Objective

FIThydro addresses the decision support in commissioning and operating hydropower plants (HPP) by use of existing and innovative technologies. It concentrates on mitigation measures and strategies to develop cost-efficient environmental solutions and on strategies to avoid individual fish damage and enhancing population developments. Therefore HPPs all over Europe are involved as test sites.

The facilities for upstream and downstream migration are evaluated, different bypass systems including their use as habitats and the influence of sediment on habitat.

In addition existing tools and devices will be enhanced during the project and will be used in the experimental set-ups in the laboratories and at the test sites for e.g. detection of fish or prediction of behavior. This includes sensor fish, different solutions for migration as e.g. trash rack variations, different fish tracking systems, but also numerical models as habitat and population model or virtual fish swimming.
Therefore a three-level-based workplan was created with preparatory desk work at the beginning to analyze shortcomings and potential in environment-friendly hydropower. Following the experimental tests will be conducted at the different test sites to demonstrate and evaluate the effects of the different options not covered by the desk-work. Thirdly, these results are fed into a risk based Decision Support System (DSS) which is developed for planning, commissioning and operating of HPPs. It is meant to enable operators to fulfill the requirements of cost-effective production and at the same time meet the environmental obligations and targets under European legislation and achieve a self-sustained fish population.

**Field of science**

/social sciences/sociology/social problems/migration
/engineering and technology/environmental engineering/energy and fuels/renewable energy/hydroelectricity

**Programme(s)**

**Topic(s)**

**Call for proposal**

H2020-LCE-2016-RES-CCS-RIA

**Funding Scheme**

RIA - Research and Innovation action

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