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The alien plant species of the coastal nature reserves of south-eastern Sicily, their impact on the natural habitats and possible management strategies

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Abstract

The results relating to the fight against invasive alien plants in some reserves of south-eastern Sicily are presented. In particular, these are the following nature Reserves: “Oasi Faunistica di Vendicari”, “Oasi del Simeto”, “Macchia foresta del Fiume Irminio r” and “Saline di Priolo”. In the cases illustrated, the progressive refinement of the approach towards the problem of invasive species is highlighted, such as *Acacia saligna* (Labill.) H.L.Wendl., used in the past as a species for the reforestation of dunes for which occasional interventions of cutting and eradication in areas limited to Vendicari, which over the course of approximately 15 years have led to a significant reduction in its presence in the reserve. In the Simeto Reserve, with the FAST project (Interreg Italy Malta project), in pilot areas, it was possible to achieve complete eradication with a single intervention, while in Priolo the need for interventions was highlighted, also due to the widespread presence of the species. repeated over time, including manual eradication of seedlings that continually arise due to a very substantial soil seed bank. In the Irminio Reserve, as part of the FAST project, the removal of *Agave americana* L. established within the scrub, through manual cutting and mechanical removal of the roots, gave excellent results as well as for *Carpobrotus acinaciformis* (L.) removed manually at Simeto. The contrast to *Poacea Saccharum biflorum* Forssk. was more problematic, which will require repeated interventions over time due to its very high capacity for regrowth from the residual fragments of the rhizomes. The control of the areas with the flight of a drone before and after the intervention provided a useful monitoring aid. In many cases it is also advisable to carry out, after the removal of alien species, the planting of native species relevant to the site which accelerate the recovery of the vegetation. This was done in Priolo and Irminio.