



Preliminary Results of Forest Protection and Renewal in 2003 Forest Fire Management

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The current fire season is not over yet but it is already possible to state that the fire incidence this year has been much higher than the multiyear average of the last decade.

Compared to 2002, the number of forest fires in Russia reduced 1.2 times; however, the fire area increased 1.6 times while the area of forest lands covered by fires increased 1.9 times.

Difficult fire hazard conditions have been observed in Russian regions within the Ural, Siberian and Far East Federal Okrugs which account for 74% of 24,000 fires registered in Russian forests this year and for 99% of 1.9 million ha covered by such fires.

The Chita and Irkutsk Oblasts, Buryat Republic, Krasnoyarsk, Khabarovsk and Primorsky Krai where mass forest fires have occurred were characterized by an extremely high risk of forest fires.

The first mass outbreaks of forest fires were registered in the Chita Oblast in March-April. A high fire incidence level was primarily accounted for by extreme weather conditions: high daytime temperatures, lack of precipitation and strong winds. The situation was aggravated by the inflow of holiday-makers, fern and mushroom pickers, and by unauthorized burning of old grass in the fields, pastures and hayfields.

At the same time, it should be noted that compared to the same period in 2002 the fire-covered area in the Far East Federal Okrug reduced 1.4 times while the number of fires increased 1.3 times.

Nevertheless, efforts made to enhance fire prevention public awareness and detect the violators of fire safety rules and those who caused forest fires were inadequate, especially in view of the fact that the anthropogenic factor remained the principal reason of forest fires similar to the preceding years. The detection rate has decreased practically in all regions of the Okrug (except the Magadan Oblast). The growth of the mean area of an individual fire almost in all regions of the Okrug which indicates that fire extinguishing measures are not taken promptly enough. The mean area has decreased only in the Khabarovsk Krai and the Yakut Republic which reflects a responsible approach to the vital issue of forest protection.

It should be emphasized that federal and regional agencies responsible for land plots within the right-of-way of railways and highways, as well as power transmission, communication and gas transport lines, fail to conduct all necessary fire prevention and control activities in these areas. As a rule, they cut only those branches that come into direct contact with power transmission wires and conductors and leave them on site, which enhances the fire hazard in certain zones and plots. (For instance, there were three fires in the Amur Oblast that occurred within the right-of-way of railways.)

The MNR has submitted numerous requests to these agencies and we should tighten supervision of fire safety actions taken in such areas.

Unregulated agricultural burning conducted by MOA entities and enterprises is another source of forest fires. It accounts for 11-24% of total fires. However, only the Yakut Republic is making efforts to address the issue. The Republic has drafted a regional law on agricultural burning and a law on Administrative Liability for Environmental Delinquency. Copies of these draft laws were sent out to all offices early this year. Unfortunately, no specific steps have been made since then.

A large-scale unauthorized dumping of industrial and domestic wastes into forests that have been taking place over the last years cause damage to the environment, and subsequent burning of these wastes leads to the occurrence and spread of forest fires.

All these factors do not facilitate the reduction of forest fire incidence in the Okrug.

The regional forests are characterized by an increased fire hazard due to their climatic and site conditions. Complicated nature/climate conditions, an underdeveloped network of logging and forest fire roads, an intensive involvement of forest resources in the production process, the ever increasing forest visit rate – all these are major reasons for forest fire incidence. Therefore, the principle responsibility for forest protection against fire rests with aerial fire units (256.6 million ha out of 290 million ha of protected areas). However, the percent of fires extinguished only by smoke jumpers and helirappellers has been reduced drastically. In the early 1990s (1990-91) it was as high as 80% while at present it is about 40%. The “turnover” of fire control teams has gone down drastically. It takes them a long time to extinguish a single fire (usually a big one) while their basic task is to extinguish newly detected small fires as quickly as possible. Therefore, it was decided to strengthen the aerial fire fighting capacities. Under the current conditions, the MNR decided to establish the Far East Forest Fire Coordination Center to formulate and pursue an integrated fire prevention and control policy in respect to fires threatening forests, peat bogs and forest-tundra ecosystems, to ensure decision-making by and coordinate the operation of forest fire services, and implement the resolution of the Khabarovsk meeting of 17 April 2003. You will hear a more detailed account of its tasks and activities from the Head of the Far East Aerial Fire Center (Airbase), Mr. Alexandr Pavlovich Lyubiakin.

