



Defining areas of regional wetland conservation concern in Europe under environmental and policy change scenarios

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Land use and climate change are both key drivers of wetland degradation and interactions between these drivers are complex. Drained and converted for centuries, European wetlands have mainly remained on fragmented sites within a highly human-dominated environment. In recognition of the manifold ecosystem services and functions wetlands provide, these areas are now in the focus to be preserved or restored. However, land use competition in Europe is high. Urbanization and bio-energy production are seen as the main opponents in the designation of nature reserves. At the same time the European Union has set out relatively high political ambitions for climate change mitigation and biodiversity protection, as well as for energy, water, food, and civil security.

Applying the concept of systematic conservation planning, this study aims at analyzing the potentials of wetland conservation and restoration in Europe under consideration of several policy options and the NATURA 2000 framework. A dynamic wetland distribution model that gives information of wetland distribution and ecosystem services under climate change is coupled to the European Forest and Agricultural Sector Optimization Model EUFASOM. Several scenarios give insights into the interactions between land use policy, environmental change, and nature conservation. Results of this study show regions of conservation concern under different climate and land use policies. This may contribute to sustainable regional conservation planning.