



The constructed catchment 'Chicken Creek' – a landscape observatory to analyze processes and feedback mechanisms during initial ecosystem development

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We investigated the initial development of the landscape observatory 'Chicken Creek', Germany, an artificial catchment with well known boundary conditions and inner structures (Gerwin et al., 2011). Over a period of nine years, we observed considerable changes within the site (Elmer et al., 2013). Both internal and external factors could be identified as driving forces for the formation of structures and patterns in the catchment. Over time, secondary structures and patterns evolved and became more and more important. Invading biota and vegetation succession initialized feedback mechanisms resulting in pattern and habitat formation as well as in increased differentiation, heterogeneity and complexity that are typical characteristics of ecosystems (Schaaf et al., 2013). The processes and feedback mechanisms in the initial development of a new landscape may deviate in rates, intensity, and dominance from those known from mature ecosystems. It is therefore crucial to understand these early phases of ecosystem development and to disentangle the increasingly complex interactions between the evolving terrestrial and aquatic, biotic, and abiotic compartments of the system.

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