



European Commission

# Development of innovative technologies for fish seed supply in natural waters as well as sustainable intensification of freshwater aquaculture (Hungary)



## DESCRIPTION OF THE PROJECT

This project used EMFF support to develop the institutional infrastructure to support the sustainable, resource-efficient, innovative, competitive, and knowledge-based development of aquaculture in Hungary.

One of the main goals of the project was to develop innovative technologies to increase the supply of seed for endangered native fish species in natural waters. These technologies include broodstock management, propagation and the rearing of several Cyprinid, Percid and Acipenserid species (e.g. Wild carp, Ide, Tench, Crucian carp, Asp, Volga pikeperch, Sterlet, Danube sturgeon, Beluga sturgeon, Starry sturgeon).

Another goal of the project is the sustainable intensification of pond fish production and the optimization of Recirculating Aquaculture Systems ('RAS'). The project contributes to the practical application of RAS technologies through infrastructural development and innovations carried out in combined Carp-Pikeperch and European catfish RAS rearing.

The project also aimed to develop scientific and organizational knowledge on the potential to use circular solutions to reduce the impact of organic substances on the environment.

- devices, security camera systems, and production equipment
- Improved water supply to RAS through the construction of a 95 m deep pump well with 100l/min flow rate
- RAS through the construction of an upgraded 54 m<sup>3</sup> system with 27 plastic tanks and a water analysis and ozone water purification system
- Supply and monitoring of fish seed in natural waters through the purchasing of equipment (sampling outboard engine boats, fish sampling and water analysis devices)

### Development of:

- Wels catfish (*Silurus glanis*) culture technology
- Sensor-based nutrient management system and environmental impact assessment in fish ponds

### Innovations in:

- Intensive-extensive pikeperch-carp combined cage-pond system
- Broodstock management, propagation and rearing technologies of several native, endangered fish species, to achieve good ecological status of natural waters

### Achievement of:

- Fish-based monitoring on the Szarvas-Békésszentandrás Holt-Körös oxbow
- Ecological surveys on the Tisza river and its tributaries
- Training courses for aquaculture professionals to disseminate research results
- Preliminary research results published in conferences and scientific papers

## MAIN OUTCOMES OF THE PROJECT

### Improvement of:

- Water supply to HAKI experimental fishponds through the construction of a surface water abstraction structure with two 300-300 l/sec pump capacity
- Work safety conditions and quality of research activities through the purchase of automatic feeders, water analysis



## FACTS AND FIGURES

Total grant	402.6 M HUF
EU grant	302 M HUF
Co-financing	100.6 M HUF
Implementation date	June 2020 – September 2022



FAMENET