

Recreational functions of rivers in Austria: an approach to the visitors' perspective

Sybille Chiari, Florian Schmid, Andreas Muhar and Susanne Muhar

Abstract — In the past Austrian rivers faced a series of human impacts leading to a loss of both ecological and social functionality. River restoration measures aim to improve this functionality, however, they are currently mostly targeted at ecological functions rather than at recreation. To prevent conflicts between ecological integrity and recreational needs integrated river management is demanded. So far river recreation in Austria is an unknown quantity, as profound data are lacking. The range of present river-based recreational activities can only roughly be estimated. The ongoing project “Future options for the development of riverine landscapes – space requirements for multifunctionality” aims to fill this gap. Concerning recreationists' dispersion, behaviour and preferences data is collected along three rivers (Enns, Drau, Lech). The first step of the methodological approach was an explorative preparatory study conducted in 2007. Qualitative face-to-face interviews should clarify which factors influence river recreationists in terms of how they perceive the river, what they appreciate about the setting and what compromises their quality of experience. Based on these results a semi-standardised questionnaire was developed for a quantitative survey conducted in 2008, covering topics such as visitation motives, use patterns, habits, and perceptive aspects using image-based choice statements. Additionally the extent of river recreation is assessed via peak-day observations documenting recreational characteristics like number of visits, length of stay and activities. Preliminary results indicate that most people associate calmness and relaxation with river recreation rather than adventure and action. In particular, the acoustic scenery and certain natural attributes play a major role. Most people state, that they prefer natural river sections for recreational purposes. However, some ecologically valuable features such as woody debris seem to bother them. Further steps aim to identify key factors for the usability of rivers, integrating both objective factors such as the biophysical setting and subjective issues such as aesthetics and personal preferences.

Index Terms — Behaviour, preferences, requirements, river recreation, user survey

1 INTRODUCTION

River management underwent a paradigm shift in the past decades – changing the attitude from regulating

rivers to restoring and protecting them. It became obvious that regulated river systems lack both ecological and social functionality. Integrative management approaches should therefore aim to re-establish ecological functions as well as social services of riverscapes.

With regard to Austrian rivers, a weightily part of the social functionality comprises opportunities for recreation and leisure activities such as angling, canoeing, swimming, barbecuing. Recreational activities are assumed to raise the awareness for ecologically intact rivers. There is a high demand to use rivers, but riverine space is rather limited due to river regulation. As a consequence visitors often concentrate in remnant close-

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to-nature sites that at the same time act as refuge for threatened species. Restored areas where access to the river is provided for recreationists - more or less intended by river managers - therefore quite often become hot spots for recreation. To deal with the sometimes conflicting interests, both social and ecological aspects have to be considered within an integrated management approach. The outcomes of the presented study aim to facilitate and foster this process.

2 CONTEXT AND FOCUS OF THE STUDY

This paper has been prepared in the context of the interdisciplinary research project "Future options for the development of riverine landscapes – space requirements for multifunctionality", conducted in the framework of the Doctoral School Sustainable Development at BOKU University of Natural Resources and Applied Life Sciences Vienna, Austria (duration 2007-2010).

Assuming space to be one of the most limiting factors for sustainable river management in Austria, the study focuses on spatial prerequisites for multifunctional riverscapes, considering ecological services and social services in a synergistic rather than competing way. An obstacle when trying to harmonise these two aspects is the imbalance of data that is available. For most rivers biotic and abiotic data are available, whereas data concerning river-based leisure activities are lacking. This fact makes an evaluation of the recreational potential of close to nature river sites or sites that are to be restored rather difficult.

Therefore one major focus of this study is to fill this gap and assess the extent of recreational activities as well as the behaviour and motives of visitors on selected sites. Beside that, particular ecological data are collected, indicating interdependencies between social and ecological functions.

3 AREA OF INVESTIGATION

The study focuses on three Austrian alpine gravel bed rivers: River Enns in Styria, River Drau in Carinthia and River Lech in Tyrol. With this selection different biophysical and managerial conditions can be compared, as the sites cover a wide range of hydromorphological statuses (close-to-nature, restored, impaired) and protection categories (national park, nature park, EU-Natura 2000 sites etc.). In total, nine study sites – three per river – have been selected for closer investigation.

4 METHODS

As the study aims to combine ecological data and recreational data a multi method approach was chosen (Fig. 1).

