

Annex 2

FACT SHEET

Master Plan Migratory Fish Rhine 2018

Migrating fish...

Some fish species, such as salmon and eel must migrate between the sea and running waters in order to reproduce. As they migrate over long distances, they are called Long Distance Migratory Fish. For their life cycle, they require open migration routes between the river systems and the marine environment. Apart from that, almost all fish species migrate over shorter distances within rivers when searching for food and refuge areas and in order to spawn. Much has already been achieved within the Master Plan Migratory Fish Rhine 2009. Salmon have e.g. returned to some Rhine tributaries, such as the Speyerbach, R. Kinzig or R. Murg. Further improvements are listed in the "Balance" chapter.



Young allis shad © Bernd Stemmer

The problem

In the Rhine and the rivers in its catchment there is great need for action in order to improve river continuity for fish migration. Transverse structures such as weirs and sluices are severe obstacles. Among them figure the Haringvliet sluices in a part of the Dutch mouth of the Rhine into the North Sea and the weirs of the hydro power plants on the Upper Rhine. In addition, the access of fish to numerous Rhine tributaries which are important spawning rivers and juvenile habitats is today not possible or largely restricted as numerous obstacles block the way.

One master plan, many beneficiaries

The updated Master Plan Migratory Fish Rhine shows, which further measures are required for the reintroduction and development of stable populations of migratory fish in the Rhine catchment. In this connection, fish species such as salmon and eel represent all migrating fish species. Measures such as new and improved fish passes at transverse structures or by-pass changels open the way for or support fish migration, and spawning grounds and juvenile habitats are restored. They have positive effects on many more fauna and flora species and are suitable for sustainably improving the entire ecology of the Rhine.

What is new?

Due to new developments and findings, the Master Plan 2009 has been updated. It includes new measures and interesting facts concerning further migratory fish species such as allis shad and lamprey. In 2013, **200 ha** of juvenile salmon habitats were identified in the Aare catchment and the tributaries of the High Rhine downstream the mouth of R. Aare, extending the known salmon and juvenile fish habitat in the Rhine catchment to **1200 ha**.

Measures

The most important measures in the updated version of the Master Plan are:



- Spawning and juvenile habitats are to be preserved, extended and improved;
- Up- and downstream river continuity are to be restored;
- Up- and downstream migrating fish are to be protected;
- By catches and illegal catches are to be reduced;
- Stocking measures supporting endangered fish species are required;
- Fishways must be controlled and assessed, just as measures against illegal fishery and stocking strategies

Fish pass Strasbourg barrage

© ICPR

Waters in the catchment with good spawning and juvenile habitats for migratory fish are in the focus. In the main stream of the Rhine, river continuity for fish is supposed to be restored as far as the Falls of the Rhine at Schaffhausen corresponding to the natural limit of distribution for migratory fish.

Balance of the Master Plan 2009

Considerable progress has been made with respect to improving river continuity and the access to habitats. According to present knowledge, river continuity has been restored at almost **500** transverse structures in the Rhine and its tributaries. By dismantling weirs or constructing fish passages more than **20 %** of the potential salmon habitats in the Rhine tributaries are again accessible. New inventories are going on.

Increasing numbers of upstream migrating adult salmon, allis shad and other migratory fish species show that the measures pay. That also applies to increasing detection of natural reproduction in the tributaries.

The stocks of several important migratory fish species are not yet self-sustained. Supporting stocking measures are required.

Outlook

Many fish migration routes in our waters in the Rhine catchment must be restored or improved. More natural, ecologically functioning water bodies are more resilient with respect to climate change and its expected effects on the fish fauna.

In future, the network between the Rhine and the North Sea will be improved. On September 5, 2018 the Haringvlietdam in the estuary near Rotterdam will be partly

opened and also function as a migration route at high tide. In 2018, the construction of a fish migration river, a migration corridor of several kilometres length between the North Sea and Lake IJssel will begin in the estuary of the Lake IJssel dike. In the autumn of 2018 a new fish pass will be accomplished at Gerstheim, making a further section of the main stream of the Rhine accessible after putting the Strasbourg fish pass into operation in 2016. Then migratory fish will again be able to reach the Elz-Dreisam area once its access will have been improved and improvements will have been carried out at the sills in the loops of the Rhine at Gerstheim and Rhinau. Possible solutions for permanent ecological fishways are being discussed within the ICPR in order to restore river continuity in the river section between the barrages Rhinau and Kembs near Basel.

By 2027, the states in the Rhine catchment will spend or have spent more than **627 million €** for hydro-morphological measures already implemented or planned.