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Impacts, Potential Benefits and Eradication Feasibility of Aquatic Alien Species in an Integral Natural State Reserve

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ABSTRACT

Riverine wetlands are stepping-stone environments for the protection of local biodiversity, but they are particularly vulnerable to biological invasions. In order to take action against biological invasions, it is crucial to assess the impacts of alien species. However, it is also important to assess the potential benefits on ecosystem services that alien species could have. Once it has been verified that negative impacts are higher than potential benefits, it is important to propose feasible actions to contrast them. In this study, we assessed eight freshwater alien species recorded in an integral protected wetland using the Invasive Species Effects Assessment Tool (INSEAT) to quantify their negative impacts and potential benefits on ecosystem services. Moreover, for each species, we evaluated the feasibility of the main eradication techniques currently proposed in the literature using the Non-Native Risk Management scheme (NNRM), with the final aim of suggesting effective actions for their management. The INSEAT results indicated that all the assessed species had more impacts than benefits while NNRM provided useful indications on the best practical conservation actions to use for reducing the density, and therefore, the negative impacts on ecosystem services and the local biodiversity of the assessed alien species.