A good part of the data needed for the ecological evaluation of the sites is provided by prior studies (M. Jungwirth et al. 1996; S. Muhar et al. 2008; S. Preis und S. Muhar in prep.; A. Zitek und S. Schmutz in prep). Additionally gravel breeding birds – Common Sandpiper and Little-Ringed Plover – were mapped as indicator species, as they react rather sensitively to human disturbances.

Concerning recreational data, we have to deal with an unknown quantity. Therefore the first step was to assess empirically what issues are commonly relevant for river recreation in particular from the visitors' point of view. Therefore an exploratory study was carried out, in the course of which 46 qualitative, semi-structured interviews were conducted on selected sites at river Enns (Fig. 2) in 2007 (F. Schmid in prep.).

The guideline used for these interviews covered issues like motivation for visiting, perception of the site and activities performed by the visitors. Based on the results of this qualitative study a standardised questionnaire was developed (P. Atteslander 2006) for the quantitative survey (Fig. 3). This survey was carried out in summer 2008 along all three rivers.

To assess the extent and intensity of river

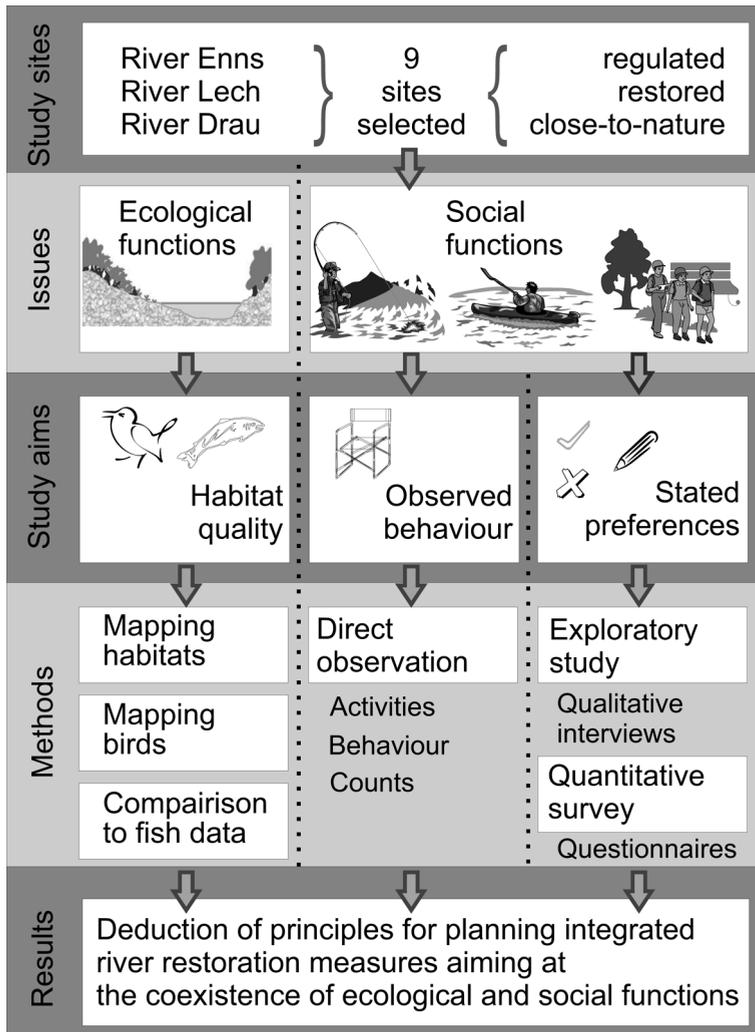


Fig. 1. Study design (S. Chiari 2008)



Fig. 2: Survey sites of the exploratory study at River Enns. Left: restored site close to town Schladming. Right: Site situated in the National Park "Gesäuse".

