial of fire in the forest they have come to the technologies of prescribed fires With the right choice of weather conditions and forest litter wetness the damage of prescribed fire is minimal and the benefit is great It should be admitted that they can manage prescribed fire within the boundaries of certain area They believe that it's necessary to do prescribed ground fires every 15-20 years The objective of prescribed burns is to reduce forest fuels loading, to eliminate thick young stand contributing to occurrence of big crown fires and to help appropriate forest stand formation

The personnel of fire fighting services is intensively trained during the preparatory period Considering the fact that the work of a fire fighter is very hard, the personnel is tested on physical training and the beginners are especially liable to a tough, even severe selection through 2-3 hours physical exercises daily The US specialists believe that issue of life and health protection is one of the priorities in fire fighting process and that physically healthy people is a guarantee against accidents Generally theoretical part of training programs is less than the one of similar Russian programs The Smokejumpers are less trained on parachute packing up as it's the responsibility of specially trained people unlike our system when every smokejumper takes care of his own parachute Training jumping of the staff begin with the beginning of working season, usually one-two jumps but there are some cases when they jump on fire for the first time in a season Both smokejumpers and strike teams are trained according to one and the same programs including physical training (except parachute jumping)and there is no big difference in their qualification Some specialists believe that strike teams are even more qualified than smokejumpers, though the latter naturally do not agree

Fire prevention activities are conducted "aggressively" throughout a year by highly qualified specialists All leaders pay a lot of attention to public support, which is twice as important for the programs federally funded out of the taxes paid Fire Fighting Centers as a rule have a department on relationship with public These departments are usually staffed with 2-3 highly qualified specialists and equipped with expensive professional video- and photo-equipment They prepare and make press releases and news coverage in mass media on forest related issues including wildfires These efforts are aimed to influence public opinion and can be classified into the following groups

1 Smokey Bear image as a symbol of fire prevention
2 Fire fighting against fires hazardous for people
3 Prescribed fires, their necessity and ecological safety
4 Fire fighter is a hero who is very much respected

Smokey Bear has become a symbol of fire prevention, after a bear-cub suffered from a wildfire Nowadays this symbol is well-known in Russia as well However, the US approach is

very interesting The US Forest Service is the only buyer of the products with Smokey Bear logo They concentrate these products in storage facilities in Grand Rapids, Minnesota Simultaneously there are products up to $2 million cost All wildfire fighting departments of all agencies receive commodities from this storage with Smokey Bear logo 20 other English speaking countries also use Smokey logo in their forest prevention programs Due to the concentration of funds, simultaneous order for production of big lots of products, the price of each piece is getting lower and the quality remains high

Fire prevention issue is very specific and acute Due to the industry and business life concentrated in big cities and thanks to the high living standards a lot of people have moved to out-of-town forests Therefore, nowadays when private houses dispersed in the forests, every wildfire in dry forest can destroy lots of constructions, as well as any human caused fire may turn into a wildfire Thus, USFS has to deal with public education and train public fire fighting teams Such groups of volunteers participate in fire fighting of human caused fires and wildfires within their communities

Public awareness of prescribed fire necessity is also a very specific work Public denial of any fire in the forest, based on the Smokey Bear example, resulted in strong opposition to necessity of prescribed fires after it had been justified by the specialists Nowadays, the Forest Service advertises more reasonable approach to the fire and its significance to forest ecology

I would like to verify the issue of a human being starting a fight with a fire Specialists on public relations of all levels national forests, national parks fire fighting centers and federal authorities owning forest lands have formed a public opinion about the importance of a fire fighter and heroism of his work You can often see a high quality picture of a smiling or tired fire fighter on the background of the burning or saved forest in any magazine or a newspaper Fire fighters died in a fire (unfortunately this happens) are honourably delivered in coffins covered by the national flag and followed by the guard of honour to the place of burial They are heroes Their pictures in newspapers, magazines and on TV Naturally having such publicity and respect fire fighters are very proud of their profession and happily do any work

Methods of fire fighting are also well-known in Russia I would like to underline that even in a rather prosperous country the forest fire fighting activities are implemented in a very economical way with the least money expense Not every territory disposes air patrols Population is encouraged to participate in fire detection and fire fighting services information They use numerous (especially in Alaska) private aircraft for the purpose of aerial detection as well as terrestrial detection from the stand-points and patrols The brief scheme of fire fighting activities looks as follows

