



# Methods for mapping recreational and social values in urban green spaces in the nordic countries and their comparative merits for urban planning



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## ARTICLE INFO

### Article history:

Received 9 May 2013

Received in revised form

9 September 2015

Accepted 19 November 2015

### Keywords:

Mapping methods  
Recreational planning  
Urban green space  
Urban planning

## ABSTRACT

One of the challenges faced by urban planning is to identify and evaluate recreational and social values of urban and peri-urban green spaces. Over the past 30 years a number of methods for mapping recreational and social values have been developed and implemented in the Nordic countries, in dialogue between research and urban planning practice. This paper provides a framework for assessment of planning methods and an analysis of the comparative merits of seven Nordic mapping methods and how they address the challenges of identification and evaluation of recreational and social values. The assessment shows that challenges are addressed in complementary ways and are tailored to different planning purposes. There is also scope for further improvements of the link between research and planning.

## MANAGEMENT IMPLICATIONS

This paper provides a framework to compare and evaluate different tools for outdoor recreation planning in urban environments. Planners and managers may use this comparison to select a suitable approach for defining and mapping recreational and social values of urban and peri-urban green spaces. The paper distinguishes between three main methodological approaches: methods based on concepts rooted in perception of design, methods based on mapping experiences and methods focussing on social values.

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## 1. Introduction

Planning practice faces the challenges of how to assess questions of 'what is' and 'what ought to be', and how to bridge the two questions for achieving better place-based outcomes in urban green spaces and open spaces through intervention and action (Campbell, 2012; Friedmann, 1987; Smith, Pereira, Roe, Sosenko & Lindholst, 2014). These challenges apply equally to planning and management of urban green spaces, where the important role of spaces such as city parks or urban woodland as settings for recreational activities (i.e. leisure activities as part of people's daily or weekend routines) has been well recognized for more than a century (e.g. Clark, 2006; Bell & Petursson, 2010).

To address in particular the first question in critical challenge of

'what is', a range of recreational and social mapping methods has been developed over the last three decades in Europe, and the Nordic countries in particular. Here, method developments grounded in research which are aimed to support the provision of recreational opportunities in urban and peri-urban settings are seen as an important requirement for sound planning practice (Petersson-Forsberg, 2014). Nordic countries are highly urbanized and have well-developed outdoor recreation traditions (Hytönen, 1995; Hörnsten, 2000; Jensen, 1999). Most of Nordic cities tend to have greater proportions of green space compared cities in other parts of Europe (Fuller & Gaston, 2009). Consequently urban green spaces are among the most visited outdoor settings in the Nordic countries (Hörnsten, 2000; Jensen, 1999). Still, the high interest in and importance of outdoor recreation is not always matching actual planning practices and legislative frameworks (Petersson-Forsberg, 2014).

Method development in the Nordic countries in the last three decades has provided planning with an increased number of

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mapping methods grounded in both research and planning practice that conceptualizes recreational and social use, function, quality, and value of urban green spaces in combination with development of sound procedures for application within urban planning as well as daily management. These mapping methods use key concepts such as 'park properties' and 'park characters' (Berggren-Bähring & Grahn, 1995; Grahn & Sorte, 1985; Nordh, 2010), 'perceived sensory dimensions' (PSDs) (Grahn, Stigsdotter & Berggren-Bähring, 2005; Grahn & Stigsdotter, 2010), 'experience worlds' (Regionplane- och trafikkontoret, 2001, 2004), 'experience classes' (Caspersen & Olafsson, 2006, 2010), and 'experience values' (Lindholm, Dempsey & Burton, 2013; Randrup, Schipperijn, Hansen, Jensen & Stigsdotter, 2008), 'social values' (Tyrväinen, Mäkinen, Schipperijn & Silvennoinen, 2004; Tyrväinen, Mäkinen & Schipperijn, 2007), and 'social use values' and 'sociotopes' (Stadsbyggnadskontoret, 2003; Stähle, 2006). Together these concepts represent a group of mapping methods that span across several spatial scales from the individual urban green space or open space, to the regional level that integrates several urban centres in metropolitan areas. They all aim to provide planning practice with methods that allows for making inventories of physical characteristics, formal purposes or content of urban green spaces and open spaces combined with assessments of the recreational and social value(s) of these spaces. The key feature of the mapping methods is that they go beyond reliance on quantitative descriptions of physical characteristics or content as the primary information (e.g. the number of sports fields or the area covered by forests). In contrast to such 'shallow' information about the formal purpose or characteristics a 'deeper' understanding of urban green spaces about their 'worth' or 'benefit' for individuals or society may be gained by adding further information of the actual or potential value(s) of a given urban green space. By reference to the notion of 'value' these methods implicitly or explicitly provide frameworks for distinctions and judgement about 'good' and 'bad', 'better' or 'worse' which, according to Campbell (2002), resides in the heart of planning practice. The concept of value (of an object) is furthermore relative in the sense that it rest on subjective judgments while simultaneously relying on shared socio-cultural references in order to enable exchange and coherent interpretations between individuals (Simmel, 1900). What apparently is common for the mapping methods is their use of an informed framework, corresponding to a shared socio-cultural reference, based on research and/or agreement between actors in the planning system for identifying and evaluating ('judging') the recreational and social value of urban and peri-urban green spaces. Each method and its adoption in planning practice is therefore constitutive of the values it defines and promotes. Whether such adoptions are valid – or legitimate – may depend on the correspondence with political defined objectives, actual recreational use patterns or public preferences. Equally, partisan interest may distort the validity or legitimacy of such adoptions in planning practice (Lindholm, Sullivan, Konijnendijk van den Bosch & Fors, 2015).

