

Trends in the distribution of the Chinese mitten crab in the Scheldt estuary

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Since its arrival in Germany in the beginning of the 20th century, the Chinese mitten crab has rapidly invaded coastal and inland waters throughout Europe. The species was first observed in Belgium in 1933 in the Zeeschelde near Antwerp and is found nowadays in the main rivers and canals of the Scheldt basin. Macrocrustaceans were caught as bycatch during fish surveys with fyke nets in the Zeeschelde in 1995, 1998 and 2008. During the surveys in the nineties, only a few mitten crabs were found. Ten years later however, *E. sinensis* spread throughout the estuary and more than 50 crabs can be caught per fyke net per day. The expansion of the distribution and the increase of the population size of the Chinese mitten crab coincided with the improvement of the water quality in the estuary during the last decade. The abundance of mitten crabs in the estuary shows two distinct seasonal peaks. The first peak in spring coincides with the upstream migration of juveniles towards the freshwater reaches of rivers, where they burrow in the banks. The second peak in autumn coincides with the seaward spawning migration of adults. The highest densities are observed in the oligohaline and freshwater zone of the estuary. Increasing numbers of this crab may have a significant adverse impact on the natural balance of the Scheldt ecosystem. Because of the crab's flexible, omnivorous feeding habits, it may have a competitive edge over other bottom dwelling species. Their burrowing nature may also accelerate bank erosion and instability.