1 Wildfire detection
    a) Air patrol
    b) Ground (terrestrial) detection
    c) Any source information
2 Dispatcher center assessment of the information received
3 Directions given by dispatcher to the nearest fire fighting department verifying the fire suppression means such as
    a) tanker attack
    b) Smoke jumpers landing

c) Strike teams moving out to the place of fire

4 Dispatcher center assessment of the actions initiated

5 Planning of fire suppression works when the initial attack has not been successful or the fire has come into hazardous category

The peculiarity of the US fire fighting is that the territory is subdivided into four levels of protection, therefore, allowing to control the fire without any suppressive actions It's interesting in terms of aerial forest protection that they use a lot of old aircraft, especially those which have been released from the army We witnessed the work of a tanker manufactured back to 1954 and patrol seaplane "Beaver" dated back to 1957 And this is normal They still use DS-3 planes (known as LI-2 in Russia) There is a small patrol aeroplane in Voyageurs National park rented for $34 per hour All airdromes where fire fighting aircraft is based belong to the government of the USA (that issue is very acute for Russia) Forest protection is a federal task being funded from the federal budget hence aerial forest protection units do not have to pay for aircraft parking, landing off, landing down fees, etc

V Conclusions and suggestions

To my mind it's necessary to recall forest protection in the former USSR and assess it in the present daylight Nominally according to regulations and instructions ex-soviet system of forest protection was pretty strong The weak point of that system was the discrepancy between methods of forest protection and funding This contradiction originated in people disrespect towards the implementation of regulations and resulted in the so-called double morale i e officially everything was fine in the reports but few were interested in real situation I think that if the above mentioned contradiction was eliminated we would have had even stronger forest protection system than the USA and the cost of forest protection works per certain unit of area in Russia would have been even less Nowadays situation has increased the contradiction To get the situation improved we need

1 To bring technologies in compliance with the funds being allotted To classify the territories of Russia by the levels of protection

2 Considering the fact that the percentage of human caused fires in developed countries is less than in Russia (about 25% in the US) we need critically change fire prevention tactics We need to introduce departments on public relationship, to staff and equip such departments everywhere in Forest service units aerial forest protection services Funding of this work will not be beneficial first but there are no doubts we'll benefit out of it

3 I have mentioned in the part on computer system development and network creation that it's necessary to create a holistic database and improve the methods of system management Additionally, there should be emphasized that federally budgeted system has to be provided with "fair" regulations counterbalancing the territory's capacity and needs to be co-ordinated by common center

4 Lately we lost our "hero" I mean the attitude towards the fire fighter This factor decreased the inflow of perspective young people There are some objective reasons too

but the US experience show that this work is not well paid either Nevertheless, the romantic halo created around profession of a fire fighter attracts young people and there is no deficit of labour in the US fire fighting services

VI Everyday life sketches

In this part I would like to speak about the topic which is not tired up directly to forest protection activities The maintenance of buildings and constructions of aerial departments, leskhozes and seasonal offices locations is of a big importance

I mentioned once that all constructions in the US are projected purposely for concrete tasks Not everyone knows that all these buildings and constructions are built out of frames with insulation and different facing materials, which reduce the amount of investments As a rule they do electric wiring and water pipes (plastic) placement on the sites of construction There are some instances when they wire electric cables while water supply is delivered and kept in specially projected reservoirs The heating system is autonomous and may be various gas or electric boiler, stove heating Hot air diffuses into all premises via ventilation system Sewerage system is also autonomous Such construction technology allows to stop facilities use during interim season not damaging them It does not require any expenses on buildings maintenance and allows to start facilities use when necessary For example, Canadians have built Gassinsky model forest office in Troitskoye, Khabarovsky krai with the total area of 360 square meters Three-story building required only 20 cubic meters of woods for seven month of heating The key-facility has been brought from Canada in five and twenty ton containers

We need to project facilities and buildings similar in construction to reduce maintenance expenses to minimum in future I mentioned already the significance of relationship with public In regard with this I think that it's necessary to design the interior of aerial forest protection departments leskhozes, etc considering possibility of public attendance Small exhibitions of old equipment would be appropriate in lobbies, corridors and would not need any special areas Exhibitions of forest items, hunting trophies are good decorations and cognitively significant Photographs with the names and positions of all employees posted on the walls would be a good token of respect towards everyone Specialists responsible for relationship with public (I believe they will appear here too) should have different tour programs for visitors of different ages It should be mentioned that keeping in order buildings and facilities maintaining close relationship with public result in respect in the community towards the fire fighting system and help to solve financial issues on federal level too

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