ParaFishControl

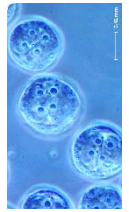
ParaFishControl un progetto europeo per il controllo delle malattie parassitarie in acquacoltura

ParaFishControl an EU project for the control of the parasitic diseases in aquaculture

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 634429. This output reflects the views only of the author(s), and the European Union cannot be held responsible for any use which may be made of the information contained therein.

Aquaculture is the fastest growing food producing sector worldwide, providing half of all aquatic animals for current human consumption. If responsibly developed and practised, aquaculture can generate lasting benefits for global food security and economic growth.

Lepeophtheirus salmonis



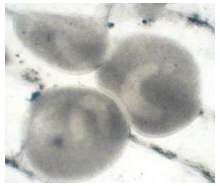
Tetracapsuloides bryosalmonae

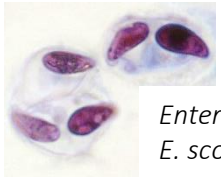
Paramoeba perurans

Enterospora nucleophila

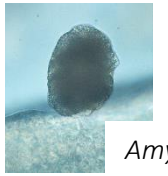
Saprolegnia parasitica

Ichthyophthirius multifiliis





Enteromyxum leei
E. scophthalmi



Amyloodinium ocellatum

Sparicotyle chrysophrii

Ceratothoa oestroides

TITLE

Advanced Tools and Research Strategies for Parasite Control in European farmed fish

PROGRAMME:	Horizon 2020
CALL:	SFS-10A (2014*)- Scientific basis and tools for preventing and mitigating parasitic diseases of European farmed fish*
INSTRUMENT:	Research and Innovation Action
TOTAL BUDGET:	8.1 million €
EC CONTRIBUTION:	7.8 million €
DURATION:	60 months
COORDINATOR:	Agencia Estatal Consejo Superior de Investigaciones Científicas (**CSIC**)
	Dr. Ariadna Sitjà-Bobadilla
CONSORTIUM:	29 partners in 13 European countries

ParaFishControl will foster improved biosecurity, health and welfare of farmed fish.

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Expertise in:

Parasitology
Epidemiology
Immunology
Molecular biology
Genetics
Genomics
Food safety
Pathology
Chemotherapy

Access to:

research facilities
biological resources
host-parasite models
vaccinology
genomics
proteomics
transcriptomics

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Parasite group	Parasite species	Fish	Disease
Crustaceans	*Lepeophtheirus salmonis*, *Caligus* spp.	AS	Sea lice infection
	Ceratothoa oestroides, Caligidae	ESB,GSB	Isopod and sea lice infections
Monogeneans	*Sparicotyle chrysophrii*	GSB	Gill fluke
Myxozoans	*Tetracapsuloides bryosalmonae*	RBT	*PKD*
	Enteromyxum leei	GSB	Knife syndrome
	Enteromyxum scophthalmi	TB	*Sunken head syndrome*
	Sphaerospora molnari	CC	Gill sphaerosporosis
	*Thelohanellus kitauei**	CC	Intestinal giant-cystic disease
Microsporidians	*Enterospora nucleophila**	GSB	Emaciative syndrome
Cilliates	*Ichthyophthirius multifiliis*	RBT, CC	Whitespot disease
	Philasterides dicentrarchi	TB	*Scuticociliatosis*
Dinoflagellates	*Amyloodinium ocellatum*	ESB	*Velvet disease*
Amoebae	*Paramoeba perurans*	AS	AGD
Oomycetes	*Saprolegnia parasitica*	AS, RBT	*Saprolegniasis*
Zoonotic helminths	Anisakidae, Opisthorchidae, Diphyllobothriidae	All	Anisakiasis, Opisthorchiasis, Diphyllobothriasis, allergy (in humans)

