

Original article

DOI 10.24419/LHI.2304-3083.2021.3.05

## The Use of All-Terrain Vehicles in Extinguishing Forest Fires

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**Abstract.** The prospects for the development and implementation of all-terrain vehicles are considered, with the allocation of problematic issues related to the conditions of use of ATV snowmobiles. First of all, this conclusion is based on the clearly expressed specific structure and condition of the territories proposed for development, where there are no high-quality roads, there is a rough terrain and territories covered with forest. In general, the study is devoted to the development of evidence-based proposals for the introduction of ATV all-terrain vehicles in the forest industry. The evaluation of the prospects for the use of the ATV-all-terrain vehicle is planned to improve the effectiveness of measures to protect forests from fires, as well as to develop a resource-saving system of units based on the ATV-all-terrain vehicle. Based on the results of the intermediate stage, the analysis of the working conditions of ATV all-terrain vehicles was carried out when implementing measures to protect forests from fires, which can be used to prevent and extinguish forest and natural fires. The advantages and disadvantages of the design features of all-terrain vehicles were identified. Scenarios for the use of forest fire ATV all-terrain vehicles have been developed. Scientifically-based proposals for the optimal composition of small-scale mechanization vehicles, personal (individual) motorized vehicles and hand tools, for completing ATV all-terrain vehicles, taking into account forest areas and natural geographical location were also formed. The evaluation of typical technological operations allows us to determine the effective role and place of the all-terrain vehicle in the system of actions of forest fire formations. The article presents the results of the intermediate stage and the planned experiment to assess the use of the all-terrain vehicle in extinguishing forest fires and to determine the risks associated with their use.

**Key words:** all-terrain vehicle, forest fire, forest growing conditions, forest protection, fire safety.

**For citation:** Perminov A.V., Savchenkova V.A., Korshunov N.A., Konyushenkov M.E. The Use of All-Terrain Vehicles in Extinguishing Forest Fires // Forestry information. 2021. № 3. P. 59–69. DOI 10.24419/LHI.2304-3083.2021.3.05.

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