

ADAPTIVE PONDS FOR MITIGATING EFFECTS OF INVASIVE CRAYFISH IN WESTERN EUROPE

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Abstract body

Non-indigenous crayfishes are spreading through Europe's aquatic systems and cause concern. The invasive burrowing crayfish *Faxonius immunis*, first observed in the Upper Rhine Valley in 1993 disperses along the river catchment. In small standing waters the populations can attain very high densities, cause the disappearance of macrophytes, turn the pond into a turbid water alternative state and pose a threat to amphibians and macroinvertebrates. As part of a project to restore habitats for herpetofauna in the Upper Rhine Valley a pond network was created in the Neuburg-Woerr area between 2011 and 2015. After the first promising colonisation by local macrophytes, macroinvertebrates, and amphibians, most of the ponds were invaded by *Faxonius immunis*. Most invaded ponds shifted into a turbid state lacking macrophytes. To manage the effects of the invasive alien crayfish the bottom sediment was covered by gravel in one of the ponds. The gravel was intended to impede the harmful digging of the crayfish and mitigate its deleterious ecosystem effects. In this first pond gravelled one year ago *Faxonius immunis* has not established a stable population yet whereas macrophyte and macroinvertebrate communities are slightly recovering. Limiting the spread of invasive crayfish is a current issue but quite impossible. This collaborative adaptive management between site managers and scientists could be a part of the solution. This experiment is a part of project Emys-R (www.emysr.cnrs.fr).

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