

Appendix 1. Details on the GIS layer sources used for the modeling of wetland loss and their restoration potential in this study

Flemish Soil Map (ALBON 2014)

- Period of survey: 1947-1970 (mainly 1950's)
- Scale: 1:5,000 (published: 1:20,000).
- Units: soil types according to 11 texture classes, 9 drainage classes, 13 profile development classes, 15 substrate classes
- Use in this study: Abiotic profiles of the different wetland type categories allow the reconstruction of their historical presence based on drainage and texture class.

Biological Valuation Map (INBO 2015, Vriens et al. 2011)

- Period of survey: 1998-2007
- Scale: 1:10,000
- Units: 180 habitat types including 40 types of wetland habitat, all based on vegetation.
- Use in this study: provides detailed information on the current distribution of wetlands. Abiotic profiles of the different habitat types allow the reconstruction of current drainage class and trophic state.

Flemish Flood Hazard Map (VMM 2014b)

- Period of survey: 2004-2014
- Scale: 1:10,000
- Units: areas with actual high risk of flooding (i.e. more than one flood in 10 yrs), based on field observations and hydrodynamic modeling.
- Use in this study: provides information on regularly flooded areas (7,5% of Flanders), which can be natural (river valleys) or antropogenic (flooded areas due to changes in local urbanization and soil sealing). By excluding urban areas and arable land, the flood hazard map gives a picture where some biological value may still be present such as semi-natural vegetation relicts or at least temporary presence of (wintering) waterfowl. The map provides additional information to the Biological Valuation map for delineation of current wetlands.

Historic Forest Map (De Keersmaecker et al. 2001)

- Period of survey: topographic maps surveyed in the period 1910-1940
- Scale: 1:20,000
- Units: forested areas (as detected by semi-automatic image recognition)
- Use in this study: reconstruction of land use of historic wetlands

Tidal Marsh Maps

The actual distribution of tidal marshes was derived from the Biological Valuation Map. The historic distribution of tidal marshes along the river Schelde was based on the situation around 1960 as described by Van Braeckel et al. (2012). The potential for restoration of tidal marshes along the river Schelde was based on Van den Bergh et al. (2003). Actual and historic distribution of tidal marshes outside the area under influence of the river Schelde were the same.

POTNAT (Wouters et al. 2013)

- Integrated maps derived from different information sources by GIS modeling and grid transformation
- Scale: 20x20m grid cells
- Units: maps with the potentials for restoration of 18 terrestrial wetland habitat types under current (mainly Biological Valuation Map) and past (mainly Flemish Soil Map) abiotic conditions
- Use in this study: distribution of wetlands that can be restored or created, assuming that on the long term

historic abiotic conditions can more or less be restored. Urbanized areas and running waters were excluded.

Flemish Land Use Map (Poelmans & Van Daele 2014)

- Integrated map, derived from different information sources with grid transformation
- Scale: 10x10m grid cells
- Units: 23 land use classes, such as urban areas, production forest and semi-natural forest, permanent production grassland, semi-natural grassland, marshes, heathlands, alder-willow forests, tidal marshes and standing waters.
- Use in this study: current distribution of urban areas (including gardens) and forested areas