

Svenja Gercken

Public Participation in Norwegian National Park Management

Social perspectives on the participatory approach in the management of Femundsmarka and Gutulia National Parks

Master's thesis in Natural Resources Management

Supervisor: Elizabeth Barron

June 2023



Røa river. Photo: Tom Gustavsen



Norwegian University of
Science and Technology

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Abstract

Public participation reinforces the inclusion of affected stakeholders in natural resource management and is a way to approach complex and large-scale environmental problems from a holistic perspective. Successful involvement of the local community and user interests in protected area management reduces conflicts, improves outcomes for the conservation of biodiversity, and increases public trust in decision-making. There is no universal approach to successful participation. Rather good participatory approaches need to be adapted to individual contexts. Norway works in such a context. In 2009, the Norwegian parliament introduced a reform for the management of national parks and other large conservation areas in order to support local and holistic management with a focus on participation.

This mixed methods study explored social perspectives among involved stakeholders on the management related to public participation in Femundsmarka and Gutulia National Parks. The focus is on public engagement, specifically the Norwegian system's use of advisory committees in park management. Results showed that there are distinct perspectives on how adequate and successful the current approach is. Through the use of the Q method, a quantitative and qualitative method to analyse subjectivity, three perspectives were identified among the study participants: (1) Local political national park management with a good participation approach, (2) Holistic local national park management with improvement of participation, and (3) Expert based local national park management. All 13 participants agreed on the advisory committee being a meeting point which facilitates dialogue, discussion, knowledge exchange and trust building. The study indicated that people who have been active in national park management for a minimum of four years or more experience greater satisfaction compared to people who are new to the system. A companion qualitative analysis identified the advantages and challenges of the participatory approach in Femundsmarka and Gutulia as well as future challenges for Norwegian national park management in general. In addition, the study gave recommendations for management related to public participation. These recommendations were based on opinions of research participants and best practice guidelines for stakeholder involvement in environmental management. Results from this case study apply to the context in which they occur and are therefore not widely generalisable.

Sammendrag

Offentlig medvirkning styrker inkludering av berørte interesser i naturressursforvaltning, og er en måte å tilnærme seg komplekse problemer i større skala fra et helhetlig perspektiv. En vellykket involvering av lokalsamfunn og brukerinteresser i forvaltningen av verneområder reduserer konflikter, gir bedre resultater for bevaring av biologisk mangfold og øker befolkningens tillit i beslutningsprosesser. Det finnes ingen universell fremgangsmåte som forklarer vellykket offentlig medvirkning. Derfor må man tilpasse det til den enkelte kontekst. Norge er et eksempel som kan brukes i en slik kontekst. I 2009, innførte Stortinget en reform for forvaltning av nasjonalparker og andre store verneområder for å støtte lokal og helhetlig forvaltning med fokus på medvirkning.

Denne metodetriangulerte studien undersøkte sosiale perspektiver blant involverte aktører i forvaltningen knyttet til offentlig medvirkning i Femundsmarka og Gutulia nasjonalparker. Fokuset er på offentlig engasjement, spesielt det norske systemet sitt bruk av det rådgivende utvalg i parkforvaltningen. Resultatene viste at det er ulike perspektiver på hvor adekvat og vellykket den nåværende fremgangsmåten er. Gjennom bruk av Q metoden, en kvantitativ og kvalitativ metode for å analysere subjektivitet, ble det identifisert tre perspektiver blant deltagerne i studien. (1) Lokalpolitisk nasjonalparkforvaltning med en god medvirkningstilnærming, (2) Helhetlig lokal nasjonalparkforvaltning med forbedring av medvirkning, og (3) Ekspertbasert lokal nasjonalparkforvaltning. Alle de 13 deltagerne var enige om at det rådgivende utvalget er en møteplass som legger til rette for dialog, diskusjon, kunnskapsutveksling og tillitsbygging. Studien viste at personer som har vært aktive i nasjonalparkforvaltning i minste fire år eller mer, opplever større tilfredshet enn personer som er nye i systemet. I tillegg ble en kvalitativ analyse brukt som identifiserte fordeler og utfordringer for prosesser knyttet til medvirkning i Femundsmarka og Gutulia, samt fremtidige utfordringer for norsk nasjonalparkforvaltning generelt. I tillegg ga studien anbefalinger for forvaltningen knyttet til offentlig medvirkning. Disse anbefalingene var basert på meninger fra forskningsdeltagerne og beste praksis for involvering av interesser i miljøforvaltning. Resultatene fra denne case-studien gjelder kun for den konteksten de oppstår i, og er derfor ikke generaliserbare.

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Table of Contents

Abstract.....	V
Sammendrag	VII
Acknowledgements	IX
Table of Contents	X
List of Tables.....	XIII
List of Figures.....	XIII
List of Abbreviations.....	XIII
Glossary.....	XV
1 Introduction	1
1.1 Research Aim, Objectives and Questions.....	3
1.2 Thesis Outline	5
2 Background.....	6
2.1 Protected Areas	6
2.1.1 A Shift in Protected Area Management.....	8
2.2 Nature Conservation in Norway	9
2.2.1 From Fortress to Community-based Conservation.....	9
2.3 Protected Area Management in Norway.....	12
2.3.1 Management System after the Reform in 2009.....	15
2.3.2 Studies on the New Management System	18
2.3.3 Management of Femundsmarka and Gutulia National Park	21
2.4 Study Area	23
2.4.1 Gutulia National Park	23
2.4.2 Femundsmarka National Park	25
3 Theory.....	27
3.1 Participation in Environmental Management	27
3.1.1 Benefits and Risks of Public Participation	28
3.1.2 Typologies of Participation	29
3.1.3 Best Practice of Public Participation in Environmental Management	34
3.1.4 Identification and Selection of Participants in Management.....	38
3.1.5 Methods of Participation in Management	39
3.2 Governance of Protected Areas	40
3.2.1 Governance by Government.....	41

3.2.2	Shared Governance or Co-management	41
3.2.3	Governance by Private Actors	44
3.2.4	Governance by Indigenous People or Local Communities	44
4	Research Methods.....	45
4.1	Background Survey.....	47
4.2	Theory of the Q method	48
4.3	Q method in the Context of this Study.....	55
4.4	Semi-structured Interviews	61
4.4.1	Qualitative Analysis	62
4.5	Ethics and Methodological Reflections	63
5	Findings	66
5.1	Background Survey Findings.....	66
5.1.1	Demographic and Educational Background.....	66
5.1.2	Involvement in the Management of the National Parks	67
5.2	Q sort Findings.....	68
5.2.1	Consensus Opinions	69
5.2.2	Factor I: Local Political National Park Management with a Good Public Participation	70
5.2.3	Factor II: Holistic Local National Park Management with Improvement of Public Participation.....	74
5.2.4	Factor III: Expert Based Local National Park Management	77
5.3	Qualitative Analysis Findings.....	79
5.3.1	Public Participation in Femundsmarka and Gutulia National Parks	79
5.3.1.1	Workshops as a Method for Participation.....	80
5.3.1.2	A Special Role of the National Park Managers	80
5.3.1.3	Ideas for Improvement of the Participation Approach	81
5.3.2	Norwegian National Park Management	83
5.3.2.1	Politically Driven Local Management.....	83
5.3.2.2	Ideas for Improvement in Norwegian National Park Management	84
5.3.2.3	Future Challenges for Norwegian National Park Management.....	84
5.4	Summary of Findings.....	85
6	Discussion.....	88
6.1	Interpretation and Discussion of Findings	88
6.1.1	Actor Group Distribution in the Perspectives.....	89

6.1.2	Three Perspectives on Public Participation	91
6.1.3	The Advisory Committee as a Technique for Public Participation	92
6.1.4	The Approach in Relation to Best Practice Guidelines	93
6.1.5	Participation in Connection to Local Governance.....	99
6.2	Discussion of Chosen Methods.....	100
6.2.1	Discussion of the Q analysis.....	101
6.3	Limitations of the Study.....	102
7	Conclusion	104
8.	Recommendations for Public Participation in Femundsmarka and Gutulia.....	105
9.	References	107
10.	Appendices	116

List of Tables

Table 1 - List of advisory committee members.....	22
Table 2 - Pretty's typology of participation.....	32
Table 3 - Zachrisson's typology of public participation in relation to co-management.....	33
Table 4 - Evaluation of selected methods of public participation.....	38
Table 5: Rule of thumb for the number of Q participants.....	51
Table 6 - Unrotated factor matrix.....	58
Table 7 - Rotated and flagged factor loading matrix	59
Table 8 - Factor score correlations.....	68
Table 9 - Distribution of people per actor group across the factor groups.....	89
Table 10 - Time people have worked in national park management per factor group	90

List of Figures

Figure 1 - Increase of protected area establishment and the changing focus.....	8
Figure 2 - Governance trials in Norwegian protected areas 2000-2008 and 2017-2019	15
Figure 3 - Norwegian protected area governance regime before and after the reform in 2009/17	
Figure 4 - Study area Femundsmarka and Gutulia National Parks	24
Figure 5 - Arnstein's typology of participation	30
Figure 6 - Main stakeholders in co-management.....	42
Figure 7 - Images of co-management.....	43
Figure 8 - Triangle of governance.....	43
Figure 9 - Research design for this study.....	46
Figure 10 - Steps in Q method.	49
Figure 11 - Response chart for the Q sort	57
Figure 12 - Judgmental rotations for the flagging of state actor 1	60
Figure 13 - Represented interests in the advisory committee	68
Figure 14 - Composite Q sort for factor I.....	73
Figure 15 - Composite Q sort for factor II	76
Figure 16 - Composite Q sort for factor III.....	78

List of Abbreviations

DNT	The Norwegian Trekking Association (<i>Den Norske Turistforening</i>)
IUCN	International Union for Conservation of Nature
MoCE	Ministry of Climate and Environment (<i>Klima- og miljødepartementet</i>)
NEA	Norwegian Environmental Agency (<i>Miljødirektoratet</i>)
NDA	Nature Diversity Act (<i>naturmangfoldloven</i>)
NSD	Norwegian Centre for Research Data (<i>Norsk senter for forskningsdata</i>)
PCA	Principal Component Analysis
UNECE	United Nations Economic Commission for Europe

Glossary

Factor array	This is a list of all Q statements. Numbers indicate the ranking of all statements for a specific factor group.
Factor group	In this study, factor groups define a group of participants that load high on the same factor. Together, their Q sorts define the perspective of this group.
Factor loading	This correlation coefficient explains the correlation between an individual Q sort and a factor. Q sorts have factor loadings for each factor. They can range from +1.00 to -1.00 where positive values explain agreement and negatives values disagreement (Webler et al., 2009).
Q analysis	The Q method uses a type of factor analysis is used. This analysis groups people with similar Q sorts (Donner, 2001). It is similar to cluster analysis but based on correlations between means and standard deviations instead of the distance between variables (McGarigal et al., 2000).
Q sample	All 31 Q statements together. In this study, statements are in text form and originate from the background concourse (Webler et al., 2009).
Q statements	The statements are short sentences which represent the background concourse (Webler et al., 2009). In this study, they exist in two languages (Norwegian and English).
Q sort	This is the final product of data collection for the Q method. A research participant ranked all Q statements in the response chart, a normal distribution (Webler et al., 2009).
Social perspective	Social perspectives show a pattern of beliefs about a specific topic (Stephenson, 1965). Social perspectives differ from individual perspectives which describe the view of a specific person. Social perspectives, on the other hand, show commonalities among individual perspectives. They are a narrative and include core and secondary beliefs (Webler et al., 2009).

1 Introduction

Many environmental problems are complex, uncertain, large-scale, irreversible and affect many different actors. To address these challenges, environmental decision-making must be flexible to adapt to changing circumstances and include diverse values and viewpoints. A way to include all perspectives is to integrate public participation into decision-making processes (Reed, 2008; van den Hove, 2000). The Aarhus Convention (1998) defined public participation in decision-making as a democratic right (UNECE, 1998). Moreover, transparent processes can increase public trust in the outcomes and stimulate the formation of an active civil society (Richards et al., 2007).

In the last decades, public participation has been a growing factor in environmental management, natural resource management and decision-making. Examples of this are environmental governance, ecosystem management or forest management (Dovers et al., 2015; Luyet et al., 2012; Reed, 2008; Rowe & Frewer, 2000; Webler et al., 2001). The increasing amount of literature on participation influences how participation is carried out in policy-making (Richards et al., 2007). In this context, participation is defined as *'a process through which stakeholders influence and share control over development initiatives and the decision and resources which affect them'* (World Bank, 1996).

Several international agreements and legislation on the global level are top-down drivers for participation. The Brundtland Report for example includes public participation in the definition of sustainable development. The Aarhus Convention (1998) regulates public participation in environmental decision-making by law. Also, several European environmental programmes and laws, such as the European Landscape Convention or the European Water Framework Directive, identify participation as an important factor (Luyet et al., 2012; Richards et al., 2007). Additionally, citizen movements show a bottom-up demand for participation. Actions such as public protests, petitions or demonstrations show the emergence (Richards et al., 2007). By implementing participation in decision-making processes, it is ensured public opinions can be voiced directly in the process as well as through democratically elected bodies (Jones, 2007). Furthermore, the cooperation between different stakeholders in participation is a way to guarantee holistic thinking and management. This is needed since the biophysical world and human activities are highly intertwined in our world and make management a complex task (van den Hove, 2000).

Participation becomes a substantial part of protected area management, and its recognition is increasing. By involving local communities into park management and wildlife protection,

the costs of management can be reduced (Pimbert & Pretty, 1995). Moreover, participation can reduce conflicts between local communities and especially strict conservation management. The community's perception of the protected area is key. While a negative attitude stimulates conflicts and misunderstandings, a positive attitude reduces conflicts and supports pro-conservation behaviour which can lead to a more effective national park management. Trust between park management and the community is an important factor to solve conflicts (Yang et al., 2021). Several scholars and even the International Union for Conservation of Nature (IUCN) state that national parks, one of the best understood categories of protected areas, can protect biodiversity more effectively if they involve neighbours of the area and local communities in the management (Getzner et al., 2014; Watson et al., 2014; Worboys & Trzyna, 2015). Participation is especially important for successful conservation of biodiversity (Getzner et al., 2014; Watson et al., 2014). Nevertheless, the outcome of participation highly depends on how the involvement of the public is organised. Best practice strategies for participation cannot guarantee successful participation in every case. Every case must be looked at individually as no two projects are the same and no universal solution exists. They use different methods which have their strengths and weaknesses. Therefore, every participation process has to be adjusted to specific circumstances (Richards et al., 2007).

This study explores the participation process in the management of a protected area conglomerate in southern Scandinavia. The Norwegian national parks Femundsmarka and Gutulia form, together with protected areas on the Swedish side of the border, one of the largest wilderness areas in South Scandinavia. This area is an important habitat for rare and endangered species and is therefore protected (Norges nasjonalparker, n.d.).

In the early days of park creation in the country, Norway established protected areas mainly on state-owned land in ecologically and economically marginalised regions with little human activity, such as mountainous areas (Kaltenborn et al., 1999). Today, around 70 % of Norwegian national parks are located in mountainous areas (Singsaas, 2021). These locations are beneficial as these areas have less human activity and economic interest. At the same time, the mountain vegetation and the habitat are an important source for wild reindeer, predators, and birds of prey. In contrast to that, four national parks (Femundsmarka, Gutulia, Ormtjernkampen and Gressåmoen) were primarily established for the protection of native forests (Ryvarden, 2021). Over the years, the number of protected areas started to increase, areas expanded and started to touch privately owned land. Due to this increase, the number of conflicts and management issues increased. Most of the conflicts are associated with non-market values or functional aspects of rights and economy (Kaltenborn et al., 1999). As soon

as in the 1980s, more power was demanded for local municipalities in environmental policies. The central government decided this indeed had its benefits and started to delegate more power to municipalities (Naustdalslid & Hovik, 1994). Ultimately, in 2009 the Norwegian parliament launched a reform for local governance of large conservation areas. The goal was to introduce local and holistic management. The reform prioritises knowledge-based management, which integrates scientific and local knowledge (Hovik & Hongslo, 2017). Moreover, it focuses on local participation (Lundberg, 2017). Intermunicipal management boards and positions for national park manager were introduced to realise specific management tasks. Different boards were established to secure broad participation and to give advice (Fauchald & Gulbrandsen, 2012). Today, the organisation of protected areas is decentralised and fragmented (Getzner et al., 2014).

Existing research on participation in Norwegian national park management shows that the introduced intermunicipal management boards do not create local participation but support national conservation policy (Hovik & Hongslo, 2017). Contrary, advisory committees facilitate public participation. Access to this committee is limited and thereby participation is limited to user and conservation interests. Nonetheless, other organisational bodies value the participation of local and public stakeholders in this committee. The participation process is criticised by the participants themselves and they request improvements in the approach (Lundberg et al., 2021).

Considering Richards et al. (2007) every context requires different methods since aims, objectives and available resources differ. Participation can increase public trust in decision-making and improve the implementation of new decisions (Richards et al., 2007). The current management regime includes public participation, but it is important to include all perspectives to use resources efficiently. Therefore, this study looks in detail at the participation process in Femundsmarka and Gutulia National Parks in Norway.

1.1 Research Aim, Objectives and Questions

The aim of this study is to explore social perspectives on the adequacy of the existing participation approach in Norwegian national parks. Social perspectives are a narrative and show systems and patterns of beliefs. They summarise commonalities of individual perspectives (Stephenson, 1965; Webler et al., 2009). Furthermore, this study tries to be a voice specifically for the perspective of non-state actors, those who do not take actively decisions.

To accomplish this, the management related to public participation in Femundsmarka and Gutulia National Parks is used as a case study. A mix of quantitative and qualitative methods is used to better understand the viewpoints of different actors and stakeholders on the current public participation process. In this study, stakeholders are defined, similar to Haddaway et al. (2017), as people or organisations who affect or might be affected by the management. An intermunicipal management board is known to be a form of participation but is not in the focus of this study. Instead, the focus is on participation in the form of the advisory committee which includes non-state stakeholders.

All research participants were chosen based on their active involvement in the participatory process for Femundsmarka and Gutulia National Parks. This includes national park managers, members of the national park board, members of the advisory committee, and members of the administrative contact committee. For reasons of confidentiality, the research participants were grouped into state and non-state actors. National park managers, members of the national park board and the administrative contact committee belong to the group of state actors. Members of the advisory committee represented the group of non-state actors.

To achieve the research aim, the research objectives were:

- Reviewing options for public participation in Norwegian national park management.
- Reviewing the current situation of public participation in Femundsmarka and Gutulia National Parks.
- Exploring diverse perspectives of people involved in the current management.
- Exploring differences in the perspectives.

These objectives led to the following research questions:

What are the different social perspectives of involved stakeholders on public participation in the management of Femundsmarka and Gutulia National Park?

A second research question set the findings in relation to existing literature on participation and best practice guidelines for participation.

How does the participatory approach and the findings relate to theory on participation and best practice strategies in stakeholder participation for environmental management?¹

¹ In this context the term literature includes typologies of participation by Arnstein, Pretty, Zachrisson and Rowe and Frewer.

1.2 Thesis Outline

The following thesis is structured into seven chapters. The purpose of this first chapter was to introduce the main topic of participation in environmental management. The topic was narrowed down to its geographical area. Furthermore, the research aim, objectives and two research questions were introduced.

The second chapter provides knowledge that is needed to put the explored social perspectives but also the research itself in a context. First, background information about protected area management in an international context is presented. Before Norwegian protected area management is introduced, a historical retrospect on Norwegian nature conservation is provided. Lastly, this chapter introduces the study area of Femundsmarka and Gutulia National Parks from a geographical perspective.

The third chapter presents typologies on participation and best practice guidelines for stakeholder involvement in environmental management. It also introduces how protected areas can be governed. This chapter is relevant to discuss the explored social perspectives and to examine how the approach is related to theory.

The fourth chapter addresses the mixed methods approach used to explore social perspectives. First, the main method, the Q method, and how it was applied to this study is presented. Furthermore, the chapter addresses the background survey and semi-structured interviews which were conducted in addition to the Q method. The chapter also includes ethical and methodological reflections.

The fifth chapter presents findings from the three methods. Findings from the Q method show already the explored social perspectives on the participation process.

The sixth chapter discusses first the perspectives and then the approach in Femundsmarka and Gutulia National Parks based on the findings with theory on participation and best practice guidelines. Furthermore, the chapter brings in the connection between participation and local governance.

The last chapter summarises the results from the discussion and presents perspectives on the management related to public engagement in Femundsmarka and Gutulia National Parks. Lastly, recommendations which are based on participants' perspectives are presented.

Direct quotes in this thesis are written in italics. Given that the thesis uses Norwegian national parks as a study area, some terms are put in parentheses and italics to clarify the corresponding term in Norwegian.

2 Background

This chapter presents background information on protected area management in general and Norway in specific. It also introduces definitions relevant for the study and provides the context for the research questions. The chapter starts on a large scale and narrows the topic down to the specific case study and study area. With the introduction of the topics and the study area, this chapter intends to make the topic understandable for the reader and to place it in a larger context. Furthermore, the chapter works towards the two first research objectives by reviewing options for public participation in Norwegian national park managements and giving an insight to the current participation process in Femundsmarka and Gutulia National Parks.

The first section introduces protected areas, why they are important and how the IUCN categorises them. This facilitates the introduction of the topic and puts the importance of protected areas in a global perspective. A second section presents the paradigm shift from fortress to community-based conservation in nature protection. This historical retrospect is essential for this study because it leads to the specific topic of the study and shows why public engagement in protected area management became important over the years. The third section introduces finally the country the study area is located in. By explaining the categorisation of protected areas in Norway the reader is brought closer to the topic. Before the introduction of a new management regime in 2009, the government tested different approaches in a trial. In order to understand the current circumstances, results of the trial and reasons for the change are explained. It follows a description of the current management structure. It is essential to understand the management structure since the advisory committee, the subject of this study, is part of the management regime. Several studies examined the new management regime (see for example Fauchald & Gulbrandsen, 2012; Getzner et al., 2014; Lundberg et al., 2021). Some of them are relevant to discuss results from this study and are therefore presented. Next, the specific management structure of the two national parks Femundsmarka and Gutulia is explained. This gives an insight into local management practices. The last section of this chapter presents the study area from a geographical perspective.

2.1 Protected Areas

The IUCN guideline for the management of protected areas defines protected areas as:

‘A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of

nature with associated ecosystem services and cultural values' (Dudley, 2008, p. 8).

The main objective of protected areas is the conservation of biodiversity. Through this, functioning natural ecosystems and ecological processes can be maintained. Furthermore, protected areas are a refuge for many species and, some would argue, today's only option to stop the extinction of threatened and endemic species, as population levels can be more easily conserved inside protected areas (Dudley, 2008; Watson et al., 2014). Protected areas are the best form for in-situ conservation (Chape et al., 2005). The habitat loss in well-managed areas is remarkably lower than in surrounding areas (Watson et al., 2014).

In 1994, the IUCN developed six categories for protected areas (Lockwood, 2006). The categorisation is a management-objective-based system, which means the management approaches (e.g., objectives, planning and regulations) between the categories differ from one another (Watson et al., 2014). Conservation is executed in different forms from highly protected areas without human interaction (Category I: Strict nature reserves and wilderness areas) to less restrictive areas with visitor access (e.g., category V: protected landscapes) (Dudley, 2008). Even though the categories differ in their regulations and objectives, all of them contribute to the conservation of biodiversity. Many countries adopted this system and used it as groundwork for their national planning and management of protected areas. Depending on their socio-political past, countries developed different legislative regimes. Therefore, categorisations and definitions are not easily comparable across countries. They vary in terminology, accepted amount of human activity inside the areas and legal mechanisms of protection. According to this, one term can have different meanings in different countries (Chape et al., 2005; Lockwood, 2006).

For this study, the IUCN category II, national park, is relevant. National parks are *'large natural or near natural areas'* (Dudley, 2008, p. 16). They protect large-scale ecological processes, species, and ecosystem characteristics. The areas are typically large, contain functioning ecosystems and enable the continuation of evolution for several species. They are key stepping-stones and corridors which connect conservation areas and allow species migration between them. The main objective of national parks is the conservation of biodiversity and ecosystem services. Additionally, they admit visitor information and education, recreation, and scientific research. Recreation and tourism inside the park can support economic development on national but especially on local level (Dudley, 2008; Getzner et al., 2014; Lockwood, 2006).

2.1.1 A Shift in Protected Area Management

In the 19th century, protected areas were introduced worldwide in the form of the first national parks. Since then, management regimes have been mainly expert-oriented and focused on the conservation of pristine nature. Nature often represents national values and attributes (Daugstad, 2000). Many European countries and other parts of the world copied this concept. At that time, protected areas represented a special type of environment for the urban society such as aesthetic landscapes and wilderness. Efforts for conservation arose from urban elites and scientists. The main goal of nature conservation was to satisfy social needs and interests (Kaltenborn et al., 1999).

The number and area covered by terrestrial protected areas increased constantly in the last century (see figure 1). This is, among others, caused by an increasing concern of environmental degradation. While at the beginning of the 20th century, the conservation of iconic landscapes was the main purpose for protection, today's objectives are more diverse. The main goal is still nature conservation, but the areas are also important for the livelihood of local communities, the national economy related to tourism, and climate change mitigation or adaptation (Watson et al., 2014).

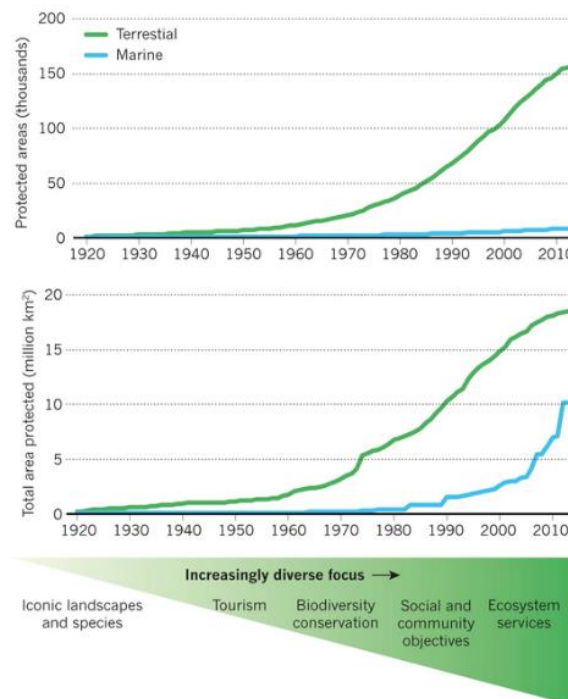


Figure 1 - Increase of protected area establishment and the changing focus (from Watson et al., 2014, p. 68).

With increasing human encroachment, protected area management has gone through a shift from rational and comprehensive to realistic planning. During the 20th century, management was mainly centralised and based on the state. Top-down governance without local participation

characterised the approach. Due to the rising awareness of local and indigenous communities, the importance of human rights became more relevant. Democratisation and other drivers led to a change in governance systems (Kaltenborn et al., 1999; Lockwood & Kothari, 2006). Caused by an increasing number of protected areas, the distance to human settlement got smaller and the rights of local communities gained more attention in management. Hence, today's management often considers the engagement of local communities (Watson et al., 2014). The realistic planning approach is co-evolutionary and includes participatory approaches. Furthermore, the connection of the park to its surrounding area beyond the borders is understood as essential. It is expected that management without the consideration of social justice and participation is not sustainable in the long term. A realistic view of objectives and measures is designed to adapt to changes (Getzner et al., 2014). Three key perspectives underpin the paradigm. In first place, it acknowledges that protected areas are connected, and nature does not respect anthropogenic boundaries. Second, central governance is not effective enough and lacks local support. Finally, central governance has disadvantages, especially for indigenous and local communities (Lockwood & Kothari, 2006).

2.2 Nature Conservation in Norway

Norway uses a dual system of environmental conservation which is divided into nature protection (*naturvern*) and area planning (*arealplanlegging*). Legal frameworks for these two systems are the Nature Diversity Act (*naturmangfoldloven*) (NDA) from 2009 and the Planning- and Building Act (*plan- og bygningsloven*) from 2008 (Singsaas, 2021). For this study only the NDA is relevant since it includes the management of protected areas.

The first law for nature conservation in Norway was published in 1910. It was replaced in 1954, 1970 and at last in 2009. Most protected areas were established under the law from 1970. Protected areas, that are established today, are set up with the NDA from 2009 (Miljødirektoratet, 2019). The Norwegian state built their environmental law (the NDA from 2009) up on international regimes for protected areas such as the IUCN guidelines for protected areas (Fauchald & Gulbrandsen, 2012).

