



## **Hydromorphological classification of semi-natural brooks in Nationalpark Kalkalpen**

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The Nationalpark Kalkalpen in southern Upper Austria contains, due to its geographical and geological location a great variety of small and midsize semi natural brooks. Many of these brooks are located in narrow vales and are often influenced in their dynamic flow behaviour by former torrent control constructions and macadamised roads. Flumes located in the national park's conservation-zone, where roads and torrent control aren't reconstructed, regain through freelanced renaturation their natural flow behaviour. In many cases this renaturation is connected to floodwater events. In correlation with 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. Therefore a surveying and mapping was done in summer 2008 at the Weißenbachtal nearby Reichraming.

A system of mapping was aimed that allows a consistent and representative exposition of the hydromorphological situation of brooks. The achievement should allow comparing brooks inside but also outside the national park. In order to enable a consistent survey, fieldwork and evaluation realigned at instruction for a WFD-compatible hydromorphological mapping of streams (Lebensministerium Water-Management 2006, Guidelines for a hydromorphological enquiry).

The official instruction was modulated in some parts to match the local sub-natural conditions. Besides picturing the channel's naturalness, value was also set on typical natural riverbed-structures. In order to allow an efficient field work a clearly arranged mapping-schedule was developed. With this schedule a consistent, representative and comparable mapping out of the brook's characteristic is possible. Fieldwork becomes very important because interpretation of aero photos is not suitable in the steep and overgrown vales of the national park. The result is a schedule for every 500m intercept of the stream pointing out the grade of naturalness assembled by hydromorphological parameters and anthropogenic interaction. Riverbed structures and constructions of torrent control are mapped in detail. Setting up a database and incorporating the data from the schedules in a GIS is the last not extensive step to complete the task.