

HUNGARIAN UNIVERSITY OF AGRICULTURE AND LIFE SCIENCES

Institute of Aquaculture and Environmental Safety



- **Our Mission** is to effectively support the development of the **fisheries, aquaculture, and environmental safety sectors** by linking the for-profit and non-profit sectors, enhancing cooperation with relevant stakeholders, and involving them in meeting the sectors' educational, research, and innovation (R&D&I) needs.
- **Six Departments at five Campuses** in Hungary: Aquaculture, Environmental Safety, Environmental Toxicology, Freshwater Fish Ecology, Molecular Ecology, Applied Fish Biology
- **Research Centre for Fisheries and Aquaculture (HAKI)** at Szarvas;
- **Centre of Excellence of the Hungarian Academy of Sciences;**
- over 110 employees and PhD students;
- **extensive educational portfolio** (BSc, MSc, and PhD) and professional adult education;
- **Main research results of the Institute** (in the last 5 years): 341 publications, 2175 citations; 5 closed and 9 running international projects;



CONTACT: Julianna Kobolák, PhD

kobolak.julianna@uni-mate.hu

<https://aquaculture.uni-mate.hu/>



SCAN ME

Expertise and Research Focus: Inst. of Aquaculture and Environmental Safety

Water quality and ecotoxicological monitoring; Early warning and risk evaluation

Complex ecotoxicological evaluation from microbes to fish

Ecotoxicological methods to evaluate complex effects (e.g. mixtures)

Analysing the effects of anthropogenic pollutants (e.g. microplastics, drugs, chemicals)

Molecular ecology, environmental microbiology

Environmentally friendly solutions for biodegradation and biotransformation

Innovative, sustainable and circular fish farming systems

Fish feeding, nutrition, reproductive biology and farming technology

Fish health and welfare (technology, feeding, circularity)

Ex situ conservation of endangered species, habitat restoration

Fish genetics & biotechnology of existing and emerging commercial fish species

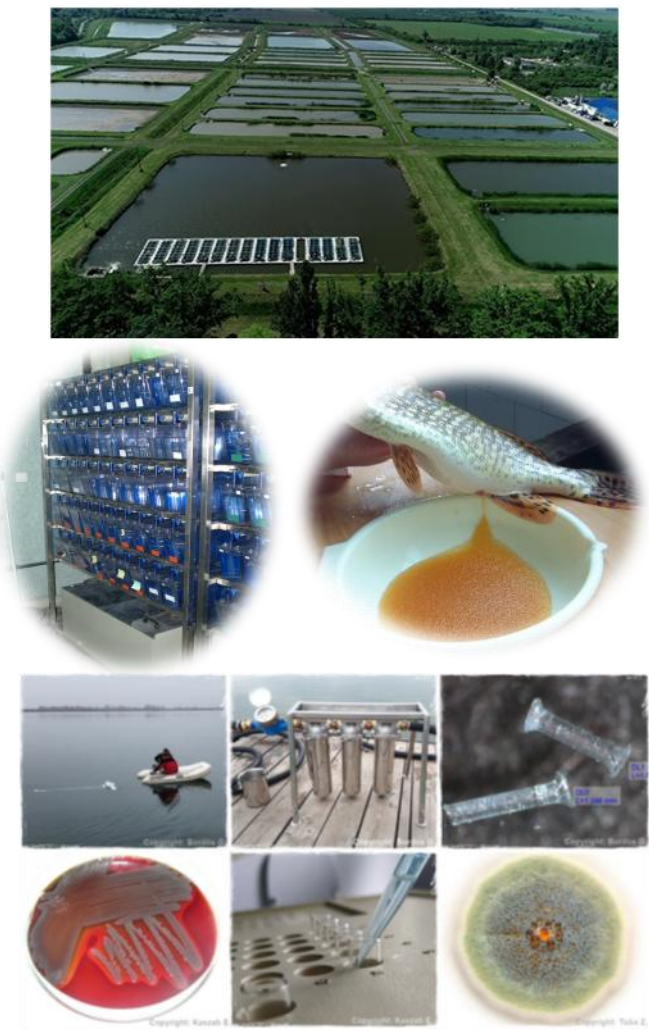
Recreational fishing in natural waters (incl. breeding, rearing)