2.2.1 From Fortress to Community-based Conservation

The Norwegian paradigm in nature conservation shifted over the years. In 1999, Kaltenborn et al. referenced Williams et al. (1992) paper to conclude that Norwegian nature policy was characterised by an utilitarian view of nature. Nevertheless, Kaltenborn recognised already a

need for more public involvement in environmental policy to support the understanding of each other's positions. Some years later Daugstad (2011) explained a shifting trend towards democratisation in public management. This shift was mainly driven by communities who expressed their interest in how nature around them was managed. The shift towards more participation in nature management did not happen only in Norwegian nature management. It was a worldwide trend. Two discourses characterised this shift and are introduced below.

The older approach is called the fortress approach, or the fences-and-fines approach. The protection of the areas resembles the protection of a fortress, hence the name. In the late 19th century, it was a common discourse in Europe and America. The approach arose from the establishment of Yellowstone National Park in 1872. Its founding focused mainly on the protection of nature and wilderness without respecting local communities. Indigenous communities were displaced in order to protect the wilderness for urban society, their recreation and spiritual refreshment. Many countries worldwide copied this practice for the establishment of protected areas (Benjaminsen & Svarstad, 2021). Nature management focused specifically on limiting trespassing for the protection of wildlife and ecosystems (Daugstad, 2011). This strict form of management was justified at that time as a response to deforestation, habitat fragmentation and other factors threatening specific areas (Kumar, 2006). Experts, who were often part of public agencies on the national level or international non-governmental organisations, conducted conservation management. Most managers had a background in biology, conservation biology or natural resource management. Hence, the knowledge was based on ecological science (Benjaminsen & Svarstad, 2021). While scientific data was considered, socio-cultural values were not. Possible conflicts with society were understood as a lack of public information (Kaltenborn et al., 1999). In the late 1980s community-based conservation overtook the fortress approach (Benjaminsen & Svarstad, 2021).

The community approach is also called win-win discourse on protected areas or community-based conservation. It focuses on biodiversity conservation and the inclusion of public participation in conservation management. The discourse includes two main keys. Firstly, participation of the community around the protected area is needed to achieve conservation. Secondly, conservation can have benefits for local communities and protected areas can be seen as cultural landscapes. Participation and the integration of local interests are means to achieve conservation (Benjaminsen & Svarstad, 2021). Landscapes are not only pristine nature but cultural landscapes, which are influenced by the presence of humans living in it (Daugstad, 2011). With the introduction of this concept, nature conservation management moved towards a broader ecosystem understanding of the environment. This includes humans' connection to

nature such as emotional, symbolic, cultural, and spiritual relationships. A combination of expert-generated data with local and more experienced-based knowledge was suggested (Kaltenborn et al., 1999). Berkes (2007) describes three conceptual shifts in this approach – the shift towards a system view, the inclusion of humans in ecosystems, and the shift towards participatory approaches to ecosystem management. Community-based conservation aims to benefit both people and nature simultaneously (Esmail et al., 2023). The inclusion of local participation reduces conflicts in protected area management. The community approach supports the assumption that local livelihood might be dependent on resources inside protected areas (Daugstad, 2011). Furthermore, this discourse is an important variable for sustainable development and the combination of economic growth and biodiversity conservation (Benjaminsen & Svarstad, 2021).

The community approach is lauded as a holistic approach to conservation management, but it is also criticised. Some argue that this approach emphasises too much on the interests and rights of local communities. Furthermore, it weakens the quality of conservation since locals may have a more utilitarian, anthropocentric and less eco-centric focus on resource management than conservation experts (Daugstad, 2011). Moreover, Esmail et al. (2023) argue that legislation and the strong focus on economic benefits would not respect the cultural connection people might have to a place. Additionally, they claim that local communities are still not empowered, and conservation management creates economic competition. Nevertheless, they understand community-based conservation as a strong and good approach to deal with global crises since it views the economy, society, and environment as connected instead of separate spheres. One of the strongest arguments speaking in favour of community-based conservation is its understanding of the connectivity of protected areas to their surroundings. Therefore, conservation cannot happen isolated from its surrounded environment (Kumar, 2006). Ecosystems are affected by nearby production, livelihoods, and communities. Hence, it is important to make room for the development of communities in order to balance community activities and ecological conservation (Yang et al., 2021).

Kumar (2006) sees the solution in a combination of multiple approaches. Coalitions between stakeholders could take place on several administrative levels instead of only the local level. He understands effective participation as the key to make community-based conservation successful. More than a decade later, Benjaminsen and Svarstad (2021) think that an increasing human population around protected areas could lead to a reinforcement of the fortress approach.

2.3 Protected Area Management in Norway

In Norway the establishment of national parks started later than in the neighbouring countries. Sweden established its first national park in 1909 and Finland in 1922 (Kaltenborn et al., 1999). Around half a century later, in 1962, Norway founded the first national park, Rondane national park. Most of the Norwegian national parks were established between the 1960s and 1970s (Ryvarden, 2021). From 1962 to 1990, in total 21 national parks (today 47) were established (Kaltenborn et al., 1999). Categories for protected areas in Norway, according to the NDA, are:

- National park (*nasjonalpark*): big areas of nature with distinctive or representative ecosystems. The objective is to preserve unique interactions in nature and to avoid the extinction of plants and animals (Miljødirektoratet, 2019). National parks follow a dual goal and promote environmental conservation and human recreation. Nevertheless, human activities and development are limited (Singsaas, 2021).
- Protected landscape area (*landskapsvernområde*): a natural or cultural landscape with a remarkable ecological or cultural value. This category is often used to actively conserve cultural landscapes. Certain animal or plant species may be protected.
- Nature reserve (*naturreservat*): This is the strictest category of Norwegian protected areas. Endangered, rare or vulnerable nature, which represents a specific nature type, exists in this area. Nature has great importance for biodiversity, is a special geological deposit or has an important value for natural sciences.
- Marine protection area (*marin verneområde*): Protection of marine values or aspects, which are ecologically relevant for on-land species.
- Other protection (*annet vern*): Areas to protect habitats for specific species. They are functional areas for specific species and called biotope protection areas (*biotopvernområder*). Some examples are growing-up areas (*oppvekstområder*), grazing areas (*beiteområder*), mating areas (*paringsområder*) and breeding grounds (*yngleområder*) (Miljødirektoratet, 2019).

All these categories aim to conserve the diversity of habitats and landscape types, species and genetics, threatened environments with relevance for important species, areas for ‘low-impact outdoor recreation’, cultural and historical landscapes, connectivity of ecosystems and reference areas for monitoring (NDA, 2009, §33). The categorisation is influenced by the international IUCN categorisation of protected areas. According to Lundberg (2017), nature reserves correspond to IUCN category Ia, national parks to IUCN category II, and protected landscape areas to IUCN category V.

In 2020, Norway counted 3.000 conservation areas and 47 national parks (Singsaas, 2021). Forty of the national parks are on the mainland while seven are located on the Norwegian archipelago in the Arctic Ocean – Svalbard (Miljødirektoratet, 2021b). In addition to national parks, as of March 2023, Norway counted 2551 nature reserves, 196 protected landscapes, and 459 other protected areas on the mainland (Statistisk sentralbyrå, 2023).

The shift towards more democratisation and participation in nature conservation happened in Norway as well as on an international level (see 2.2.1). Already in the 1980s, the government has tried to strengthen the involvement of local actors in the management of protected areas (Jansen, 1991). Starting in 1998, municipalities started to take over the management responsibility for smaller areas (Fauchald & Gulbrandsen, 2012). Slowly, Norway moved towards a new management approach for large conservation areas. The main reason to introduce local participation in the management process was to avoid conflicts and to include the many existing opinions on how natural resources should be managed (Direktoratet for naturforvaltning, 2008b). In the past two decades, two governance trials were undertaken, one before and one after the management reform in 2009.

To step away from the traditional top-down management system, the Norwegian government tested alternative collaborative governance arrangements in a management trial from 2000 to 2008. Instructions to do so came already in 1996 from the Norwegian Parliament. In four - at that time recently established - protected areas different power-sharing arrangements were implemented (see figure 2). The approaches differed in the degree of local stakeholder involvement. The main idea of the trial was to test how power could be moved down to municipalities (Daugstad, 2011; Lundberg, 2017). In Dovrefjell-Sunndalsfjella an intermunicipal board hold the management responsibility (Direktoratet for naturforvaltning, 2008a). In Blåfjella-Skjækerfjella affected municipalities, the county governor, and the reindeer administration shared the management responsibility (Falleth et al., 2008). In Forollhogna as well as in Setesdal Vesthei-Ryfylkeheiane, the municipalities themselves were allowed to hold management responsibilities (Falleth & Hovik, 2006; Skjeggedal, 2006). Open meetings for the local population in Dovrefjell-Sunndalsfjella and reference groups in Setesdal Vesthei-Ryfylkeheiane were provided, but not used a lot. In general, participation was mainly limited to elected people (Direktoratet for naturforvaltning, 2008b). Falleth and Hovik (2008) published experiences from this trial in a report which concluded the following aspects. Municipalities were engaged as managers and thereby they fulfilled conservation regulations. The trial was a successful experiment, where local politicians participated to a large extent. Local management boards favoured local user interests. Nevertheless, none of the four governance arrangements

was able to increase the actual local support for conservation policies. In all four cases, municipalities had only limited coordination abilities. They did not hold sufficient power to impose sanctions when regulations were not respected, local administrations lacked skilled workers with natural science backgrounds, dispensation cases increased, options for participation of local stakeholders and governmental agencies were missing and arenas for conflict resolution were insufficient. However, the first trial led to a reform in 2009 (described in chapter 2.3.1).

A subsequent government declaration (*Regjeringserklæring*) in 2013 laid the foundation for another trial. This declaration stated: '*Local participation is important in the management of natural resources and the government wants to experiment with landowner-led management of protected areas*' (Miljødirektoratet, 2021a, p. 4). In 2017, the Ministry of Climate and Environment (*Klima- og Miljødepartementet*) (MoCE) started another trial in three intermunicipal management boards. The two years trial, from 2017 to 2019, focused on a co-management approach where local stakeholders in addition to elected politicians became part of the management board. Local stakeholders were landowners, or representatives from environmental or Sámi organisations. The experiment took place in Jomfruland National Park, Raet National Park and in the protected landscape area Trollheimen (see figure 2). In the two national parks Jomfruland and Raet, landowners were part of the intermunicipal management board. The board for Trollheimen, in contrary, included local stakeholders in the management activities of the board. The experiment shows that Norway's protected area management is moving further away from the traditional top-down system towards a co-management system. The participation of affected stakeholders and collaborative governance approaches gains in importance (Lundberg, 2017).

Protected areas with collaborative governance experiments

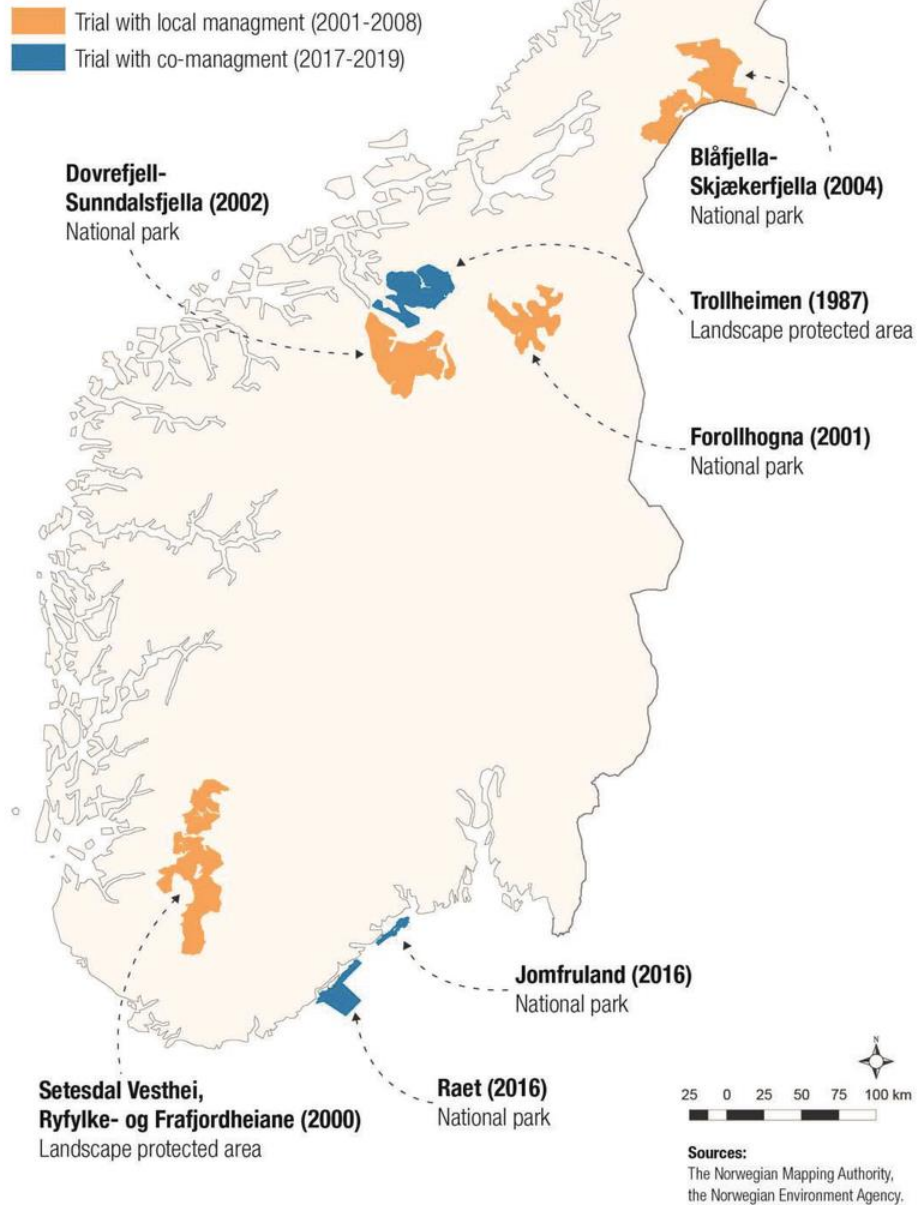


Figure 2 - Governance trials in Norwegian protected areas 2000-2008 and 2017-2019 (from Lundberg, 2017, p. 35).

2.3.1 Management System after the Reform in 2009

In Norway, national parks and other protected areas are state governed. The responsibility lies with the MoCE while county governors (*Statsforvalteren*) are the executive body for several areas at the same time (Singsaas, 2021).

In 2006, a governmental revision of the state of biodiversity and the management indicated a worsening trend of threatened areas compared to 1995. Following this, the government prioritised the establishment of new areas over the maintenance of already existing areas. The latter they pushed to the future. Additionally, the revision in 2006, showed that 30 % of the protected areas were threatened (in 1995: 18 %). Moreover, 12.5 % of the Norwegian mainland, which was protected by then, was not representative of Norwegian nature. A large part was not productive and showed just a small number of species. Management plans were criticised due to insufficient revision and poor implementation of measures. It was certain that the management of protected areas needed to change (Miljøverndepartementet, 2006). In addition to the worsening state of biodiversity in protected areas, conflicts between the central government and local actors about conservation management arose and were an additional motivation to renew the management system (Falleth & Hovik, 2009).

Three years later, in 2009, the former minister of climate and environment, Erik Solheim, sent a letter to all municipalities located close to protected areas. This letter informed them about the decision of the government that national parks and large conservation areas should be managed locally. The reasons for this was that protection does not only has to be in line with the law (NDA) but also achieve national and international objectives to stop biodiversity loss (Solheim, 2009). With this change, the responsibility for daily management moved from the county governor to local intermunicipal conservation boards (Hongslo et al., 2016). The MoCE is the supreme political authority, while the Norwegian Environmental Agency (*Miljødirektoratet*) (NEA) represents the professional perspective on the national level (Engen et al., 2019). The established conservation boards (*nasjonalpark- og verneområdestyret*) added another management level to the system (Lundberg, 2017) (see figure 3) and moved management closer to community-based conservation. Today, as of June 2023, 48 intermunicipal management boards for national parks and other large protected areas exist (Nasjonalpark- og verneområdestyrer, n.d.). The main pillars for more participation in the new reform are the strengthening of local participation, an increase of awareness about management and a better local base of management in affected municipalities (Lundberg et al., 2021).

To secure management across administrative borders, elected politicians from all affected municipalities, counties and if relevant representatives from the Sámi parliament (*Sametinget*) are part of the conservation board (Solheim, 2009). The board holds the executing power for decision-making. However, the power is limited and includes for example the development and revision of management plans, which afterwards need to be approved by the NEA (Hongslo et al., 2016). Furthermore, the board decides on specific applications (e.g., dispensation cases).

Basic management activities such as management agreements with private actors and informing landowners, users and organisations are part of their task as long as they are in line with the approved management plan. Even though authority is delegated to the conservation board, their work is controlled. Decisions can be appealed by the county governor. In addition, central authorities (the MoCE) can take away the board's decision-making power (Fauchald & Gulbrandsen, 2012; Solheim, 2009). Primarily the board is accountable to the state (the MoCE), but at the same time, politicians are indirectly accountable to the local community who voted for them (Hongslo et al., 2016).

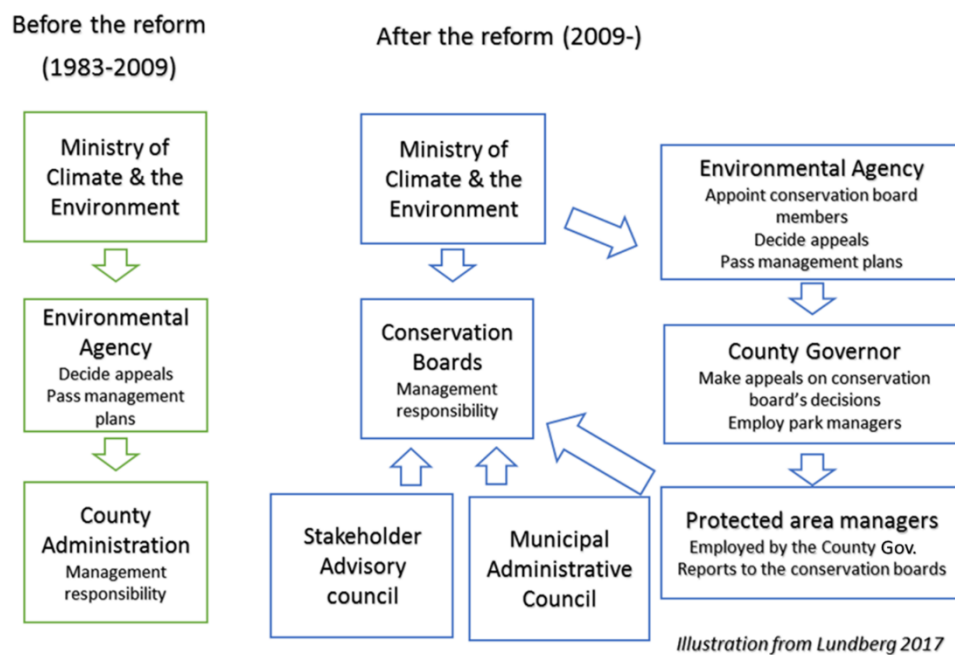


Figure 3 - Norwegian protected area governance regime before and after the reform in 2009 (from Engen et al., 2019, p. 4).

Protected area managers are secretaries of the conservation board and organise for example, board meetings. They are the main people responsible for the daily management. Usually, they are management experts for nature conservation and prioritise long-term conservation objectives over local community interests. Although the managers are employed by the county governor, they are subordinate to the board. The board decides where the managers have their place of work. In most cases, offices are located close to the protected area of interest and not with the county governor. The intention is to decentralise the manager's location (Fauchald & Gulbrandsen, 2012).

In addition to the board and the managers, an advisory committee (*faglig rådgivende utvalg*) (called stakeholder advisory council in figure 3) of local stakeholders represents local knowledge and user interests. Normally, landowners, resource users, the tourism business,

farmers, reindeer herders and other affected actors are chosen by the board to join this council. The conservation boards are obliged to establish this committee and define the tasks (Fauchald & Gulbrandsen, 2012; Hongslo et al., 2016; Hovik & Hongslo, 2017; Solheim, 2009). Some conservation boards have a municipal administrative contact committee (*administrativt kontaktutvalg*) consisting of representatives from the affected administrative authorities (municipal and county level). Their participation secures the integration of protected areas into the local management (Nasjonalparkstyret, n.d.).

Most of the national parks have a visitor centre which is funded by national authorities. Managers and seasonal workers are employed by an extra foundation which runs the centre (Getzner et al., 2014).

The reform aims to facilitate local management and sets an emphasis on local participation. Management is ensured to be comprehensive, predictable, and effective. Besides that, management is knowledge-based. This means that scientific and experience-based knowledge gets combined (Lundberg, 2017; Solheim, 2009).

2.3.2 Studies on the New Management System

Since the new management system has been introduced, several studies have been carried out to analyse the new system and to examine its benefits and challenges. Some of them are linked to the results of this study and therefore listed below.

Only three years after the introduction of the new management system Fauchald and Gulbrandsen (2012) analysed the newly established reform. In a study based on information about the reform published by researchers and state, they examined among others the selection of board members and the location of managers. The role of the advisory committee was not evaluated because the reform was still too new and not all boards had established an advisory committee at that time. Their results show that the reform democratised nature conservation by moving decision-making from a bureaucratic to a political arena. By placing managers outside of the county government, their understanding of local resource management issues improved, and they got more involved with local user interest. Furthermore, the reform managed to reduce conflicts between landowners and management authorities and made local user interests more relevant in the decision-making process. Nevertheless, the reform showed weaknesses. While politicians represent major local interests on the board and make sure that the management focuses on local needs, local conservation interests are underrepresented. A regulatory or institutional framework to ensure the achievement of long-term conservation objectives is not

in place. It is a risk that user interests are prioritised over nature conservation interests. Therefore, it might be difficult to achieve long-term conservation goals with the reform. The study presents a list of things that should be considered in future management. This includes the following enhancements:

- clearly defined long-term conservation objectives
- more resources for adapting and updating management plans
- mechanisms to ensure the inclusion of scientific knowledge and conservation interests in the advisory committee
- mechanisms to facilitate interaction between managers and the county government
- and ways to ensure transparency throughout the management process.

They conclude *‘the Norwegian reform should be regarded as an experiment from which other countries might learn, rather than as a model for reform of protected areas’* (Fauchald & Gulbrandsen, 2012, p. 219).

In 2017, Hovik and Hongslo analysed amongst others the contact pattern of board members. Their research was based on an online survey and interviews with actors involved in the management of Dovrefjell-Sunndalsfjella National Park and Setesdal Vesthei-Ryfylkeheiane protected landscape area. The results show that board members were mainly in contact with park managers and other persons from their county or municipality. Their interaction with private stakeholders such as landowners, the public, researchers, or the county governor was low. Consequently, they criticise the insufficient public or stakeholder involvement in the decision-making process. They describe intermunicipal management boards rather as a tool to create local support for national conservation policy than one to create local participation and influence on policy. In their paper they emphasise that future management needs to be more open and transparent.

Another study compared the governance and management strategies of Hohe Tauern National Park in Austria with the ones of Jostedalsbreen in Norway and described the Norwegian system as a flat system without much formality and complexity. Informal contact with the national park managers facilitates the participation of local stakeholder. Indeed, the outcomes are dependent on the person in charge. The study shows that a manager, who has the ability to coordinate, overview and the involve different stakeholders is beneficial for the success of a national park (Getzner et al., 2014).

Recently, in 2021, Nordland research institute published an evaluation of the new management programme in four national parks (Dovrefjell-Sunndalsfjella, Jostedalsbreen,

Stabbursdalen and Ytre Hvaler National Parks). The evaluation shows that the reform neither weakens nor strengthens the protection of nature. Nevertheless, it might have negative future impacts caused by marked profiling and increasing value creation in protected areas. Visitor strategies try to compensate for these negative impacts. Areas with strong local user interests show an increase in dispensation cases for motorised traffic and construction projects. Nevertheless, the reform achieves to better integrate the management into a local context which can potentially be beneficial for long-term conservation goals. Local participation is limited to users or conservation interests. Due to the reform, management in general is based on more knowledge and more transparency than it was before (Lundberg et al., 2021).

For this study, their results on local participation are most relevant and therefore presented below. The mandates and tasks for the advisory and the administrative contact committee seemed not to be clear enough. The committees are rather information platforms than arenas for discussion and dialogue. Still, both the managers and the national park board appreciate having the advisory committee. Often, the committees are involved in bigger projects such as the creation of visitor strategies or the revision of management plans. The size of the committees and represented interests differs a lot between parks. Parks with multiple affected municipalities and counties have larger committees. Most committees hold one annual meeting and use this mainly for the exchange of information. This happens mainly in one-way communication, but committee members mention the wish to focus more on discussion, dialogue, and knowledge exchange between the members. From a manager's perspective, the committees are not working sufficiently because of lacking continuity and knowledge. They conclude participation could become more attractive by compensating the time members spend at the meetings. Especially the members of the committee describe it as a disadvantage to not get compensated. They also wish to receive more feedback and information on how their contribution to management issues is used. With an agenda before the meetings and meeting notes afterwards, they could prepare better for the meetings and make them more productive. Regarding the advisory committee, the report concludes that the involvement of the committees in the management process could still improve. This includes more involvement of the committee in the board's decision-making. A way to do so, is to use the committee as a thematic meeting point. Knowledge could be exchanged and generated in this committee and afterwards be included in management decisions. They mention lacking resources as a reason for insufficient cooperation between the board and the committee. For the committee itself it could be beneficial to have more than one annual meeting and to reimburse participation (Lundberg et al., 2021).

Based on the last-mentioned report and another report (NF-rapport 09/2020), the NEA decided on how the management should continue in the future. First, they want to keep the management model with elected politicians from all affected municipalities, counties and the Sámi Parliament. Second, they want to hire more managers to improve the resource situation. Third, an empowerment of the advisory committee is supposed to turn the committee into a forum for dialogue. In general, they want management to become more adaptive, to include monitoring of the state of nature and to update existing knowledge. At the same time, old management plans and visitor strategies need to be elaborated which requires more resources. Additionally, the management boards and managers need more supervision. Lastly, the NEA wants more standardised management (Miljødirektoratet, 2021a).

2.3.3 Management of Femundsmarka and Gutulia National Park

The intermunicipal conservation board for Femundsmarka and Gutulia national park is called *Nasjonalparkstyret for Femundsmarka og Gutulia*. Apart from these two national parks, the board is responsible for Femundslia protected landscape area, Grøvelsjøen nature reserve and Langtjønna protected landscape area (Nasjonalparkstyret, n.d.) (see map in figure 4).

The national park board consists of six people. They are representatives of the affected municipalities Røros (1 person), Engerdal (1), the affected counties Trøndelag (1) and Innlandet (1) and the Sámi Parliament (2). In March 2020, the NEA announced the current board. After elections in the Sámi Parliament in 2021, two new representatives joined the board (Nasjonalparkstyret for Femundsmarka og Gutulia, 2022). The board has approximately five meetings per year (Nasjonalparkstyret, n.d.).

In 2014, the first position for a national park manager was established. A second position was announced in 2020 (National park staff interview, 05.12.2022). Today, two managers are the secretaries of the board and two committees (explained below). For certain aspects they get delegated authority from the board (Nasjonalparkstyret, n.d.). In 2022, authority was delegated to the managers in 15 out of 35 cases (especially, motorised and organised traffic) (Nasjonalparkstyret for Femundsmarka og Gutulia, 2022).

In 2015, local stakeholders and organisations were asked by the national park manager to join the advisory committee. This included the following 13 institutions (see table 1). A description on the left side of the table gives a description of the institutions.

Table 1 - List of advisory committee members.

Member	Short description of the member
Engerdal Fjellstyre	Mountain boards exist in all municipalities with state-owned commons. They ensure that commons are used in a way to promote local business and industry and to conduct nature conservation and outdoor recreation (Falkanger, 2022).
Svahken Sitje	Local districts of indigenous reindeer husbandry
Fæmund Sitje	Local districts of indigenous reindeer husbandry
Statskog	A Norwegian state-owned enterprise. The organisation is responsible for forest and mountain management on state-owned land (Statskog SF, n.d.). They have responsible divisions for the study area in Røros and Drevsjø.
Den Norske Turistforening (DNT) Oslo og Omegn	The Norwegian Trekking Association, responsible for path maintenance and small huts in Femundsmarka
A/S Fæmund II	Organisation running the ferry between Synnervika and Buvika on the lake Femunden, visitor transportation mainly between Synnervika and Elgå, many tourists enter Femundsmarka on this way
INAF – Stiftelsen Informasjonssenter for Femundsmarka nasjonalpark	Foundation running the visitor centre for Femundsmarka and Gutulia National Parks in Elgå
Destinasjon Femund Engerdal	Tourist information centre for the area Femund and Engerdal
Representant for veiløse bosetninger	Representative for people living inside Femundsmarka National Park
Elgå Vel	Association representing interest of people living in Elgå, a settlement close to Femundsmarka National Park
Naturvernforbundet i Rørosregionen	Non-governmental organisation for nature conservation in the region around Røros
Røros jeger- og fiskeforening	Hunting and fishing organisation in Røros
Røros museums- og historielag	Museum and history group in Røros

Source for the list of members: letter of nomination by Nasjonalparkstyret for Femundsmarka og Gutulia (2015).

