International Conference on Engineering and Ecohydrology for Fish Passage 2015

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Concurrent Sessions B7: FITFISH: Current Information Needs for Effective Fish Passage Management

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Current information needs for effective fish passage management: prioritization and recent developments

Leo Nagelkerke
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Rationale of WG 2

- The strong human influence on many water bodies in Europe has had detrimental effects on populations of migratory fish species.
- Measures to restore migration have, until now, a strong case-study character.
- Need for a profound, integrative scientific approach, leading to a framework for analysing migration and the design of effective measures.
- Existing knowledge is often scattered, or poorly accessible, because it is not published as scientific peer-reviewed papers.
Aim of WG 2

Exchange and integrate knowledge among scientists and experts involved in the field and to develop a research agenda aimed at generating new knowledge in the fields of:

1. monitoring fish behaviour in real-life situations, using a range of well-known and high-tech techniques;

2. experimental approaches in which the effect of disturbing cues on behaviour and physiology of individual fishes is investigated;

3. modelling the effects of mitigating measures on population dynamics.
Countries involved

21 countries
(24 June 2015)
Number of publications 2010-2015: “Fish migration” Scopus

n=1453

2010: 236
2011: 260
2012: 290
2013: 282
2014: 286
2015: 99
Individual variation in migratory behaviour
Connectivity vs. invasions: round goby

- Natural Range
- Places of Introduction

![Map of Europe with marked invasion points](image)

![Round Goby Image](image)
Some questions (a very biased selection)

- How large are migration differences between conspecific individuals, and what causes them?
- How do barriers and mitigation measures affect individuals with different migratory traits?
- Do barriers and mitigation measures lead to human-induced selection and does this lead to population-genetic changes?
- How do we deal with the connectivity-invasion controversy?
- How can the effectiveness of migration mitigation measures be tuned to functional traits of fish species?
FITFISH Workshop: 13:30-17:30

- Evaluation of existing fish migration data, monitoring methodology for tracking migrant fish and bypass design, and the use of expertise within the platform to identify potential improvements
- The use of the established research network to search for collaborative project opportunities
- Transfer of knowledge between scientists, industry and policy makers

Venue: Oude Boteringstraat 18: assemble at the registration desk at 13:00