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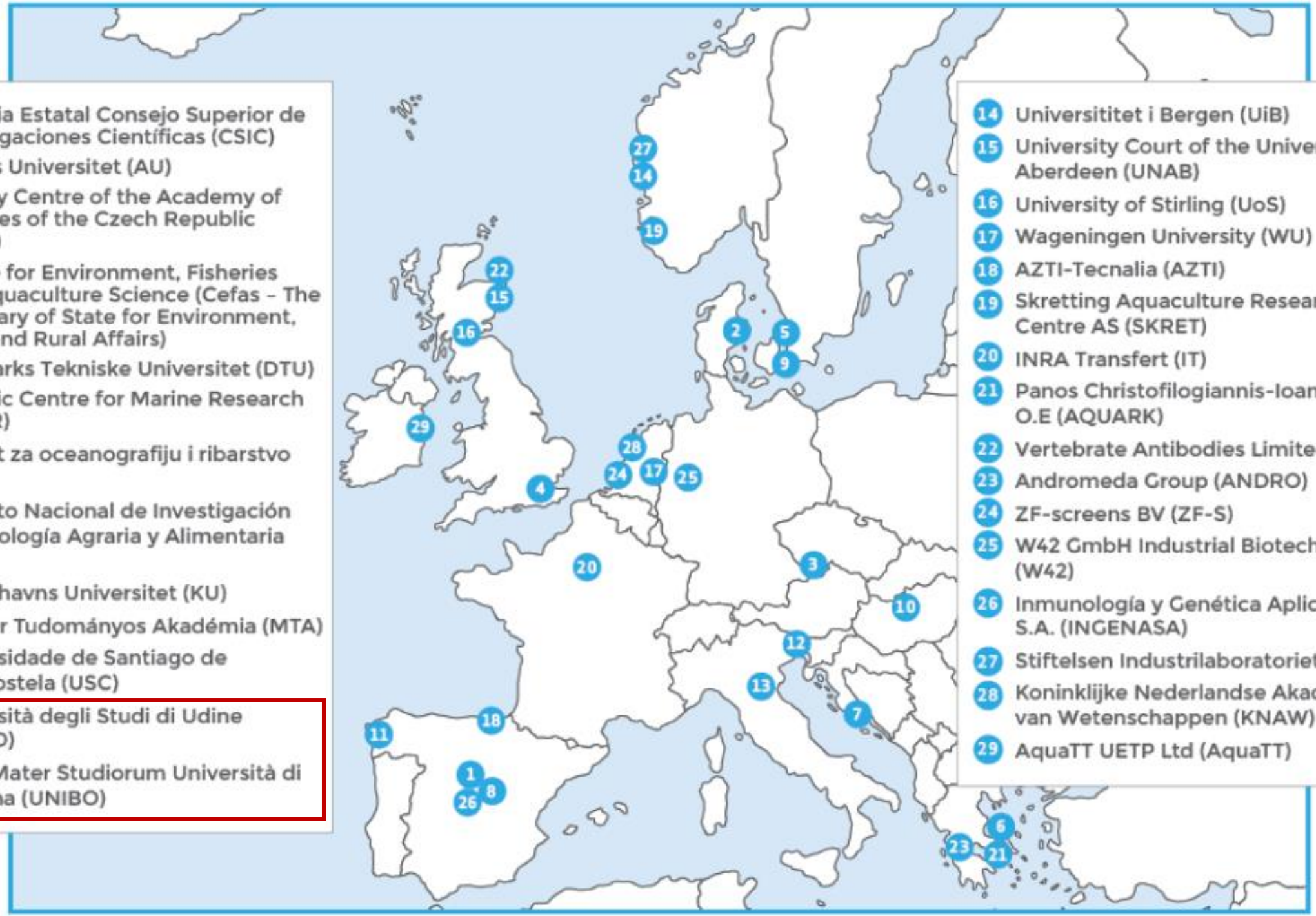

