

Vienna's global biodiversity footprint. A multi-scale analysis outlining options to reduce urban pressures on biodiversity

Abstract

Urban governments are increasingly engaging in biodiversity conservation within their own city's territories. While these conservation efforts are important, cities exert much higher pressures on biodiversity beyond their own territories related to the provision of resources to supply urban populations with food, energy and other products. This project develops an approach to quantify, map and predict the "biodiversity footprint" of large cities by combining methods from socio-ecological sustainability science (material flow analysis, human appropriation of net primary production) and biodiversity research (macro-ecological modelling). It goes beyond existing research on teleconnections which has focussed at the national scale or individual products. Here we calculate and map the national and global biodiversity footprint of Vienna's consumption of biomass-based products (food, fiber, bioenergy) for a recent year and explore possible reductions of the city's biodiversity footprint resulting from changes in consumption and increased efficiency in the biomass provision chains. The project will involve participatory tools to prioritize potential options for policy interventions based on the experience of policy makers and stakeholders from civil society organizations (producer and consumer organizations and environmental groups). It will contribute to the exploration of options that exploit the considerable potential of cities towards UN sustainable development goals.

Scientific disciplines:

107004 - Human ecology (40%) | 106003 - Biodiversity research (40%) | 507027 - Sustainable urban development (20%)

Keywords:

Biodiversity; Biodiversity conservation; Biodiversity indicators; Urban Food Consumption; Diet patterns; Biofuels; Scenario

Principal Investigator:	Fridolin Krausmann
Institution:	University of Natural Resources and Life Science Vienna, Institute of Social Ecology Vienna (SEC)
Collaborators:	Stefan Dullinger (University of Vienna) (Co-Principal Investigator)
Further collaborators:	Thomas Kastner (Senckenberg Biodiversität und Klima Forschungszentrum - SBiK-F)

Status: Ongoing (01.03.2018 - 30.11.2022) 57 months

Funding volume: EUR 647,800

Further links about the involved persons and regarding the project you can find at

https://archiv.wwtf.at/programmes/environmental_system/ESR17-014