



# Balancing sustainability in two pioneering marine national parks in Scandinavia



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## ABSTRACT

Even though marine protected areas (MPAs) have become central instruments in the endeavour towards sustainable development, our knowledge on how different institutional designs influence outcomes is limited. Using a comparative case study design, this paper explores the interplay between institutional arrangements and management outcomes in two adjacent yet institutionally slightly differing MPAs, encompassing a shared marine trench and a partially inhabited archipelago landscape – namely the Koster Sea National Park in Sweden and the Outer Hvaler National Park in Norway. How can differences in the institutional designs governing the two parks, be linked to differences in sustainability outcomes? What lessons can be learnt for the design of MPAs? The study shows that institutional design influences management outcomes in some respects but not in others. Differences in overall management systems had no noticeable effects on sustainability outcomes and how they were perceived, while the differing objectives of the parks and how they are made operational seem to have affected the outcomes. But they have also influenced actors' expectations and their assessment of outcomes. According to this study, conservation arrangements can be broadened beyond mere nature protection. However, the study also underlines the challenges of locally adapted and participatory institutional designs and emphasises the importance of taking users' varying expectations related to social and economic values into account throughout the whole process. The establishment of national parks is no guarantee for broader sustainable development per se; this also requires resources and proper embedding and integration with relevant sectors and tiers in the overall management system.

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## 1. Introduction

In coastal and marine management, marine protected areas (MPAs) are increasingly used to promote sustainable development beyond mere conservation. This trend is driven by both national and international initiatives. International agreements and bodies such as the Convention on Biodiversity (CBD; UNEP, 2004), the Helsinki (HELCOM) and the OSPAR (Oslo-Paris) commission, as well as the EU's habitat directive and the related NATURA 2000 framework (European Council and Parliament 1992, 2009), stipulate enhanced protection of valuable coastal and marine resources and

habitats through new MPAs. Such efforts often imply an ecosystem-based approach (Apitz et al., 2006; Christensen et al., 1996; Shepherd, 2004) combined with integrative ambitions to achieve governance with multiple units at diverse scales, including both decision-makers at different administrative levels and enhancing stakeholder participation (Ostrom, 2005; Berkes, 2010; Sandström et al., 2014). Most areas in need of protection are inhabited and subject to human use, which implies that ecological conservation aims must be balanced with a societal and economic context. The MPA concept itself encompasses a broad array of institutional designs (cf. Ostrom et al., 1994) and little is known about how different designs affect the interplay of ecological, economic and social sustainability. This paper deals with this puzzle; it explores the interplay between institutional arrangements and management outcomes, as perceived by key stakeholder groups, in two

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recently established and adjacent marine-terrestrial national parks in Scandinavia (see Fig. 1).

Koster Sea National Park (KSNP) in Sweden and Outer Hvaler National Park (OHNP) in Norway were inaugurated concurrently in 2009 and share the same marine ecosystem. They can be seen as parallel conservation experiments according to contemporary conservation policy: the implementation of sustainable development and the ecosystem approach. This implies combining conservation objectives with a user perspective and the inclusion of stakeholders in planning and management.<sup>1</sup>

The two national parks (NPs) are situated in north-eastern Skagerrak and encompass both inhabited archipelago and a marine trench with high biodiversity values (Nilsson, 1997). The archipelago areas included in, and adjacent to, the parks have typical rural characteristics with a declining population, a high dependency on a short tourism season in the summer and threatened public and private services during the rest of the year. The user groups in the two areas include permanent and seasonal residents as well as short-term visitors, implying both non-consumptive use and harvest of resources. Besides conservation and research, important user groups are licensed fishing, leisure fishing (household/recreational), hunting, small-scale farming, recreation onshore and in the water, permanent and seasonal residency, and commercial enterprises (Supplementary, Table 1).

After meeting initial local resistance, both NPs were eventually developed through participatory processes (Supplementary, Table 2). The processes continued for decades and involved both users and political decision-makers on various geographic and institutional scales (Supplementary, Table 3). Leaders were the regional branches of national authorities, the County Administrative Board (CAB) Västra Götaland in Sweden and the County Governor (CG) Østfold in Norway. Although the two processes were linked, and coordinated in the final phase of implementation, the establishment of the NPs differ. The Koster process was rather complicated, with a long and highly conflictive history and various projects and initiatives eventually feeding into the national park planning process. It implied more active stakeholder involvement, partially even under local responsibility (Morf et al., 2011). A user-oriented and broader sustainability perspective was fundamental in order to make the idea of a national park locally acceptable (ibid. and Morf, 2006). The planning process in Outer Hvaler was also participatory but structured according to general procedures and routines with a clear leadership by the CG (CGØ, 2007). Presently, Koster has a Management and Maintenance Plan (MP), which has undergone partial evaluation and revision (SEPA, 2009a). As of spring 2016, due to lack of resources, Hvaler NP was still awaiting formal decisions for the adoption of its MP and compensation payments. All the same, the overall management systems for both NPs are in place and the MPs are public, allowing a comparative

analysis of both parks' institutional frameworks.