Source for the description: if not stated otherwise, based on personal conversation with research participants.

Some years later the board decided to add two more organisations (Destinasjon Røros² and Forum for nature og friluftsliv–Innlandet³) to have similar interest representatives from both municipalities and counties. The main task of the advisory committee is to give advice and feedback to the national park board about their work. In Femundsmarka and Gutulia, their opinion is mainly asked in planning situations. Hence, they took part in the elaboration of the visitor strategies for both national parks. At least once a year the advisory committee meets

² Tourist information in Røros

³ Cooperation network for nature conservation and outdoor recreation organisations in Innlandet county. Representing Engerdal in the advisory committee

with the managers and a representative from the national park board (National park staff, interview, 05.12.2022).

The administrative contact committee for Femundsmarka and Gutulia National Parks consists of administrative representatives from the two affected municipalities and two affected counties. These are the municipalities Røros and Engerdal and the two counties Trøndelag and Innlandet. In addition, Statsforvalteren i Innlandet as well as the reindeer department and the climate and environment department from Statsforvalteren i Trøndelag belong to this committee. The administrative contact committee joins the annual meeting of the advisory committee (Nasjonalparkstyret, n.d.).

2.4 Study Area

The study area contains two separate national parks which are managed together with other protected areas. First, the smaller one, Gutulia National Park, and then Femundsmarka National Park is presented in this work. The descriptions focus on geographical location, geology, landscape, flora and fauna, the purpose of the national park establishment, cultural history and today's use in the form of tourism.

2.4.1 Gutulia National Park

The area of Gutulia National Park is located in Engerdal municipality (see map in figure 4) and was established as a national park in 1968. The majority of the park is untouched forest with several 100-year-old spruce and pine trees (Ryvarden, 2023). Originally, the area was protected to conserve one of the last primeval forests in Norway and to conserve the mountain and wetland landscape around Gutulivola (949 m.a.s.l.). Since an enlargement in 2004, the park covers circa 23 km² and is for the moment the smallest national park in Norway. Together with surrounding Norwegian and Swedish protected areas, Gutulia is conserving a big area of connected forest, mountains and bogland (Nasjonalparkstyret for Femundsmarka og Gutulia, 2020). Vegetation and plant diversity is high and comparable with the surroundings of Femundsmarka. Around 75 bird species live inside the national park. Since Gutulia used to be a primeval forest and contains dead trees in all their stages, the diversity of fungi is great. The drainage system of the area is among others connected to Sweden. This enables species migration from the east to Gutulisjøen (Ryvarden, 2023).

Gutulisetra is an old farm and was in use for more than 200 years from around 1750 until 1949. Statskog refurbished the building in 1980. Today the farm is a cultural relic. In summer

it is open for visitors (Ryvarden, 2023). Most visitors of Gutulia National Park visit the farm in Gutulivollen. They walk from a parking lot along the west side of Gutulisjøen three kilometres to the farm. Not a lot of visitors go deeper into the national park. Sámi reindeer herding is an important all year around activity. The reindeer district Svahken sitje is the most southern district for reindeer husbandry in Norway and active in this area (Nasjonlparkstyret for Femundsmarka og Gutulia, 2020).

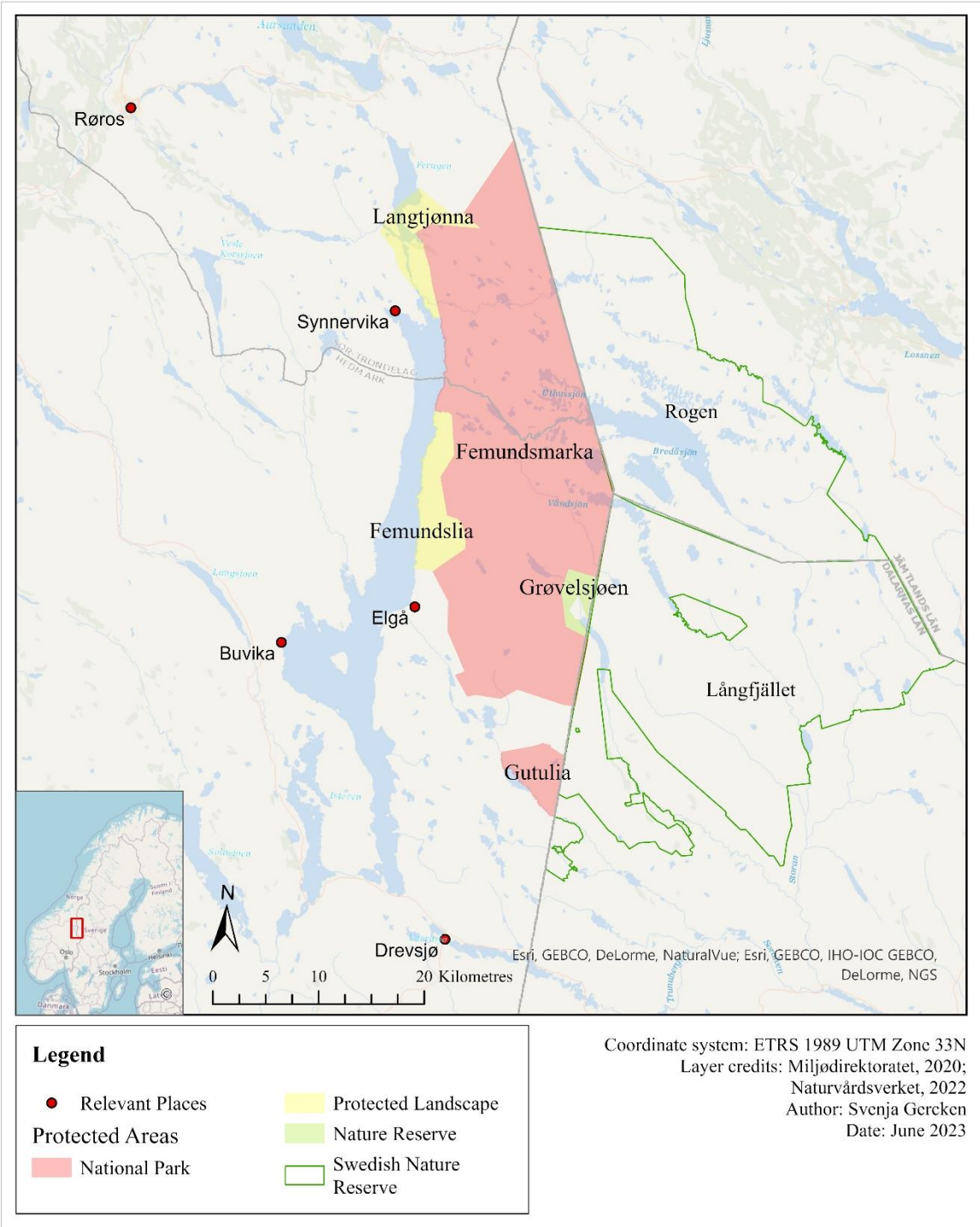


Figure 4 - Study area Femundsmarka and Gutulia National Parks. (Dataset sources: Miljødirektoratet, 2020 and Naturvårdsverket, 2022)

2.4.2 Femundsmarka National Park

Femundsmarka National Park is among the oldest national parks in Norway. It was established in July 1971 (Ryvarden & Tvedt, 2020) because of hydropower development in the area. In 2003, the park was expanded. Today, it covers a total area of 573 km². Femundsmarka is located on the east side of lake Femunden and on the west side of the Swedish border. The national park stretches over the Norwegian counties Trøndelag and Innlandet. Together with Långfjället nature reserve and Rogen nature reserve on the Swedish side of the border, the area is one of the largest wilderness areas in South Scandinavia (see figure 4). The last ice age formed the landscape in the area. Peaks with an elevation of more than 1000 metres and narrow ridges which lead to several lakes characterise the landscape. The area is called the Rogen moraine landscape due to the lake on the Swedish side (Norges nasjonalparker, n.d.). Water is a dominating element and covers over 10 % of the landscape (Nasjonalparkstyret for Femundsmarka og Gutulia, 2014). The largest rivers are Røa and Mugga which run from east to west (Ryvarden & Tvedt, 2020). The park protects a large and untouched area, which is characterised by forests and mountains. It is a habitat for many vulnerable species. Plants and wildlife show a high diversity. Old pines, reindeer lichen, orchids, bears, wolverines, musk ox, gyrfalcon, ospreys and even wolf lichen, a red listed species, can be found in Femundsmarka. Beavers fell trees along the rivers, which enhances forest diversity (Norges nasjonalparker, n.d.). In this area, wetland birds find an important nesting areas, which is among others of national importance for the osprey (Ryvarden & Tvedt, 2020).

The initial purposes to establish Femundsmarka National Park were:

- the conservation of a big, connected and mostly untouched forest and mountainous area
- the conservation of a landscape formed by the last ice age (morainic landscape with lakes and rivers)
- the conservation of natural biodiversity (especially flora and fauna)
- traditional and simple outdoor recreation for everyone
- the conservation of the cultural heritage
- protection of the environment for Sámi culture and economy (Nasjonalparkstyret for Femundsmarka og Gutulia, 2014).

The park does not conserve only nature but is also a cultural heritage site. Already in the young stone age there were first human activities (Nasjonalparkstyret for Femundsmarka og Gutulia, 2014). Between 1743 and 1834, the company Røros Kobberverk had several copper

smelters in the area. Heritages from this time, are visible in the form of logging and coal-burning areas as well as dams, floating arches and timber gutters along the rivers and lakes (Norges nasjonalparker, n.d.).

Since the 17th century, Sámi people have lived in this area and used it for reindeer grazing around the year (Ryvarden & Tvedt, 2020). There are three different reindeer districts (*sitje*) in the area of the park. Saanti sitje and Gåbrien sitje are located in the north, while Svahke sitje uses areas in the south (see Gutulia National Park). Furthermore, the Sámi community has traditions and beliefs that are connected to specific locations inside the park (Norges nasjonalparker, n.d.). Today, reindeer herding inside the park is under a high risk due to the loss of habitat, the expansion of outdoor recreation (especially dog sledding, skiing tracks and cabin tourism), and the loss of animals due to carnivores and climate change (Ødegaard et al., 2021). To protect the cultural heritage of the indigenous community, reindeer husbandry is allowed and the environment must be protected to provide resources to the Sámi culture and economy (Nasjonalparkstyret for Femundsmarka og Gutulia, 2014).

Today the area is mainly known for water and mountain sports related outdoor activities. There are tourist cabins and marked hiking trails in Femundsmarka (Ryvarden & Tvedt, 2020). To offer human access to the area, the Engerdal Mountain Board (*Engerdal Fjellstyret*) and Statskog Fjelltjenesten facilitate outdoor experience (Norges nasjonalparker, n.d.). Outdoor recreation, primarily overnight stays and fishing, are important economic sectors for people in this area (Andersen et al., 2003). In 2022, the two DNT cabins counted 579 (Røvollen) and 1224 (Svukuriset) overnight stays. In addition, to these two cabins, there are 17 open huts in the park, which are maintained by Statskog. Around 5869 tourists approached the park with the ferry Fæmund II in 2022. The park receives foreign visitors, from approximately more than 16 nationalities (Nasjonalparkstyret for Femundsmarka og Gutulia, 2022).

A visitor centre in Elgå transfers knowledge about nature and its use in the past and present. Main topics of the exhibition are original forest, wilderness, Sámi nature values and culture, and outdoor recreation on the cost of nature. Furthermore, information boards at the two entrance points (Synnervika and Elgå) and around touristic cabins inform visitors about the national park and its special characteristics (Nasjonalparkstyret for Femundsmarka og Gutulia, 2022).

3 Theory

This chapter gives an overview of theories on public participation, best practice guidelines for participation and governance. All these concepts are connected to environmental management or specifically the management of protected areas. It is crucial to understand the theoretical background of participation to contextualise the different social perspectives on public participation in the management of Femundsmarka and Gutulia National Parks.

First, this chapter addresses participation which includes the advantages and risks of participation, theoretical typologies, best practice strategies for participation in environmental management, participant identification and selection, and finally existing techniques. Public engagement is often connected to governance systems. Therefore, the second part of the chapter introduces four ways to govern protected areas according to the IUCN. An more detailed explanation of shared governance, also called co-management, follows since public participation can be compared with co-management (Jones, 2007).

3.1 Participation in Environmental Management

Participation describes the involvement of people, groups or organisations in the decision-making processes of the government or other local authorities (World Bank, 1996). Decisions are made on development initiatives and affect people directly (Jones, 2007; World Bank, 1996). Over the years, the interpretation of participation in nature management has slightly changed. Starting in the 1960s, the awareness of participation in environmental management processes arose. In the 1970s, participation was understood as a passive tool in protected area management. People submitted to predefined protected area schemes. A decade later, in the 1980s, participation described the interest of people in the protection of natural resources. Since the 1990s, participation explains now more active involvement of the public in environmental and natural resource management (Pimbert & Pretty, 1995; Reed, 2008). Participation can be seen as an important fundament of democracy (Arnstein, 2019) and is often a formal part of protected area management by including it in planning processes such as the development of management plans. Public engagement facilitates different interest groups to realise their goals and visions (Dovers et al., 2015). Anyhow, participation is not only about the outcomes, but also about the building of trust and maintenance of relationships between stakeholders (Richards et al., 2007).

3.1.1 Benefits and Risks of Public Participation

There are multiple reasons for increasing public involvement in decision-making processes regarding protected areas. Reed (2008) categorises the advantages of public engagement into normative and pragmatic. Normative arguments describe benefits for the democratic society, citizenship, and equity. Since public engagement intends to include all relevant stakeholders in the wide range of society, the risk of marginalisation is low. Transparent participation processes, which consider possible conflicting views, have the potential to increase public trust in decisions but also civil society. By generating knowledge in cooperation, citizens feel empowered and can make use of the knowledge afterwards. Another normative advantage of participation is social learning. Social learning is the process where stakeholders learn from each other, build new or strengthen old relationships, and value the legitimacy of other views. Furthermore, participation is an attempt to include the diverse values and needs of a wide society. Consequently, there is a high probability that decisions taken in such a process are holistic and fair (Reed, 2008).

Pragmatic arguments on the other hand describe the benefits of participation for the quality and durability of environmental decisions. Due to the involvement of a wide range of the local society, interventions should be adapted to local conditions. Hence, it is more likely that local needs and priorities are met. Decisions taken in participatory processes have often a higher quality than those taken without because more complex information underlies the decision-making process. Participatory approaches happen in a place where participants can trust each other. Trust and appreciation of each other's perspectives can be a starting point for forming new relationships between participants (Reed, 2008). Furthermore, decisions which are taken in participatory processes tend to be more accepted by the public. There is also a greater chance for these decisions and interventions to be successful (Haddaway et al., 2017; Luyet et al., 2012). Overall, participation has positive effects for people and social coexistence. Arnstein (2019) goes so far as to suggest that no one is against it.

Nevertheless, participation includes many risks and challenges. The most important and relevant challenge of public engagement is that a successful approach requires a lot of resources, which includes especially money and time (Haddaway et al., 2017; Luyet et al., 2012). In the case of limited resources, it is important to plan participation processes carefully in order to have sufficient results (Haddaway et al., 2017). It is a risk that participants lose their motivation to participate in decision-making when they have only restricted power in the participatory process (Luyet et al., 2012; Reed, 2008). Since participation tries to include a wide range of society, it is a risk that conflicts among the participants arise (Haddaway et al., 2017).

At the same time, inclusion and empowerment of marginalised groups can lead to changes in existing and established power structures (Reed, 2008). The involvement of the public in decision-making processes does not necessarily mean that citizens can influence the process. In other words, it is not certain that people get a voice. To move from simple participation to active participation, time and motivation are needed. Authorities must be open to institutional changes, while participants need to have strategies for how to support collective ideas that can lead to changes (Cornwall, 2008). Finally, include most participatory processes the risk of tokenism. This describes a situation where participation is only applied for the sake of using it and to avoid conflicts, but it is not wanted (Haddaway et al., 2017).

A possible barrier before participation can start is self-exclusion or non-participation. Several reasons exist for why participants exclude themselves. This might be the lack of confidence, the impression of not having something to say or simply the opinion that participation is not useful (Cornwall, 2008).

Local communities are not always willing to participate in management processes and therefore it is important to stimulate their participation. Sharing of the benefits, community education and community empowerment are some of the possible measures used worldwide to motivate local communities to participate in environmental planning (Yang et al., 2021).

3.1.2 Typologies of Participation

Several approaches try to explain the many different kinds and degrees of participation. Most typologies are normative and reach from good to bad participation approaches (Cornwall, 2008). Typologies make the differences in approaches and methods more understandable (Reed, 2008). To get an overview, some relevant typologies are described in the following. This includes Arnstein's ladder of participation which is one of the best-known typologies when it comes to participation. Pretty's ladder of participation was chosen because it focuses more on the practitioners of participation (Cornwall, 2008). Zachrisson's typology of participation concentrates specifically on participation in relation to co-management of natural resources and is therefore closely connected to this study. Lastly, Rowe and Frewer's typology is presented because it introduces three degrees of communication (Reed, 2008) which the other typologies do not do.

Arnstein's ladder of participation

Arnstein's ladder of participation was developed in the 1960s and is one of the best-known typologies of citizen participation. Its focus is the involvement of power and control. It looks at participation from the perspective of citizens who receive the outcome of projects (Cornwall, 2008). Eight levels simplify the degrees of citizen power (see figure 5). People leading the participation process she calls powerholders. Levels of high engagement are placed on the top of the ladder and are preferred over lower rungs. Among the rungs, Arnstein identifies the following three broader categories (Arnstein, 2019).

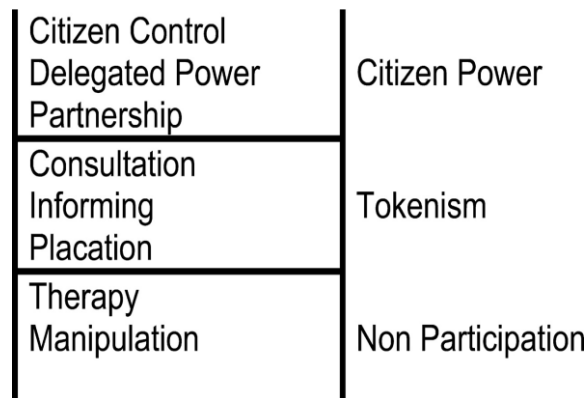


Figure 5 - Arnstein's typology of participation (from Cornwall, 2008, p. 270).

The two lowest rungs describe non-participation and include manipulation and therapy. In this category, the aim is to deny participation. Manipulation is an illusion. Instead of having active citizen participation, powerholders give advice to the ones without power. The rung of therapy describes a situation where citizens are involved in planning but '*the experts subject the citizens to clinical group therapy*' (Arnstein, 2019, p. 27).

The category tokenism includes the rungs of placation, informing and consultation (Cornwall, 2008). In this category, participants can express their opinion and are heard, but they cannot make sure that their voice is taken into consideration (Arnstein, 2019). Powerholders claim to facilitate citizen participation (Cornwall, 2008). Considering Arnstein (2019) the level of informing describes a situation where citizens are informed through news, media, posters or answers to inquiries about their rights, responsibilities and options. Typically, this happens in one-way communication where participants do not have the possibility to give feedback and cannot negotiate. Meetings which for example only provide superficial information or do not support questions are also part of this level. A typical consultation participation approach asks citizens for their opinions in the form of attitude surveys, neighbourhood meetings or public hearings. It is not secure that these results are also part of the planning. Placation is a form of

tokenism which gives citizens limited power. Some citizens may be part of important decision-making boards or councils, but the majority of the seats are taken by the elite (Arnstein, 2019).

The category with the most participation is citizen power, which includes high degrees of engagement like partnership, delegated power and citizen control. Partnerships often form joint policy boards or planning committees. Through negotiations, power is distributed between citizens and powerholders and both parties share the responsibility. In forms of delegated power, power is also negotiated between citizens and powerholders, but citizens hold the main responsibility for the project. Different opinions between the parties are usually discussed. Citizen control gives the entire control over a programme or institution to citizens. They are fully responsible for the management. Typical examples of citizen control are community controlled schools and neighbourhood controls (Arnstein, 2019).

Different contexts of decision-making, for example the number of involved stakeholders, demand different levels of public engagement. In general, a high level of participation should be preferred in decision-making processes (Reed, 2008). All rungs from Arnstein's ladder of participation can be part of protected area management. Rungs in the category of citizen power can be found in forms of collaborative management for instance co-management. Representatives of a local community can have for example a formal position in a management board, which has delegated power. An example which is placed in the middle of Arnstein's ladder is national park advisory committees. They give input to the management, but do not have the power to make decisions (Dovers et al., 2015).

Arnstein (2019) herself criticises that her typology looks at participants and powerholders as two homogenous groups, what they are not in reality. Other scholars propose slightly different ladders. Some of them focus more on the involvement of stakeholders (Reed, 2008).

Pretty's ladder of participation

Jules Pretty's ladder of participation is similar to Arnstein's. The typology is normative and ranges from not ideal participation - control by authorities, manipulative participation and passive participation – to more suited and active forms of participation such as interactive participation and self-mobilisation (Cornwall, 2008) (see table 2).

The seven degrees of participation are based on two schools of thought. The first one understands participation as a tool to increase the efficiency of decision-making. It is assumed that people are more likely to agree with a decision when they are involved in its development. The second school identifies participation as a fundamental right. The mobilisation of people is caused by a collective idea, empowerment and the building of institutions (Jones, 2007; Pimbert

& Pretty, 1995). Compared to Arnstein’s typology, which focuses on power and control in participation, Pretty highlights the relevance of the ones who practise participation (Cornwall, 2008).

The first four categories of participation – passive participation, participation in information giving, participation by consultation, and participation for material incentives – have little influence on people’s life (Jones, 2007). Functional participation aims for more efficiency and works towards the project objectives. Big decisions are taken before participation. Costs are supposed to be reduced. In interactive participation, citizens take over the responsibility for decision-making. Self-mobilisation is the highest form of participation and indicates that citizens start participating independently. It can risk established wealth and power distributions. In the 1980s and 1990s, before the introduction of participatory governance, self-mobilisation was seen as the best solution for participation (Cornwall, 2008).

Table 2 - Pretty's typology of participation (from Pimbert & Pretty, 1995, pp. 30–31).

Type of participation	Characteristics
1. Passive participation	People participate by being told what is going to happen or has already happened. It is unilateral announcement by an administration or project management without any listening to people's responses. The information being shared belongs only to external professionals.
2. Participation in information giving	People participate by answering questions posed by extractive researchers and project managers using questionnaire surveys or similar approaches. People do not have the opportunity to influence proceedings, as the findings of the research or project design are neither shared nor checked for accuracy.
3. Participation by consultation	People participate by being consulted, and external agents listen to views. These external agents define both problems and solutions, and may modify these in the light of people's responses. Such a consultative process does not concede any share in decision-making and professionals are under no obligation to take on board people’s views.
4. Participation for material incentives	People participate by providing resources, for example labour, in return for food, cash or other material incentives. Much in-situ research and bioprospecting fall in this category, as rural people provide the fields but are not involved in the experimentation or the process of learning. It is very common to see this called participation, yet people have no stake in prolonging activities when the incentives end.
5. Functional participation	People participate by forming groups to meet predetermined objectives related to the project, which can involve the development or promotion of externally initiated social organisation. Such involvement does not tend to be at early stages of project cycles or planning, but rather after major decisions have been made. These institutions tend to be dependent on external initiators and facilitators, but may become self-dependent.

6. Interactive participation	People participate in joint analysis, which leads to action plans and the formation of new local groups or the strengthening of existing ones. It tends to involve interdisciplinary methodologies that seek multiple perspectives and make use of systematic and structured learning processes. These groups take control over local decisions, and so people have a stake in maintaining structures or practices.
7. Self-mobilization	People participate by taking initiatives independent of external institutions to change systems. Such self-initiated mobilization and collective action may or may not challenge existing inequitable distributions of wealth and power.

Participation in relation to co-management

Zachrisson (2004) developed a typology of public participation related to the co-management of natural resources (see table 3). This typology includes eight levels. The first three levels (informing, consultation, and cooperation) describe tokenism (see definition in Arnstein's typology). Governmental bodies define the agenda and hold all decision-making power. From level four to level seven, she describes different types of co-management with a varying role of the local community. Compared to levels four to six, level seven gives restricted power to the local community. This delegation of power can give participants the responsibility for specific areas or programmes. Level eight is not a type of co-management anymore. On this level, the community holds full management responsibility.

Table 3 - Zachrisson's typology of public participation in relation to co-management (from Jones, 2007, p. 629).

Type of participation	CHARACTERISTICS
1. Informing	The community is informed about decisions already made, one-way communication between government and the community.
2. Consultation (tokenism)	Start of face-to-face contact, community input is heard but not necessarily heeded (usually involved late in the decision-making process); limitation of involvement continues to be set by the government agency.
3. Co-operation	The community starts to have input into management, and local knowledge is solicited; community members are involved at a low level as assistants or guides, still limited by the management agency's agenda.
4. Communication	Start of two-way information exchange; local concerns begin to enter management plans; joint management actions may take place without joint jurisdiction over the resource.
5. Advisory committees	Partnership in decision-making starts; joint action on common objectives, local communities have advisory powers only; decisions are non-binding.

6. Management boards	The community is given the opportunity to participate in developing and implementing plans; local input plays more than just an advisory role.
7. Partnership	Partnership of equals, joint decision-making is institutionalized and formally recognized; control is delegated to the community where feasible.
8. Community control	The community can make decisions independent of government or with very limited government involvement; most or all of the management power is delegated to the community for local resources

Communication in participation

Compared to ladders of participation which focus on the degree of participation, Rowe and Frewer (2000) focus on the nature of participation. They identify three different directions of communication between involved parties – communication, consultation and participation (Reed, 2008).

The lowest level of public participation is characterised by communication. In this stage, the public is informed but stays passive. Communication happens one way. On the second level, consultation, information is gathered from participants, and the public can give input. Communication happens for instance in the form of focus groups and questionnaires. The highest level, participation, includes the public and delegates authority in decision-making. Participation requires two-way communication between the involved parties. Information can be exchanged in the form of dialogue or negotiations (Rowe & Frewer, 2000).

The proper way of public engagement is context specific. Knowledge-based decisions may require a lower level of public engagement, while decisions based on values and opinions can include more public involvement (Rowe & Frewer, 2000).

3.1.3 Best Practice of Public Participation in Environmental Management

Definitions for effective public participation are rare in academic literature. Scholars define criteria of what is needed for effective public involvement in decision-making. However, these criteria focus more on what makes participation effective than on how to measure effectiveness (Rowe & Frewer, 2000). Many of the defined key factors for effective participation are similar. Therefore, Reed (2008) developed a toolkit for best practices of stakeholder participation in environmental management. This toolkit includes eight key factors and derives from grounded theory analysis. It understands participation as a process. His toolkit gives a good overview and

summary of the many existing guidelines and is therefore the main source for this study. In the following, the eight key factors are explained more in detail.

1. An underlying philosophy focusing on empowerment, equity, trust and learning

A structured process can empower participants. Empowerment focuses on giving participants the power to influence the final decision as well as making sure that they can involve with the topic. In order to give power to citizens, the decision-making process must still be ongoing. If this is the case, participants can influence the decision. Furthermore, options for learning should be given to the participants. Another aim is to design a fair and valid participatory process. Power inequalities in the group of participants need to be addressed. Inequalities can exist in age, gender, people's background, and knowledge. Socialisation and the building of trust and relationships among the participants can bring participants to an even level. This is easier in small groups than in big groups. Especially long-term participation processes require iterative and two-way learning between the participants (Reed, 2008).

2. Early stakeholder involvement

It is best to involve participants right from the start of a project. This includes project steps like concept development and planning. In this way, decisions can be of higher quality and more durable. Late involvement can make it more difficult to motivate people to participate (Reed, 2008).