1. Agencia Estatal Consejo Superior de Investigaciones Científicas (CSIC)
2. Aarhus Universitet (AU)
3. Biology Centre of the Academy of Sciences of the Czech Republic (BCAS)
4. Centre for Environment, Fisheries and Aquaculture Science (Cefas – The Secretary of State for Environment, Food and Rural Affairs)
5. Danmarks Tekniske Universitet (DTU)
6. Hellenic Centre for Marine Research (HCMR)
7. Institut za oceanografiju i ribarstvo (IOR)
8. Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria (INIA)
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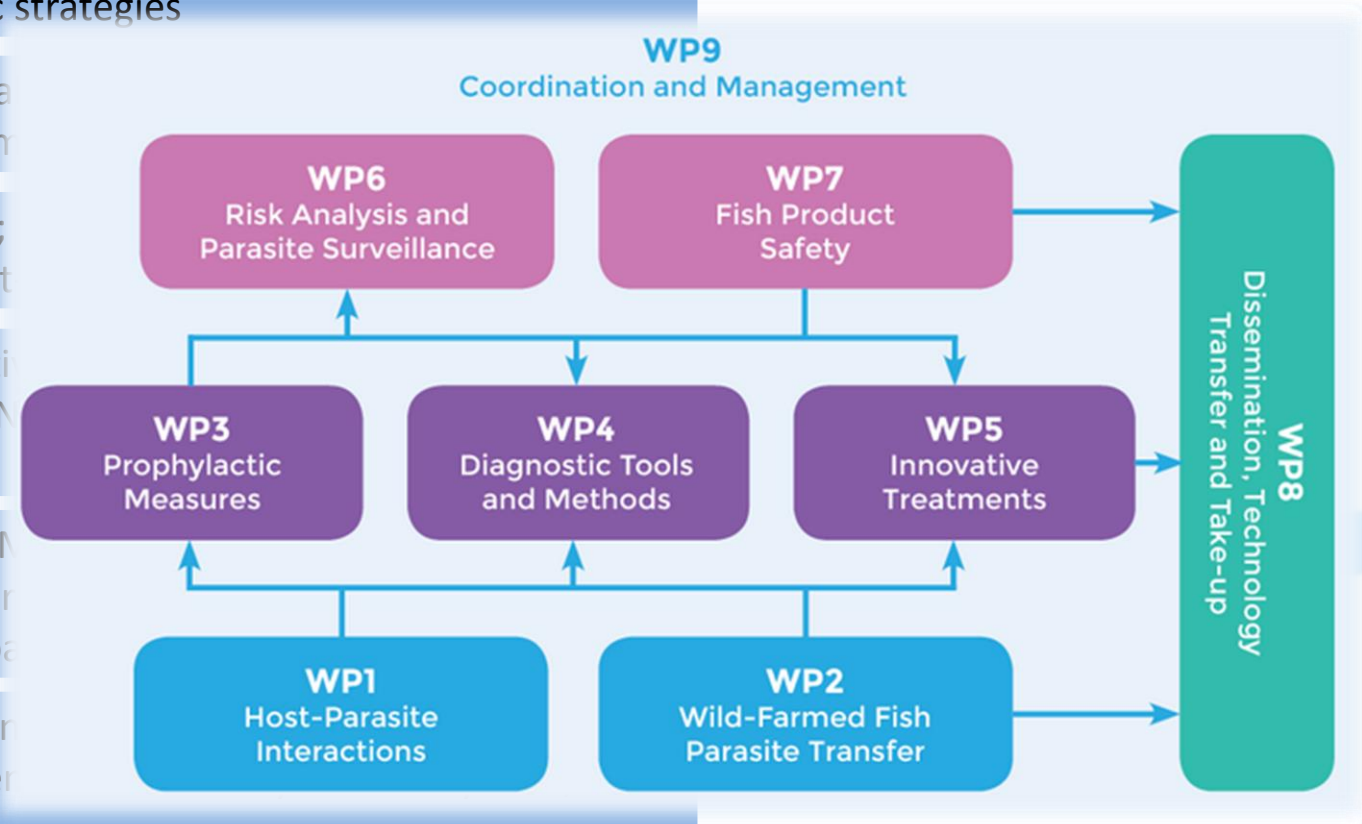
17. Wageningen University (WU)
18. AZTI-Tecnalia (AZTI)
19. Skretting Aquaculture Research Centre AS (SKRET)
20. INRA Transfert (IT)
21. Panos Christofilogiannis-Ioannatavla O.E (AQUARK)
22. Vertebrate Antibodies Limited (VAL)
23. Andromeda Group (ANDRO)
24. ZF-screens BV (ZF-S)
25. W42 GmbH Industrial Biotechnology (W42)
26. Inmunología y Genética Aplicada S.A. (INGENASA)
27. Stiftelsen Industrilaboratoriet (ILAB)
28. Koninklijke Nederlandse Akademie van Wetenschappen (KNAW)
29. AquaTT UETP Ltd (AquaTT)

