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Compensating the opportunity cost of forest functional zoning - two alternative options for the Romanian forest policy

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Abstract. An important challenge of the environmental policy is conceiving appropriate economic instruments able to account for the positive externalities provided by forest ecosystems. This issue is extremely important for implementing the provisions of the Romanian Forest Act, which states that forest owners shall be compensated for the opportunity costs of giving up harvesting operations due to various conservation purposes. The paper presents a statistical method based on analytical assessment of the effective forgone revenues brought about by banning the harvesting operations in 96 cases, each case being a distinctive forest management plan conceived for a large forest area, i.e. a production unit. Doing so, the scale effect has been taken into account because all legal provisions referring to forest management planning systems are focused on production units, considered the basic reference elements for sustainable forest management. The multiple regression function produced by the statistical analysis was turned into a simple formula allowing for a straightforward set up of the average compensation worth being paid per year and hectare. In order to better fetch the real opportunity cost paid for each hectare of protected forest, the algorithm was further improved in order to account for the differences in stumpage residual value. Actually, the average compensation is differentiated onto five categories of hauling distances, using the same algorithm used by the National Forest Administration for differentiating the average reservation price established at national level on the ground of full-cost method stumpage pricing system.
Keywords: opportunity cost, environmental services, economic instruments, forest management planning, indicative growth.

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Introduction

General considerations

The process of designing adequate instruments for implementing multifunctional forest management involves various stakeholders (state or local administrations, environmentalists, private forest owners etc) and recently it has being enveloped into a broader policy-making

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