3. Stakeholder analysis and systematic representation

The analysis of possible stakeholders can be done without their involvement. The aim of this step is to have all relevant stakeholders represented in the participatory process. Steps in the analysis are the definition of affected aspects of social and natural systems, the identification of affected individuals or groups and the prioritisation of identified stakeholders for the final participation process (Reed, 2008).

4. Clear definition of objectives for the participatory process

It is most efficient if the participants themselves define the goals for the participation process. Commonly defined goals towards which the group works can increase motivation and the will for participation and engagement (Reed, 2008).

5. Method selection adjusted to the context

The choice of methods for participation should include socio-cultural and environmental factors, time people are able to invest, available resources, power dynamics in the group and the state of the process. Different methods and tools are defined by Rowe and Frewer (2000) and Tippett et al. (2007) (Reed, 2008).

6. Highly skilled facilitator

Especially participatory processes which focus on conservation might require a highly skilled facilitator. This person should have the following characteristics: experience in how to use different tools of participation, be open to multiple perspectives in order to be accessible for to participants. Moreover, the facilitator should maintain positive group dynamics, handle dominant and offensive people, animate the group to question assumptions and get information from calmer participants. It is a challenge to learn all these skills since it takes years to develop them (Reed, 2008).

7. Integration of local and scientific knowledge

The combination of local and scientific knowledge helps to understand the complexity and dynamics of natural systems in a holistic way. By including this knowledge in environmental decision-making, more relevant and effective policies as well as practices can be developed. Scientific expertise contributes with the 'know-why' like for instance underlying theories. Local expertise, on the other hand, brings the 'know-how'. This includes practical knowledge which is produced by the collective experiences of multiple generations in the local society. It is important to question local expertise since it may be irrelevant for scientific conservation management. However, there is a trend of combining producer and user knowledge. Knowledge is often communicated between the parties or in some cases produced in a joint knowledge production (Reed, 2008, p. 2425).

8. Institutionalisation of participation

Institutionalised processes are more suited for the long-term success of participation. That means that participation processes should be embedded in policy. This facilitates the processes and negotiations (Reed, 2008). An institutionalised participation process shows that participation is a democratic right (Richards et al., 2007).

Luyet et al. (2012) mention similar principles of success, but they emphasise that even if these principles are applied it is not assured that participation succeeds without conflicts.

Rowe and Frewer (2000) identify nine criteria for the evaluation of public participation. They focus either on acceptance or on the process of public engagement. Some of the criteria are similar to Reed's best practice strategies and some add other aspects. Therefore, the criteria are shortly presented in the following.

Acceptance criteria focus on '*effective construction and implementation of the procedure*' (p. 11), which are:

- Representativeness: Participants should represent the affected society.
- Independence: unbiased and independent participation process
- Early involvement: inclusion of participants in the process as soon as possible
- Influence: Results from participation should have an impact on policies.
- Transparency: a transparent process of decision-making

Process criteria are about the ability of the procedure to be accepted by the public. This includes four criteria.

- Resource accessibility: Resources should be accessible for participants in order to realise their tasks.
- Task definition: clear definition of the tasks for participants
- Structured decision-making: suitable methods to structure the decision-making process
- Cost-effectiveness: cost-effective participation process

Based on these nine criteria, they evaluated different techniques of public participation on their effectiveness (see table 4). Some of these techniques are explained in section 3.1.5.

Table 4 - Evaluation of selected methods of public participation (from Rowe & Frewer, 2000, pp. 19–20).

	<i>Referenda</i>	<i>Public Hearings</i>	<i>Public Opinion Survey</i>	<i>Negotiated Rule Making</i>	<i>Consensus Conference</i>	<i>Citizens' Jury/Panel</i>	<i>Citizen Advisory Committee</i>	<i>Focus Groups</i>
Acceptance criteria								
Representativeness of participants	High (assuming full turnout at poll)	Low	Generally high	Low	Moderate (limited by small sample)	Moderate (limited by small sample)	Moderate to low	Moderate (limited by small sample)
Independence of true participants	High	Generally low	High	Moderate	High	High	Moderate (often relation to sponsor)	High
Early involvement?	Variable	Variable	Potentially high	Variable	Potentially high	Potentially high	Variable but may be high	Potentially high
Influence on final policy	High	Moderate	Indirect and difficult to determine	High	Variable but not guaranteed	Variable but not guaranteed	Variable but not guaranteed	Liable to be indirect
Transparency of process to the public	High	Moderate	Moderate	Low	High	Moderate	Variable but often low	Low
Process criteria								
Resource accessibility	Low	Low-moderate	Low	High	High	High	Variable	Low
Task definition	High	Generally high	Low	High	Generally high	Generally high	Variable but may be high	Variable but may be high
Structured decision making	Low	Low	Low	Moderate	Moderate (influence of facilitator)	Potentially high	Variable (influence of facilitator)	Low
Cost-effectiveness	Variable/low	Low	Potentially high	Potentially high	Moderate to high	Moderate to high	Variable	Potentially high

All these lists of keys to success often assume that all involved stakeholders share similar mental frameworks about the keys to success. This is often not the case. Studies show that people define different keys to success. This diversity makes it difficult for practitioners of participation to design a process that engages all opinions. However, the same studies show that people agree on certain factors of success. It is a consensus that participation should be equal, fair and give all affected people the opportunity to participate. Expert knowledge and information should lead the decision-making process, information should be easily accessible and the entire process should try to address all interests (Webler & Tuler, 2006; Webler et al., 2001).

3.1.4 Identification and Selection of Participants in Management

Many different values and interests on how protected areas should be managed exist in society. People of interest can be neighbours of the area, indigenous or local communities, public agencies, politicians, non-governmental organisations with an interest in nature conservation,

tourist and recreational users of the area, local and regional private sector, larger commercial interests or research institutions. Protected area managers must identify and select the participants. The choice is not easy but can be supported with methods for stakeholder identification such as stakeholder analysis or a social network analysis (Dovers et al., 2015). Besides deciding who represents the general public, managers face the problem of balancing the representative participants with the right number of participants. They must secure that the group is small enough for effective group dynamics and face-to-face communication. In addition, it should be clear whether people participate as private individuals or representatives of groups (Richards et al., 2007).

3.1.5 Methods of Participation in Management

Methods used for participatory approaches are quite diverse and range from a basic input of participants to active influence on the development of the process. There is no perfect method that can be used in all cases. Instead, participation processes should have an underlying philosophy which influences the choice of method. The choice of method depends on the context, the scale and the level of engagement (Richards et al., 2007).

Rowe and Frewer (2000) summarise eight most formalised methods in their paper and describe them according to the nature of participation and time duration and give examples for each method. Here, only five of the methods are described due to the limitations of this thesis. The choice is based on the author's opinion of which methods could be useful in the context of participation in national park management.

Public hearings, also called public inquiries, include interested citizens. The number of participants depends on the size of the event. Experts and politicians hold presentations about the topic of interest. Agencies present more specific project plans in an open forum. Participants in a public hearing can express their opinion, but they cannot influence final recommendations. Public hearings can last from one week to several weeks, months or years (Rowe & Frewer, 2000).

In public opinion surveys, a large amount of people (around several hundred or thousands) is asked for their opinion. Surveys take place in written questionnaires or telephone surveys. They are single events and require only some minutes of participation (Rowe & Frewer, 2000).

Citizen panels include 12 to 20 participants from the public. These people are selected by a stakeholder panel and are supposed to represent the local community. Citizen panels are not open to the public. In addition to the selected members of the public, experts on the topic and

an independent moderator are present. The moderator asks the experts for their opinion on an issue. The result of a citizen panel is a report or a press conference which focuses on key results and questions. A panel includes usually meetings within several days (Rowe & Frewer, 2000).

Citizen advisory committees are small groups of selected people. They represent the views of different groups in society. Citizens from the public are not part of an advisory committee. Meetings of the committee are initiated by a facilitator and focus on specific issues. The committee is organised over a long period of time (Rowe & Frewer, 2000).

Focus group discussions are used for open discussions on a specific topic. They include a small group of people (five to 12) who represent the community. Multiple focus groups can be initiated for one project. The aim of this method is to gather different opinions. Groups only have to meet once for up to two hours (Rowe & Frewer, 2000).

Applied techniques of participation in Norway are local referenda, local consultation committees, citizen panels, children's city councils or parliament for minority groups. An example for the last one is the Sámi parliament. It represents the indigenous populations from the Sápmi area. The parliament exists in Finland, Norway and Sweden and deals with issues regarding their rights on land and water (Jones, 2007).

The final choice of a technique depends on who is participating and why these stakeholders are part of the process. The method has to be suitable for all stakeholders (Dovers et al., 2015).

3.2 Governance of Protected Areas

Over many years, environmental and natural resource management has shifted from a top-down organisation (government) to different types of collaborations and partnerships between multiple stakeholders like authorities, local communities and private stakeholders (governance) (Dovers et al., 2015). Since the mid-1990s, the importance of environmental governance increased. The idea of it is widely accepted in the fields of geography, sociology, environmental management and development research (Bridge & Perreault, 2009). Therefore, this section introduces the concept of governance in protected areas.

The term governance describes who decides on objectives, what can be done to reach these and how to take decisions. Governance is about the distribution of power, authority, and responsibility among the involved stakeholders. The government is still an important part of decision-making but does not necessarily hold most of the power. The term governance gets often confused with the term management, which describes actions to achieve specific objectives (Borrini-Feyerabend & Hill, 2015; Borrini-Feyerabend et al., 2006). Hovik et al.

(2010) explain governance as a tool to support non-centralised decision-making. Compared to government, governance includes actors in addition to the state such as communities, businesses, or non-governmental organisations. Varying political-economic relationships among the actors cause different combinations of stakeholders (Lemos & Agrawal, 2006). The IUCN proposes four ways of how to govern protected areas, where different institutions hold authority and responsibility (Borrini-Feyerabend & Hill, 2015). The following sub-sections introduce these approaches to governance. Shared governance is explained more in detail since it gives options for public participation (Jones, 2007).

3.2.1 Governance by Government

Governance by government gives authority, responsibility, and accountability for protected area management to a governmental body. This can be a ministry, a park agency or a sub-national or municipal government. The government body is often the owner of the land at the same time. It is possible to delegate daily management tasks to a para-statal organisation like non-governmental organisations or private operators (Borrini-Feyerabend & Hill, 2015; Dudley, 2008).

3.2.2 Shared Governance or Co-management

Shared governance, or co-management, is a more collaborative governance approach which strengthens the participation of several stakeholders (Borrini-Feyerabend et al., 2006; Dudley, 2008; Worboys & Trzyna, 2015). The international workshop on community-based natural resource management by the World Bank in 1999 defined co-management as:

'The sharing of responsibilities, rights and duties between the primary stakeholders, in particular local communities and the nation-state; a decentralized approach to decision-making that involves the local users in the decision-making process as equals with the nation state' (Soeftestad, 1998, p. 11) (visualised in figure 6).

There are different definitions of co-management in academic literature. They may differ slightly, but all associate co-management with natural resource management and the partnership between public and private actors. Furthermore, this is less a fixed governance approach and rather a process which can change over time (Carlsson & Berkes, 2005). In

connection to protected areas, co-management describes the sharing of management authority and responsibility among governmental and non-governmental actors. Management tasks can be delegated to other bodies and individuals.

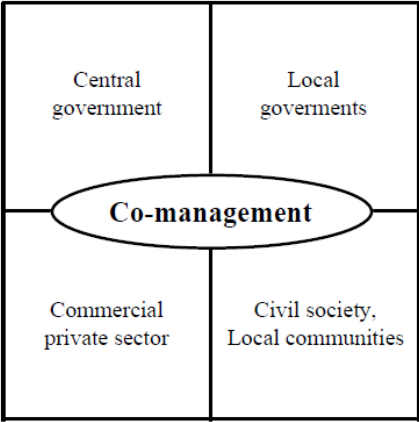


Figure 6 - Main stakeholders in co-management (from Soeftestad, 1998, p. 11).

Shared governance can take several forms. Two typical ones are collaborative management and joint governance (Borrini-Feyerabend et al., 2006; Dudley, 2008; Worboys et al., 2015). In collaborative management, one body holds the main authority and responsibility, but this actor has to inform and consult other stakeholders. A way to include participation in collaborative management is to assign responsibility for the development of management proposals to stakeholders. These proposals get approved by the decision-making authority. In a joint governance approach, more than one body holds authority and responsibility for decision-making. Decision-making can include the consensus of all involved bodies but is not required. The implementation of made decisions is delegated to other bodies and individuals than the ones deciding (Dudley, 2008).

Carlsson and Berkes (2005) describe five images of shared decision-making between the state and a community (see figure 7). Co-management can be an exchange system where information, goods and services are exchanged between the state and community (upper left). In terms of participation, this degree is an example of lower rungs of participation in Arnstein’s ladder of participation. In joint organisations, state and community are cooperative units and take decisions together (second on the left side). Both actors keep their authority and autonomy. In state-nested systems, the state holds legal rights for certain areas and can delegate rights partially to private actors (third on the left side). This can include management rights on state owned land. In community-nested systems, non-public actors hold the legal rights (last on the left side). Finally, can co-management happen in a network (right side). The basis for this is a fragmented state body. Multiple state authorities are connected with different private actors. In

the last scenario co-management is a 'web of relations and agreements' (Carlsson & Berkes, 2005, p. 69).

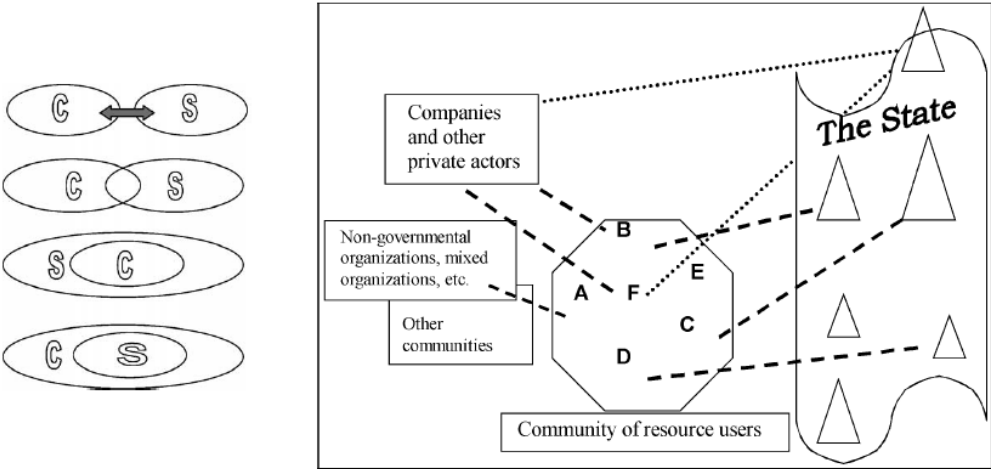


Figure 7 - Images of co-management (from Carlsson & Berkes, 2005, p. 69).

Another way to visualise shared governance is the governance triangle (see figure 8). It shows the connection of three different social mechanisms (state, market and community) in environmental governance. Joint actions between the actors happen in forms of co-management, public-private partnerships, or private-social partnerships. The connections have the advantage that the strengths of one partner address the weakness of another one. Complex environmental problems can be for example solved by adding time- and place-specific information from a community (Lemos & Agrawal, 2006). The proposed shared governance approach (connection of governmental and non-governmental actors) from IUCN is a form of co-management or public-private partnerships, which can be found on the left or right side of the governance triangle.

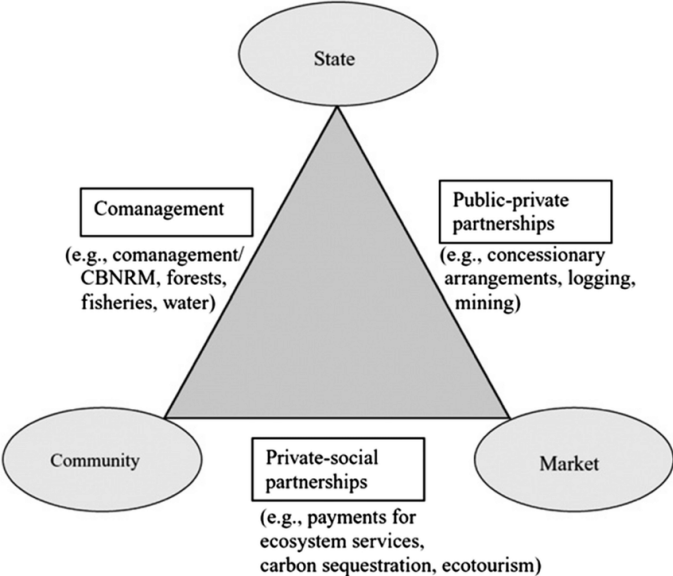


Figure 8 - Triangle of governance (from Lemos & Agrawal, 2006, p. 310).

3.2.3 Governance by Private Actors

The approach of private governance goes far back in history to when monarchs and aristocracies protected land for their benefit (e.g., hunting). Nevertheless, private governance still exists. A typical example is the governance of non-governmental organisations. Their management often focuses mainly on nature conservation. In this approach, individual landowners hold the authority and decide on the conservation objectives for the area (Borrini-Feyerabend & Hill, 2015; Dudley, 2008).

3.2.4 Governance by Indigenous People or Local Communities

The oldest way of managing protected areas is governance by indigenous and local communities. Authority and responsibility for conservation lie with a community. The regulations have to achieve the general objectives of a protected area, but at the same time, they can be connected to specific cultural and spiritual values. Management structures can be quite complex. Land can be for example owned collectively, but certain resources are owned or managed individually (Dudley, 2008). Many indigenous or local communities are closely connected to natural resources in their surroundings. Most communities prefer collective rights for resources over individual rights and prevent thereby ecological fragmentation and produce a lot of advantages for the conservation of biodiversity (Borrini-Feyerabend & Hill, 2015).

4 Research Methods

This chapter introduces the mixed methods approach of this study in order to explore social perspectives of involved stakeholders on the participatory approach in the management of Femundsmarka and Gutulia National Parks.

Typical research methods for national parks managed by local communities are case studies or comparative studies. In most cases structured, semi-structured or focus group interviews are the method for data collection (Yang et al., 2021). For future research, Yang et al. (2021) recommend an evaluation of community participation based on the geopolitical and economic background. Cross-regional or cross-cultural synchronic comparative studies and long-term studies are suggested but beyond the scope of this project. Based on this research, this study uses a specific case study to explore perspectives on public participation in national park management.

Three qualitative and quantitative research methods were combined to explore social perspectives on public participation in the management of Femundsmarka and Gutulia National Park. Mixed methods approaches are typical for social, behavioural and health sciences. They combine quantitative (close-ended) and qualitative (open-ended) methods for data collection. Methods are integrated and interpretations are based on both data sets to understand the research problem and to answer the research question (Creswell, 2015).

The main method to explore perspectives and their differences was the Q method. It is a quantitative technique used for the analysis of subjectivity (Stephenson, 1935). Factor analysis reduces the diversity of subjective opinions to fewer factors (Webler et al., 2009). This made the Q method suitable for the aim of this study, which was to better understand different perspectives of involved stakeholders on public participation. In this way, the main perspectives and differences on public participation in Femundsmarka and Gutulia National Park were identified. The Q method has a long history outside the field of Geography. In the field of Human Geography, researchers combine it typically with other quantitative or qualitative analyses (Robbins & Krueger, 2000). For these reasons, semi-structured interviews with the participants of the Q method were undertaken in addition to the Q method. Inspired by the work of other studies, for example, Raatikainen & Barron, 2017 and Neff, 2011, a background survey was carried out in addition. The personal interviews and the background survey made it possible to interpret results from the Q method in a holistic way. Consequently, a convergent mixed method design characterised this study. The purpose of a convergent method design is *‘to merge the results of the quantitative and qualitative data analyses’* (p. 35). Data collection and analysis

for each method is separate. Data can be merged in the discussion. The advantage of this research design is the option to approach a problem from different angles (Creswell, 2015). The following figure shows the convergent design of this mixed methods study. It illustrates the merge of three different data collection methods in the Q analysis. Since transcripts from the semi-structured interviews already existed, a qualitative analysis of them was conducted in addition to the Q analysis. The discussion merged the results from the two analyses.

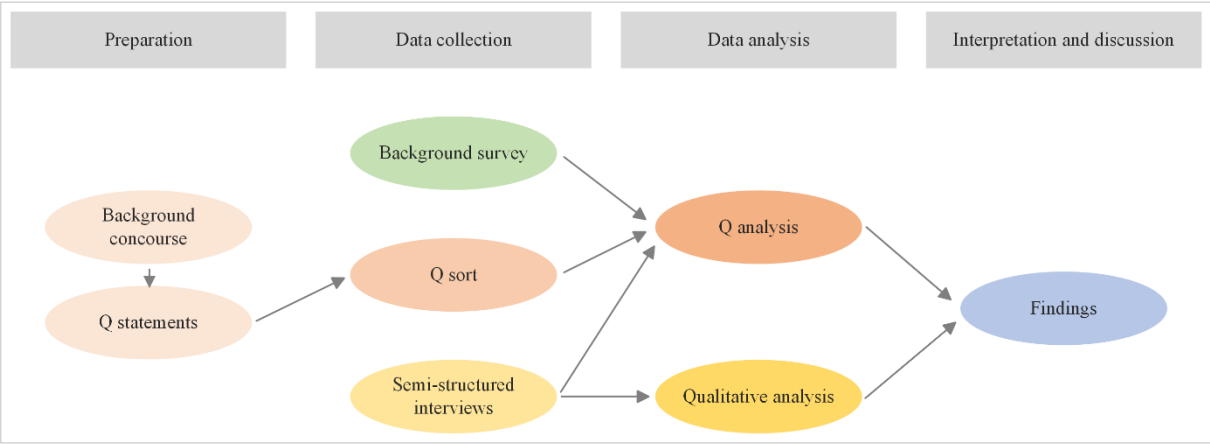


Figure 9 - Research design for this study.

The aim was to explore the opinions of two big stakeholder groups, state and non-state actors, on public participation in national park management. Therefore, people involved in the national park management of Femundsmarka and Gutulia National Parks were contacted and asked to participate in this study. At the beginning of this project, it was planned to ask members of the national park board, the advisory committee, and the national park managers to participate. Unfortunately, only one member of the national park board wanted to take part. Since in Femundsmarka and Gutulia National Parks members of the administrative contact committee are part of the advisory committee meetings, they were asked to participate, too. In this way, the study could include some more involved stakeholders.

The first contact with participants was in autumn 2022 at a meeting of the advisory committee. Data collection was conducted in two steps. The first data collection phase was at the end of January 2023. In this period, six of eleven interviews and seven of 13 Q sorts were gathered. A second round of data collection was carried out end of February/beginning of March to collect four more interviews and five more Q sorts. In two cases, Q sort and interview were conducted with two participants at the same time. The participants work closely together, and it was more time effective to merge the meetings. Nevertheless, each participant did their Q sort. Initially, the plan was to collect data in person in the field. Due to weather conditions and lacking funding, it was moved to an online solution. Microsoft Teams and Zoom were used

for the meetings. In one case a phone call replaced the online meetings. During the phone call, notes were taken because it was not recorded. A recording of the online meetings proved useful for later transcription and analysis. Six of the 11 interviews were conducted in Norwegian, while the rest was mainly in English with some Norwegian.

This chapter first presents the background survey which contributed to data gathering and analysis. Then, the main method of the study, the Q method, is introduced. The method is not widely known or used and therefore, one section introduces the method from a theoretical perspective and another one how it is used in the context of this study. After a detailed description of data collection and analysis with the Q method, it is explained how semi-structured interviews were used as a third method. Lastly, the ethical considerations and methodological reflections of this study, such as privacy, anonymity, confidentiality, barriers to data collection and the researcher's positionality are clarified.

4.1 Background Survey

In addition to the Q sort and the semi-structured interview, participants were asked to fill out a background survey. The idea to gather the background information about the participants was inspired by other studies which used the Q method and conducted the background survey in addition to the Q sort (for example Neff, 2011). The purpose of the background survey was to gather demographic information (such as gender, age, residence, and educational background) of the study participants.

A second section focused on the respondents' participation in the management of Femundsmarka and Gutulia National Park. They were asked to which stakeholder group they belong. Possible responses were the national park board, national park managers, advisory committee, and administrative contact committee. Since all participants have the option to participate in the yearly advisory committee meeting, they were asked how many times they had participated until the beginning of 2023. They could choose between 'every meeting', 'often', 'rare' and 'never'. These categories were not further explained because participants had been active in the management for different periods. The answer was therefore based on their own interpretation and on how many meetings were realised since they took part in the management. Members of the national park board had to answer the question if they are a politician from a municipality, county or if they are a representative of the Sámi Parliament. Moreover, members of the advisory committee were asked how long they have been part of this

committee, and what interest group they represent in the committee. For this last question, several answers could be selected.

Data from the background survey was used in the Q factor analysis as part of the factor interpretation. Selected questions were mandatory. These questions are marked with an asterisk in the document, which is added to the appendix. This survey was conducted online with the software ArcGIS Survey 123. This application supports the creation, sharing and analysis of surveys and is part of the Esri world. Esri is a mapping software for geographical information.

4.2 Theory of the Q method

The Q method combines quantitative and qualitative techniques for the analysis of subjectivity. Data is quantitatively analysed and qualitatively interpreted. The method aims to identify and characterise common ways of thinking without quantifying them (Brown, 1980). In other words, it can identify shared mental frameworks in a group of people (Neff, 2011). William Stephenson (University of Oxford), a physicist and psychologist, introduced the method in 1935. The method is characterised by a systematic and organised way of studying personal subjectivity. A statistical analysis of the results makes this possible (Brown, 1993; Webler et al., 2009). Factor analysis reduces the diversity of subjective opinions to fewer factors (Webler et al., 2009). These factors represent groups of people with common thinking and mental frameworks (Robbins & Krueger, 2000). An advantage is that it minimises the influence of the researcher. Interview or survey questions are not driven by the researcher or other theories. On the contrary, participants rank statements which were designed based on their opinion or one of some colleagues (Neff, 2011). It is important to have in mind that participants are not representative of an entire population because they are selected intentionally. This includes that results cannot be generalised and seen as representative of a broader population (Brown, 1980).

The Q method is a way to conduct discourse analysis in environmental studies. In this context, it can be used to investigate existing social perspectives on an issue such as controversial social phenomena, debates and conflicts (Barry & Proops, 1999; Webler et al., 2009). Barry and Proops (1999) underline that knowledge about discourses is relevant in environmental policy-making because policies require social acceptance to be effective. A way to secure social acceptance is, to investigate existing environmental discourses. Discourses can be explored by understanding different ways how things are understood, how people view certain issues and how the process of problem identification works. The Q method is a way to do exactly this. Especially for policies that deal with common concerns or resources, this is a

good method. In their paper, the authors describe the Q method as a proper tool for the research of human-nature relationships.

Q statements are the subjects of the method. Completed Q sorts of different people are the variables. The Q analysis identifies patterns across the variables (Q sorts) for each subject (Q statement). Patterns picture shared inter-subjective orders of beliefs. They give an idea of how social perspectives might look (Webler et al., 2009).

The Q method is a time intensive research method. Already the preparation, before data collection, takes a lot of time. This includes the whole starting process. For the construction of a background concourse, interviews might be necessary to fully understand the extent of the concourse. Based on this information, the researcher defines a set of Q statements. Also, the Q sort itself can be time intensive because the participants might need instructions on how the method works (Barry & Proops, 1999). Nevertheless, the Q method can explain peoples' perspectives and give insights into their mental frameworks. Moreover, it can distinguish between common and factor-specific perspectives (Donner, 2001; Webler et al., 2009). Being aware of the social perspectives can be useful for managers. They get an idea of how different people in a group think and can try to involve all viewpoints in their work. Therefore, the Q method is a useful tool for them (Webler et al., 2009). The Q method does not require many participants and can still be statistically significant because the Q sort of every single participant gives a broad range of information. The results are driven by the responses of the participants (Barry & Proops, 1999). The method is a powerful tool and can be used '*as a starting point for interventions and participatory exercises*' (Donner, 2001, p. 44).

To fully understand the Q method, it is necessary to explain the steps in more detail. The method can be divided into six steps (see figure 10). In the following, each step of the method is explained.

