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INTEGRATING ECOSYSTEM SERVICES INTO FOREST HARVESTING WORKFLOWS FOR SUSTAINABLE PLANNING

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This work presents the data analysis component of an integrated forest management plan, focusing on how ecosystem services (ES) can be better considered in operational planning. We outline a practical method for identifying areas to avoid during harvesting, using available geospatial data and indicators related to terrain, soil wetness, and habitat value. The workflow combines LiDAR-derived terrain models, forest registry data, habitat maps, and drainage infrastructure to define no-go zones for harvesters. The aim is to reduce potential negative impacts on regulating services such as water retention, soil stability, and biodiversity. By integrating ES-related criteria into routine planning, this method supports more balanced decisions between timber production and environmental needs. The approach is based on open data and can be adapted to various forest types and management contexts. While not a comprehensive solution, it shows how existing data can help align forest operations with sustainability goals. This work contributes to ongoing efforts to improve the environmental performance of forestry by making spatial planning more responsive to ecosystem functions.

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