

# Book of Abstracts



# CrayfIT

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## Knocking on a natural reserve's door: impact and management of non-native crayfish in a protected area

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Invasive Alien Species cause impacts in all kinds of ecosystems and their impacts is even worst in protected areas where the local biodiversity finds shelter against anthropogenic pressures. Here we present the results of a crayfish management program in a wetland within the integral natural state reserve 'Bosco Siro Negri' (province of Pavia, Lombardy, NW Italy), one of the best-preserved relicts of oak-elm floodplain forest. A preliminary risk assessment was conducted on crayfish species already occurring or potentially arriving in the next future in the area, to inform on the possible management strategies towards eradication or prevention of these IAS. In particular, we addressed *Procambarus clarkii* and *Faxonius limosus*, already occurring, and *Pacifastacus leniusculus* and *Procambarus virginialis*, not occurring yet. The four crayfish species were evaluated using three different tools: the Generic Impact Scoring System for defining the potential and effective impacts, the Invasive Species Effects Assessment protocol for the definition of the effects on the ecosystem services and, finally, the Non-Native Risk Management tool for the evaluation of the eradication techniques feasibility. Results indicated that all four crayfish shared the same potential and actual impacts, both on environmental and economic sector and, comparing all impacts to all potential benefits on the ecosystem services, *P. clarkii* exhibits the highest impacts but also few potential benefits in provisioning services. Finally, among all the evaluated eradication techniques, trapping strategy reached the highest overall evaluation of feasibility, while X-ray sterilisation, biocontrol, electrofishing and habitat modification were considered less suitable strategies.

**Keywords:** wetlands, invasive species, horizon scanning, ecosystem services, eradication