

Modeling Management Impacts of Alternative Harvesting Systems in the Saskatchewan Boreal Mixedwood Forest

The project was designed to address the need for decision support tools by Mistik Management Ltd. to forecast the successional development of boreal mixedwood forests in central Saskatchewan (specifically, the Meadow Lake area) following both natural and management-induced disturbances. Its aims were to further our understanding of key ecosystem processes in boreal mixedwoods, contribute to the definition and implementation of sustainable forest management practices, provide decision support tools to evaluate alternative methods of achieving sustainability, and provide a mechanism with which to communicate sustainability concepts, choices and trade-offs.

Figure 1 provides a conceptual illustration of the approach.

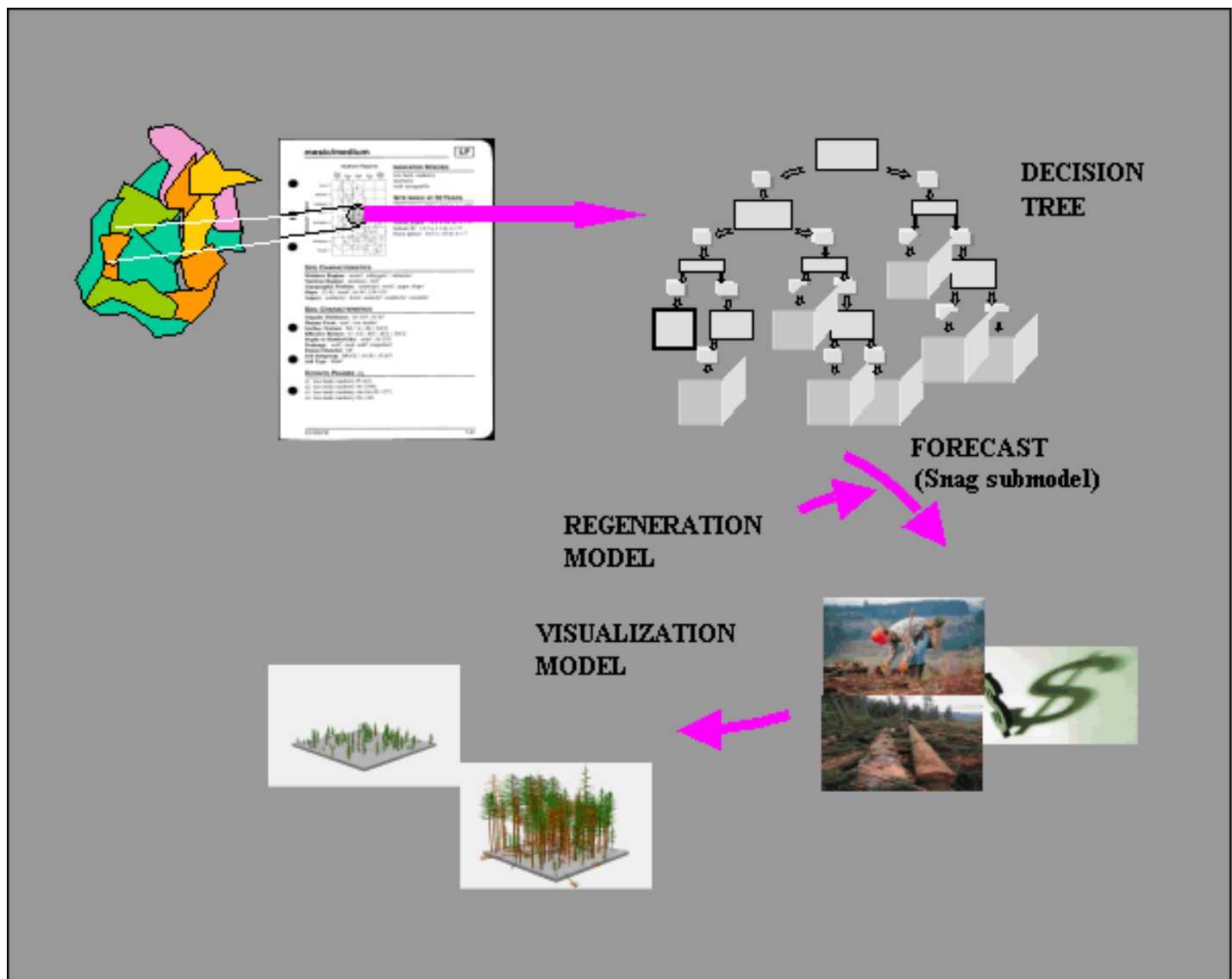


Figure 1. The project focused on one of the dominant ecosites from which timber is extracted in the Mistik FMA (ecosite d: low-bush cranberry). A decision support tree provides a series of management options, depending upon stand attributes. The ecological and economic consequences of these options are projected with the FORECAST model. A visualization model is linked to FORECAST and generates a series of images depicting stand development.
