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We cannot conceive our current European society without the supply of drinking water and electricity provision in homes, workplaces and industries. To achieve this it has been necessary to modify, disrupt and even destroy large natural areas all across the whole continent. The construction of dams for water reservoirs, hydraulic jumps, channels and other infrastructures for the use of water is primarily responsible for the fragmentation of European rivers. If we assign a monetary value, a price, to ecosystem services, we might see that the ecological cost caused by habitat fragmentation is higher than the economic cost of their design, construction and maintenance. This is something that most of society ignores. Disruption and destruction of aquatic and terrestrial ecosystems, introduction of invasive species, fragmentation of aquatic populations and alteration of the migratory cycles of several fish families, are just some of the most obvious negative effects associated with river barriers.

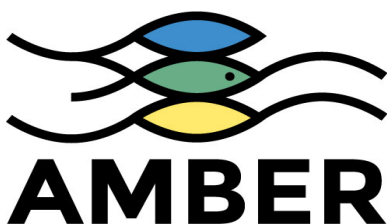


Tanes dam, 43°12'N 5°24'W



Rioseco reservoir, 43°11'38"N 5°27'44"W

To seriously consider the reconnection of rivers, we should start knowing and interpreting properly the social attitudes of European citizens towards dams and reservoirs. There are many variables that can be involved in a coherent and ambitious analysis. Think about



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general variables such as language, culture, historical background, political framework or socio-economic context in each of the European countries where AMBER is present. More specific variables may be added related to the intrinsic characteristics of the population of each country, such as sex, age, the academic training level, the geographical context where they live and work, or the direct/indirect relationship citizens may have with dams and reservoirs (inhabiting nearby, using them for fishing, belonging to a family expelled from the natal village due to a reservoir construction and many, many other possible circumstances). Collecting these data from all over Europe, together with an inventory of the barriers and reservoirs and their features, will undoubtedly be a very important contribution to discuss with rigor and arguments about adaptive management of water masses and the connectivity of rivers.

Identifying the social variables that would have a greatest impact on the moderation of barriers is fundamental in decision-making and its subsequent implementation. Best-suited tools for this task are surveys. From the University of Oviedo (AMBER Spain partner), we have designed and validated a survey on social attitudes towards dams and reservoirs.

**Questionnaire: Social Attitudes Towards Dams and Reservoirs**

Interviewer:

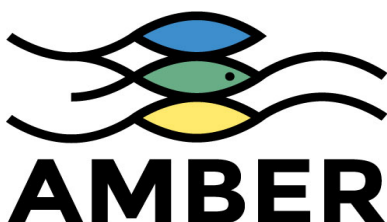
Questionnaire n°:

Town:

Country:

Date:

The objective of this macro survey is to know the degree of social acceptance of dams and reservoirs in European countries. The implementation of this tool will give us information about the European society's opinion on river barriers from different regions and countries. The degree citizens believe these infrastructures are (or are not) beneficial to their activities and environment (agriculture and livestock; industrial and historical heritage; flora and fauna; tourism and economy...) is important. It is also important to know to what extent is the European population willing to contribute economically, perhaps through taxes, to mitigate the impact of river barriers on rivers. In this survey we aim as well to know how European society sees the possible socio-ecological effects of dams and reservoirs. The data we are



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collecting will provide useful insight to propose common actions in the European framework on the management and connectivity of our river waters.

To set up protocols for resolution of conflicts caused by rivers fragmentation is one of the key AMBER objectives. We need to know the concerns of the people affected by barriers, dams and reservoirs to advance effective measures on the riverbeds. The questionnaire designed will serve to collect information from population sectors directly affected by the presence or new construction of dams and reservoirs, as well as from the population who lives far from dammed areas. Researchers from all AMBER consortium partners will apply the survey in specific case studies and in many other zones. The goal is to do as many surveys as we can: the more, the better. For a more personal implication and more reliable results, interviews will be conducted face-to-face. The questionnaire is available on the AMBER website. The selection of the sample should be as representative as possible, for which it is necessary to take into account both spatial and socioeconomic heterogeneity in each region. Researchers may be able to ensure such representativeness from other relevant field studies and sociological data. Taking into account the size of the European population, and the dimension of AMBER case studies, at least 250 individuals per case study should be interviewed, trying to incorporate people from different sectors, so all the population groups (or as many as possible) are represented.

\* Thanks for your participation. Following the Responsible Research Code of Conduct, the information collected will be anonymized and will only be used for this study. After finishing the questionnaire, you can check your answers, confirm or change them. You can withdraw from the study at any moment and in that case this questionnaire will be destroyed. When the results of this investigation are published you will be able to access them.



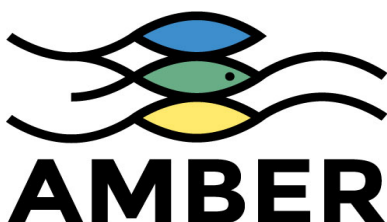
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The time for administering the questionnaires and collecting data has begun on March 2017 and will run until March 2018. Each AMBER partner has a space online to upload the data of the questionnaires they make. From the University of Oviedo a password will be given, under request, to accede that online space. Just ask us! Once the fieldwork has been completed



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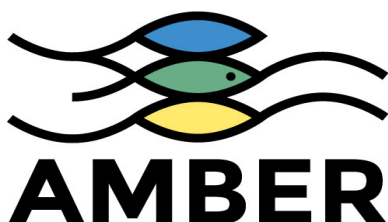
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and the results of each country have been uploaded, all the information collected will be processed. The treatment and statistical analysis of data will allow us to draw significant conclusions about the social attitudes towards the rivers fragmentation and their relation with the characteristics of the dams and reservoirs (size, use, location...) and the individuals surveyed (age, education or country of origin). All the information obtained will be shared within the AMBER consortium and used in the approach to an adaptive management of barriers in European rivers.

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The University of Oviedo has launched a survey on the social attitudes of European citizens towards dams and reservoirs. Started on March 2017, this survey will run until March 2018 with the goal to collect information from population sectors directly affected by the presence or new construction of dams and reservoirs, as well as from the population who lives far from dammed areas. This macro survey will provide information on the degree of social acceptance of dams and reservoirs in European countries, a very important contribution to discuss with rigor and arguments about adaptive management of water masses and the connectivity of rivers.

Consult the full article to know more about the survey here:



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