



Using unassisted ecosystem development to restore marginal land case study of post mining areas

Jan Frouz

Fac. Sci. Charles University in Prague, Institute for environmental studies, Praha 2, Czech Republic (frouz@natur.cuni.cz)

When we evaluate efficiency of individual restoration measures we typically compare individual restoration treatments or compare them with initial state or similar ecosystem in surrounding landscape. We argue that sensible way to show added value of restoration measure is to compare them with unassisted ecosystem development. Case study of ecosystem development in Sokolov post mining district (Czech Republic) show that spontaneous succession of ecosystem can be, in many parameters, comparable with various reclamation approaches. In suitable substrates the succession is driven mainly by site topography. In sites which were leveled grassy vegetation develops. In sites where original wave like topography was preserved the ecosystem develops towards forest. In forest sites the development on most of the investigated ecosystem parameters (cover, biomass soil developments, water holding capacity, carbon storage) in succession sites is little bit slower compare to reclaimed plantation during first 15-20 years. However in older sites differences disappear and succession sites show similarity with restored sites. Despite similarity in these ecosystem functions possibilities of spontaneous sites for commercial use has to be explored.