

## Zur Bedeutung von Regenrückhaltebecken und Hüllweihern für die Amphibienfauna im Karstgebiet Oberfrankens

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### The importance of anthropogenic ponds for the amphibian fauna in a karst landscape of Upper Franconia

Natural ponds are rare in the karst region of the Franconian Jura plateau in Upper Franconia (Bavaria). Therefore, this study addresses the question whether amphibians also use rainwater retention basins when in shortage of natural aquatic habitats. The comparison of amphibian habitat use between these artificial and seminatural ponds, like traditional water bodies (Hüllweiher), is another issue of the underlying research. The inhabitation by amphibians as well as their species composition was investigated in respective water bodies. In that regard, the importance and special functionality of technical constructions as well as seminatural ponds for amphibians has been studied. Amphibians were found in all examined water bodies (n = 18), whereby the differences regarding species numbers have not been significant ( $\leq 6$  species in rainwater retention basins,  $\leq 7$  species in seminatural ponds). Referring to the functional habitat features the occurrence of all expected species was proven. Two of these amphibian species are the regionally rare and critically endangered *Triturus cristatus* and *Hyla arborea*. They were found in both pond types. The diversity of amphibian species found in rainwater retention basins has been higher than in seminatural ponds. The reproductive activity was proven to be higher in artificial ponds (82%) compared to seminatural aquatic habitats (71%). The occurrence of invasive fish species in rainwater retention basins has been identified to be the most limiting factor regarding the habitat quality for amphibians. The results clearly indicate the importance of rainwater retention basins for the reproduction of amphibians in this karst region. Furthermore, these water bodies play an important role regarding the linkage of populations in an area of naturally isolated and far distributed aquatic habitats. These artificial ponds fulfill the technical function of water retention which has to be ensured at all time. Therefore, the remediation and renaturation of traditional small water bodies in the Franconian Jura has a special relevance regarding amphibian species and nature conservation.

**Key words:** Amphibia, karst landscape, rainwater retention basins, seminatural ponds, *Triturus cristatus*, *Hyla arborea*, artificial habitats.

### Zusammenfassung

Im Karstgebiet der Nördlichen Frankenalb in Oberfranken (Bayern) sind Stillgewässer auf der Albhochfläche schon immer selten. Wir befassten uns daher mit der Fra-