Each of the mapping methods has been documented in the academic literature or in documents published by planning authorities. Although these methods are related to each other, so far no unified overview or comparative evaluation of them has been performed. This paper presents a comparative evaluation of the methods for mapping recreational and social values in urban green spaces in the Nordic countries, with the intent to contribute to both research and planning practice in at least four ways. First, the evaluation will provide a unified overview and comparison of method development. Secondly, it will provide guidance for selecting appropriate mapping methods for particular planning purposes. Third, the evaluation will identify needs and opportunities for further research and method developments. Fourth, the

review presents these mapping methods to an international audience.

The remainder of the paper is structured in the following parts. In Section 2, criteria for identifying mapping methods as well as a framework for evaluating the comparative merits of each mapping method are presented. In Section 3 each mapping method is reviewed separately. In the Section 4 the merits of the methods are compared and discussed before conclusions are presented in the final section.

## 2. Materials and methods

### 2.1. Material selection

The academic literature and planning authority documents were reviewed for mapping methods developed in dialogue between research and planning practice, and applied primarily within urban settings in the Nordic countries. Seven methods were identified as representing mapping methods that all aim for providing planning with an in-depth and proved reliable knowledge of recreational and social values by integrating key concepts and techniques that has been established within research. Methods merely relying on descriptions or inventories of physical features or the amount(s) of various types of urban (and peri-urban) green space as administratively defined by planning authorities or municipal park departments were not included. Inventories of the amount of various types of green spaces managed by municipalities are common throughout the Nordic countries (see e.g. Randrup & Persson (2009)).

### 2.2. Evaluative framework

The study's evaluative framework is based partly on themes which were applied in earlier comparisons of planning methods (McCool, Clark & Stankey, 2007; Nilsen & Taylor, 1997), partly on themes which are prevalent in mainstream planning theory (e.g. Campbell & Fainstein (2003) and Taylor (1998)) and finally on themes which emerged as important in our initial reviews of the seven mapping methods. Table 1 provides an overview of the indicators selected for the comparative analysis. The themes were used to guide our review and presentation of each mapping method.

Earlier assessments and comparisons of recreational planning methods identified several key themes that recreational planning methods can be evaluated against. Nilsen & Taylor (1997) compared US-based planning and management frameworks for protected nature and forest areas according to their 'origins', 'steps of the process', 'factors, indicators and standards', 'appropriate applications' as well as assessing their strengths and weaknesses. McCool et al. (2007) made a more open assessment of 'useful' frameworks for public land recreation planning made available in the US planning system from the 1970s and onward to the 2000s. McCool et al. (2007) discussed several aspects of these frameworks including principal planning questions, history and background, key concepts and variations, while also discussing strengths and weaknesses. These authors conclude that development of the frameworks has been more evolutionary than revolutionary and that their successful application has been a result of a close collaboration between managers and scientists.

Mainstream planning theory (e.g. Campbell & Fainstein (2003) and Taylor (1998)) comprises a range of key issues and themes with relevance for our analysis. Mapping methods under scrutiny mainly cover planning questions related to 'what is' questions, although they sometimes, by referring to normative connotations in concepts such as 'value', 'quality' or 'potential', implicitly also

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