

## Fisheries illegally stocking sturgeon

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Environment Agency experts claim that UK stillwater angling lakes are illegally stocking non-native sturgeon acquired from the ornamental fish trade.

Experts from the Environment Agency's National Fisheries Laboratory report in the journal *Fisheries Management and Ecology* that managed fisheries are increasingly being stocked with non-native fish.

Britton and Davies claim that the UK has recently seen a proliferation of managed stillwater fishes being stocked with non-native fish species, apparently introduced to provide greater diversity and big game fishing opportunities.

"Whilst legislation in England and Wales exists to regulate the distribution of non-native species in fisheries, their high angling demand often results in illegal introduction, particularly species of sturgeon of the genus *Acipenser*," wrote the authors.

Information obtained from fisheries enforcement operations since 2003 revealed that *Acipenser* species are now present in at least 30 lakes in England.

"Although the introductions are aimed to enhance the fisheries concerned, they were all illegal and unregulated, as prior consent under relevant legislation had not been obtained."

### Ornamental trade

The report claims that the fish were obtained legally through ornamental fish suppliers, and then stocked in fisheries without legal consent.

Retailers need to hold a licence in order to stock certain coldwater species, including sturgeons, but the public are able to keep them under a general licence, for which they do not need to apply.

A study of introduced sturgeon across the UK suggested that at least three species were present: *Acipenser baerii*, *Acipenser gueldenstaedtii* and *Acipenser ruthenus* - all of which are known in the ornamental fish trade. *Acipenser baerii*, which comes from the rivers of Siberia, reaches a length of up to 2m/6'6" and a weight of 100kg. *Acipenser gueldenstaedtii* is found in the Black, Caspian and Azov Seas and reaches 2.35m and up to 115kg. The smallest species, and the one most frequently offered for sale in the aquarium trade, *Acipenser ruthenus*, reaches a maximum length of 125cm and can weigh as much as 16kg. Sturgeons typically live for between 20 and 60 years.

### Environmental impact

The effects of introducing non-native fishes may cause unpredictable and irreversible ecological damage, but the long lifespans of sturgeons mean that it may be some time before the true impact of introductions is apparent, say the authors.

"As yet, there is no evidence of their natural dispersal or naturalisation, implying species have yet to become invasive."

"Furthermore, as their presence is predominantly restricted to lakes, any adverse ecological impacts may be contained therein. Nevertheless, a number of these fisheries are located in floodplains or have connections to a river, providing potential for fluvial dispersal, for example during flood events."

"Should this occur, the risks to native fish fauna may include the adverse impacts of increased competition for resources, increased depredation on eggs and juvenile fish, and the transfer of novel parasites. This is because their natural diet consists of zooplankton, fish eggs, larvae and benthic invertebrates, and they host non-native parasites, including the nematode *Cystoopsis acipenseris*."

Britton and Davies believe that the sale of sturgeons must be restricted to prevent further introductions.

"Their sale could be restricted to individuals with an existing licence to keep them legally. This would, however, require very careful consideration, because when this restraint was imposed on the sale of pumpkinseed *Lepomis gibbosus* L. in England and Wales, ornamental trade in the species virtually ceased."

For more information see the paper: Britton JR and GD Davies (2006) - Ornamental species of the genus *Acipenser*: new additions to the ichthyofauna of the UK. *Fisheries Management and Ecology*, 2006, 13, 207-210.

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