Complete invasion of *Impatiens glandulifera* in the Scheldt basin - prospects for 'hydrological control'

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Himalayan balsam (*Impatiens glandulifera*) was introduced from eastern Asia into Europe as a garden ornamental, but has easily escaped cultivation. For Belgium, the first records date back as far as the 19th century, yet the species became widespread only since the mid-20th century. We here report on the occurrence of Himalayan balsam along the Zeescheldt, the main river of Flanders (Belgium). For this, we dispose of an extensive series of vegetation data from permanent plots spanning the past two decades. These data showcase how the species has become ever more ubiquitous, now occurring in over 90% of the plots. It now is the single most reported species. It colonizes reed beds and dominates the herb layer of willow shrubs and woodlands, and the associated Natura2000 habitats are now assessed to be in a bad ecological status.

When testing for the importance of hydrological variables, the vegetation composition of plots appeared to be best explained by the frequency of inundation. However, the data suggested that Himalayan balsam in particular performs best in soils that drain relatively rapidly following such inundation. The Zeescheldt is under tidal influence from the river mouth up to 160 km inland, and recently, hundreds of hectares of new inundation areas are created as part of a flood control program (Sigma plan). Some of these are under controlled reduced tidal regime (CRT) as a means to combine flood control with tidal wetland restorion. Himalayan balsam seems not to be locally dominant in these CRT, and this corroborates our observation of the species' niche; i.e., the reduced tides lead to less extreme drainage conditions. This may provide prospects for landscape-wide suppression of Himalayan balsam in freshwater tidal marshes.