



# REPROFISH

## Understanding and communicating fish reproduction research

### The Challenge

In the animal kingdom, fish represent a very large group (over 30,000 species) that includes both ancient and modern species. As such, they display great diversity in their life cycles, reproduction strategies and developmental phases. In general, representative species are studied in order to understand the fundamentals of reproduction so as to promote fish farming and improve sustainable production of domesticated stocks and to safeguard dwindling wild populations. The knowledge that is generated is often not readily accessible to the scientific and non-scientific community. The REPROFISH project aimed to provide solutions to these issues.

An understanding of the function of fish reproduction is essential for the improvement of the fish farming industry and to promote domestication of new species. Improved knowledge of reproductive processes also has a valuable role to play in understanding potential environmental issues, especially with regard to biodiversity.

### Project Objective

The main objective of the project was to summarise the most important breakthroughs in terms of fish reproduction research and present this knowledge in a comprehensive manner for the benefit of both the scientific community, industry and for the consumer. REPROFISH was organised around four main actions, and it aimed to improve the benefits, and communicate the outcomes of fish reproduction research.

### Key Points

- The publication of a scientific review, bringing together and summarising ground-breaking research papers on scientific advances and applied knowledge.
- The creation of a website, which will provide a wide range of information concerning fish reproduction, including: basic knowledge on the reproductive physiology of the main farmed species in Europe - salmon, trout, sea bass, sea bream, and cod.
- The communication of a knowledge gap report to the European Commission. To ensure the development of a sustainable aquaculture industry, a gap analysis defining the future orientations for research in the reproductive field was undertaken.
- The organization of workshops between scientists and industry representatives

### EATiP Thematic Area of Relevance

- TA1:** Product Quality, Consumer Safety and Health
- TA2:** Technology and Systems
- TA3:** Managing the Biological Lifecycle
- TA4:** Sustainable Feed Production
- TA5:** Integration with the Environment
- TA6:** Knowledge Management
- TA7:** Aquatic Animal Health and Welfare
- TA8:** Socio-Economics and Management

### Key Words

Fish reproduction, research, modernisation

### Project Information

**Contract number:**  
44224

**Contract type:**  
Specific Support Action

**Action line:**  
POLICIES-1.3 The modernisation and sustainability of fisheries policies

**Duration:**  
24 months (01/02/2007 – 31/01/2009)

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## Output Highlights

### Scientific Review

The review addressed sex differentiation, gonadogenesis, puberty control, gamete quality, broodstock management and biotechnologies (spawning induction, photoperiod control, cryo-conservation, in vitro fertilisation, prospects for new reproductive technologies) to better understand the underlying causes of important industry issues such as sex ratio, precocious puberty and larval development control.

### Gap analysis

Two workshops were convened to identify the main issues affecting farmed fish reproduction and to propose innovative/original research solutions to improve the competitiveness and quality of the final product. The output of the meeting was communicated to the European Commission in a report highlighting research areas that need to be reinforced or supported.

### Communication platform

By providing a platform for the scientific community and the aquaculture industry to communicate with each other, REPROFISH provided the aquaculture sector with better access to finfish protocols and useful contacts while providing scientists with a concise source of relevant, easily accessible information on reproduction and a better understanding of the aquaculture industry's needs. Coupled with explanations in non-scientific terms, educational materials for the public, and relevant consumer information, the project aimed to improve consumers' awareness of the aquaculture sector.

### The Full Report:

For a description of the project and for information on fish reproduction, visit [www.reprofish.eu](http://www.reprofish.eu)

## Next Steps – Suggested Actions/Follow On



### RTD

- As well as establishing the state of current fish reproduction strategies the future research needs in the area were identified. A brochure detailing the gaps in knowledge in fish reproduction and ongoing research activities in Europe is available as a download from [http://www.reprofish.eu/reprofish\\_eng/reprofish\\_publications](http://www.reprofish.eu/reprofish_eng/reprofish_publications)



### Policy

- The knowledge gap report communicated to the EU identified sexual differentiation and control of puberty as key priorities to bottleneck reduction.

## Related Publications/Projects

Special Issue of General and Comparative Endocrinology (Issue February 2010, 165(3)).