

Quantifying Product Impacts on Biodiversity: The Product Biodiversity Footprint

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Abstract : Human products consumption is one of the main drivers of biodiversity loss. However, few pertinent ecological indicators regarding product life cycle impact on species and ecosystems have been built. Life cycle assessment (LCA) methodologies are well under way to conceive standardized methods to assess this impact, by taking already partially into account three of the Millennium Ecosystem Assessment pressures (land use, pollutions, climate change). Coupling LCA and ecological data and methods is an emerging challenge to develop a product biodiversity footprint. This approach was tested on three case studies from food processing, textile, and cosmetic industries. It allowed first to improve the environmental relevance of the Potential Disappeared Fraction of species, end-point indicator typically used in life cycle analysis methods, and second to introduce new indicators on overexploitation and invasive species. This type of footprint is a major step in helping companies to identify their impacts on biodiversity and to propose potential improvements.

Keywords : biodiversity, companies, footprint, life cycle assessment, products

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