



“Gheorghe Asachi” Technical University of Iasi, Romania



ESTIMATING CURRENT STATE OF SOIL EROSION INDUCED BY SKID TRAILS GEOMETRY IN MOUNTAINOUS CONDITIONS

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Abstract

Timber harvesting activity represents one of the major sources of the forest terrain erosion. Several studies have been performed in order to quantify the rate of soils erosion by considering the practices used in forestry, and some of them concluded that the associated erosion can be regarded as the price of having roads. The current study focused on the used practices in developing skidding trails and the associated erosion phenomena. There was found that some of the used practices (the longitudinal design slope of the skid trails) present major influences on the average eroded areas in cross-section. Correlations were established between the two mentioned factors, and there has been concluded that the design slopes greater than 20-25% led to the increment of the associated (affected) cross-section areas. Also, due to their main properties, different soil types can lead to increased scoured areas. There was found that the soils presenting parent rock layers closer to the surface are less susceptible to the process advancement by comparison with the more profound soils.

Key words: erosion, geometry, skid trail, timber skidding

Received: October, 2012; Revised final: January, 2013; Accepted: January, 2013; Published in final edited form: March 2018

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