

SS16. Unravelling biological invasions in freshwaters: challenges and knowledge gaps in a hyper-connected world

Poster: Invasive Crayfish moving Northwards: management challenges and policy implications at the local scale.

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Freshwater ecosystems in Italy, as most European countries, have been severely impacted by the invasion of alien crayfish. The two most widespread species in Trentino (NE Italy) are *Procambarus clarkii* and *Faxonius limosus*; for both species, the high elevation and cold climate of most of the Trentino territory represent a climatic barrier to their northwards spread. *Procambarus clarkii* is present in one small lake at 950 m asl, and *Faxonius limosus* in a group of 5 lakes at 450 m asl, over an area of about 80km². The introduction of both species is associated with fish restocking, and lead to the extinction of existing populations of the native stone crayfish *Austropotamobius pallipes*. The Management Plan of *Austropotamobius pallipes* in Trentino listed the eradication/containment of these IAS populations among the conservation priorities for the native populations. The eradication campaigns of *P. clarkii* started in 2018 with a release/recapture campaign aimed at assessing the abundance of the populations, and continued in 2020, 2021, 2022. As a result, the capture efficiency decreased, suggesting a population reduction trend. The containment of *Faxonius limosus* is more difficult, given its presence in a higher number of lakes, three of which are hydrologically connected. A first containment campaign to prevent its spread in the river network is planned for summer 2023. The financial support to these activities has been granted by the local Nature 2000 networks and by the local administrations, which have also promoted the communication with citizens and stakeholders to raise consensus and collaboration.