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The Spread of Invasive Alien Species in Natural Forest Reserves (NFR) in Austria

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In Austria, there are 192 Natural Forest Reserves (NFR) — forest areas designated for natural development of the forest ecosystem in which no silvicultural measures are allowed. Goals include incorporating the diversity of Austrian forests in a representative network of Natural Forest Reserves and support the development of biodiversity and natural forest growth. Existing since 1995, the Austrian NFR programme currently comprises a total area of 8.355 ha (approximately 0.2% of the Austrian forest area). The sizes of individual NFR range from 0.9 to 966.8 ha. Since 2013, the NFR are being repeatedly surveyed using a standardized methodology to determine population dynamics, changes in species composition, vegetation development, deadwood accumulation, and natural regeneration processes and disturbances. In total, 1.463 vascular plants and 84 forest communities have been recorded within the NFR, comprising 30 alien species, among them 16 invasive alien species (IAS). The spread of IAS in NFR is concentrated at lower altitudes in the east of Austria, in riparian forests and location of silicate bedrock. The populations of the affected NFR show a vital occurrence of *Acer negundo* and *Fraxinus pennsylvanica*. In summary, IAS were found to inhabit the NFR that could develop into a factor influencing the natural development of native forest communities.

Keywords: forest reserves, successional trends, natural forests, unmanaged habitats.