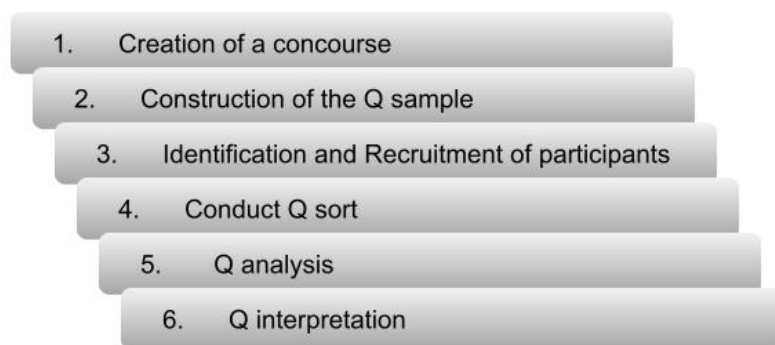


Figure 10 - Steps in Q method.

Step 1: Creation of a concourse

This step stands right at the beginning of a study using the Q method. The purpose is that the researcher gets familiar with the history and views the context of the study from a broader perspective. The main reason to do this is to find statements about the topic which support and capture all existing opinions. Furthermore, it facilitates finding statements in the original language and creating Q samples in the next step. Sources for the concourse can be diverse and include background interviews with major stakeholders or many other sources (e.g., paintings, art, photography, newspaper comments and talk shows) (Brown, 1993; Webler et al., 2009). At the end of this step, a first selection of potential Q statements exists. The first selection can be big (100-300 statements) because the next step focuses on the selection statements. The creation of important categories helps to cover all existing topics (Webler et al., 2009).

Step 2: Construction of the Q sample

The construction of the final Q sample includes two subordinated steps. After identifying Q statements earlier, they now need to be selected and finally edited.

For the selection, it is important to know that a Q sample – the final set of statements used in the later Q sort – consists usually of around 20-60 statements. The statements equally represent the concourse and all categories of the concourse. Final statements should be meaningful, understandable, interpretable in different ways, and people need to have an opinion about it. The same number of statements should be chosen from each category. At the same time, they should be diverse and as different as possible (Webler et al., 2009).

In the editing phase, the researcher works with the pre-selected statements. If possible, it is preferable to choose verbal statements from the concourse to minimise the researcher's influence. Translations of statements should be done carefully. It is convenient if the concourse already entails both languages. A challenge many researchers come across in the editing, is the positive and negative phrasing of statements. Statistically this is not important, but it is recommendable to mimic the concourse (Webler et al., 2009).

Before the next step, the Q cards and the response chart for the participants need to be designed. For later identification of the statements, each statement gets assigned a random number. The response chart is a normal distribution, with a scale from -4 (most agree) to +4 (most disagree). The chart is symmetrical in the middle. This is supposed to help the participants to find their preferences. Usually, the participants place statements without any importance for themselves in the category '0'. This is called the 'indifference point' or 'zero point'. Where exactly the participants place the zero point can vary (Brown, 1993; Webler et al., 2009).

Step 3: Identification and recruitment of Q participants

Q participants are people doing the Q sort – the ranking of statements into the predefined normal distribution. They should be stakeholders from the main interest groups and people with well-informed opinions on the issue of research. Ideally, the people have different perspectives. The selection of participants is up to the researcher and can be intentional. There is no fixed number on how many Q participants are needed. The right amount might vary with the number of social perspectives. These are at the same time difficult to predict. A rule of thumb says that the ratio of statements to participants should be 3:1 (see table 5). On average, most studies have between 12 to 20 participants (Webler et al., 2009).

Table 5: Rule of thumb for the number of Q participants (from Webler et al., 2009, p. 22).

Choosing the Number of Q Participants	
Minimum	Maximum
2 perspectives x 3 people = 6	1:3 - 30 Q statements = 10
3 perspectives x 3 people = 9	1:3 - 36 Q statements = 12
4 perspectives x 3 people = 12	1:3 - 42 Q statements = 14
5 perspectives x 3 people = 15	1:3 - 45 Q statements = 15

Step 4: Conduct Q sort

This practical step describes the sorting of the statements by Q participants into a normal distribution (Niedziałkowski et al., 2018). To make the sorting easier, it is common to provide the participants with sorting instructions.

Step 5: Q analysis

To find correlations in the Q sorts, software packages use statistical analysis tools (Niedziałkowski et al., 2018). Normal statistical software with this a factor analysis package (e.g., SPSS) can be used, but special programmes such as the PQMethod make data analysis easier (Donner, 2001). Especially the produced output from Q software makes it easier to interpret the output in a Q context. With the help of a mathematical technique – the factor analysis – patterns among the Q sorts are identified and the initial set of variables (Q sorts) is reduced to a few factors (Webler et al., 2009).

The Q analysis is slightly different from a typical factor analysis. Instead of grouping variables with similar patterns, Q participants with similar patterns in their Q sorts are grouped together (Donner, 2001). The Q factor analysis compares observations to a set of variables and

places them into groups. The approach is similar to a cluster analysis. The only difference is that Q analysis is based on the correlations between the means and standard deviations of observations, while cluster analysis focuses on the distance between the variable scores of observations (McGarigal et al., 2000). However, factor analyses have many acceptable solutions. This means that the researcher must decide on the best solution for the particular research context. A discussion among Q methodologists about possible options for factor extraction and rotation is without a consensus and makes it difficult for beginners to choose (Watts & Stenner, 2012).

Before one can start with the data analysis, the data from the Q sorts need to be uploaded to the software. This is easily done. The Q sort data is documented in an Excel file, which can be uploaded. The two steps of factor extraction and factor rotation follow.

The first step of factor analysis is the factor extraction. Initially, all Q sorts are correlated with each other, and the programme displays a correlation matrix. This shows all initial relationships (similarities and differences) of the Q sorts. Based on this correlation matrix, the software runs a factor analysis (Watts & Stenner, 2012). The factor analysis can be done with two different algorithms – the Centroid and the Principal Component Analysis (PCA). The two algorithms differ in the focus they put on individual specificity. The PCA respects the commonality and specificity of individual sorts. The Centroid analysis, on the other hand, focuses only on the commonality of sorts. Nevertheless, both analyses give similar results (Watts & Stenner, 2012; Webler et al., 2009). Even though a PCA is not a factor analysis because components and factors are not the same (Watts & Stenner, 2012), PCA is a common and safe choice for beginners of the Q method. The PCA aims to reduce the large diversity of a set of variables to a smaller set of components without losing a lot of information (McGarigal et al., 2000). The result of the PCA is an unrotated factor matrix with eigenvalues for each factor, factor loadings of each Q sort per factor and the explained variance per factor. Eigenvalues indicate the potential to explain a factor. Normally the first factor has the largest eigenvalue and explains the largest amount of variance in the Q sample (Watts & Stenner, 2012). Factor loadings explain the correlation of an individual Q sort with a factor and range from +1.00 (complete agreement) over 0 (no agreement) to -1.00 (complete disagreement) (Webler et al., 2009).

The unrotated factor matrix helps the researcher to extract a final set of factors. Eigenvalues are a common way to decide how many factors one wants to use for the later analysis. Usually, eigenvalues greater than +1.00 (Kaiser-Guttman criterion) are good signs because they explain more variance than one single Q sort (Donner, 2001; Watts & Stenner, 2012). Another way to

determine the appropriate number of factors is the Scree test. The scree plot is a graphical visualisation of eigenvalues. Usually, the line connecting the eigenvalues shows a steep slope in the beginning before it slowly approaches zero. This is caused by the fact that eigenvalues decrease from the first to the last factor. The right number of factors is defined by the point where the line changes direction and turns from a slope into a straight line approaching zero (McGarigal et al., 2000; Watts & Stenner, 2012). However, the Scree test has been criticised because it can show multiple breakpoints or no obvious breakpoint at all (Horn, 1965; Jackson, 1993). Considering the eigenvalues and the scree plot in the context of the research, the researcher extracts factors.

After the factor extraction is completed, the factor rotation follows. The factor rotation puts extracted and unrotated factors from the PCA into a spatial or geometric function. To do so, the factors are used as coordinates to map relative positions of all Q sorts. The factors define the space in which the rotation happens. By doing this, viewpoints of all the Q sorts can be identified (Watts & Stenner, 2012). Q software offers a varimax and a judgemental (manual) rotation. While the manual rotation requires some experience, the varimax rotation is based on statistical criteria and is easier to use for beginners. It is often used in social sciences (Donner, 2001; Watts & Stenner, 2012). To run the rotation, one must define the number of factors. The output shows a rotated factor matrix. Factor loadings show how strong individual Q sorts load onto the factors (Donner, 2001).

Based on this output, the researcher assigns participants to factors (called flagging) and creates groups of shared mental frameworks (Donner, 2001). Most software offer automatic pre-flagging and allow for additional manual flagging. Webler et al. (2009) flag factor loadings when they are greater than $ABS(2.58 \div \sqrt{N})$. Donner (2001) uses a minimum threshold of 0.50 for the flagging process and suggests no flagging of people without a clear loading onto one factor. When the flagging is finished, the software runs the data and generates a final output of the Q analysis. To define the right number of extracted factors, it is suggested to run the whole analysis several times with different numbers of factors, starting with the smallest number of factors (Donner, 2001). Moreover, a list of criteria by Webler et al. (2009) helps to decide on the right number of factors. First, they recommend including fewer factors because viewpoints are easier to understand (simplicity). Second, they suggest only including Q sorts which load high on only one factor because confounders (people with a high load on multiple factors) represent hybrid perspectives (clarity). Third, lower correlations between factors are preferable because high correlations indicate similar opinions (distinctness). Fourth, a comparison of scenarios with different numbers of factors often shows people clustering together in different

scenarios. These clusters should be preserved because these people share a mental framework (stability). After defining the factors and assigning people to them, the next step is the interpretation.

Step 6: Interpretation of the Q sorts and findings

Different guidelines follow different approaches on how to interpret Q method data in a qualitative manner. Many approaches use the z-score to define the social perspectives of the different factors. The z-score shows the distance of a statement to the middle of the distribution and is measured in standard deviations (Webler et al., 2009). The score can be converted into the scale of the sort (Donner, 2001).

In this study, the approach of Watts and Stenner (2012) is used which does not consider the z-score but the elaboration of a crib sheet. The crib sheet system is a simple way to produce a holistic factor interpretation without overlooking important facts. The approach facilitates understanding the overall viewpoint of each factor group. Furthermore, a crib sheet identifies statements in the middle of the distribution, which can potentially be important (Watts & Stenner, 2012).

In the first draft, the researcher creates four categories consisting of 'Highest ranked statements', 'Statements ranked higher in this factor than in others', 'Statements ranked lower in this factor than in others' and 'Lowest ranked statements'. Assigning statements to these categories is based on the factor array. A factor array is a list of Q statements which represents the viewpoint of a factor. The order of the statements is based on all the Q sorts assigned to this factor. The first draft of a crib sheet shows all potentially important statements from the viewpoint of this factor group. After filling out these categories, the researcher tries to identify reasons for the ranking. Hints can be found in the participants' comments during the Q sort. In addition, the demographic information about the participants can give an idea of what people in this factor group share. After this, a second draft is created. The factor array is revised a second time and additional highly ranked or potentially useful statements can be added to the crib sheet. After the crib sheet is created, the creation and interpretation of the viewpoint of a factor group start (Watts & Stenner, 2012).

The full interpretation of a factor group has a narrative style and includes a name for the viewpoint, a summary of relevant statistical and demographic information and an interpretation of viewpoints. These viewpoints arise from the combination of several statements. By assigning a name to a factor, the group gets an individual identity, and it gets easier for the reader to remember the group and their viewpoint (Watts & Stenner, 2012).

This process of drafting a crib sheet and writing a full factor interpretation needs to be done for each factor.

4.3 Q method in the Context of this Study

This section focuses step by step on how the Q method was applied in this study to explore and analyse social perspectives of involved stakeholders on public participation in the management of Femundsmarka and Gutulia National Park.

Step 1: Creation of a concourse

To create the concourse for this study several sources were considered. Background interviews with national park staff, a member of the board and the visitor centre were the starting point to understand the context. They delineated how public participation is executed and provided information about the study area. A visit of the annual advisory committee meeting in November 2022 gave a sense of who the stakeholders were and how meetings were carried out. At the end of the meeting, a workshop focused on an evaluation of the work of the advisory committee. Especially the observation of this workshop was important for the design of the background concourse. In addition, an evaluation report ‘Evaluering av forvaltningsordning for nasjonalparker og andre store verneområder’ from Lundberg et al. (2021) gave an idea of the progress of participation in Norwegian national park management after the reform. The report summarised results from a research project about the implementation of the reform in 2009. Results from a survey with the advisory committee gave an insight into how participants view the participation approach. In addition to these sources, papers using or explaining the Q method from Niedziałkowski et al. (2018) and Webler et al. (2009) inspired the creation of Q statements.

The aim was to cover all existing opinions on public participation, to determine what factors influence the participants’ opinions and what constructs their subjectivities on the effectiveness of the management committee.

Statements arising from the concourse were organised into the following categories:

- national park management in general
- nature conservation/protection and society
- resources for participation
- the advisory committee (general)
 - aim
 - methods and techniques

- communication
- knowledge exchange and creation
- members
- power in decision-making
- timing and duration

Step 2: Construction of the Q sample

In this last step before the actual Q sort, statements were reduced from 81 initial to 31 final statements. As some initial statements focused on similar issues, they were merged in this step. In the final selection, the statements had to fulfil the following characteristics. Some of them were inspired by Webler et al. (2009) and others were based on the researcher's opinion.

- It is expected that the participants have different opinions on it.
- It talks about peoples' core belief systems.
- It should give input to the results.
- It triggers a reaction.
- It is short and easy to understand.
- It can be interpreted in different ways.
- It can stand alone.
- They represent different topics from the concourse.

Most sources of the concourse were in Norwegian. Due to that, around half of the statements were in Norwegian and the other half in English. The intention was to provide the Q sort in Norwegian and English because all participants of this study were Norwegian. Therefore, I translated statements to English or Norwegian. In addition, a native Norwegian checked the translation. A list of the final selection of statements is added to the appendix.

The response table for this study had nine columns going from -4 ('Most strongly disagree'/'De fleste er uenig') to +4 ('Most strongly agree'/'De fleste er enig'). The distribution for the 31 statements was as shown below.

questions were adjusted and focused more on the participant's experience during the sort. The final Q sort of each participant got recorded with screenshots. These were needed in the next step, the Q analysis.

Step 5: Q analysis

For the Q factor analysis, the free software *Ken-Q Analysis Desktop Edition* (KADE) version 1.2.1 by Shawn Banasick was used. The software has the advantage that it includes interactive visualisations which are not available in other Q software. For the judgemental rotation, the software can for example show both a factor loading table and a scatter plot of the rotated factors (Banasick, 2019). As the researcher worked with the Q method for the first time, the PCA was chosen as factor analysis algorithm. To extract the right number of factors for further analysis values from the unrotated factor matrix (see table 6) were considered. The first three factors had an eigenvalue > 1, and thereby they fulfilled the Kaiser-Guttman criterion. The scree plot of the data (see appendix) could not identify a clear breakpoint. It rather showed two breakpoints at factor two and factor four and confirms the critique of Horn (1965) and Jackson (1993). Because of this, the eigenvalues were the main criteria for the factor selection. For the factor rotation, a varimax rotation was chosen. It was later followed by a judgemental rotation.

Table 6 - Unrotated factor matrix.

Participant	Factor I	Factor II	Factor III	Factor IV	Factor V	Factor VI	Factor VII	Factor VIII
Non-state 1	0,32	0,71	0,09	-0,07	-0,22	0,39	0,16	-0,35
State 1	0,82	-0,07	-0,35	0,04	-0,35	-0,09	0,00	0,08
Non-state 2	0,61	-0,21	0,45	-0,46	-0,04	0,25	-0,04	0,00
Non-state 3	0,70	-0,26	0,12	0,35	-0,35	0,03	-0,25	-0,22
Non-state 4	0,04	0,38	0,80	0,21	0,14	-0,09	0,16	0,25
Non-state 5	0,59	0,28	-0,35	-0,01	-0,09	0,42	0,08	0,48
Non-state 6	0,53	0,51	0,05	0,40	0,16	-0,09	-0,46	0,04
State 2	0,66	0,02	-0,26	-0,26	0,46	-0,16	-0,15	-0,03
State 3	0,77	-0,24	0,06	0,07	0,40	0,27	0,13	-0,23
State 4	0,65	0,18	0,16	-0,26	-0,34	-0,52	0,16	-0,01
State 5	0,65	-0,45	0,34	-0,13	-0,01	0,05	-0,21	0,17
State 6	0,61	-0,38	-0,05	0,45	0,08	-0,07	0,48	0,02
Non-state 7	0,68	0,39	-0,18	-0,13	0,23	-0,26	0,13	-0,06
Eigenvalues	4,96	1,69	1,37	0,92	0,90	0,85	0,69	0,56
% Explained Variance	38	13	11	7	7	7	5	4

Values rounded to two decimal places. Highest eigenvalues marked in bold.

Nevertheless, the analysis was run several times with two, three and four factors. All three scenarios contained Q sorts which needed to be left out in the flagging process because they did not load clearly on a specific factor. In this study, the threshold from Webler et al. (2009) could not be applied to the data because it was so high (0.72) that it would have left out five or six Q sorts in every scenario. In the end, the analysis was run with three factors because this preserved most of the clusters of people. In addition, this scenario showed the highest clarity in the factor loadings (most > 0.5). Since three factors had an eigenvalue greater than +1.00, three factors were decided to be the right choice for this study. Together the three factors explain 62 % of the variance in the Q sorts.

To assign the Q sorts to their final factor groups, first the automatic pre-flag (at $p < 0.05$, standard auto-flag level) option from the software was applied. This choice was adjusted afterwards. The Q sort of participant state actor 1 needed to be revised because it was not flagged in the automatic pre-flag of the software. The loadings on factor one (0.56) and factor two (0.56) are both high (see table 7).

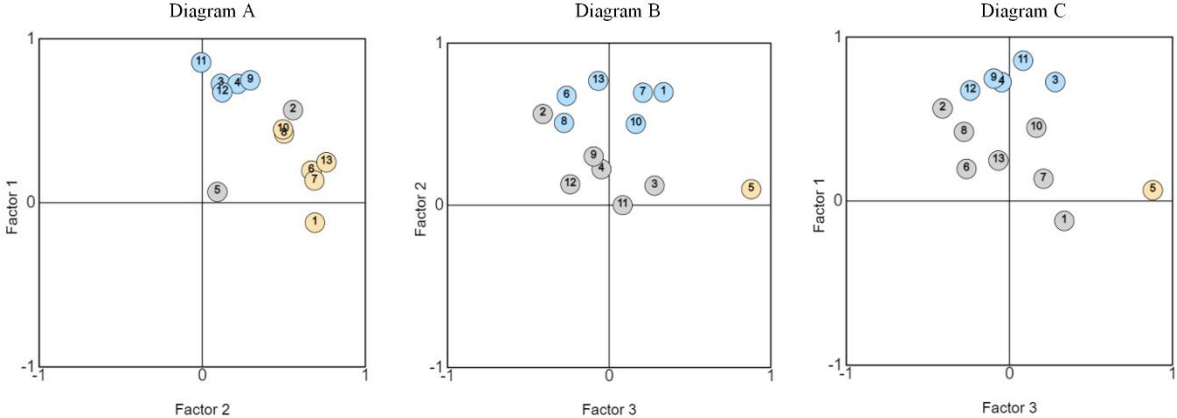
Table 7 - Rotated and flagged factor loading matrix.

No.	Q sort	Factor I		Factor II		Factor III	
1	Non-state 1	-0,12		0,69	flagged	0,34	
2	State 1	0,56		0,56		-0,41	
3	Non-state 2	0,72	flagged	0,12		0,28	
4	Non-state 3	0,72	flagged	0,22		-0,04	
5	Non-state 4	0,06		0,10		0,88	flagged
6	Non-state 5	0,19		0,67	flagged	-0,26	
7	Non-state 6	0,13		0,69	flagged	0,21	
8	State 2	0,42		0,50	flagged	-0,28	
9	State 3	0,74	flagged	0,30		-0,09	
10	State 4	0,44		0,50	flagged	0,17	
11	State 5	0,85	flagged	0,00		0,09	
12	State 6	0,67	flagged	0,13		-0,24	
13	Non-state 7	0,24		0,76	flagged	-0,06	
	% Explained Variance	28		23		11	

Values rounded to two decimal places.

To evaluate state actor 1, the judgemental rotation was used. The advantage of the judgemental rotation is that one can see a scatter plot of the factor loadings for each Q sort. The rotation can be done for only two factors at the same time. The aim of doing this judgmental rotation was to find out if the Q sort of state actor 1 clusters more with factor I or factor II. The rotation of factors I and II (diagram A in figure 12) showed that the Q sort of state actor 1 is closer to factor II. In a rotation of factor II with factor III (diagram B in figure 12), state actor

1 was located closer to factor II. The rotation of factor I with factor III (diagram C in figure 12) did not show a clear tendency of state actor 1 to any of the factors. Since the Q sort was not loading clearly on a factor and a judgmental rotation could not give hints to which factor the Q sort might lean, it was considered to not include it in the further analysis and to see it as a confounder, a person with a hybrid view. Consequently, the factor analysis extracted three factor groups, where one Q sort was not included.



State actor 1 is displayed as no. 2 in the scatter plots. Exact values are in table 5. Numerations in the diagram corresponds to table 5. Colour meaning: A – blue: factor I, orange: factor II; B – blue: factor II, orange: factor III; C – blue: factor I, orange: factor III.

Figure 12 - Judgmental rotations for the flagging of state actor 1.

Step 6: Interpretation of the Q sorts and findings

The interpretation of the viewpoints from the factor analysis followed mainly followed the instructions from Watts and Stenner (2012). This entails the creation of crib sheets and full interpretations for each of the three factor groups. In addition, a special focus was on distinguishing statements. The qualitative description of the factors was written in a narrative style.

Consensus statements can be seen as common agreements across all factor groups (Donner, 2001; Webler et al., 2009). Therefore, they are discussed separately from the perspectives of the factor groups.

4.4 Semi-structured Interviews

In addition to the Q method, semi-structured interviews were used for data collection. Interviews are the most common qualitative research method in Geography to gather information in the form of a conversation (Dunn, 2021). The main purpose of the interviews was to get additional insight into the participants' opinions on national park management in Norway and specifically the study area. At the same time, the Q method includes an interview (see chapter 4.2). In context of the Q method, the aim is to make it easier for Q participants to mention their opinion and to find explanations for how statements are placed in the normal distribution (Brown, 1993). A semi-structured interview form was chosen because it defines predetermined topics but allows flexible questioning at the same time. The researcher is the one redirecting the interview in case it moves too far from the research context (Dunn, 2021).

Interviews were arranged with the same people who completed the Q sort and the background survey. An interview schedule was created in English and Norwegian (see English version in appendix) before Q method and interviews were conducted. The interview schedule ensured that all topics were covered and guided through the interview. An interview guide can be used for semi-structured interviews. Contrary to the interview schedule, it contains general issues and keywords instead of fully worded questions (Dunn, 2021). Since interviews were conducted in two different languages, it was beneficial to have fully worded questions. The first section of questions focused on the Q sort and the participants' experience with it. These questions were asked because they were identified as important by Webler et al. (2009). A second section focused on national park management in Norway in general. This part aimed to gather the participant's opinions on the current participation approach in comparison to the management approach before the reform. Two additional questions gave the participant the option to elaborate on possible improvement and future challenges of Norwegian national park management if wanted.

As mentioned before, in two cases interviews were conducted with two people at the same time. The Q sort of participant non-state actor 6 (phone call) took already longer than an hour. To not overwhelm this participant, an interview was not conducted. Instead, the guiding questions, which were based on the interview guide, were sent out to the participant. The participant provided a written response to the questions which was used for data analysis. In total, 10 interviews were undertaken. The Q sort and interview together lasted on average 40 minutes. The interviews with two people at the same time lasted around one hour.

4.4.1 Qualitative Analysis

For the analysis of the semi-structured interviews, the recorded data was first transcribed manually. The process of transcribing the interviews, helped to familiarise with the data. The transcription was done in the same language as the interview. Hence, interviews in Norwegian were transcribed in Norwegian. Interviews conducted in English were transcribed in English. Transcripts only include the interview and not the Q sort. This produced a total of 59 pages. These were used for coding and analysis. After the transcription, the data was coded with the computer-aided qualitative analysis software NVivo. NVivo is a software package and facilitates data management and analysis in qualitative research (Bryman, 2016).

The next step was the qualitative analysis. The aim of it was to extract people's opinions on the management related to public participation in Femundsmarka and Gutulia National Parks. In addition to interview transcripts, meeting notes from the advisory committee meeting in November 2022 were partially included into the analysis as secondary data. The relevant part included notes from the workshop about the evaluation of the advisory committee.

The first step in the qualitative analysis was the coding. Coding describes the organisation of data by breaking it up into smaller pieces and categorising them (Rossman & Rallis, 2012). The coding process was a mix of deductive and inductive coding. While deductive coding starts with a set of coding based on the researcher's ideas or existing theory, inductive coding is exploratory and codes arrive from the data itself (Bryman, 2016). Deductive codes were based on the interview schedule and were:

- advantages of the public participation approach
- challenges of the public participation approach
- possible improvements to the current public participation approach
- future of national park management in Norway
- possible improvements of national park management in Norway.

The first round of coding focused mainly on interview transcripts from state actors and was based on predefined codes. Afterwards, these were reorganised, and some new child codes were created. The new child codes arrived from the data itself (inductive coding). A second round of coding focused on interview transcripts with non-state actors and the meeting notes. After all data was coded, the codes were reorganised another time, which again included the creation of new codes or child codes.

The following step of the qualitative analysis was based on step four 'Generate a description and themes' in the data analysis process from Creswell and Creswell (2018). Descriptions of

the people based on interview data were not done, since a background survey was already included in this study (see chapter 4.1). Based on the coding, themes and categories were generated. They represented the opinions of multiple research participants (Creswell & Creswell, 2018). Categories were in this case subordinated to themes. The final set of themes and categories is added to the appendix. All these were then written down in a narrative style. In cases where quotes from interviews, which were conducted in Norwegian, were included in this the analysis, I translated them to English. In doing so, I have tried to keep it close to the original context without losing the meaning of it. The results from the qualitative analysis can be found in chapter five.

4.5 Ethics and Methodological Reflections

Good scientific practice includes research ethics. They need to be considered by anyone who does research in order to secure that the research is in line with recognised norms of research ethics (The Norwegian National Research Ethics Committees, 2022). In especially qualitative research methods have an influence on power relations, people's privacy or can harm people (Catungal & Dowling, 2021). Physical harm needs to be considered mainly in the field of health research (Gomm, 2004) and did not pose a risk in this study. This study was, on the other hand, more likely to produce material, political and reputational gains, or losses. Research outcomes can influence policies against or in favour of the participants' interests (Gomm, 2004). This risk existed in this study since the participation process is practically applied in national park management. This study explored perspectives on the approach which might differ from participant to participant since they are subjective. Therefore, outcomes and possible recommendations based on this study might not represent the interest of all participants.

Since this study included research participants and their personal opinions, it was important to work carefully with participants' opinions and to protect their personal integrity, safety and well-being. Before any specific data was collected, the project was approved by the Norwegian Centre for Research Data (NSD). This institution gives advice on data management and anonymity of research projects. The project was accepted by NSD end of November 2022. A common rule is to get the participants' consent before gathering data from them (The Norwegian National Research Ethics Committees, 2022). Therefore, the participants had to sign or orally confirm their informed consent before participating in the project. The consent form informed the research participants about the research objectives, questions, the person in charge

of the project, why they were asked to participate, what participation involved, how private and personal data was used and their rights to withdraw from the consent.

Extracted data from qualitative methods is primarily private information, that does not exist for the public under normal circumstances. A way to ensure the anonymity of the participants of the study is to use pseudonyms instead of original names (Catungal & Dowling, 2021). In order to protect the participants' identity, they were anonymised, and real names were not mentioned. The group of people who are involved with the management in the study area is small and following this study involved a small group of participants, too. Characteristics and personal information such as age, gender or position had the risk to identify people. Therefore, participants were grouped into state and non-state actor groups. The main reason to do so was that there are only two national park managers in the study area. By combining them with members from the national park board and the administrative contact committee, their identity became confidential. Characteristics like educational background seemed less problematic because it was similar among the participants. At points where people could have been identified, further information was not mentioned for reasons of confidentiality.

Most of the research data and material (sound recordings and background data) consisted of personal data. To assure confidentiality, the data was stored on a server from the Norwegian University of Science and Technology. Only the researcher had access to the data. Data was only shared with the supervisor of the project and not with any other institution. Raw research data will be deleted after the research project.