In addition, based on the analysis and assessment of forest fire prevention and control activities in 2002, the Ministry has done a lot to ensure the reliability of forest protection against fire. It has drafted a Concept of Forest Protection against Fire in Russia; taking into account your comments, the Ministry has prepared a new version of the Fire Fighters Safety Rules for Russian forests. We also started developing forest fire prevention schemes for Federal Okrugs of the Russian Federation, and improving the forest fire monitoring system at the federal and regional levels. The Ministry has signed Cooperation Agreements with the Federal Ministries for Emergencies, Agriculture and Defense to prevent and liquidate forest fire-related emergencies. The Agreements would make it possible to take joint coordinated actions in that sphere.

For the first time, a new provision (Article 226) has been included in the budget classification with a view to preparing for the fire season. It would allow targeted funding and strict enforcement of respective activities. At present, the Ministry for Natural Resources, together with the Ministry for Finances, is drafting an instruction on targeted allocation of funds, and we expect specific proposals from our regional offices.

The MNR is currently facing a number of priority tasks which should be implemented to provide technical support to forest fire services. The support includes, first and foremost, renewal of fire and auxiliary equipment, refurbishment of forest aircraft, and completion of the second stage of the Forest Fire Management Center. We are also trying to resolve the issue of air tanker use (in particular, amphibian aircraft Be-200P) for airborne forest fire suppression, which would ensure a high safety level and a timely elimination of forest fires.

Bearing in mind that the MNR does not have the required funds to implement its tasks, I find it expedient to discuss possible co-financing of these works by regional authorities interested in improving the performance of forest fire units and preventing emergencies in their respective region.

It is time for the MNR regional offices to start summing up their work in the current year, perform the analysis and commence the preparation for the 2004 fire season.

Illegal Logging

Demand for hardwood species (especially ash) increased considerably in Pacific Asia over the last years, which lead to ash logging in excess of its share in the production forests. Comparison of data on industrial ash wood exports from the Krai with official wood sale data indicates there is a latent overlogging of the species.

Over 77% of logged ash is exported to China which is related to the fact that China put a long-term

moratorium on logging in some parts of the country with a view to developing its own processing industry and creating new jobs.

In addition to China, Republic of Korea has also strengthened its position in the Russian wood market: in the past, wood export to Korea was insignificant but increased several times over the last years.

An especially difficult logging situation in respect of valuable wood species is observed in the Far East. Illegal logging in the region is performed by well organized mobile teams equipped with necessary logging and timber loading machinery and means of communication. Poachers do not stop at violence, even at murders of state forest protection officials who detected illegal loggers.

Wood logged in Siberia constitutes a large share of export wood transported via Far East regions.

Illegal logging in the Far East is growing.

In the first six months of 2003, the state forest protection officials uncovered 942 cases of illegal logging in the Far East. The amount of illegally logged wood was 36,200 cubic meters while damage to forestry totalled RUR 467.3 million. The Primorsky Krai, Khabarovsk Krai and Amur Oblast accounts for the bulk of illegal logging in the Far East: 340 cases and 11,900 cubic meters totalling RUR339.4 million; 147 cases and 7,500 cubic meters totalling RUR79.7 million; and 269 cases and 9,300 cubic meters totalling 34.4 million, respectively.

The officials of the state forest protection service – independently and together with the regional offices of federal executive authorities – take actions, within their terms of reference, to stabilize the situation as regards illegal logging.

