Dissemination Synthesis Report

Covering the dissemination activities from 01/08/2017 to 31/07/2022

Reporting Date

24/05/2019

Event attended

Advances on the Population Ecology of Stream Salmonids V

data of event

Event location:	Granada School of Architecture
Event start date:	19/05/2019
Event end date:	24/05/2019
Event Website:	http://www.salmonidsymposium.es/

data of organizer

Organization Name:	Sociedad de Amigos del Museo Nacional de Ciências Naturales
Contact person:	Sergio Cortés Merino
Telephone:	-
E-mail:	info@salmonidsymposium.es
Organizer's Website:	-

1. EXECUTIVE SUMMARY

The monitoring work developed within the Life Águeda project was included in a presentation, entitled "Patterns of migration and fish pass use by trout (*Salmo trutta* L.) in the southern limit of the species distribution", at the V conference on Advances on the Population Ecology of Stream Salmonids, held in Granada, Spain, from 19-24 May 2019. This event put together experts interested in the ecology of stream salmonids, that aimed to continue the productive work of previous meetings. Considering the amount of research and management efforts that stream salmonids have received, it is legitimate for researchers to ask whether the knowledge acquired to date is appropriate to understand their complex ecology and overwhelming diversity of life-history strategies and to offer solutions to the conservation issues faced by all countries where stream salmonids are present. This meeting provides a forum to: i) Update the knowledge on previous described themes; ii) Explore how research may move from scientific knowledge to conservation principles to ensure the long-term viability and evolutionary course of salmonids; and iii) Evaluate mitigation of human impacts on their populations and reduce the impacts of exotic salmonids on native freshwater faunas wherever they have been introduced.

2. DISSEMINATION PROGRAM

The presentation focused on a global disclosure of the work developed by the research team on Portuguese salmonids, especially brown and sea trout, within the different projects that are currently ongoing. Among them, a special relevance was given to the LIFE Águeda project, and its component dedicated to the monitoring of ecological effects, where trout is one of the main target species. The presentation included the objectives of the project, the study area and the report of methods, and preliminary results, used to study the migratory behaviour and dispersion patterns of the trout specimens within the Vouga river basin. The presentation also provided information about the link between the UÉvora team and the commercial and recreational fishermen operating in the Vouga river basin, and on their potential to provide quantitative and qualitative data on trout abundance and occurrences.

Presentation Abstract

"The southern limit of the distribution of resident (i.e., brown trout) and anadromous (i.e., sea trout) ecotypes of *Salmo trutta* L. is in the central region of Portugal. Besides the well-known constraints, such as water scarcity and climate changes, that the species faces in this region, rivers in central Portugal are severely fragmented by the presence of large dams and small-to-medium weirs, built for hydroelectricity, water management and agriculture. In this context, efforts towards an increase in the knowledge of trout responses to anthropogenic pressures and for the mitigation of existent habitat fragmentation have consistently been developed for the last 8-10 years. In Mondego river, one of the most important rivers in Portugal for anadromous fishes, a large (i.e., 125 meters long, 23 pools) vertical-slot fishway was built in 2011 at the Açude-Ponte dam (Coimbra). Until then this dam the first unsurmountable obstacle in this river basin, and specific monitoring is continuously being conducted since that date. Count data on trout revealed that, during 2013 and 2014, a total of 417 trout have successfully used this fishway. Trout migration through the fishway occurred during almost the entire year,

but with a clear peak between May and July (90% of total counts). Trout presented a significant use of the fish pass during the day-period, especially during the morning (06h00-15h00), for both years. In 2013, size distribution of trout within the fish pass was homogeneous throughout all the passage peak (May to July), but in 2014 larger fish (CT > 40 cm) migrated sooner (i.e., May) than smaller ones (CT < 35 cm), that were mostly observed in July. Models (i.e., Boost Regression Trees) were developed to identify environmental predictors that seem to trigger the migratory activity at this fishway. Recently, to complement this work, a radio telemetry monitoring was started at a nearby river basin, Vouga river, to study the movement patterns of brown trout in a river fragmented by the presence of several small-to medium weirs. Trout were captured with the help of local anglers, tagged with radio transmitters and are currently being monitored with a fortnightly periodicity. Results from this study will help to characterize movement dynamics of this species and evaluate its capacity to negotiate different types of obstacles. Research presented here is a fraction of a larger effort that is currently being developed to enhance the management and conservation of brown and sea trout in Portugal. This approach will also include the assessment of the species regional distribution, abundance and population genetics, the evaluation of their resident-anadromous status and the management of dedicated commercial and recreational fisheries. The information planned to be collected for this species in the following years, will help us understand the species response to increasing natural and anthropogenic pressures and, ultimately, contribute to the development of innovative management programs focused on the conservation and protection of this natural resource."

3. DISSEMINATION OUTPUTS

Key comments included questions about the methods used for monitor trout behaviour in the Vouga river basin and on the restoration work undergoing within the LIFE Águeda project. Contacts made during the event provided the opportunity to change experiences on trout monitoring that will be fundamental for the success of the work on this species planned for the LIFE Águeda project. During the event, Portugal, and the study area of the LIFE Águeda project, were promoted as one of the hypotheses for the venue of the next Stream Salmonids meeting, which is currently under evaluation.

4. CONTACTS

People Contacted

ENTITY	CONTACT NAME	EMAIL	TEL
University of Gothemburg	Johan Hojesjo	johan.hojesjo@bioenv.gu.se	
Utah State University	Phaedra Budy	phaedra.budy@usu.edu	
Natural Resources Institute (Finland)	Teppo Vehanen	Teppo.Vehanen@luke.fi	
University of Liege	Michael Ovidio	M.Ovidio@uliege.be	

ANNEX - PHOTOS

N/A

ANNEX - PRESENTATION

https://drive.google.com/file/d/1Eh5fg-ZpVO3CbwEKo6AEtOwQ39TL5_rJ/view?usp=sharing

ANNEX - PROGRAM

ANNEX - COMMUNICATION

N/A