THE SECOND SPECIAL SECTION OF ARTICLES FROM THE 2009 SYMPOSIUM ON SYSTEMS ANALYSIS IN FOREST RESOURCES

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ABSTRACT.This is the Introduction to and an overview of the Special Section of papers from the 2009 Symposium on Systems Analysis in Forest Resources (SSAFR) held in Charleston, South Carolina on May 26–29, by the symposium organizer and the Guest Editor of this section.

Keywords: Symposium Proceedings, SSAFR, Systems Analysis, OR, Symulations, Programming

1 Background

The 2009 Symposium in Systems Analysis in Forest Resources (SSAFR) was held in Charleston, South Carolina from May 26 to 29. Thirty-five presentations were given at the Symposium on topics ranging from bio-fuels harvesting logistics to efficiently monitoring the impacts of climate change by speakers from Canada, Chile, China, South Korea, Spain, Portugal, Sweden, the United States, and Vietnam. The Symposium continues a long tradition of workshops sponsored by the Society of American Forester's E-4 Working Group. The 14th Symposium in the series will be held on March 8–11, 2011, in Reñaca-Chile[1]. This is the second special section in the Journal of Mathematical and Computational Forestry and Natural Resources Sciences (MCFNS) dedicated to papers presented at the Symposium. The first part of the MCFNS Special Section publication from the 2009 Symposium on Systems Analysis in Forest Resources is described in McDill (2010), and it contains two articles by Bettinger (2010) and Li et al. (2010).

2 Contents of Special Section, Part II

Similar as in the previous issue this section contains also two articles. Both articles in this section involve multi-objective management planning for forests. The first paper, by Sándor F Tóth, Gregory Ettl, and Sergey Rabotyagov (Tóth et al. 2010), describes an interesting and promising new market mechanism for valuing ecosystem services and for compensating forest landowners for producing those services. They propose and test an auction system where a forest landowner auctions off alternative management plans, each representing a different bundle of ecosystem services and a different opportunity cost (represented by a reserve price) for the landowner. Alternative management plans are developed using multi-objective linear integer programming methods. The bundle that provides the greatest total bid value over the reserve price is the one selected for implementation. They test the approach with a mock auction based on the University of Washington's Pack Forest. The second paper, by Marion Marinescu and Thomas Manning (Marinescu and Maness 2010), describes a hierarchical planning model that simultaneously optimizes the medium-term allocation of timber harvesting rights to sawmills within an area while meeting multiple social, environmental and economic criteria and optimizing the sawmills' short-term operations to maximize their profitability. They apply their hierarchical planning model to a case study from the Kootenay Columbia Region of British Columbia in an area with a publicly-owned forest landscape and three privately-owned sawmills. The public landowner faces a multi-objective problem considering the profit earned by the sawmills, employment in the sawmills, the visual quality of the resource, and recreation and wildlife values.

[1]For more information, contact Andres Weintraub (aweintra@dii.uchile.cl)

to the process and the papers in these sections are in-valuable.

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