Thus, in spite of a 8.5 times growth of illegal logging in the Jewish Autonomous Oblast relative to the similar preceding period, the delinquent detection efficiency of the state forest protection service was as high as 92%.

Similar work is also being done in other regions of the area.

At the same time, it should be emphasized that measures currently taken to stop illegal logging are inadequate. In spite of the efforts made by the state forest protection service of the Russian Federation, the stabilization of the situation relating to illegal logging requires the soonest possible resolution of a number of issues both at the federal and regional levels.

The imperfect regulatory legal framework of Russian regions relating to forest use, quantitative and qualitative assessment of forests, and supervision of wood logging, transportation, processing and sales (including export sales) also plays an important role.

Besides, changes should be made to the basic forest legislation, i.e. the Forest Code of the Russian Federation.

It is necessary to draft a number of regulatory legal acts at the federal level to regulate the issue under consideration.

Taking into account that the problem of illegal logging of valuable species involves a wide range of violations relating to illegal logging, transportation, processing and sales of wood in the domestic and foreign markets, as well as pricing and customs violations, there should be a clearly established interaction between federal executive authorities responsible for these issues, their regional offices and regional authorities.

To my mind, real-time decision making and coordination of the activities of federal executive authorities designed to control illegal logging and a shadow wood market at the governmental and federal levels might be possible within the framework of an Interministerial Commission. At the regional level, these functions might be performed through the establishment of similar commissions under regional authorities.

Therefore, we are currently drafting a Government resolution on the establishment of the Interministerial Commission to control illegal logging, transportation, processing and sales of illegally logged wood, and the Regulations on the Interministerial Commission and its members.

To ensure an open logging process with due regard for local conditions and a guaranteed compliance with legislative requirements to all stages of forest product movement (logging, transportation, storage, processing and final product shipment to users) the MNR, together with federal executive authorities concerned, has prepared an Action Plan to establish and maintain a forest certification system in the Russian Federation. At present, there is a National Voluntary Forest Certification Board which is drafting a national standard. Forest certification would be conducted in 12 regions and completed in 2005.

To improve the forest management system in Russia the MNR has developed and is implementing a set of measures, including:

The development of a regulatory framework for establishing an electronic forest exchange whose large-scale introduction would make it possible to resolve not only applied tasks relating to the organization of forest resources auctions, but also strategic issues of improving forest management.

The first working session of the electronic forest exchange took place on 30 June 2003 and showed a rather high efficiency of the arrangement.

At present, the Ministry is piloting a system of logged wood labelling that would use special labels put on the butt end of log which would establish a chain-of-custody to trace timber from the stump to the end user, including export timber.

On the whole, the issue should be resolved at the federal level through the adoption of a set of actions aimed at tightening public supervision of wood logging and sales in the domestic and foreign markets, enhancing the status and legal and social protection of forest protection service officials, and providing them with necessary equipment and devices.

Summing up the issue, I would like to say that it should be resolved at the federal level through the adoption of a set of actions aimed at tightening public supervision of wood logging and sales in the domestic and foreign markets, enhancing the status and legal and social protection of forest protection service officials, and providing them with necessary equipment and devices.

Pest and Disease Management

Forests in the Far East Federal Okrug are exposed to a number of unfavourable impacts which weaken and kill trees.

Forest fires have been a major reason for tree die-off in the Okrug over the last decade. Fires have destroyed 867,900 ha of forests over that period which is 97% of all perished stands. Forest death from unfavorable weather conditions places second: 20,600 ha (2.3%). The mean area of dead stands is 0.32% of the forested area in the Okrug. The largest area of perished forests was observed in the Kamchatka Oblast and Koryak Autonomous Okrug (2.51%), and a somewhat less area in the Sakhalin Oblast and Chukotka Autonomous Okrug (0.87% and 0.86%, respectively). The trend persisted in 2002. Besides, forest death was observed over large territories in the Sakha (Yakut) Republic. In 2002, forest stands in the Okrug died over the area of more than 157,500 ha which is 47% of all forests which perished in Russia that year. 98% of these deaths were caused by forest fires.