Possible barriers to the project were identified before data collection. Especially linguistic and cultural barriers were recognised. All the research participants were Norwegians while the researcher was not but can fluently communicate in Norwegian. To overcome linguistic barriers, Q statements and the interview guideline were prepared and available in both languages, English and Norwegian. The translation was not a big problem since most of the Q statements originated from Norwegian sources. To avoid misunderstandings and to ensure that the right message was communicated, a native speaker verified the translations. Except for one participant, all respondents chose the Norwegian version of the Q method. The working language of the participants is mainly Norwegian. Due to that, it was expected that it would be easier for them to talk and discuss in their first language. For this reason, participants could decide whether they wanted to conduct interviews in English or Norwegian. Most of the meetings (six out of 11) were conducted in Norwegian. To avoid problems of understanding for both analyses, the meetings were recorded and later transcribed. In the case that the researcher did not understand the participant in the recording, a native speaker helped to clarify

what was said. Luckily, this was not often the case. Since the Norwegian language entails many different dialects, the help of a native speaker was limited to dialect-specific expressions.

Due to not being Norwegian, culture was identified as another possible barrier. To overcome this barrier, the researcher tried to question the motivation and logic of the research participants during the interview. The awareness about possible cultural differences helped to gain knowledge and respect for the local context (cf. The Norwegian National Research Ethics Committees, 2022).

Another aspect that needs to be reflected is the researcher's positionality (Holmes, 2020). The researcher has an educational background in geography with landscape planning and nature conservation as the main field of interest. Consequently, the position in environmental management is pro-nature conservation and could be similar to conservation experts in this project (e.g., national park managers). Since the researcher has not a lot of work experience in the practical field of administration of natural resources, the researcher might have sympathised with and empowered non-state actors. At the same time, it was one of the aims of this study to be a voice for non-state actors since the researcher will probably work in administration in the future. Nevertheless, it might have been an advantage to not have experience in administration. Non-state participants might have been more open to criticise the current participation approach. Nonetheless, the researcher is not from the same country as the research participants. Therefore, fundamental knowledge about policies and management in Norway was not present before starting this study and needed to be gained during the study. Not being part of the examined community might have influenced the information research participants were open to share. To limit this, the researcher showed interest during the interviews and tried to fully understand the participants' opinions. Furthermore, it needs to be mentioned that the researcher did not have experience in conducting the Q method or semi-structured interviews before this project.

5 Findings

This chapter presents findings from the background survey, the Q analysis, and the qualitative analysis of the semi-structured interviews. Especially findings from the last two methods answered the first research question of this study which was: *What are the different social perspectives of involved stakeholders on public participation in the management of Femundsmarka and Gutulia National Parks?* The methods helped to explore the social perspectives on the existing participation approach. Results from the Q analysis review the current situation, explore existing perspectives on the approach and distinguish the perspectives by showing commonalities and differences. The results from the qualitative analysis provide information on the current situation and give a general idea of the perspectives but cannot distinguish between perspectives. The background survey provides information about the research participants.

The first section introduces the results of the background survey. In this way, the reader gets an overview of the people who participated in this study. Information about demographics, educational background, and involvement in the management of Femundsmarka and Gutulia National Park is presented. The second section gives an overview of the results from the Q analysis and introduces the three perspectives. Lastly, the findings from the qualitative analysis are presented. Concluding, a summary combines the most important findings from the three methods.

5.1 Background Survey Findings

All 13 research participants completed the background survey online. They were the same people who conducted the Q sort and the semi-structured interview.

5.1.1 Demographic and Educational Background

Out of the 13 respondents, seven people identified themselves as female and six as male. The youngest respondent was 27 years old and the oldest was 75 years old. On average respondents were 48 years old. Sorted into five by ArcGIS Survey 123 predefined groups with a span of 10 years, most respondents (four people) gathered in the group of 46 to 56 years (see table in appendix).

Twelve out of the 13 respondents were mainly located in rural areas. This category includes smaller municipalities (*tettsted*) such as Røros, Tynset or Engerdal. One person was from an urban area.

Ten respondents fulfilled four or more years of higher education (e.g., university or college). Two respondents visited a university or a college for three years. One respondent finished high school (*videregående skole*). An open-ended question about the educational background gave many different responses. For easier understanding, I sorted the responses into four categories. Ten respondents had an educational background in natural sciences or studies that are connected to human-nature relationship. This includes nature management (*naturforvaltning*), ecology, biology, geology, backcountry management (*utmarksforvaltning*), agriculture, archaeology, and nature-based tourism. One respondent had a background in politics, one in administration and another person in tourism and outdoor recreation (*friluftsliv*). Some of the respondents had more than one background.

5.1.2 Involvement in the Management of the National Parks

Seven of the 13 study participants were non-state actors and six were state actors. All 13 participants were engaged in the management of Femundsmarka and Gutulia National Parks. The non-state actors were all members of the advisory committee. National park managers, members of the national park board or the administrative contact committee were combined in the group of state actors.

Theoretically, all respondents could attend the advisory committee meeting. One respondent did not answer the question of how often he or she has participated in the meetings. Four respondents have participated every meeting so far, while three say they participated often. Five people visited the advisory committee meetings rarely.

Four of the seven non-state actors in this study represented outdoor recreation interests in the advisory committee (see figure 13). Three people worked in the tourism sector. Two people represented owner interests and two others represented nature protection interests. Furthermore, people were from the sectors cultural and natural history, forestry, and a mountain board.

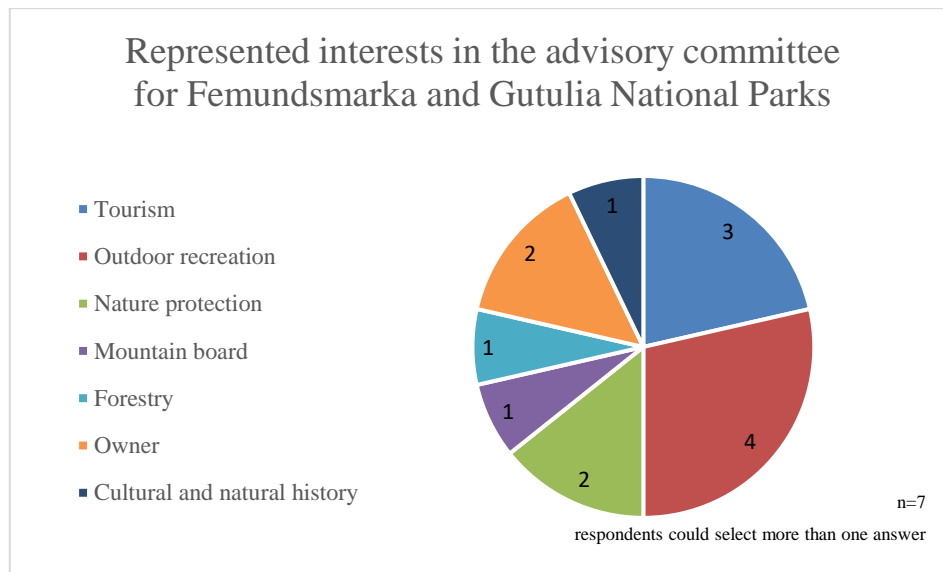


Figure 13 - Represented interests in the advisory committee.

Three of the seven members from the advisory committee have participated in the committee for more than two years. Four people have been part of it for two or less than two years.

5.2 Q sort Findings

The Q analysis identified existing perspectives among the research participants on public participation in the management of Femundsmarka and Gutulia National Parks. Factor extraction, rotation and allocation of individual Q sorts to the factors, created three main perspectives (discussed in detail in chapter 4.3). Moreover, the method identified the narrative of these three perspectives. The narrative includes distinguishing as well as consensus statements. Another output from the factor analysis was a table showing the correlation between the three factors (see table 8). It shows that the perspective of factor group one and two were more similar to each other than to factor III. Factor III correlated more with factor II than with factor I.

Table 8 - Factor score correlations.

	Factor I	Factor II	Factor III
Factor I	1	0,4136	0,0681
Factor II		1	0,1347
Factor III			1

Firstly, this section addresses consensus statements. After that, the perspective of each factor is presented. This includes the presentation of statistical data and demographic information about all participants belonging to a factor group. It follows a narrative description of the

perspectives combining the viewpoints of all participants who loaded high on that factor. The narratives explain the perspective of the participants on nature conservation, national park management and public participation in the management of Femundsmarka and Gutulia National Parks. A review of comments during the Q sort and the interviews helped to find reasons for the Q sort distribution of the people who loaded high on a factor. The narrative descriptions of the perspectives do not include the ranking of each of the 31 statements. They focus especially on highest and lowest ranked statements as well as on statements ranked higher or lower than in other factors (see chapter 4.2). Findings from the Q analysis include interpretations since it is part of the Q method to interpret the sort (step 6). The numbers of statements and their ranking corresponding to the factor group are included in brackets (statement: ranking). Narratives are described from the viewpoint of the participants. In addition, composite Q sorts give a visual impression of the ranking for each factor group. A consensus-disagreement list of all the statements and for each perspective is added to the appendix. The list helped to get an overview on the different rankings of the factor groups.

5.2.1 Consensus Opinions

Five of the 31 statements were consensus statements and non-significant at $P > 0.05$. This implied that all three factor groups ranked these statements similarly.

All three perspectives agreed that meetings with other management bodies (e.g., committees from other parks or central authorities) could have a positive impact on the work of the advisory committee (statement 5: factor I: +2; factor II: +1; factor III: +2). Only one participant referred to this statement during the interview and said: *'Maybe if we had some insight into other advisory committees [and how they work], we might have gotten some inspiration to contribute maybe a little bit more [in Femundsmarka and Gutulia]'* (state actor 6).

All perspectives had a neutral perspective on the effectiveness of mechanisms for public outreach and communication (statement 6: factor I: 0; factor II: 0; factor III: -1). A reason for this statement not being relevant could have been that all participants know the park since most of their work is related to the national parks. Some of the organisations might also have own channels to publish information. Furthermore, other statements about the local management or the participation approach might have been more important.

None of the factor groups wanted members of the advisory committee to lead their meetings (statement 11: factor I: -3; factor II: -3; factor III: -3). Currently, the national park managers are

in this position and many participants mentioned that they appreciate their engagement and commitment. They described them as experienced and trustworthy people.

For none of the factor groups it was important that members of the committee are approved by the national park board (statement 10: factor I: -4; factor II: -3; factor III: -4). This might have been connected to statement 12 (factor I: 0; factor II: -1; factor III: -1) which shows that participants felt neutral about the represented interests in the committee. A reason for this ranking could be, that they are already part of the committee and so their interest is represented in the committee.

The following two statements were consensus statements at $P > 0.05$. Factor group II agreed more with the statement that communication between the committee and the management board is one-way and mainly initiated by the board than group I and III (statement 7: factor I: 0; factor II: +2; factor III: 0). The other two groups placed this statement as neutral. Perspectives I and II agreed slightly to having financial compensation for the participation in the committee (statement 8: factor I: +1; factor II: +2; factor III: -1). For factor group III this was less important.

Statement number 22 'National parks should be managed primarily by owners' was not marked as a consensus statement in the Q analysis. However, all factor groups disagreed with it (factor I: -3; factor II: -4; factor III: -4). This might be an indicator that national park management should follow multiple interests.

5.2.2 Factor I: Local Political National Park Management with a Good Public Participation

Factor I had an eigenvalue of 4.98 and explained 28 % of the variance in the overall Q sort. Five participants were associated with this viewpoint. Four of the five participants were female. On average participants in this factor group were 50.6 years old. Two participants were non-state and three state actors. Except for one participant, all people lived in rural areas. One participant fulfilled three years of higher education while four fulfilled four or more years of higher education. The majority (four participants) had an educational background in natural sciences and one in tourism and outdoor recreation. Except for one participant, all people have participated or worked in national park management for at least four years.

Dialogue, discussion, knowledge exchange and trust building among members of the advisory committee and with the national park board is the main goal of the current participation approach (14: +4; 3: +4; 9: +1). It is important to get to know other stakeholders and to

understand their tasks and viewpoints on the management of Femundsmarka and Gutulia National Parks. The combination of different interest groups in the committee facilitates the building of new cooperations and the creation of ideas for joined projects. It is more important to stimulate dialogue than to provide information in the committee meetings (9: +1). Current meetings give enough room for dialogue and discussion (1: -3). Especially workshops are a perfect measure to facilitate interaction (19: +3) because they give everyone the option to participate. It is beneficial that the stakeholders are spending a whole day together. Breaks between group sessions can easily be used for dialogue, discussion and knowledge exchange. In addition, it is an advantage that the current advisory committee is rather small compared to committees in other national parks. This facilitates the participation of the stakeholders in the meetings.

National park management in general is transparent (27: +3), based on scientific knowledge (28: +2) and connected to environmental education. Environmental education helps to achieve nature protection goals (15: +2). Together environmental education and scientific knowledge build the basis for dialogue and discussion of management issues. Both create an understanding of why nature needs to be protected. This knowledge is essential for the creation of local support for nature protection. Furthermore, it is useful for the achievement of protection goals.

'Local democracy is very important in Norway' (state actor 5). Therefore, local management of national parks and other big, protected areas is seen as beneficial. *'Politicians are the ones, who are elected to decide in our society, so they should be [in this position]'* (state actor 5). Consequently, it is justified that local management involves a high degree of local politicians in decision-making (16: -1). They are elected by the local society and secure the connection of the management to the local area. Hence, the current local national park board does not have too much power (25: -4). County politicians, national park managers and affected stakeholders are an additional variable in local management. The collaboration between the advisory committee and the national park board is good (4: +1). The advisory committee can be seen as an additional channel for interest groups to forward their opinions to local politicians. The advisory committee has opportunities to influence the decision made by the board (2: +3), but *'is too big to efficiently run the national park on a daily management level'* (non-state actor 3). Therefore, the committee should not have more power in decision-making (23: -2). Many different interest groups are part of it, and a decision-making process would produce a lot of conflicts since some actors may be interested in stricter protection and others may want to open the park for tourism. Nevertheless, the expertise of the advisory committee can be used as a

reference group for bigger projects in the national park or for projects of the involved stakeholders (e.g., planning of information trails).

Meetings of the advisory committee require an experienced facilitator (29: +2). Currently, the two national park managers are in this role. They are the communicator between the committee and the national park board. They have valuable experience, and it is easy to trust them. A non-state interviewee said: *'I believe in [...] [the national park managers].'* In general, they do a satisfying job. If they were not doing such a good job, it could be more important to have common meetings with the whole national park board (30: -2). Actually, *'it could be easier for the national park board to be at our meetings to [...] [hear] how we think. But in our position, I think, it is not of big relevance [to have common meetings]'* (state actor 6).

-4	-3	-2	-1	0	1	2	3	4
25. The national park board has too much power.	** 1 . Current physical meetings do not give enough room for dialogue and discussion.	30. Joint meetings of the advisory committee with the whole national park board would make it easier to give advice.	** 16 . Too many politicians are involved in national park management at the moment.	** 18. There should be more than one meeting per year for the advisory committee.	9. Meetings should stimulate dialogue instead of just providing information.	15. Environmental education and participation help achieve nature protection goals.	** 27 . National park management for Femundsmarka and Gutulla is transparent.	14. An important part of the advisory committee is to build trust among the different stakeholders (members of the
10. It is important that members of the advisory committee get approved by the national park board (after election).	11. The advisory committee should have the lead in the meetings.	13. The participation approach cannot be open to just anyone who wants to participate, participation has to be	21. Laws are interpreted in favor of development of natural areas.	12. At the moment all relevant interests are represented in the advisory committee.	17. The task of the advisory committee is understandable and clear.	** 28 . National park management is based on scientific knowledge.	19. The current use of workshops creates enough room for dialogue and discussion.	3. The advisory committee is an arena for dialogue, discussion, and knowledge exchange for its members.
	22. National parks should be managed primarily by local people.	** 23 . The advisory committee should have more power in decision-making for national park management.	** 31. Only conservation experts should make decisions on national park management.	7. Communication between advisory committee and board is mainly coming from the board.	4. The collaboration between advisory committee and board is good now.	5. Meetings with other management bodies (e.g., committees from other parks, central authorities) would have a	** 2 . The advisory committee has influence on the national park board at the moment.	
		26. Good national park management solutions primarily come from the central level (government).	20. The advisory committee should be mainly included in bigger projects (e.g., visitor strategy) but	24. People affected by nature conservation should be financially compensated.	8. Participation in the advisory committee should be paid (not only travel expenses).	** 29 . The meetings need an experienced facilitator.		
				6. Current mechanisms for public outreach and communication are effective.				

Legend
* Distinguishing statement at $P < 0.05$
** Distinguishing statement at $P < 0.01$
► z-Score for the statement is higher than in all the other factors
◄ z-Score for the statement is lower than in all the other factors
□ Consensus statement

Figure 14 - Composite Q sort for factor I.

5.2.3 Factor II: Holistic Local National Park Management with Improvement of Public Participation

Factor II had an eigenvalue of 1.7 and explained 23 % of the variance in the entire Q sort. The majority of study participants (six of 13 people) loaded on this social perspective. Four of the six participants were male. On average people were 48.5 years old. Four of the six participants were non-state actors and two were state actors. All participants lived in a rural environment. The education level in this group was diverse. One person finished high school, one person fulfilled three years of higher education and four people completed at least four years of higher education. Five of the six people had a natural science background (e.g., biology, ecology). Two people have participated in national park management for more than seven years. Four people were relatively new to the field (max. two years).

The advisory committee is an arena for dialogue, discussion and knowledge exchange among its member (3: +3) where trust plays an important role (14: +3). Dialogue is an essential part of the committee meetings (9: +4). The actual task of the committee is not precise (17: -3). Several years ago, meetings focused more on the distribution of information than today. Nonetheless, today's meetings could give more room for dialogue and two-way communication. This could include for example more presentations of the different actors about their problems and challenges in connection to Femundsmarka and Gutulia. The workshops in the meetings are an easy way to stimulate dialogue and discussion (19: +2). Even though they require a lot of time, they should not be missing in future meetings. Unfortunately, the rest of the meeting does not give enough room for dialogue and discussion (1: +3). Moreover, meetings neither need an experienced or trained facilitator (29: -2) nor should the advisory committee lead the meetings (11: -3). However, members of the committee could be more involved in meeting preparations.

Additional meetings (18: +2) could give more space for dialogue and two-way communication. One meeting per year does not give enough space to get to know all different stakeholders and their interests. A more spacious agenda could give more room for general information and questions. Nevertheless, *'you cannot have a meeting just to have a meeting. You must have an agenda and a vision'* (non-state actor 1). A second meeting could be hold in another location than Røros (e.g., Elgå, Drevsjø or in the field).

In addition, monetary compensation for voluntary members of the advisory committee is a good idea. This compensation should be on top of the already compensated travel expenses (8: +2). Professionals, as well as volunteers, have relevant interests and ideas for national park management. It is important to have a balance between these two groups. *'[...] [Money] should not determine if [one] has the possibility to participate – that is a bit important'* (non-state actor

5). A compensation system similar to participation in political meetings could be a fair solution. This would include a fixed amount for meetings in addition to the already paid travel expenses.

It is uncertain if the board listens to the opinions of the advisory committee. It seems that the meetings give more room to influence the national park managers than the national park board itself (2: 0). The current collaboration between the board and the advisory committee is not good (4: -1) and needs more collaboration. More direct communication and interaction between the advisory committee and the national park board is desirable. The focus should be on two-way communication (7: +2).

Common meetings with the whole national park board could be a solution to have more influence on the decisions taken by the board (30: +4). The reason for having common meetings is not that people do not trust the board members to make good decisions, but that all board members could hear the same things, and all together (committee and board) could have a dialogue about relevant topics. This could create a better understanding of the different viewpoints. Furthermore, many committee members have expert knowledge on nature management. A common meeting could be an option to inform politicians about how things should be done professionally and make them follow these expert recommendations.

National park management is a holistic task where good solutions do not come from the central level (26: -2). Protected areas should be managed publicly (*offentlig forvaltning*). Management based only on landowners is not an option (22: -4), but '*the national park board and management should involve [...] owners a bit more in terms of collaborations*' (non-state actor 5). Not only conservation experts should take decisions about management (31: -4), but they should build a professional base for it. Local management is based on more than scientific knowledge (28: -1). Local user interests, owner interests and traditions are as important as a scientific base. The current approach represents this with a combination of a professional and scientific knowledge (national park managers) and local interests (local and regional politicians) on the base.

-4	-3	-2	-1	0	1	2	3	4
**◀ 31. Only conservation experts should make decisions on national park management.	*◀ 17. The task of the advisory committee is understandable and clear.	21. Laws are interpreted in favor of development of natural areas.	12. At the moment all relevant interests are represented in the advisory committee.	24. People affected by nature conservation should be financially compensated.	* 16. Too many politicians are involved in national park management at the moment.	19. The current use of workshops creates enough room for dialogue and discussion.	14. An important part of the advisory committee is to build trust among the different stakeholders (members of the	**▶ 30. Joint meetings of the advisory committee with the whole national park board would make it easier to give advice.
22. National parks should be managed primarily by local people.	11. The advisory committee should have the lead in the meetings.	25. The national park board has too much power.	28. National park management is based on scientific knowledge.	27. National park management for Femundsmarka and Gutulla is transparent.	5. Meetings with other management bodies (e.g., committees from other parks, central authorities) would have a	**18. There should be more than one meeting per year for the advisory committee.	1. Current physical meetings do not give enough room for dialogue and discussion.	9. Meetings should stimulate dialogue instead of just providing information.
	10. It is important that members of the advisory committee get approved by the national park board (after election).	29. The meetings need an experienced facilitator.	**◀ 15. Environmental education and participation help achieve nature protection goals.	23. The advisory committee should have more power in decision-making for national park management.	13. The participation approach cannot be open to just anyone who wants to participate, participation has to be	8. Participation in the advisory committee should be paid (not only travel expenses).	3. The advisory committee is an arena for dialogue, discussion, and knowledge exchange for its members.	
		26. Good national park management solutions primarily come from the central level (government).	4. The collaboration between advisory committee and board is good now.	6. Current mechanisms for public outreach and communication are effective.	*▶ 20. The advisory committee should be mainly included in bigger projects (e.g., visitor strategy) but	7. Communication between advisory committee and board is mainly coming from the board.		
				2. The advisory committee has influence on the national park board at the moment.				

Legend
* Distinguishing statement at $P < 0.05$
** Distinguishing statement at $P < 0.01$
▶ z-Score for the statement is higher than in all the other factors
◀ z-Score for the statement is lower than in all the other factors
□ Consensus statement

Figure 15 - Composite Q sort for factor II.

5.2.4 Factor III: Expert Based Local National Park Management

Factor group III had an eigenvalue of 1.37 and explained 11 % of the variance in the Q sort. It is associated with one participant. This participant as a non-state actor. Further information on age, gender, educational background etc. cannot be provided for reasons of confidentiality.

Too many politicians are currently involved in the decision-making process for national parks (16: +4). The board does not represent all existing opinions on nature management. Politicians might have another value of nature than other stakeholders. Most politicians look at national park management from an economic or personal perspective. The board lacks a pro-nature conservation perspective. Furthermore, the national park board has too much power (25: +4). National park managers, as experts for nature conservation, should have more power in decision-making instead of just being secretaries of the board (31: +2). Since politicians dominate the management, management is not sufficiently based on scientific knowledge (28: -3). Many members of the advisory committee have a natural science background and should therefore have more power in decision-making (23: +2).

The last committee meeting (in November 2022) focused too much on the provision of information. Instead, meetings should give more room for dialogue and discussion (1: +1). The workshops do not create sufficient room for dialogue and discussion (19: -2). For productive public participation, the different stakeholders (committee members, board members etc.) need to trust each other (14: +1).

-4	-3	-2	-1	0	1	2	3	4
10. It is important that members of the advisory committee get approved by the national park board (after election).	11. The advisory committee should have the lead in the meetings.	*15. The current use of workshops creates enough room for dialogue and discussion.	6. Current mechanisms for public outreach and communication are effective.	2. The advisory committee has influence on the national park board at the moment.	1. Current physical meetings do not give enough room for dialogue and discussion.	5. Meetings with other management bodies (e.g., committees from other parks, central authorities) would have a	15. Environmental education and participation help achieve nature protection goals.	*16. Too many politicians are involved in national park management at the moment.
22. National parks should be managed primarily by local people.	**18. There should be more than one meeting per year for the advisory committee.	20. The advisory committee should be mainly included in bigger projects (e.g., visitor strategy) but	12. At the moment all relevant interests are represented in the advisory committee.	4. The collaboration between advisory committee and board is good now.	*14. An important part of the advisory committee is to build trust among the different stakeholders (members of the	9. Meetings should stimulate dialogue instead of just providing information.	**21. Laws are interpreted in favor of development of natural areas.	**25. The national park board has too much power.
	28. National park management is based on scientific knowledge.	29. The meetings need an experienced facilitator.	**3. The advisory committee is an arena for dialogue, discussion, and knowledge exchange for its members.	7. Communication between advisory committee and board is mainly coming from the board.	**26. Good national park management solutions primarily come from the central level (government).	23. The advisory committee should have more power in decision-making for national park management.	*24. People affected by nature conservation should be financially compensated.	
		30. Joint meetings of the advisory committee with the whole national park board would make it easier to give advice.	8. Participation in the advisory committee should be paid (not only travel expenses).	13. The participation approach cannot be open to just anyone who wants to participate, participation has to be	27. National park management for Femundsmarka and Gutulia is transparent.	**31. Only conservation experts should make decisions on national park management.		
				17. The task of the advisory committee is understandable and clear.				

Legend
* Distinguishing statement at $P < 0.05$
** Distinguishing statement at $P < 0.01$
► z-Score for the statement is higher than in all the other factors
◄ z-Score for the statement is lower than in all the other factors
□ Consensus statement

Figure 16 - Composite Q sort for factor III.

5.3 Qualitative Analysis Findings

The qualitative analysis of the advisory committee meeting notes and the interview transcripts resulted in two major themes which structure this section. The first sub-section is public participation in Femundsmarka and Gutulia National Parks. Identified categories were advantages, challenges and possible improvements of the approach as well as the influence of the advisory committee on the decision-making process.

The second sub-section entails three categories of Norwegian national park management. While the interview guide asked for future challenges in national park management, the other two categories in this theme arrived from the data itself and were not expected. They talk about the challenges of politically driven national park management and possible improvement within governance and management.

5.3.1 Public Participation in Femundsmarka and Gutulia National Parks

Research participants generally perceived the advisory committee as a good way to participate in national park management. The different committees, advisory and administrative contact committee, initiate dialogue between the management body, local stakeholders and among stakeholders themselves. In the case of Femundsmarka and Gutulia, the two committees have a common meeting. This quote showed that this combined meeting is a good solution.

‘I think it would have been a very small group and it is also very important for us [the administrative contact committee] to know each other's views because the advisory committee is more concerned with user interests. And I think it is very positive for the administration that we know each other and hear about each other's use of the park and the protected areas’ (state actor 6).

Participants understood the advisory committee as an arena and meeting point to which all relevant stakeholders are invited. Here they meet, get to know other interest groups, and can exchange knowledge and challenges in connection to the park. Moreover, they can create ideas for future projects or collaborations can arise in this forum. At the same time, organisations can bring up topics of interest they want to discuss with other stakeholders. Furthermore, it is an advantage to personally know responsible people. This facilitates informal communication among stakeholders as well as between stakeholders and the management board or the national park managers.

5.3.1.1 Workshops as a Method for Participation

The workshops in the meetings were perceived as a useful method. *‘[Workshops are] the easiest way to get everyone to say something when we are so many [in the advisory committee]’* (non-state actor 3). Even though they take up a lot of time, they are an essential tool to facilitate dialogue and discussion. It would not be a good idea to exclude them as this research participant said: *‘If you take them [the workshops] away from the meetings, that is a bit silly’* (non-state actor 5). An informant, who has also participated in advisory committees for other national parks, appreciated the size of the committee for Femundsmarka and Gutulia. Other committees invite more stakeholders and therefore it is more difficult to have good discussions in the plenum. Meetings are more similar to information meetings. In the case of Femundsmarka and Gutulia, on the other hand, there are not too many stakeholders present. Members spend the entire day together and dialogue, discussion and knowledge exchange can take place in breaks between sessions.

5.3.1.2 A Special Role of the National Park Managers

Members of the advisory committee have a good relationship with the two national park managers of Femundsmarka and Gutulia. Their experience and trustworthiness are highly appreciated. Some of the stakeholders may have specific collaborations and others appreciate the dialogue they can have with them. In more informal settings they can discuss management tasks, practical problems or issues such as the feasibility of future projects. Examples are weekly meetings, phone calls, and meetings apart from the annual committee meeting. This informal contact strengthens the relationship between user interest and the management authority (especially the managers). Another fact that was appreciated by participants is the close location of the managers to the national park itself. *‘It is about the contact, to be easily accessible [for local stakeholders], to be familiar with the area and the municipality, the possibility to easily talk with each other’* (state actor 4). The two managers have one office in Røros and a second one in Drevsjø. In both locations, they share offices with organisations that are part of the advisory committee. The following statement showed the different benefits of the location.

