

[Spatial green accounting for terrestrial ecosystems: from theory to practice](#)

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National accounts are widely used to assess the performance of an economy and theory has shown the relationship between the Net National Product and the linearized Hamiltonian. This implies that it suffices to maximize it to keep an economy on its optimal path and that only values estimated for the current year are needed. Theoretical literature on green accounting has extended these results to natural resources and there is now a great interest in expanding national accounts to cover the environment. However, national accounts are based on market prices and environmental valuation typically focuses on consumer surplus. To aggregate values in a consistent manner we propose to simulate the price that would occur if the environment were perfectly internalized. To do this, we propose to simulate the whole market: demand (using non-market valuation techniques), supply and market structure. We also show that the theoretical result that only values of the year are needed depends on assumptions which are unrealistic for forests, especially if results are to be spatially explicit. Thus, forward looking values are necessary to estimate variations in capital for forests (we propose a simplified method to do this). Finally, we discuss examples of applications of the theory discussed above to agro-forestry systems. Estimations include commercial goods and services (timber, cork, firewood, pasture and hunting) and non-commercial values such as public and private recreation, biodiversity preservation, landscape, carbon sequestration and mushroom recollection.