The aim of this study is to qualitatively explore possible linkages between institutional design and perceived outcomes so far, from the perspective of key stakeholder groups in the two areas. Within the frame of this study, we will not attempt to evaluate the two national parks and their actual impacts. We do believe, however, that the findings of this study can provide valuable input to coming evaluations, implying various complementary methods and sources.

The two NPs can be considered institutional experiments in contemporary marine conservation in a Scandinavian context. They are adjacent, have a partially shared history and ecosystem and feature similar user communities. Yet, there is an interesting difference between the two parks in institutional designs (objectives, responsibilities, degree of regulation), making management outcomes interesting to explore and compare. This study addresses the interplay between the institutional designs governing KSNP and OHNP and sustainability outcomes as perceived by key user groups by asking: How can differences in institutional design in the two parks be linked to differences in sustainability outcomes? What can be learnt for the design of MPAs?

## 2. Theoretical framework and research questions

To fulfil the aim of this study, the study adopts an institutional approach (cf. Peters, 1999), based on the assumption that specific arrangements of rules governing a setting influence both social interactions and collective action outcomes. In order to analyse the interplay between institutions, social interactions and outcomes in the NP settings, the study draws specifically on the Institutional Analysis and Development (IAD) framework (Ostrom et al., 1994; Ostrom, 2005).

According to the IAD framework, the actors affected by the national parks and the social processes within them constitute *action arenas* with specific characteristics assumed to drive and explain management outcomes. These action arenas are, in turn, influenced by three sets of *external factors*: (i) physical and material conditions, (ii) community characteristics and (iii) institutions (McGinnis, 2011; Ostrom, 2005; Ostrom et al., 1994). Thus, in order to understand and explain outcomes, e.g. perceived sustainability, there is a need to delve deeper into these factors. The present study focuses primarily on institutions, generally defined as “rules of the game” (North, 1990) or “prescriptions that humans use to organise all forms of repetitive and structured interactions” (Ostrom, 2005). The IAD framework stipulates that the behaviour of actors in any social situation is influenced and constrained by a complex set of both formal and informal rules (Crawford and Ostrom, 1995; Ostrom, 2005; Peters, 1999). The focus here is to sort out the formal rules governing the two NPs.

The IAD framework further distinguishes seven different *types* of rules, which together define the characteristics of action arenas (see Ostrom, 2005 for an elaboration). These rules are generic and applicable to any action arena, regardless of policy sector and administrative tier (Kiser and Ostrom, 1982):

- *Boundary rules* delimit the action arena's ecological and social boundaries, i.e. regulate resource access and define entry/exit rules.
- *Position rules* define the positions of different users and might imply licensing regulations defining the number and type of resource users in a park, e.g. commercial and leisure fishing.
- *Authority rules* set the conditions for what actions are permitted and prohibited within a park and regulate both timing and technologies (e.g. open/closed seasons, allowed fishing gear, catch size limits etc.).

<sup>1</sup> The latest version of the 17 United Nations' Sustainable Development Goals (SDGs) (<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>) with not the least the SDG 14 *Conserve and sustainably use the oceans, seas and marine resources* and SDG 15 *Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss* include the idea of nature protection in combination with sustainable use. The Ecosystem Approach, which is a central strategy to implement the global Convention on Biodiversity (CDB), has in 1998 been specified in the 12 Malawi Principles (<https://www.cbd.int/ecosystem/>). The Ecosystem Approach emphasises the use of appropriate scientifically based methods and management strategies (e.g. adaptive management) and recognises that humans with their cultural diversity are an integral component of ecosystems. This implies a perspective on “sustainable use in an equitable way” – including those living in protected areas. Such a broader way of thinking about conservation has also been implemented in national conservation legislation (to a varying degree - see analysis in this paper, not the least the national parks' objectives at constitutional level in Table 1).

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