WP1	**Host-parasite interactions:** Study transcriptomes and determine key genes (NGS); Proteomics to determine key proteins of parasites and their hosts. Use data to identify potential drug and/or vaccine targets and develop diagnostic tests
WP2	**Wild-farmed fish parasite transfer:** Develop necessary molecular tools and collect data to help provide a basis for better/novel zooprophylactic strategies
WP3	**Prophylaxis: Vaccine development and testing** at la **immunostimulatory feeds** with *in vitro* tests and farn
WP4	**Diagnostics:** Lab tests with analytical optimisation; methods in ringtests; Rapid on-site assessment, point
WP5	**Innovative treatments:** Rapid to implement alternati unit treatments; Optimised use of predator fish; N treatment; Targeted treatments/immunotherapy
WP6	**Risk analysis and surveillance**: Biosecurity and IPN alternative control strategies; Future risks and secto Deposition of parasite samples and metadata in Biob
WP7	**Fish product safety:** On-site detection of prese validated/calibrated detection methods; Establishme Practice Handbook for parasite-free culture
WP8	**Dissemination, technology transfer and take-up**
WP9	**Coordination and Management**



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EXPECTED RESULTS

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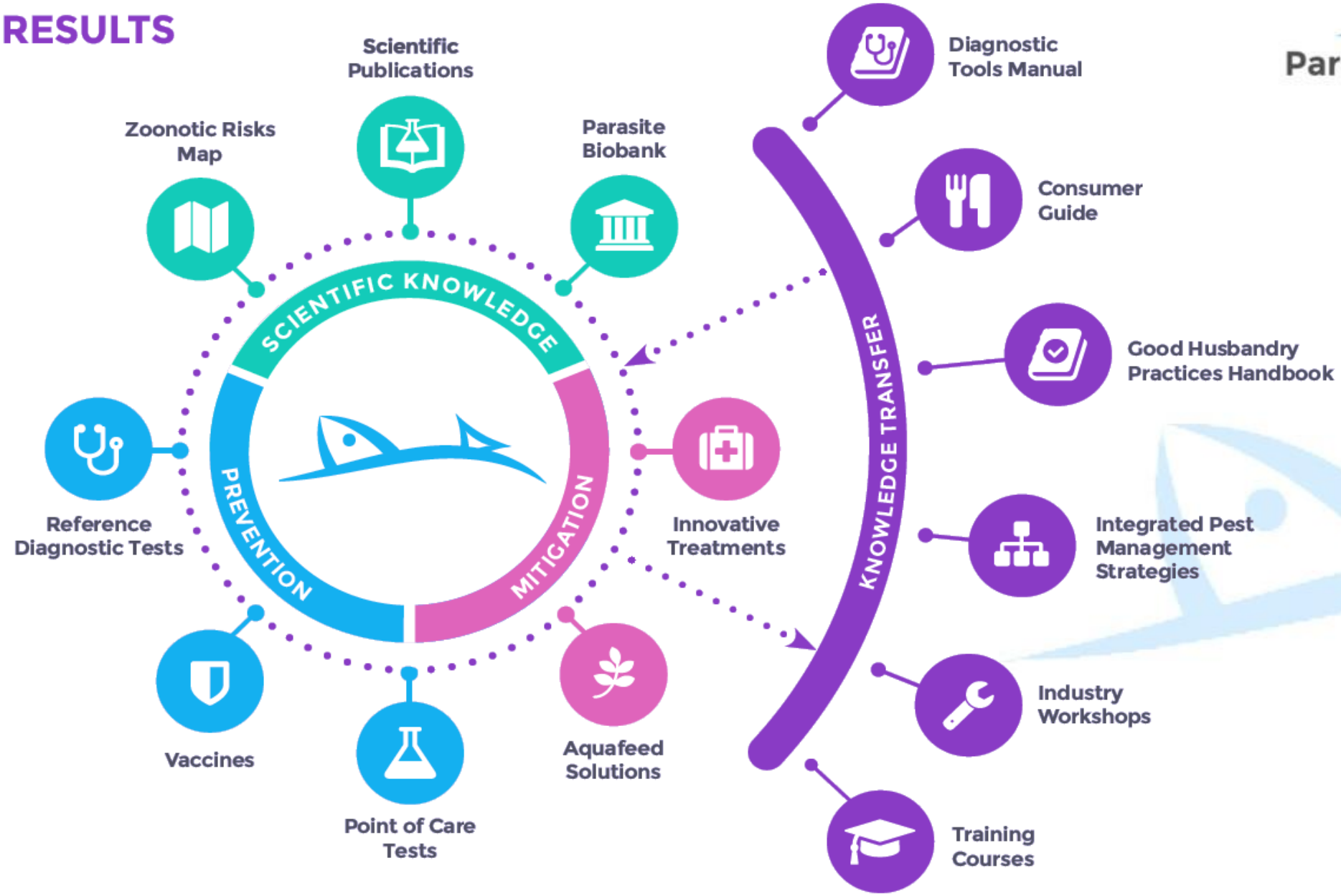

