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### 2.3 PP4 – IHU – Nestos Delta, Greece

**Article title:** *First inventory of the invasive alien plant species along Nestos River (East Macedonia, NE Greece)*

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**Summary:** Invasive alien species constitute a great threat to biodiversity and habitats at a global scale. River floodplains contain very sensitive habitats (e.g., alluvial areas, riparian forests, wetlands) that are highly threatened by invasive alien species commonly transported and introduced into countries through transboundary river systems. In the present study, the invasive alien plant species in the habitats of the Nestos river delta were identified and mapped, using a 200 × 200 m grid. Six plant species displaying invasive behavior (*Acer negundo*, *Ailanthus altissima*, *Amorpha fruticosa*, *Phytolacca americana*, *Robinia pseudoacacia*, *Solanum elaeagnifolium*) have been found along the Nestos River system. *Phytolacca americana* was the most widely distributed species (recorded in 82 grid cells), followed by *Robinia pseudoacacia* (67 grid cells) and *Amorpha fruticosa* (63 grid cells). Judging by the number and distribution of the grid cells invaded by *Amorpha fruticosa*, it is already rather widespread in the area, but it still shows the most aggressive invasive behavior as compared to the other five. Consequently, if the rate of expansion remains uncontrolled, large meadows that are close to the river will be fully covered by *Amorpha fruticosa* in the next couple of years. The continuous monitoring of the distribution and possible expansion of invasive alien species in the study area would be critical for applying successful control management programs.

**Key words:** NE Greece, Nestos River, floodplain areas, Natura 2000, invasion, IAS.

**Introduction:** The transfer of species from one area to another is a worldwide phenomenon and has been known since ancient times. For example, the common pheasant (*Phasianus colchicus*), named after the river Phasis in Transcaucasia, was brought to Greece by the ancient Greeks around 1300 B.C. (Cassey & al. 2015). Domestic or wild animal and plant species have been introduced for food (e.g., game), for their ornamental value, or as pets (Tella 2011). Nowadays, globalization, the newly developed means of transportation and the increase in the people's income have enabled the transportation of goods from all parts, even the most remote, of the world. In this way, species are intentionally or unintentionally transferred, and their distribution range is expanded. Species that have been introduced into areas outside their natural range by human activities are called alien species or introduced species (Richardson & al. 2011).

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**Conclusions:** The impacts of IAS occurring in the Nestos area are still relatively low, although locally extensive. The highest negative impact was inflicted by *Amorpha fruticosa*, the invasion of which was very aggressive. In July 2018, only a few very small shrubs of *A. fruticosa* were observed in specific grassland areas along Nestos River. Today there are quite dense bushes 2–3 meters high, with many small plants extending toward the river. It is believed that, if the rate of expansion persists, broad strips along the river will in large part be covered by *A. fruticosa* within the next couple of years. Similar problems have been identified in other European countries (e.g., in Romania, Kucsicsa & al. 2018), the reason why the species is classified among the most aggressive IAS in Europe.

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