



Hydromorphological Datamanagement – From Fieldwork to Database

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Since 2008 a hydromorphological survey and mapping of semi natural brooks is done at the National Park Kalkalpen in Upper Austria. In addition to the water-documentation programme running at the Nationalpark Kalkalpen there is the request to classify the hydromorphological situation (especially level of anthropogenic interaction and grade of renaturation) of small and midsize semi natural brooks. The system of mapping which was developed during the pilot mapping in 2008 realigns an instruction for a European water framework directive compatible hydromorphological mapping of streams (Lebensministerium 2006). As presented before this allows a consistent and representative exposition of the hydromorphological situation of creeks and brooks (Stadler 2009). Picturing the channel's naturalness is the main parameter, other value was set on typical riverbed structures and torrent control buildings. In order to allow an efficient field work a clearly arranged mapping-schedule was developed. With this schedule a consistent and representative mapping out of the brook's characteristic is possible.

Due to the steep and overgrown valleys of the National Park interpretation of remote sensing material is not suitable. Therefore fieldwork becomes the most important basis for data acquisition. Detailed hydromorphological parameters are marked in a schedule for every 500 meter intercept of the stream. In order to manage the recorded field data, a database was designed which handles not only the parameters of every scheduled intercept, but also gives an overview of all mapped brooks in the National Park area. Focus was set on the possibility to display point data (torrent control buildings) on the one side and integrated hydromorphological parameters (grade of naturalness) on the other side.

With the developed MS Access database an administration was aimed which can be used not only for the running hydromorphological survey, but also for other stream linked surveys (e.g. hydrochemistry, biology). This enables to merge hydromorphological data with other GIS available data, like the valley's topography. The congruent correlation of the database's Ids with a GIS is the rudiment for an efficient data management and -presentation.

References

LEBENSMINISTERIUM (2006): Bereich Wasser. A-Fliessgewässer Hydromorphologie, Leitfaden für die hydromorphologische Zustandserhebung, 46 Seiten, Wien

STADLER, Philipp (2009): Hydromorphological classification of semi-natural brooks in National Park Kalkalpen, European Geosciences Union General Assembly 2009, EGU 2009-2216 GM8.2/15, Vienna