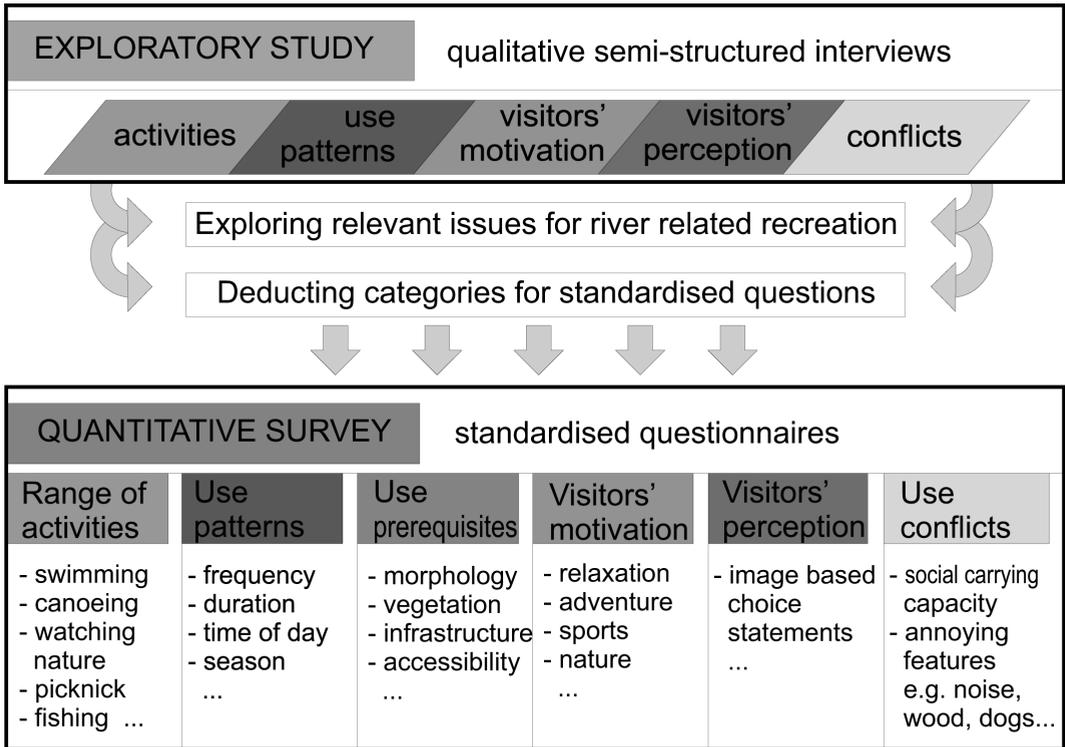


Fig. 3. Survey methods

recreation peak-day observations were carried out on the nine selected sites documenting recreational characteristics like number of visits, length of stay and activities. Additional to these local site-specific data, the recreational potentials and the actual uses were evaluated on a more regional scale. For this, the observer canoed down the investigated river sections (River Enns 15km, River Lech 22km, River Drau 35km) documenting all users, activities and their spatial references. This enables the identification of recreational hot spots and provides data for the ongoing spatial analysis of use distribution and use patterns.

5 RESULTS AND DISCUSSION

Results presented here refer mostly to the exploratory study. Aiming to gain first insights into visitor's preferences and perception, the

qualitative outcomes of this study cannot yet be generalized, as they reflect only a small part of the scope of interests. The intention was to detect relevant issues and first trends as a basis for the quantitative survey.

Concerning the motives for visiting a river section the results indicate that "contemplative motives" (M. Mönnecke et al. 2006) are dominating. About two thirds of the interviewed persons mention silence and / or relaxation to be motives for spending some time at a river. One third emphasizes that they appreciate the acoustic scenery of running waters and that this adds to the calming effect rivers have on them.

Concerning the usability, people state accessibility to the riverside but also to the water to be a vital prerequisite. Further water quality points out to be crucial for the quality of recreation, as comparable studies have already shown, e.g. Gobster et al. (1998) where water quality was proved to be "the chief concern".

When analysing comments people made on morphological issues, more than half of the persons stated that rivers should be able to flow freely. Almost half spoke out against river regulations and stated the demand for more natural river courses.

By way of contrast there were also persons - about one third - preferring riverscapes to be well maintained and looked after. This aspect is also reflected in the fact that many people appreciate facilities like benches a lot (see also P. H. Gobster and L. M. Westphal 1998). Whereas a small group of people is rather skeptic about too many facilities, as they could attract crowds of people or could spoil the naturalness of the site.

The same ambiguousness seems to exist in terms of how people perceive woody debris in rivers: the proportions of those who were bothered by wood and those who realize and appreciate the ecological value were almost balanced. The opponents called for the removal of wood for both aesthetic and / or security reasons. Similar aspects were found by Piegay et al. (2005), showing that photos with wood were perceived more natural but less aesthetically pleasing than photos with wood in 8 out of 10 case studies.

In terms of management, these preliminary results show, that accessibility, facilities and the perceived naturalness of river sections turn out to be key factors attracting recreational use. Further details on these issues will be elaborated by merging the results from the exploratory study, the quantitative survey and the observation data within the next step of this project.

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