

## Non-indigenous freshwater fishes in Flanders: status, trends and risk assessment

Verreycken Hugo \*, Van Thuyne Gerlinde, Belpaire Claude

Research Institute for Nature and Forest (INBO) Duboislaan 14 1560 Hoeilaart

\* Corresponding author Tel. 02 658 04 26 E-mail: hugo.verreycken<at>inbo.be

At least eighteen non-indigenous freshwater fish species were reported to occur in the wild within the territory of Flanders. Nine are considered naturalized while the others are acclimatized and do not form self sustaining populations. Nine of the introductions occurred prior to 1950, with the other nine species introduced since then. This contribution reviews the available information on these introductions, and evaluates a decade of data from fisheries surveys to assess the recent development of these non-indigenous populations. Gibel carp *Carassius gibelio* and topmouth gudgeon *Pseudorasbora parva* are the most widespread of the non-indigenous species in Flemish waters, and both continue to expand their ranges. A reduction in range has been observed in brown bullhead *Ameiurus nebulosus* only. Only four species occur in all eleven river basins while eight species are restricted to one or two basins and often only one specimen was found during fish stock assessments. We also discuss non-indigenous fish species that are likely to colonize Flanders inland waters in the near future. For all non-indigenous freshwater fish species present and expected to appear soon, different risk analysis tools (FISK and ISEIA) were used to screen these species for their possible invasiveness. Although scores from FISK and ISEIA differ for some species, gibel carp and topmouth gudgeon were in both assessments classified as 'highest risk' species in relation to their potential invasiveness.

Verreycken, H., Anseeuw, D., Van Thuyne, G., Quataert, P. and Belpaire, C., 2007: The non-indigenous freshwater fishes of Flanders (Belgium): review, status and trends over the last decade. – J. Fish Biol. 71 (Supplement D), 160–172.

Verreycken, H., Vandenberghe, K., Vilizzi, L. and Copp, G.H., (in prep): Initial application of the Fish Invasiveness Screening Kit (FISK) to freshwater fishes in Flanders