Damage from dendrophilous pests caused the die-off over 1,701 ha (1.1%) of stands. Unfavorable weather conditions killed trees over 805 ha (0.5%). Apart from these factors, forest health in the Okrug is adversely affected by the inadequate use of allowable cut which results in the accumulation of mature and overmature stands. Associations of forest pests and diseases become more active with the natural mortality of trees. The old growth accumulates combustion materials and reduces carbon deposition while the outbreaks of forest pests and diseases originating in the old growth threaten adjacent forests. As a result, the estimated value of the Okrug forests goes down, and general environmental conditions in the Okrug deteriorate. In 2002 taken alone, the Okrug forest value reduced by RUR 2,327.9 million due to timber quality deterioration. Forest health is being improved using a set of sanitary and rehabilitation activities. In 2002, these activities were implemented in 19.7% of the Okrug forests that needed such treatment.

Salvage operations conducted in 2002 enabled the Okrug to increase its forest revenues by RUR 179.8 million.

As of the end of 2002, forest pest and disease outbreaks in the Far East Okrug were observed over 4,764,500 ha which is more than 50 percent of all outbreaks in the country. Far East forests are invaded by a number of defoliating conifer pests, *Dendrolimus sibiricus* being the most harmful among them. Last year, the aggregate area of its outbreaks amounted to 4,583,700 ha. The outbreak of *Dendrolimus sibiricus* which has been observed in the Okrug during the last few years has had the strongest impact on forests in the Sakha (Yakut) Republic and the Khabarovsk Krai.

Air-based activities implemented in 2002 to control *Dendrolimus sibiricus* in the Khabarovsk Krai stands over 114,000 ha, together with natural factors, made it possible to reduce the area of its outbreaks almost 2 times. In 2003, eradicating measures have been taken in forests of the Sakha (Yakut) Republic and the Khabarovsk Krai over 86,600 ha. Allocations from the federal budget on the eradicating activities exceeded RUR 35.7 million.

The Okrug has organized and is conducting pest monitoring over the forest area in excess of 2.1 million ha.

The most unfavourable forest health situation is observed in the Sakha (Yakut) Republic and the Khabarovsk Krai. The Main Administration for Natural Resources of the Sakha (Yakut) Republic where mass outbreaks of *Dendrolimus sibiricus* covering 6 million ha have been taking place over the last few years does not have a single expert responsible for forest protection. Similarly, forest protection issues do not receive adequate attention in the Khabarovsk Krai which significantly increases the physical and financial costs due to the late detection of forest pest outbreaks.

FGU Roslesozaschita and its subsidiary for the Primorsky Krai monitor dangerous quarantine forest pest species (gipsy moth, pink moth and nun moth) within the framework of an agreement between the US Forest Service and Russian Quarantine Service. The activities allow a free flow of export products through the ports of Nakhodka and Vladivostok.

FGU Roslesozaschita and its subsidiary for the Primorsky Krai, acting under the FOREST Project, arrange for pest control in two leskhozoes and organize landscape and environmental monitoring.

To ensure a successful implementation of its forest protection tasks the Okrug shall:

- Strengthen the forest protection units of the regional forestry authorities and consider, as soon as possible, the establishment of FGU Roslesozaschita subsidiaries in the Sakha (Yakut) Republic and the Khabarovsk Krai;
- Develop region-specific pest monitoring projects;
- Conduct field surveys of the Okrug forests with the most difficult forest health conditions.

Reforestation

In 2002, final clear cutting and sanitary clear cutting in the Okrug forests managed by the MNR covered 100,800 ha. Reforestation activities were conducted over 234,800 ha, including forest planting and seeding over 25,800 ha; the area of young growth classified as economically valuable stands amounted to 323,400 ha. Total expenditures on forest reproduction was RUR205.9 million, including RUR73.3 million allocated from the regional and local budgets. Most reforestation activities were financed through leskhozoes (RUR132.1 million or 64 %).

