Hydromorphology – Quantifying a creek's naturalness



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Introduction

The National Park Kalkalpen is located in southern Upper Austria. Local creeks are influenced in their dynamic flow behaviour by former torrent control constructions and macadamised roads.



In order to classify the hydromorphological situation (especially level of anthropogenic interaction and grade of renaturation) of small and midsize seminatural creeks a surveying and mapping is done since

Fieldwork

2008.

Parameters recorded for every 500m intercept of the

- Hydromorphological condition

- Level of anthropogenic interaction
- Riverbed Structures
- Torrent Control Constructions
- Mapping schedule for local sub natural conditions (official instruction adapted, Lebensministerium 2006) WFD compatible creek's assessment

Data management

Spatial information (stream course) is considered statical, managed with definite ID

Hydromorphological parameters are dynamic (due to renaturation or flood events)

Attribute data is stored in a SQL Database

An ODBC joins dynamically attribute data from the SQL Database with spatial information from GIS

Current attribute data is available constantly in GIS





Mapping schedule developed during pilot mapping 2008



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Conclusion

During three years of riverine mapping the main creeks in the National Park area were investigated Covering 47 kilometers of flow course, 93 creek intercepts were mapped in detail.

The investigation shows an explicit correlation between hydromorphological parameters like riverbed structures with the level of anthropogenic interaction (torrent control buildings) or rather renaturation.

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