‘We are lucky in the office here in Drevsjø, where I sit, that the national park manager [...] has an office in the same building. [...] [The manager] is mostly located in Røros but is sometimes here and we have a good dialogue. So, this is

very positive. [...] I am very open to that we can talk to each other and have useful dialogues. [...] It is very nice to be able to talk face-to-face instead of calling. So, this is useful for discussing specific cases as well as general ones as well as having the contact and the dialogue' (non-state actor 7).

The qualitative analysis demonstrated it is debatable whether the advisory committee has a real influence on decision-making. One annual meeting might make information more available and accessible for stakeholders, but it does not give them the power to influence decisions. Based on the current annual meeting, it is more likely to influence the park managers but not the decision-making inside of the national park board. At the same time, the committee can be a more formal channel of communication with politicians. Stakeholders do not have to talk separately to the politicians in charge, but instead, they were invited to this forum to mention their opinion. However, the work on the visitor strategy for the two national parks is an example of successful participation with influence on the outcome. In this case, the committee was included in the preparations and had the option to contribute. Stakeholders were part of discussions as well as dialogues and contributed to the problem-solving process.

5.3.1.3 Ideas for Improvement of the Participation Approach

Even though many stakeholders appreciated being invited to the advisory committee and to participate in the management of Femundsmarka and Gutulia national park, analysis data depicted challenges and room for improvement. Meetings seem to not give enough room for input, dialogue and discussion. Another identified challenge was the lack of knowledge about the organisational structure of the committee itself and the national park management in general. It is unclear how much decision-making power the national park board holds. This lack of knowledge might have had an impact on the Q method as this participant said: *'I do not feel that I know enough [about] the organisation that I am participating in – national park management. So, that is why it is hard to range these statements'* (state actor 5).

A more satisfying participation approach would include more time for dialogue and discussion and less one-way communication coming from the national park board and national park managers. A possible way to improve this is an additional channel of communication besides the annual meeting. An idea is to have digital reports or newsletters for all members of the committee. These could include sections written by different member organisations about their achievements or projects in connection with the national parks. It was criticised that the

annual meeting contains a lot of information at once. Several meetings over the year, shorter meetings and topic-specific meetings could solve this problem. Since the increase in meetings per year requires more resources, it could be an option to have digital meetings in addition to one physical meeting. By splitting up the current annual meeting into several meetings throughout the year, a physical meeting could give more room for dialogue, discussion and two-way communication. Another idea was to arrange the meetings in different places than in Røros. This could be for example in Drevsjø or Elgå where some of the committee members are located. Furthermore, it could be beneficial and fair to compensate for the participation of voluntary members since the economic situation of a member should not determine whether they can participate or not. Compensation could be an advantage, especially for smaller businesses and self-employed people who represent important user interests at the same time. The following statement covers all the above-mentioned arguments for monetary compensation.

‘I think it is very important if you want local businesses, tourist companies and those who have small businesses or who are self-employed and who live close to the national park – if you want them to participate [...] – the self-employed might be marginalised. So, then it is very important to include their voice, to listen to what they think. I think it is important to have a compensation scheme. We who are employed in the public sector, for us it is part of our work’ (state actor 6).

Another point, which was already identified in the Q analysis, was the aspect of having a common meeting (*fellesmøte*) where the national park board and the advisory committee come together. This meeting could be a way for committee members to have a more direct dialogue with the ones who make the final decisions.

5.3.2 Norwegian National Park Management

Even though the interview guide did not emphasise the governance system of national parks in Norway with a big focus, this topic arrived in the coding of the qualitative data. Participants mentioned the politically driven management board and ideas for improvement of the system.

5.3.2.1 Politically Driven Local Management

Research participants questioned the fact that national parks are driven by politicians. They were afraid that politicians may represent another value of nature than for instance non-governmental organisations for nature conservation or mountain management boards. In their opinion it is more likely that politicians represent economic interests such as job creation. *'[They] do not represent all the people'* (non-state actor 4). Furthermore, is the composition of the board not completely local because politicians from the counties are part of it and they are not necessarily from the area the national park or protected area is located in. They may not have the same *'local connection'* to the area as locals. In comparison, *'some other representatives from local organisations could be vitalising the board a bit more than [...] [representatives from the county] because they are [from the area]'* (state actor 3). Nevertheless, politicians represent an interest, and it is their strength to have a general overview. It is important to not generalise the critique. *'Some of them have the personal skills, that makes [it] nice to have [them in] the board and some do not really care [about it]'* (state actor 3).

Another critique was the insufficient professional knowledge politicians have on nature conservation and topics such as reindeer protection. It was questioned *'if specific management issues should be the subject of some political debate'* (non-state actor 1). One of the research participants reported the following experience when giving professional advice regarding nature management to politicians. *'I can experience that they have been subject to lobbying activities, or they have a personal opinion. So, they decide against professional advice and that can be problematic in many ways'* (state actor 4). However, the current board for Femundsmarka and Gutulia is good. In general, the success of the local management approach depends on a functioning management board as this participant said: *'I think it is working well. You have a mix of experts and politicians. So, I think it is a good system, but we are dependent on a good working national park board'* (state actor 4).

5.3.2.2 Ideas for Improvement in Norwegian National Park Management

Asking about the future of national park management, some ideas on how national park management could be improved were identified in the qualitative analysis. A central problem, for the moment, is the lack of resources and money the management receives from the central government. Increased available resources could improve the participation of local interest groups.

In addition, more diverse opinions should be taken into consideration when making decisions. Communication in the society regarding nature management, climate and biodiversity crisis needs to improve. Subjects like biology are part of the general education but issues such as environmental problems, climate change, and biodiversity crisis are not widely communicated on a daily basis. It is important to ‘*create much more understanding in the whole community about nature*’ (state actor 1).

Furthermore, today’s national park management is fragmented. ‘*We have the national park management and the national park board, [...] Statskog and DNT, and [...] Statens naturoppsyn⁴ and we all have partially the same tasks, with some more specific ones*’ (non-state actor 5). The management could be more connected within one organ where ‘*you both get information, practical issues, law administration, monitoring, visitor centres, rangers, everything*’ (state actor 3). Respondents mentioned the National Park Service in the United States of America as an example.

5.3.2.3 Future Challenges for Norwegian National Park Management

Future challenges for national park management were divided into two categories – physical and social challenges.

Physical challenges describe an increasing pressure on available land. It will be more important than ever to have strong national park boards and managers who can stop the expansion of human activity into pristine nature. Examples are cabin tourism and motorised traffic inside protected areas. In the future, it is more important than today to protect parts of the Norwegian wilderness. A second physical threat is the changing climate and the impact on protected areas. ‘*We need to adapt more to [...] climate change, [and] do monitoring. What*

⁴ The Norwegian nature inspectorate (*Statens naturoppsyn*) is an operational field organisation. It is part of the Norwegian environmental administration and a department of the NEA. They control that environmental laws are respected on public and private land. Other tasks are control, supervision, information and guidance, as well as registration, documentation, management, and organisation in connection to environmental management (Miljødirektoratet (n.d.)).

happens with our areas and how do we adapt to the climate change that is ahead of us[?]' (state actor 2). Management staff has already tried to include science and knowledge production a bit more in the management. A master's thesis and a research project from the Norwegian institute for nature research (NINA) have analysed visitor impacts on the nature in Femundsmarka National Park. Both studies show that more knowledge about the status of nature inside the parks is needed. This was also the opinion in the management because *'We need the knowledge. We have too little research, too little measuring, monitoring. Follow-up [studies] should be much closer'* (state actor 3). With an increase of scientific knowledge, the management could practise adaptive management.

Social challenges such as increasing tourism are a threat to protected areas. Especially social media such as Instagram and YouTube are uncontrolled advertisements for Norwegian national parks and nature in general. Influencer promote known but also unknown places. This has many consequences for nature and society. The damage to untouched nature and rescue operations at the cost of the Norwegian population are just two of them. A solution to prevent damage to untouched nature is to channel visitors through the park and facilitate their visit (*tilrettelegging* in Norwegian). Examples could be small bridges over wetland areas (*klopper*), natural stairs in steep parts of mountains (*sherpatrapp*) and trail marks in the landscape. At the same time, it is problematic that a managed and organised outdoor experience for tourists and visitors of protected areas collides with the Norwegian right to roam (*Allemannsretten*) as this person said: *'Then you have it more controlled. I think we get more of it, but in Norway we have the "Allemannsretten" which means that you do not get as good control as in Germany for example'* (state actor 6).

5.4 Summary of Findings

The analysis of the different methods clarified different perspectives and commonalities among involved stakeholders on the management related to public engagement in Femundsmarka and Gutulia National Parks. The survey provided background information about the research participants. While the qualitative analysis identified general opinions on the public participation approach, possible points for improvement and challenges of the national park management, the Q analysis was able to identify three different perspectives. The perspectives were similar in some aspects but differ in others. This section gives a short overview on the main findings.

In this study, 13 people participated. All participants were involved in the management of Femundsmarka and Gutulia National Parks since it was a predefined requirement. Seven people were members of the advisory committee and represented different user interests. The other six were state actors and part of the national park board, administrative contact committee or park managers. The majority, ten of the 13 participants, had a background in natural sciences or studies focusing on human-nature relationships.

All three perspectives perceived dialogue, discussion, knowledge exchange and trust as important characteristics of the participation process in the advisory committee. The first perspective was satisfied with the current approach. Perspective II and III, on the contrary, defined aspects for improvement of the participatory approach in Femundsmarka and Gutulia. Meetings require more room for dialogue and discussion, more two-way communication, more meetings, and monetary compensation of voluntary participants. These ideas for improvement were also identified in the qualitative analysis. Additionally, meetings with the committee and the national park board can be a way to facilitate direct communication between the stakeholders and the decision-makers.

The three perspectives differed in their opinion on who should hold decision power in national park management. The first perspective was in favour of political decision-making since politicians are elected by the local society. The second perspective preferred a holistic approach to decision-making which respects science, local user interests, owner interests and traditions. The current approach combines professional and scientific knowledge with local interests, by including managers, politicians and user interests, and meets thereby the perspective of factor II. The third perspective was in favour of scientific instead of politically driven decision-making since politicians do not necessarily represent the same value of nature as conservationists do.

The qualitative data analysis identified general key messages about public engagement, which were partially already identified in the Q analysis. The advisory committee was perceived as a good way to stimulate dialogue, discussion and knowledge exchange among stakeholders. Additionally, the committee is a meeting point for user interests as well as administrative and management involved parties. Furthermore, it was perceived as important that involved parties can trust each other. Especially workshops in the meetings are an appropriate method to facilitate interaction between the participants. The national park managers have a key role in the facilitation of public engagement in the management of the two national parks. They successfully lead the meetings of the committee and are communicators and connectors between the committees and the management board. Several of the stakeholders have a good

relationship with the managers. They have informal contact with them in addition to the annual committee meetings. The managers' importance may be caused by their experience, trustworthiness and their spatial proximity to the parks and most stakeholders.

Furthermore, the qualitative findings demonstrate that participants are sceptical towards a fully political board. Things that could be improved in the Norwegian national park management are the introduction of a connected management service, the integration of more interests into the final decision-making, and more available resources such as financial resources. Future challenges for the management are physical and social. Ways to address these can be the channelling of tourists in the areas and more preparation for outdoor experience.

6 Discussion

Q sorts, qualitative semi-structured interviews and a background survey were conducted to examine the perspectives and their differences of involved stakeholders with the aim to explore the social perspectives on the public participation process in the management of Femundsmarka and Gutulia National Parks in Norway. In this study, findings from the Q method were used to distinguish and characterise the three explored perspectives. Semi-structured interviews provided supplementary information which was valuable to understand aspects of the current participation approach more in detail and to make sense of the perspectives.

In conclusion, the findings indicate that three perspectives on the participation approach exist among the research participants. Opinions on what needs to improve are similar and were also identified in the qualitative analysis. Additionally, the perspectives differ when it comes to power distribution in decision-making. Based on that, a good participation approach is not only dependent on its implementation but also associated with governance.

This chapter is divided into three main sections. The first one presents an interpretation and discussion of the thematic findings from this study which includes among others the distribution of actors across the perspectives and a discussion of commonalities and differences between the perspectives. To answer the second research question (*How does the participatory approach and the findings relate to theory on participation and best practice strategies in stakeholder participation for environmental management?*) the participation approach, and the findings (see chapter 5) are connected to the scientific theory about participation and best practice guidelines (see chapter 3). In addition, the findings are linked to other empirical studies on the Norwegian national park management system. The last topic in the first section addresses participation and its connection to local governance. The second section discusses the choice of methods for this study before limitations of the study are discussed in the last section.

6.1 Interpretation and Discussion of Findings

Main findings of this study indicated that the viewpoints of the 13 research participants can be clustered into three perspectives. These three perspectives differed in their opinion on whether the current participatory process is adequate and successful. Another difference was the belief about power distribution in decision-making for national parks. State and non-state actors scattered over all three perspectives. Qualitative findings identified key success factors and challenges of the participatory approach and future challenges for Norwegian national park management.

6.1.1 Actor Group Distribution in the Perspectives

The Q method creates factor groups based on the ranking of Q statements, the variables, of the participants (Webler et al., 2009) (see chapter 4.2). Thereby people from the same actor group (e.g., non-state actor) can load high on different factor groups. Analysing how participants loaded on the factor groups, allows researchers to see whether different actor groups have different perspectives. Factor group III is left out of this discussion because only one person loaded on this perspective.

In this study, most non-state actors (four of seven) clustered in the perspective of factor group II (see table 9). State actors tended to load on the perspectives of factor group I as well as factor group II. Subsequently, members of the same actor group did not cluster on the same factor but were scattered across different factors. This implies that opinions on national park management, decision-making in protected area management, the current participation approach and others are not influenced by the affiliation of a person. People from different actor groups, for example, a manager and a member of the advisory committee, can have similar viewpoints, while people from the same actor group, for example, the advisory committee, do not necessarily have the same opinion.

Table 9 - Distribution of people per actor group across the factor groups.

Factor group	advisory committee	administrative contact committee	manager
Local political NPM with good PP (1)	2	2	1
Holistic local NPM with improvement of PP (2)	4	1	1
Expert based local NPM (3)	1	none	none

n=12. Non-state actors include advisory committee members. State actors include managers and administrative contact committee members.

Abbreviations: NPM: national park management, PP: public participation.

This scattering of actors in three perspectives leads to the assumption that decisions should be made by considering the diversity of existing perspectives. This interpretation is connected to Barry and Proops (see chapter 4.2) who state a consideration of all existing perspectives is needed for an environmental policy to achieve social acceptance and to be effective (Barry & Proops, 1999). Transferred to this study, the participation approach or national park management should consider all existing perspectives to be more effective. Furthermore, this result is connected to Reed’s number four of best practice strategies in stakeholder engagement (see chapter 3.1.3). The strategy explains that participants themselves should define and agree

on the objectives of a participation process, which is advantageous because participants are more motivated to engage and participate (Reed, 2008). In this study, this could be beneficial because the participants (members of the committees) have different perspectives on how the approaches should look like. Consensus decision-making about objectives of the advisory committee could motivate participants to work towards common goals.

In summary, the spreading of actor groups across the various factors highlights the need for decision-making processes to involve a broad range of stakeholders. This includes processes regarding the management structure of the parks as well as the participatory approach. The involvement will contribute to greater social acceptance and enhanced motivation for public involvement.

One characteristic which differed between the factor groups was the time research participants have worked for or volunteered in national park management (see table 10). Four of six people who have worked in it for more than four years, loaded high on perspective I. They are in favour of a local management regime driven by politicians and believe in the current participation approach to be good. In comparison, four of six people who have participated in the management for only two years or less, loaded on factor group II. They prefer a holistic local management regime and feel that participation must improve. Thus, the data indicates that individuals who are new to national park management tend to cluster around factor II, whereas those with more experience tend to cluster around factor I.

Table 10 - Time people have worked in national park management per factor group.

Factor group	max. 2 years	4 years	> 4 years
Local political NPM with good PP (1)	1	1	3
Holistic local NPM with improvement of PP (2)	4	none	2
Expert based local NPM (3)	1	none	none

n=12. Abbreviations: NPM: national park management, PP: public participation.

The time frame of active participation in the national park creates a greater experience, understanding of the process and recognition of achievement over time. Therefore, people who have been active for a minimum of four years or more, experience greater satisfaction compared to people who are new to the system. People who are new to the system might be influenced by an ideal image of how the management regime or participation should look like. Their opinions might be based more on best practice examples from research and literature. Furthermore, they might have not realised all the practical barriers in the system yet. Following this assumption,

the perspectives of people who are new to the topic could change the longer they are involved. Nevertheless, I assume the system could have a benefit of including everyone in the decision-making and participation processes. People with long experience can contribute valuable knowledge about the system that others may lack. Conversely, those with only a few years of experience can contribute with new ideas or innovations that experienced people might not have considered due to their familiarity with established approaches.

Both interpretations together show the importance of diverse decision-making. This can be decision-making in terms of specific national park management as well as decisions about changes in the public participation approach. Decisions based on the viewpoints of diverse actors have higher social acceptance and can lead to more engagement.

6.1.2 Three Perspectives on Public Participation

All perspectives and thereby all research participants said the public participation process should facilitate discussion, dialogue, knowledge exchange, trust building and getting to know each other. This opinion confirms Richards et al. (2007) finding that participation is not only about the outcomes but also the maintenance of relationships and trust building between stakeholders.

The three perspectives disagreed on whether the participatory approach meets the above-mentioned goal. While the first perspective believed the approach facilitates discussion, dialogue etc., the other two did not agree. Instead, they mentioned ideas for improvement which were also identified in the qualitative analysis. Perspective II agreed with perspective I on the fact that workshops give room for dialogue and discussion. However, the rest of the meeting does not. Ideas for improvement included more room for dialogue, discussion and two-way communication, more involvement of members in meeting preparations, more meetings in general, monetary compensation and common meetings. Furthermore, this perspective was unsure of how much influence the advisory committee has on the management board. Like perspective II, the third perspective wished to have more room for dialogue and discussion since current meetings give too much information. This perspective was the only one saying that workshops do not create enough room for dialogue and discussion.

Possible reasons for these differences could be the composition of the perspectives (see chapter 6.1.1). Perspective II represented the perspective of most non-state actors (4 of 7 people) and included perspectives of most people with two or less years of experience in national park management. Considering the assumptions in chapter 6.1.1, it could be the case

that non-state actors without many years of experience in the field of national park management see the system more critical. They have less knowledge of how the system operated before, but bring a lot of new ideas and ideal images about how an optimal participation process should look like. Their imagination may be influenced by scientific literature or their participation in other projects. Therefore, they provide a valuable source for new ideas for further development of the participation approach. Nevertheless, due to their previous experience and knowledge of how the system operates, the opinions of people with more years of engagement in the sector should not be underestimated. The combination of new ideas and experienced knowledge can be a good mixture for further development of the participation process.

6.1.3 The Advisory Committee as a Technique for Public Participation

Options for public participation in protected area management in Norway mainly exist in the form of local advisory committees for a group of protected areas which are managed collectively. Committees are small groups of selected people who represent the perspectives of different groups in the society and are not open to any citizen. National park managers initiated the work of the committee. The committees are supposed to work over a long period and serve as advisors for the national park board. Politicians in the national park board have delegated power to make decisions. Thus, members of the advisory committee do not have power in decision-making but can influence the decision-making process. With these characteristics, the committees are similar to citizen advisory committees described by Rowe and Frewer (2000) as a common method in participatory approaches (see chapter 3.1.5).

However, an attempt to classify the advisory committee into different typologies of participation (see chapter 3.1.2) shows the participation approach does not have the highest degree of participation. This interpretation is mainly based on the literature review, which was conducted for the gathering of background information. Nonetheless is my perception of the committee influenced by the collected data and the perspectives of the research participants. Therefore, these might have influenced this interpretation.

Dovers et al. (2015) places national park advisory committees in the middle of Arnstein's ladder of participation, in the category of tokenism. Even if they give input, they have no decision-making power and cannot make sure that their voice is considered.

In Pretty's ladder of participation, characteristics of the committee can be found on several levels. Committees are a form of functional participation (level five) since people form a group which is organised by facilitators. The committee also correspond to level three (participation

by consultation) as problems and solutions for the management are defined by someone else, the management board in this case. The advisory committee can also be located at the level of consultation. A similarity is that the committee does not have decision-making power and the management board is not obliged to consider the committees' views.

The advisory committee does not correlate completely with Zachrisson's definition of advisory committees. The committees have only advisory power as she says, but they are not a partnership in decision-making. Neither are actions directed towards common goals. The Norwegian advisory committee fit more into the category of consultation. At this stage, participation includes face-to-face contact and opinions are heard but not necessarily considered. Furthermore, the government manages the involvement.

The direction of communication in the advisory committee corresponds to Rowe and Frewer's consultation. Information is gathered from the participants in the form of workshops in the meetings.

In summary, the public participation approach in Norwegian national park management is similar to consultation processes. With the advisory committee, the approach does not give full control to the local management. Nor is authority or responsibility delegated to the committee. At this point, it must be considered that this interpretation does not involve the intermunicipal management board, which is another type of participation since management authority and responsibility is delegated to local politicians. The involvement of the board was not the focus of this study.

6.1.4 The Approach in Relation to Best Practice Guidelines

To analyse and discuss how the participation approach in Femundsmarka and Gutulia relates to best practice guidelines, I combined the guidelines from Reed (2008) and Rowe and Frewer (2000). A list of the discussed categories and from which source they originate can be found in the appendix. Every category shortly introduces the main points from the literature and connects the findings and empirical studies to it.

Category I: Focus on empowerment, transparency, trust and learning

Participation processes should have an underlying philosophy which focuses on the empowerment of participants, equal and fair group dynamics, transparency in the process and the building of trust among the participants (Reed, 2008; Rowe & Frewer, 2000). Only the perspective I from the Q analysis believed in the influence of the advisory committee towards

the decision-making in the national park board. Others claimed the meetings mostly influence the national park managers rather than the national park board. According to Rowe and Frewer (2000) it is a typical characteristic of advisory committees to function only as a consultation tool for decision-making rather than an executing power. In Femundsmarka and Gutulia National Parks, the advisory committee might be used as a reference group for specific projects such as the development of visitor strategies or management plans (National park staff interview, 05.12.2022). Nevertheless, the qualitative analysis depicted that the committee can also be understood as an additional and formal channel to communicate with responsible politicians. As discussed above, in terms of possible levels of participation the advisory committee fulfils the characteristics of a consulting committee in decision-making. Also, Hovik and Hongslo (2017) and Lundberg et al. (2021) criticised the missing influence of the committee on the decision-making process. Therefore, they suggested to improve the process by using the advisory committee as a thematic meeting point instead where knowledge can be exchanged and generated.

The viewpoints of factor groups I and II, along with the qualitative analysis, indicated that participants perceive the committee as a meeting opportunity where they can get to know each other, form new relationships, share knowledge and build up trust. The low number of participants in the committee may facilitate this.

Only factor group I perceived the management as transparent. It must be mentioned that four of the five participants who loaded on this factor have been active in national park management for four years or longer. Thus, their experience and knowledge might be the reason why they think the management is transparent. Fauchald and Gulbrandsen (2012) think the management of national parks could be more transparent.

In sum, the small committee facilitates the building of trust and relationships among the participants. Empowerment and influence on decision-making are limited. It might have been the intention of the management regime to use the committee as an advisor instead of delegating power to them. Nevertheless, the advisory committee could have more possibilities to influence decisions that are taken by the national park board. Especially people who are new to the system have difficulties to understand its complexity, the transparency of the management process and the decision-making could be higher.

Category II: Early involvement

Early involvement of participants in the process ensures better quality, more motivation and durability of participation processes (Reed, 2008; Rowe & Frewer, 2000). The advisory committee was established one year after the first manager started working under the new management reform (see chapter 2.3.3). Consequently, local interest groups were able to participate in the management as soon as possible.

Category III: Stakeholder representativeness

Participation processes should involve all affected interests in society (Reed, 2008; Rowe & Frewer, 2000). In the management of Femundsmarka and Gutulia, the managers are responsible for the representativeness of participants in the advisory committee. They make their decision in agreement with the management board. The list of participants is constantly updated and adjusted to the changing circumstances. This study has no information on whether methods for stakeholder selection as suggested by Dovers et al. (2015) are applied or not. The factor analysis identified a general neutral consent (see chapter 5.2.1) that all relevant interests are currently represented within the committee. None of the perspectives supported members to be approved by the management board.

Altogether, the advisory committee represents all affected stakeholders of national park management. However, in my opinion it cannot be assured that there are affected stakeholders with interest in the national park who are not included.

Category IV: Clear objectives and tasks

Tasks and objectives of participation should be clearly defined and preferably be defined by the participants themselves (Reed, 2008; Rowe & Frewer, 2000). None of the identified perspectives identified the tasks of the committee as clear. Especially factor group II claimed that tasks are not understandable or clear. At the same time, this was primarily the viewpoint of participants with a maximum of two years of experience in national park management. Consequently, especially those who have not worked or volunteered in management for a long time perceive the mandate of the advisory committee as unclear. In addition to this result, the qualitative analysis was able to identify a lack of knowledge among the participants about the organisational structure of the committee but also the management regime. Lundberg et al. (2021) displayed similar results for both, the advisory and the administrative contact committee. Furthermore, the objectives and tasks of the committee are not defined by the participants

themselves but predefined by the management regime. Thus, participants do not have a say about their role.

Altogether, the objectives and tasks of the advisory committee were not clear to most of the research participants. It should be ensured that especially new members of the advisory committee receive information about the management regime structure, the power of the management board and the role of the advisory committee. Furthermore, it could be useful to let the participant define the goal of the committee.

Category V: Adequate choice of method

Methods of participation should be adjusted to the socio-cultural context (Reed, 2008). It is highly relevant that the method of participation is suitable for all participants (Dovers et al., 2015). The chosen method influences whether tasks can be realised or not (Rowe & Frewer, 2000). The main methods which were identified in this study are annual meetings of the advisory committee and workshops which are carried out in the meetings. Qualitative results supported the annual meeting being a meeting point for affected stakeholders and an appropriate arena for knowledge exchange. Especially breaks in between sessions can be used for enabling dialogue, discussion, and knowledge exchange. All three perspectives from the Q analysis and especially factor group II prioritised meetings with dialogue and discussions over information meetings. Opinions differed on whether this is currently the case. The first perspective believed the current meetings create enough space for it, while the other two disagreed. The viewpoints of factor groups II and III aligned with the findings from Lundberg et al. (2021), indicating that advisory committee meetings primarily serve as information-sharing platforms rather than fostering dialogue or discussion. According to the second perspective, the workshops provide opportunities for dialogue and discussion, whereas the rest of the meeting does not offer the same level of engagement. According to the results, workshops are an easy and appropriate way to involve everyone in the group and to facilitate dialogue. One participant emphasised that they should not be left out of the meetings.

Based on the results, the workshop and the annual meeting are adequate methods of participation, but nonetheless, the perspective II and qualitative results indicated the need for an improvement of the method. More meetings over the year could increase the opportunities for dialogue, discussion, and two-way communication. As resources for participation are limited, additional digital meetings and newsletters could provide supplementary channels of communication. For the implementation of the suggested improvements, the national park managers would have to take responsibility. However, it is questionable if they have the

capacity to introduce changes in addition to their current responsibilities. Similar to Lundberg et al. (2021), is monetary compensation mentioned in this study to balance the representativeness of voluntary and professional participants. Financial support could facilitate the participation of small businesses and self-employed stakeholders.

Category VI: The role of national park managers

Participation approaches should have skilled facilitators who have experience with different tools of participation, including openness, maintaining a pleasant group dynamic and inspiring everyone to participate (Reed, 2008). Especially the diversity of perspectives on how a participation process should be designed, make it difficult for facilitators to include all perspectives in the approach (Webler & Tuler, 2006; Webler et al., 2001). These results show and support the fact that the role of the national park managers, the facilitators of participation in this case, is crucial for successful participation. Currently, the managers lead the annual meetings. None of the perspectives from the Q analysis preferred the committee itself to lead the meetings which indicates an overall satisfaction with the leading role of the managers. Furthermore, the results did not indicate the need for an additional facilitator. The participants had a positive image of the managers and appreciate their experience and trustworthiness. Qualitative findings approve the assumption from Getzner et al. (2014) that informal contact with the managers facilitates local stakeholder participation. In Femundsmarka and Gutulia many stakeholders have contact and meetings with the managers in addition to the annual meeting. This strengthens the relationship between local stakeholders and the management body. In addition, the managers' location, especially the two different offices, close to the area is beneficial for the relationship between managers and committee members. This confirms the assumption by Fauchald and Gulbrandsen (2012) that managers are more involved with local interests and have a better understanding of local connections when they are located in approximation to the area.