Pursuant to the Reforestation Program of the Russian Federation for 2003-2010 designed to implement the Federal Targeted Program *Russian Environment and Natural Resources: 2002-2010*, the 2003 reforestation plan of the Far East Okrug covers 209,000 ha, including forest planting and seeding over 21,500 ha; thinning in young stands over 33,600 ha; and transfer of young growth into the category of economically valuable stands over 272,000 ha. The regional budgets have earmarked RUR 110.3 million for forest reproduction which is about 20% of the norm. The Khabarovsk Krai and Sakhalin Oblast budgets have earmarked only 6 percent.

As of 1 August 2003, reforestation activities were conducted over 71,400 ha, including forest planting and seeding over 21,300 ha, silvicultural treatment of forest plantations over 5,600 ha, and establishment of seeding plots in forest nurseries over 66 ha.

All regions in the Okrug met their forest planting targets in the spring-summer season, except the Kamchatka (70%) and Amur (93%) Oblasts, which should complete the silvicultural operations in the fall.

By the end of the first six months of 2003, expenditure on forest reproduction amounted to RUR 83.1 million while the actual allocations from the regional and local budgets amounted to RUR 42.9 million or 52 percent. No funds were allocated for these purposes from the Khabarovsk Krai budget.

Unfortunately I have to note that the Khabarovsk Krai and the Jewish Autonomous Oblast have no regional reforestation programs approved by the regional public authorities.

Peculiarities of Reforestation in the Far East.

Russia's vast forests differ by their climatic and soil conditions, intensity of forestry activities, and cutting and reforestation practices.

Reforestation tasks depend on natural and economic conditions in a specific region. Major reforestation principle is a mandatory restoration of cutting areas and regulated natural forest growing in other forest-free areas. In northern and middle taiga, the natural regeneration capacity of forests allows a successful use of natural regeneration in almost 70% of forest-free areas while 30% of the areas require the implementation of silvicultural activities; in southern taiga the ratio is about 50:50; in the mixed forest zone, silvicultural activities shall amount to 70% of total reforestation; and in the forest-steppe zone the figure increases to 100%.

The most common reforestation practice in the Far East is the facilitation of natural forest regeneration. Local site conditions are characterized by a high natural regeneration rate. Forest planning and inventory materials indicate that with good logging practices silvicultural activities shall be conducted only over 5-10% of the cutting area while in 40-45% of the area it is possible to take actions that facilitate natural forest regeneration; half of the cutting area may restore in a natural way.

In 2001-2002, reforestation area exceeded the area of final clear cutting and sanitary clear cutting 2.3 to 2.6 times. The balance of cutting and reforestation is maintained in all Far East regions.

According to the state forest accounting, the total forest-free area in the Far East increased between two accounts (1998-2003) by 2.7 million ha or 3.6 percent. As of 1 January 2003, the total area that required reforestation amounted 24.5 million ha. The majority of these lands are located in hardly accessible places. Areas that need forest seeding and facilitation of natural regeneration and are accessible for economic development amount to 0.6 million ha or 2.5 % of the total forest-free area.

Cedar (*Pinus sibirica*) forests play a special role in the Far East. A major cedar forest restoration method is to facilitate natural forest regeneration through an intensive removal of naturally regenerated cedar from under the deciduous species canopy. Silvicultural activities shall be implemented when cedar cannot be restored by facilitation measures. At present, cedar plantations are annually established over 6,000 to 8,000 ha. Efforts are made to improve the organization level of the cedar seed base and introduce the advanced methods of planting material cultivation and seed preparation.

Forest fires are a major factor determining forest conditions in the Far East. The area of burnt forests in the Far East is 10 times larger than the cutting area. Forest protection against fires is a key forest management issue for the territory.