2ⁿᵈ SESSION: *Socio-economic Environmental Assessment*

A bilevel scheduling algorithm for maximizing NPV in forests with different rotation ages

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Abstract
The forest harvest scheduling problem constitutes an important problem category of the forest management problems. Especially, when multiple forests are available with different forests with not the same rotation age, then the sustainability must be guaranteed in the end of the planning horizon. The present paper studies the maximization of the Net Present Value (NPV) under forest scheduling constraints. Specifically, a bilevel scheduling algorithm is proposed, for maximizing NPV in forests with different rotation ages. Furthermore, some preliminary computational results are also shown in order to assess the benefits of the proposed Bilevel Non Linear Programming (BLNLP) model. Finally, a discussion of the results of a scenario analysis is also presented.

Keywords: Bilevel optimization; linear programming; forest harvest scheduling problem; environmental economics.

JEL Codes: C61; C63; Q23; Q51.