Active Network of Stakeholders

Experience in co-creation techniques, stakeholder mapping, mobilisation and engagement

Educational portfolio and expertise

Piloting, Living-labs



References – international projects:

TAPAS – 678396 (H2020 - MSCA)	EATFish – 956697 (H2020 - MSCA)	iFishIENCi – 818036 (H2020 - IA)	MEASURES – DTP2-038-2.3 Interreg	SaveGREEN – DTP3-314-2.3 Interreg
AQUAEXCEL3.0 – 871108 (H2020-TNA)	AQUASERVE – 101131121 (HE-TNA)	ActFast – 101181159 (HE – IA)	LIFE Boat 4 Sturgeon LIFE-2021-SAP-NAT	AGRIGEP – 101094158 (HE - CSA)
WaterGreenTreat (COFUND-WATER4ALL)	REPurpose – 101057971 (HE – RIA)	BioTreatED (COFUND-WATER4ALL)	PFAQuatic - 2024-1.2.3-HU-RIZONT-2024-00100	RhiSorgh4Health -2025-1.2.1-HU-RIZONT-2025-00110

We provide our expertise and tool sets in AQUACULTURE:

- Fish reproduction biology: innovative fish breeding, larval rearing, and juvenile production technologies to enhance production efficiency while also contributing to the conservation, restoration, and sustainable management of natural fish populations, with particular focus on protected and endangered species.
- Ex-situ conservation of endangered freshwater fish species (e.g. small-scale wetland restoration)
- Establishing conditions for the production of fish for recreational fishing in natural waters.
- Mapping the genetics and reproductive biology of existing and new commercial fish using omics techniques.
- Aquaculture, pond and intensive fish farming, development of innovative technologies with an environmental approach.
- Improvement of traditional feeding methods, development of complete feeds for fish, including alternative feeds.
- Fish health (stock assessments and parasitological surveys) and welfare (technology, feeding, circularity).
- Water quality and ecotoxicological monitoring of surface or groundwater and aquaculture water bodies (e.g., analysing emerging contaminants: microplastics, PFAS, pesticides, antimicrobial-resistant bacteria)
- Network of recreational fishing sites and associations (e.g., pilot or case study sites)



We provide our expertise and tool sets in ENVIRONMENTAL SAFETY AND in ENVIRONMENTAL TOXICOLOGY

- Complex ecotoxicological evaluation from microbes to fish.
- Environmentally friendly solutions for biodegradation and biodegradation
- Ecotoxicological monitoring of (waste) water quality.
- Analysing the toxicity of newly developed compounds and side streams (hormonal effects, microplastics, pharmaceutical residues)
- Evaluate complex environmental effects (process, products, mixes)
- Biodegradation monitoring by OxiTop respiratory model
- Process monitoring, early warning and risk evaluation, SSbD
- Molecular ecology, environmental microbiology, microbiome
- Water quality and ecotoxicological monitoring of surface or groundwater and aquaculture water bodies (e.g., analysing emerging contaminants: microplastics, PFAS, pesticides, antimicrobial-resistant bacteria)



Ecosystem management and restoration, Stakeholder engagement, Education



We could offer:

- Living Lab 'sites' in different environments with strong user involvement (e.g. forestry, wetlands, freshwater, agricultural areas)
- Support the development of practical solutions for ecosystem restoration in different ecological niches.
- Provide and support the development of nature-based solutions (NBS) in a wide range of agricultural applications.
- Support the development and sharing of practice-oriented knowledge and tools across sectors in the region.
- Active Network of Stakeholders (national and regional in CEE)
- Experience in co-creation techniques, stakeholder mapping, mobilisation and engagement
- Educational portfolio and expertise

ECOSYSTEM RESTORATION