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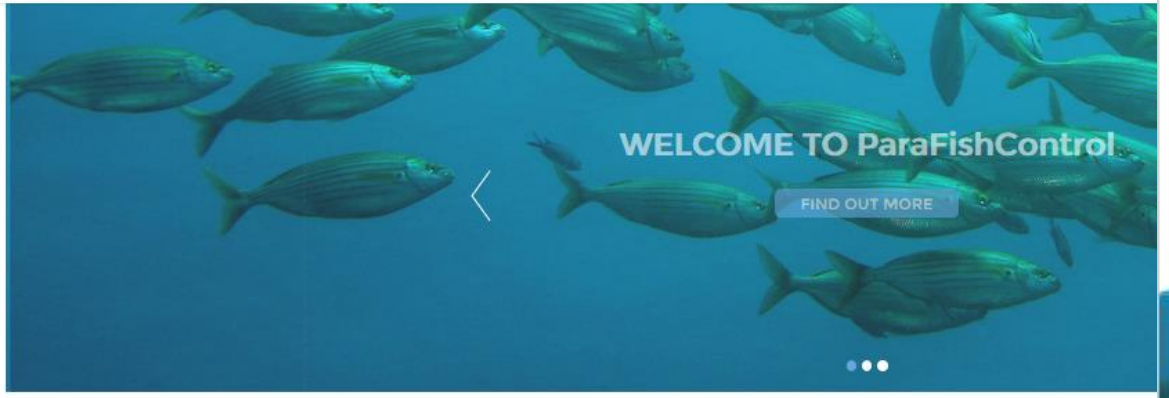

ABOUT THE PROJECT

The overarching goal of **ParaFishControl** is to increase the sustainability and competitiveness of the European aqu
by improving our understanding of fish-parasite interactions and by developing innovative solutions and tools fo
control and mitigation of the most harmful parasitic species affecting the main European farmed fish species.

Disease prevention and management are essential for the sustainability of the European aquaculture industry.
species and farming practices throughout Europe involves a significant number of threats related to a large variety
hamper production and require specific preventive and curative practices and tools ensuring a high level
aquaculture production and related seafood products. Among other disease-related threats, parasites and related infe
significant damages to farmed fish species and can result in poor growth performance, impaired welfare, and high m
significant consequences in terms of production and economic performance.

Overview

The diversity of species and farming practices throughout Europe involves a significant number of threats related to a large variety of pathogens that hamper production and require specific preventive and curative practices.

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Methodology

The project is organised into four main types of activity, ranging from generation of fundamental knowledge and technological applications to risk analyses and food safety aspects and dissemination and technology transfer.

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Work Packag

The ParaFishControl's
broken down into sever
packages, one dissem
technology transfer W
management and coordin
of them strongly interact
other.

READ MOR

Grazie per l'attenzione

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