

Twaite shad,

***Alosa fallax* Lacépede, 1803**

Species description

Twaite is an anadromous fish belonging to the Clupeidae family. It reaches total length of 55 cm and weights up to 1.5 kg. Usually, it is 40-45 cm long and weighs 1 kg. Its body is fusiform, laterally flattened with colours typical of pelagic fish. The back is green-blue while the rest of the body is light silver. A characteristic feature of this species is a row of dark spots on the both sides of the body. In the Polish waters, twaite shad has 5-10 spots (Photo 1). The body of twaite shad is covered with delicate cycloid scales which are typical of clupeids and fall off easily during fishing (Hesse 2004).



Photo. 1 Twaite shad collected in the mouth of the Vistula Przekop in 2011 (photo by P. Pieckiel, Maritime Institute in Gdańsk)

Twaite shad is on the list of animals being under partial protection in Poland (Regulation of the Minister of the Environment of 6 October 2014 on the protection of animals species, Journal of Laws 2014, item 1348). It is also a species of the European Community interest and therefore it is listed in the Annex II of the Habitat Directive (Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora).

Biology

Surface monitoring

Category: Fish fauna - species

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The adult twaite shads live in the sea where they feed mostly on crustaceans (mysids). When they reach 20-30 cm of body length, they switch to predatory feeding and consume small fish (Skóra 2012). The mature twaite shads (2-9 years old) migrate to lower part of rivers or to coastal lagoons for spawning in spring time (May/June). Probably, they possess the ability to navigate towards river of origin (homing). They spawn pelagic eggs when the temperature of water reaches 16-17°C (Manjukas 1989). Hatching depends on the water temperature and usually begins after 5-6 days. Larvae are 5-8 mm long just after hatching but grow very fast and finally reach 15 mm after 20 days. Juvenile fish live in estuaries till they are 2 years old. Then, they migrate to the open sea waters to feed (Quignard and Douchement 1991).

Habitat

Twaite shad is an anadromous fish and most of its life spends in pelagic waters, where it feeds. In order to breed, it migrates to estuary, coastal lagoon or lower part of river, what basically depends on population (Maitland and Hatton-Ellis 2003). However, specific habitat requirements for breeding are poorly known regarding Baltic populations. The habitat requirements for populations in the Polish marine areas are unknown (Hesse 2004).

Distribution

Twaite shad is noted in the European and north African coastal waters of the Atlantic Ocean, where it occurs as several subspecies (Quignard and Douchement 1991). Subspecies *Alosa fallax fallax* Lacepde 1803 is present in the north Atlantic Ocean, from Scandinavia to Morocco, and in the southern Baltic. Nowadays, there is only one stable population of twaite shad in the Baltic. It migrates through the Curonian Lagoon to Neman River for spawning (Svagzdys 1999, Stankus 2009). However, the archival sources (Selingo 1902) indicate that in the past the species took spawning migrations also to the Vistula River and it used to be numerously caught in the Vistula and Szczecin Lagoons in spring season (Aprahamian et al. 2003, Thiel et al. 2004, Thiel et al. 2008). The recent observations have shown that twaite shad occurs mainly in the Gulf of Gdańsk (Draganik et al. 2007, NMFRI 2011, Kuczyński et al. 2013).

Twaite shad is monitored at one site called Dolna Wisła, as a part of the project "Pilot monitoring studies of marine habitats and protected species in 2015-2018".

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