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**RENER**  
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## INVASIVE PLANT SPECIES ALONG THE DANUBE AND THE LITTLE DANUBE RIVER

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In this presentation the distribution of invasive plant species in the Danube and Little Danube river basins (South-West Slovakia) are recorded (from the years 2011–2017).

Danube, as an important international biocorridor enters the Slovak territory through the Devín Gate; flowing through the Danube Lowlands after 172 km leaves Slovakia near mouth of the river Ipel'. At past it was a free flowing, wild meandering river with many big and small channels and oxbows with large inundated area. The Little Danube was one of two main arms of the Danube. In the present state the Danube bifurcates into the main channel (The Large Danube), Little Danube and Mosoni Danube, respectively. In 1992 the hydrologic regime of the Danube was further altered by construction of a hydroelectric power project (the Gabčíkovo Waterworks). Changes occurred in the hydrological regime of the area, many side arms were cut of river and are drying out. In places, gradual decrease of the groundwater levels occurred. The Little Danube has mainly a semi-natural flow pattern with meandering river bed due to very low slope gradient (0,19‰). It flows through an intensively cultivated landscape, its banks are lined by fragments of floodplain forests, crowns of trees and shrubs reach the surface of the river. The main part of flow is regulated by construction of waterways, canals and dams, too. Inundated area is overgrown by vegetation, in deeper sections of the stream grows aquatic vegetation.

Recent distribution is documented by evidentiary bookings realised according to mapping status determined by State Nature Conservancy of the Slovak Republic. In assessing invasion status the actual list of alien vascular taxa and invasive plants was used (Medvecká et al., 2012).

In both river basins altogether 23 invasive plant species of Slovakia were recorded (during the years 2011 to 2017). In the Danube river basin 21 species were found, 9 of them subjected to statutory removal due Decree of statutory liquidation (No. 158/2014). Along the Little Danube 17 taxons were identified, 5 of them subjected to statutory removal.

In contrast with the Danube river, the species *Amorpha fruticosa*, *Asclepias syriaca*, *Echinocystis lobata*, *Impatiens glandulifera*, *Helianthus tuberosus*, *Solidago canadensis*, were not detected in the Little Danube river basins.

Analysis of accessible herbarium documents in Bratislava institutions (BRA, SAV, SLO) notes history of spreading of those plants. The oldest herbarium documents of *Bidens frondosa* species confirmed its expansion along the waterway from Morava to Danube and subsequently to Little Danube rivers. Planting of an alien woods (*Robinia pseudacacia*, *Populus x canadensis*, *Juglans nigra*) and decrease of the area occupied by native floodplain forests were the main human-induced changes here. Plantations of introduced plants have become the focus for spreading synanthropic and invasive plants. *Impatiens glandulifera*, *Aster lanceolatus* and *Negundo aceroides* are the species most massively invading the moist floodplain forests (alliance *Salicion albae*) along the Danube at present. *Solidago gigantea*, *S. canadensis* and *Impatiens parviflora* invade drier, mesic forest type. *Ailanthus altissima*, *Stenactis annua* agg., *Ambrosia artemisiifolia*, *Artemisia annua*, *Fallopia japonica*, *Helianthus tuberosus* invade forests margins, ditches, forest roads and by-ways. Water habitats of channels and canals are threatened by *Elodea canadensis*, *E. nuttallii*, *Pistia stratiotes* and *Bidens frondosa*.

Recent and historical distributions (according to herbarium specimens) of the most important species are displayed on maps.

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