Overall, the managers have an important role in the management of Femundsmarka and Gutulia National Parks. They are the facilitators of participation and at the same time the connection between the advisory committee and the national park board. They communicate advice from the committee to the board. They are experienced and involved with local user interests. This study did not investigate if they have been trained for the facilitation of participation. Therefore, no conclusions can be drawn on whether this is necessary or could improve the participatory process.

Category VII: Integration of local and scientific knowledge

Decision-making processes which combine local and scientific knowledge are more holistic and make sure that decisions are more effective and relevant (Reed, 2008). A holistic management approach was one of the reasons to introduce a new reform in 2009. Scientific and local knowledge are not combined in the participation process of the advisory committee but in the management itself. The perspective of factor group II emphasised the importance of holistic management and people believed that the reform combines professional and scientific knowledge on the basis (national park board and managers). Local user interests and professional expertise are added to the management in the form of the advisory committee. Nevertheless, means to ensure the representation of scientific knowledge and conservation interests in the committee do not exist. This agrees with the results of Fauchald and Gulbrandsen (2012). Qualitative findings emphasise the importance of scientific research and monitoring of national parks, thereby improving the overall management, and enabling adaptive management in the context of future challenges posed by the effects of climate change on nature.

Consequently, the general management approach includes local and scientific knowledge, but the participation process in particular does not ensure the integration of combined expertise in the advisory committee. Participants in this study wished to have more resources for scientific research inside the national parks to realise adaptive management.

Category VIII: Institutionalised participation process

It was not the priority of this study to examine whether the participation process is institutionalised or not. Therefore, it is not possible to make any assumptions about it. However, it can be mentioned that in 2012 no regulatory or institutional framework existed to ensure the long-term success of participation (Fauchald & Gulbrandsen, 2012).

Given these points, the management related to public engagement fulfils many of the best practice strategies for stakeholder engagement by Reed (2008). Nonetheless, categories for improvement were identified. These are the empowerment of participants, the transparency of the management regime and the comprehensibility of objectives and tasks of the advisory committee. Furthermore, the study identified ideas for the improvement of the advisory committee.

6.1.5 Participation in Connection to Local Governance

The three perspectives from the Q analysis differed slightly in their opinions on the participatory approach and showed unexpected differences in their opinions on power distribution for decision-making in national park management. Therefore, the chapter three introduces theoretical background on how protected areas can be governed. All perspectives agreed with locally managed protected areas in the form of shared governance but differed on who should hold executive power. The first perspective believed that politicians who are elected by society are the ones who should hold the power in decision-making. Perspective II accepted the current management approach since it uses a holistic perspective on protected areas where the managers represent the scientific and expert perspective and several other actors (local/regional politicians and the advisory committee) represent the local interests of users, owners, or traditions. The third perspective criticised the concentration of decision-making power with the national park board since politicians have an economic or personal perspective on nature. The board lacks a pro-conservation perspective. Hence, the board has too much decision power. The management lacks an expert focus on nature management and conservation. Qualitative findings identified challenges of the current politically driven management such as a lacking knowledge of nature management in the national park board. Consequently, the data showed that the different opinions focus on questions like who decides and how to make decisions. In especially the distribution of power and responsibility was questioned. Instead of non-centralised decision-making, all perspectives preferred the inclusion of the local community or local businesses and non-governmental organisations. All these aspects are connected to the topic of governance (see chapter 3.2). The common denominator of all three perspectives is shared governance/co-management, a form of government where participation of different stakeholders is included.

Based on the findings, participation seems to be connected to local governance and the distribution of power and responsibilities. The aim of this study was to focus on the participation process and not the governance system of protected areas in general. The topic of local governance was not expected to be relevant and therefore not included in the initial project outline of this study. Nevertheless, the findings implied a possible connection of public participation and the form of local governance. For future research, it could be interesting to analyse the connection of these two topics and how they influence each other.

6.2 Discussion of Chosen Methods

As described in chapter four, the Q method combines qualitative and quantitative data collection and can identify shared mental frameworks among a group of participants (Neff, 2011). The method is also able to discover differences and commonalities between those perspectives (Brown, 1980) and was therefore chosen as the main method.

The Q analysis and the qualitative analysis depicted slightly different results. The qualitative analysis was able to identify general topics about the participation approach in Femundsmarka and Gutulia National Parks. It displayed people's opinions on the advantages and challenges of the approach and how this approach could improve. It also provided an idea of the participant's opinions on the national park management system in Norway, how it can improve and what challenges it is going to face. However, the qualitative analysis was not able to identify different perspectives among the participants. Compared to this the Q analysis was able to identify three different perspectives based on 31 statements about national park management and participation in it. Even though these three mental frameworks had consensus perspectives, the method was able to demonstrate the main differences and confirmed that not all people involved in the management process share the same opinions. Based on the results it can be assumed that the Q method offers a better insight of the varying perspectives on the participation approach than the qualitative analysis. Nevertheless, the results from the qualitative analysis were useful for this study because they enriched the findings from the Q analysis and identified general aspects undetectable by the Q analysis. These general aspects were for example benefits and challenges of a politically driven local management board and future challenges for Norwegian protected area management. Statements of the Q method did not cover these issues to full extent since they tried to cover a diversity of topics (see chapter 4.3). However, the interview after the Q sort encouraged the participants to elaborate on issues in management that were not mentioned in the Q sort statements. A representative example of how the qualitative analysis enriched Q analysis results is the discussion about a politically driven local management board. The Q analysis showed that in particular factor group III was against politically driven decision-making. Factor group I on the other hand was in favour of it, but at the same time, two participants from this group (state actor 3 and state actor 5) questioned a political board in the semi-structured interview. Their questioning perspective was not represented in the Q analysis but in the qualitative analysis. This might have been caused by the fact that the Q sort animates the participants to rank the statements in relation to each other. The semi-structured interview on the other hand allowed the participant to elaborate on self-proclaimed important topics.

Given this example, it is useful to conduct a qualitative analysis to refine and question the results of the Q analysis.

As already mentioned in the description of the Q method (chapter 4.2), this method is a time intensive method. At the end of this project, I can agree with this statement from Barry and Proops. The preparations for the Q sort, including the creation of the background discourse and the Q statements took, several weeks. The Q sorts itself were time intensive as well. Even though the participants received a guideline explaining what to expect from the meeting, they came with questions and needed further instructions on how to do it. This method was new to all the participants of the study. Several participants had difficulties placing the statements into a normal distribution. Many participants wanted to place most statements on the right side of the table (Agreement). In the end, they were forced to move some of them closer or completely to the left side of the table (Disagreement). Even though the statements were based on the background discourse and participants' propositions, the statements were maybe not ideal for everyone as the following statement suggests. *'If I was to write a letter about what I think about the national park management [...]. There are some statements here that I do not want to – I do not want to include'* (non-state actor 1). In addition, some research participants would have liked to have more time to fully understand the statements and to place the statements more consciously. Concluding, the Q method should only be applied in projects with a large time frame.

6.2.1 Discussion of the Q analysis

The decision to extract three factors for the factor analysis was based on statistical reasons (see chapter 4.3). I had difficulties interpreting the factor III because only one person loaded on this factor resulting in a single person's view and not a combination of perspectives as it was the case for the other factors. Especially the perspective on the participation process was difficult to comprehend for this factor group. The possible explanation for the difficulty to analyse this perspective cannot be mentioned due to confidentiality why reasons. Nevertheless, non-state actor 4 loaded with a factor loading of 0.8821 significantly on this factor and therefore I think it was reasonable to extract three factors for this study instead of only two. Especially because its opinion on who should hold power in decision-making differs drastically from the other two perspectives.

6.3 Limitations of the Study

The generalisability of the results is limited because this study examined just a small sample of participants from a specific case study. In addition, participants of the Q method are selected intentionally and are not representative of an entire population (Brown, 1980).

This study faced several challenges which had a big impact on the final data collection. Due to weather conditions and lacking funding, the data collection was conducted online. As mentioned before this excluded some potential participants. More important, however, is the effect it might have had on the data collection and findings. Several research participants demonstrated a lacking understanding of the Q method in the beginning. It could have been beneficial to conduct the Q sort and the semi-structured interviews in person. In that case, the Q sort could have been done with physical cards and made the Q sort more understandable.

Furthermore, this study included a specific group of people. Even though all members of the advisory committee (professionals and volunteers) were contacted and asked to be part of the study, mainly professionals participated in this study. Only one voluntary member of the committee participated. Another volunteer responded and wanted to participate but did not have the option to participate digitally. Consequently, the findings present rather the perspectives of professional members than volunteers. I assume the perspective of volunteers could have influenced the findings to certain extent. This thought is based on my own the experience that the one volunteer in this study criticised the approach more than others did. However, this critical perspective can also be caused by other factors. Consequently, it could be interesting to include the opinion of other volunteers. The current findings led to the assumption that the missing monetary compensation for participation could make engagement more accessible for voluntary members. Considering this, it would have been interesting to explore the perspective of more volunteers on this and other aspects in the participatory approach.

Two Q sorts and interviews were conducted with two interviewees at the same time (see chapter 4). In both cases, the people loaded on different factor groups which indicates that their perspectives differ from each other. In separate interviews, the participants may have elaborated more on their subjective perspective. Especially one of the combined interviews was dominated by one of the two interviewees. Moreover, did the interviewees discuss Q statements which might have influenced their Q sort. Following this experience, I recommend for future research to conduct Q sort and interviews separately even though it may be easier or more resource-efficient to combine them.

Another reason to not generalise the results is that the statements and thereby the explored perspectives are case specific. The background concourse was developed specifically for

Femundsmarka and Gutulia National Parks and is based on a background concourse for this area (especially the advisory committee meeting in November 2022). Other Norwegian national parks follow the same general instructions but might have other processes due to other conditions. Other national parks have many owners and therefore more members in the advisory committee. Therefore, methods to address the conditions might differ from Femundsmarka and Gutulia National Parks. Furthermore, this study proofed that national park managers have an important role in the facilitation of participation. Other national parks have other managers who might organise participation differently.

As in many other studies after covid-19, it is important to keep in mind that the pandemic had crucial impacts on daily activities. According to several research participants this was also the case for the advisory committee in Femundsmarka and Gutulia. For approximately two years annual meetings were conducted online and physical participation was only possible to a limited extent. Consequently, the examined perspectives on the participatory approach and other findings might be influenced by it.

Nevertheless, the study displays three different perspectives on the public participation approach in Femundsmarka and Gutulia National Park. The results demonstrate that all participants appreciated dialogue, discussion, and knowledge exchange in the participation process. Furthermore, trust building and getting to know each other is fundamental. They also show that some people were satisfied with the current approach while others were not. Additionally, this study explored ideas for improvement of the participatory approach in Femundsmarka and Gutulia National Park as well as for the Norwegian national park management. It also explored some future challenges for protected areas in Norway.

7 Conclusion

In conclusion, the mixed methods approach using Q analysis, background survey and qualitative analysis proves that stakeholders involved in the participation process of Femundsmarka and Gutulia National Parks do not share the same mental framework. Social perspectives differ in terms of satisfaction with the current participatory approach and the view on power distribution in the decision-making of Norwegian protected area management. The three different perspectives in this case study are characterised by the following titles:

- (1) Local political national park management with a good participation approach
- (2) Holistic local national park management with improvement of participation
- (3) Expert based local national park management.

People with more than four years of experience in national park management tend to cluster in the first perspective. People with two or less years of experience, on the other hand, cluster around perspectives which criticise the current participation approach. Nonetheless, it is a consensus among the perspectives that Norwegian national parks should be managed locally and involve user interests and local communities. All research participants share the same definition of committee's purpose, which is to facilitate dialogue, discussion, knowledge exchange, trust building and getting to know other stakeholders.

Answering the second research question, the study shows that the participation process in form of an advisory committee does not give a lot of options to influence decision-making in the national park board. The primary focus of the committee is to give advice. Especially in bigger projects such as the establishment of visitor strategies, the committee serves as a reference group. Compared to different typologies of participation, the advisory committee follows the role of a consultant whose input is heard but not necessarily taken into account by decision-makers. The case study of Femundsmarka and Gutulia National Parks demonstrates that it is important to represent all affected interests in the advisory committee and to involve it in the management as soon as possible. Furthermore, national park managers play a crucial role in the facilitation of public participation.

Taking a mixed methods approach proved beneficial because specific topics could be analysed more in detail in the qualitative analysis than in the Q analysis. The Q analysis, on the other hand, was able to distinguish three different perspectives which the qualitative analysis could not. Furthermore, the qualitative analysis could identify future physical and social challenges for the management of national parks in Norway. It also pinpoints that Norwegian

protected area management should be more connected, make more resources available for participation and include more perspectives in decision-making.

The most important limitation of this study is that results (especially identified perspectives) apply to the specific context and cannot be generalised since conditions differ between study areas. Therefore, it is necessary to do similar research in order to explore perspectives on the participatory approaches in other national parks. This study implies a connection between participation and governance but could not look further into it. The connection between these two topics could be a subject for future research.

8. Recommendations for Public Participation in Femundsmarka and Gutulia

Following Webler et al. (2009) it is useful for practitioners to know existing perspectives of involved stakeholders on public participation in order to include them into the practical approach. Therefore, the perspectives explored in this study could be of interest to the national park managers in the study area.

Based on the results in this study the following recommendations for Femundsmarka and Gutulia National Parks arose. These recommendations are based on the discussion and the comparison of the findings with best practice guidelines for participation in environmental management. They also consider the participants' ideas for improvement of the participatory process in Femundsmarka and Gutulia National Parks.

- ❖ Participation processes as well as decision-making should include a diverse group of people since their opinions might differ. This applies to educational background, age, and affiliation. The current members of the advisory represent the diversity of affected stakeholders.
- ❖ The advisory committee should be more empowered. This does not mean that it should get executing power, but it could get more options to influence the national park board and their decisions.
- ❖ Transparency in management should be higher. This concerns the organisational structure and the decision-making process. Especially new members of the advisory committee should be informed about these aspects.
- ❖ It is important to represent all affected interests in the advisory committee. Therefore, it is desirable to update the list of members as it is the case now.

- ❖ The objective and tasks of the advisory committee are not completely clear to the participants. Ideally, they are defined by the participants themselves in order to achieve more motivation for participation (Reed, 2008).
- ❖ The annual meetings and especially the workshops are good methods of participation. Nevertheless, participants in this study mentioned ideas to improve these. More meetings, spread over the year, in different locations and additional channels of communication could give more room for dialogue, discussion, and two-way communication. Another way to make participation more accessible for all participants is the introduction of monetary compensation for voluntary participants. This can facilitate participation, especially for small businesses and self-employed and make participation thereby more equal.
- ❖ The national park managers have an important role in the facilitation of participation. Their experience, trustworthiness and offices close to the affected stakeholders are beneficial. It is important that they continue to have meetings with stakeholders apart from the annual meetings. They should also continue to be easily approachable for them.

9. References

- Andersen, O., Svarstad, H., Dervo, B. K., & Aas, Ø. (2003). Delrapport 2: Kartlegging av næringsaktiviteter of oppfatninger om verne- og risikofaktorer - Case studier fra Dovrefjell-Sunndalsfjella, Femundsmarka og Reisa nasjonalparker med tilhørende randsoner. *NINA Norsk Institutt for Naturforskning*(72).
- Arnstein, S. R. (2019). A Ladder of Citizen Participation. *Journal of the American Planning Association*, 85(1), 24–34. <https://doi.org/10.1080/01944363.2018.1559388>
- Banasick, S. (2019). KADE: A desktop application for Q methodology. *Journal of Open Source Software*, 4(36), 1360. <https://doi.org/10.21105/joss.01360>
- Barry, J., & Proops, J. (1999). Seeking sustainability discourses with Q methodology. *Ecological Economics*, 28, 337–345.
- Benjaminsen, T. A., & Svarstad, H. (2021). *Political Ecology: A Critical Engagement with Global Environmental Issues* (1st ed. 2021). *Springer eBook Collection*. Springer International Publishing; Imprint Palgrave Macmillan. <https://doi.org/10.1007/978-3-030-56036-2>
- Berkes, F. (2007). Community-based conservation in a globalised world. *PNAS*, 104(39), 15188–15193. <https://doi.org/10.1073/pnas.0702098104>
- Borrini-Feyerabend, G., & Hill, R. (2015). Governance for the conservation of nature. In G. Worboys, M. Lockwood, A. Kothari, S. Feary, & I. Pulsford (Eds.), *Protected Area Governance and Management* (pp. 169–206). ANU Press.
- Borrini-Feyerabend, G., Johnston, J., & Pansky, D. (2006). Governance of Protected Areas. In M. Lockwood, G. L. Worboys, & A. Kothari (Eds.), *Managing protected areas: A global guide*. Earthscan.
- Bridge, G., & Perreault, T. (2009). Environmental governance. In N. Castree, D. Demeritt, D. Liverman, & B. Rhoads (Eds.), *Blackwell companions to geography: Vol. 7. A companion to environmental geography* (pp. 475–497). Wiley-Blackwell.
- Brown, S. R. (1980). *Political subjectivity: applications of Q methodology in political science*.
- Brown, S. R. (1993). A primer on Q methodology. *Operant Subjectivity*, 16(3/4), 91–138. <https://doi.org/10.22488/okstate.93.100504>
- Bryman, A. (2016). *Social research methods* (Fifth edition). Oxford University Press. <https://www.loc.gov/catdir/enhancements/fy1617/2015940141-b.html>

- Carlsson, L., & Berkes, F. (2005). Co-management: Concepts and methodological implications. *Journal of Environmental Management*, 75(1), 65–76.
<https://doi.org/10.1016/j.jenvman.2004.11.008>
- Catungal, J. P., & Dowling, R. (2021). Power, subjectivity and ethics in qualitative research. In I. Hay & M. Cope (Eds.), *Qualitative Research Methods in Human Geography* (pp. 18–39). Oxford University Press.
- Chape, S., Harrison, J., Spalding, M., & Lysenko, I. (2005). Measuring the extent and effectiveness of protected areas as an indicator for meeting global biodiversity targets. *Philosophical Transactions of the Royal Society of London. Series B, Biological Sciences*, 360(1454), 443–455. <https://doi.org/10.1098/rstb.2004.1592>
- Cornwall, A. (2008). Unpacking 'Participation': models, meanings and practices. *Community Development Journal*, 43(3), 269–283. <https://doi.org/10.1093/cdj/bsn010>
- Creswell, J. W. (2015). *A concise introduction to mixed methods research*. SAGE.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (Fifth edition). SAGE.
- Daugstad, K. (2000). *Mellom romantikk og realisme: om seterlandskapet som ideal og realitet*. Norges teknisk-naturvitenskapelige universitet.
- Daugstad, K. (2011). The Participatory Dimension in Nature Conservation Processes: Examples of Ideology and Practice from Norway. In H. Décamps, B. Tress, G. Tress, M. Jones, & M. Stenseke (Eds.), *Landscape Series. The European Landscape Convention* (Vol. 13, pp. 67–79). Springer Netherlands. https://doi.org/10.1007/978-90-481-9932-7_4
- Direktoratet for naturforvaltning. (2008a). *Evaluering av prøveprosjekt med lokal forvaltning av Dovrefjell-Sunndalsfjella nasjonalpark og tilliggende verneområder*.
- Direktoratet for naturforvaltning. (2008b). *Lokal forvaltning av verneområder - en evaluering av delegering*.
- Donner, J. C. (2001). Using Q-sorts in participatory processes: an introduction to the methodology. In R. Krueger, M. A. Casey, J. C. Donner, S. Kirsch, & J. Maack (Eds.), *Social Development Papers: Vol. 36. Social Analysis. Selected Tools and Techniques* (pp. 24–49).
- Dovers, S., Feary, S., Martin, A., McMillan, L., Morgan, D., & Tollefson, M. (2015). Engagement and participation in protected area management: Who, why, how and when? In G. Worboys, M. Lockwood, A. Kothari, S. Feary, & I. Pulsford (Eds.), *Protected Area Governance and Management* (pp. 413–440). ANU Press.

- Dudley, N. (Ed.). (2008). Guidelines for Applying Protected Area Management Categories: Including IUCN WCPA Best Practice Guidance on Recognising Protected Areas and Assigning Management Categories and Governance Types by Sue Stolton, Peter Shadie and Nigel Dudley [Special issue]. *Best Practice Protected Area Guidelines*, 21, x + 86 pp. Gland, Switzerland. IUCN.
- Dunn, K. (2021). Engaging Interviews. In I. Hay & M. Cope (Eds.), *Qualitative Research Methods in Human Geography* (pp. 148–185). Oxford University Press.
- Engen, S., Fauchald, P., & Hausner, V. (2019). Stakeholders' perceptions of protected area management following a nationwide community-based conservation reform. *PloS One*, 14(4). <https://doi.org/10.1371/journal.pone.0215437>
- Esmail, N., McPherson, J. M., Abulu, L., Amend, T., Amit, R., Bhatia, S., Bikaba, D., Brichieri-Colombi, T. A., Brown, J., Buschman, V., Fabinyi, M., Farhadinia, M., Ghayoumi, R., Hay-Edie, T., Horigue, V., Jungblut, V., Jupiter, S., Keane, A., Macdonald, D. W., . . . Wintle, B. (2023). What's on the horizon for community-based conservation? Emerging threats and opportunities. *Trends in Ecology & Evolution*. Advance online publication. <https://doi.org/10.1016/j.tree.2023.02.008>
- Falkanger, T. (2022). *Fjellstyre*. Store norske leksikon.
- Falleth, E. I., & Hovik, S. (2006). *Lokal forvaltning av store verneområder: Evaluering av kommunal forvaltning i Setesdal Vesthei-Ryfylkeheiane* (NIBR-rapport 2006 No. 18). Norsk institutt for by- og regionforskning.
- Falleth, E. I., & Hovik, S. (2008). *Lokal forvaltning av store verneområder: Erfaringer fra fire forsøk. NIBR-rapport: 2008:11*. Norsk institutt for by- og regionforskning.
- Falleth, E. I., & Hovik, S. (2009). Local government and nature conservation in Norway: decentralisation as a strategy in environmental policy. *Local Environment*, 14(3), 221–231. <https://doi.org/10.1080/13549830802692849>
- Falleth, E. I., Hovik, S., & Sandström, C. (2008). *Blåfjella - Skjækerfjella/Låarte - Skæhkere: Evaluering av et lokalt forvaltningsforsøk i en nasjonalpark* (NIBR-rapport 2008 No. 1). Norsk institutt for by- og regionforskning.
- Fauchald, O. K., & Gulbrandsen, L. H. (2012). The Norwegian reform of protected area management: a grand experiment with delegation of authority? *Local Environment*, 17(2), 203–222. <https://doi.org/10.1080/13549839.2012.660910>
- Getzner, M., Vik, M. L., Brendehaug, E., & Lane, B. (2014). Governance and management strategies in national parks: implications for sustainable regional development.

- International Journal of Sustainable Society*, 6(1/2), Article 57891, 82.
<https://doi.org/10.1504/IJSSOC.2014.057891>
- Gomm, R. (2004). *Social Research Methodology: A critical introduction*. Palgrave Macmillan. <https://doi.org/449830>
- Haddaway, N. R., Kohl, C., Da Rebelo Silva, N., Schiemann, J., Spök, A., Stewart, R., Sweet, J. B., & Wilhelm, R. (2017). A framework for stakeholder engagement during systematic reviews and maps in environmental management. *Environmental Evidence*, 6(1). <https://doi.org/10.1186/s13750-017-0089-8>
- Holmes, A. G. D. (2020). Researcher Positionality - A Consideration of Its Influence and Place in Qualitative Research - A New Researcher Guide. *Shanlax International Journal of Education*, 8(4), 1–10. <https://doi.org/10.34293/education.v8i4.3232>
- Hongslo, E., Hovik, S., Zachrisson, A., & Aasen Lundberg, A. K. (2016). Decentralization of Conservation Management in Norway and Sweden—Different Translations of an International Trend. *Society & Natural Resources*, 29(8), 998–1014. <https://doi.org/10.1080/08941920.2015.1086456>
- Horn, J. L. (1965). A rationale and test for the number of factors in factor analysis. *Psychometrika*, 30, 179–185. <https://doi.org/10.1007/BF02289447>
- Hovik, S., & Hongslo, E. (2017). Balancing local interests and national conservation obligations in nature protection. The case of local management boards in Norway. *Journal of Environmental Planning and Management*, 60(4), 708–724. <https://doi.org/10.1080/09640568.2016.1176556>
- Hovik, S., Sandström, C., & Zachrisson, A. (2010). Management of Protected Areas in Norway and Sweden: Challenges in Combining Central Governance and Local Participation. *Journal of Environmental Policy & Planning*, 12(2), 159–177. <https://doi.org/10.1080/15239081003719219>
- Jackson, D. A. (1993). Stopping Rules in Principal Components Analysis: A Comparison of Heuristical and Statistical Approaches. *Ecology*, 74(8), 2204–2214. <https://doi.org/10.2307/1939574>
- Jansen, A.-I. (1991). *Reform og resultater: Evalueringen av forsøksprogrammet Miljøvern i kommunene*. NORAS.
- Jones, M. (2007). The European landscape convention and the question of public participation. *Landscape Research*, 32(5), 613–633. <https://doi.org/10.1080/01426390701552753>

- Kaltenborn, B. P., Riese, H., & Hundeide, M. (1999). National Park Planning and Local Participation: Some Reflections from a Mountain Region in Southern Norway. *Mountain Research and Development*, 19(1), 51–61.
- Kumar, C. (2006). Whither 'Community-Based' Conservation? *Economic and Political Weekly*, 41(52), 5313–5320. <https://www.jstor.org/stable/4419076>
- Lemos, M. C., & Agrawal, A. (2006). Environmental Governance. *Annual Review of Environment and Resources*, 31(1), 297–325.
<https://doi.org/10.1146/annurev.energy.31.042605.135621>
- Lockwood, M. (2006). Global Protected Area Framework. In M. Lockwood, G. L. Worboys, & A. Kothari (Eds.), *Managing protected areas: A global guide*. Earthscan.
- Lockwood, M., & Kothari, A. (2006). Social Context. In M. Lockwood, G. L. Worboys, & A. Kothari (Eds.), *Managing protected areas: A global guide*. Earthscan.
- Lundberg, A. K. (2017). *Handling legitimacy challenges in conservation management: case studies of collaborative governance in Norway* (2017:49) [PhD Thesis]. Norwegian University of Life Sciences.
- Lundberg, A. K., Gundersen, V., Fauchald, O. K., Vistad, O. I., Fedreheim, G. E., Bardal, K. G., & Gjertsen, A. (2021). *Evaluering av forvaltningsordning for nasjonalparker og andre store verneområder* (NF rapport nr.: 1/2021). Nordlandsforskning.
- Luyet, V., Schlaepfer, R., Parlange, M. B., & Buttler, A. (2012). A framework to implement Stakeholder participation in environmental projects. *Journal of Environmental Management*, 111, 213–219. <https://doi.org/10.1016/j.jenvman.2012.06.026>
- McGarigal, K., Cushman, S., & Stafford, S. (2000). *Multivariate statistics for wildlife and ecology research*. Springer.
- Miljødirektoratet. (n.d.). *Statens naturoppsyn (SNO)*. Retrieved June 19, 2023, from Statens naturoppsyn holder oppsyn med at følgende miljølover blir fulgt på offentlig og privat grunn:
- Miljødirektoratet. (2019). *Norges verneområder*.
<https://www.miljodirektoratet.no/ansvarsomrader/vernet-natur/norges-verneomrader/>
- Miljødirektoratet. (2020). *Naturvernområder*.
<https://kartkatalog.geonorge.no/metadata/5857ec0a-8d2c-4cd8-baa2-0dc54ae213b4>
- Miljødirektoratet. (2021a). *Evaluering av forvaltningsordning for nasjonalparker og andre store verneområder*.

- Miljødirektoratet. (2021b). *Noregs nasjonalparker*.
<https://www.miljodirektoratet.no/ansvarsomrader/vernet-natur/norges-nasjonalparker/>
- Miljøverndepartementet. (2006). *Riksrevisjonens undersøkelse av myndighetenes arbeid med kartlegging og overvåking av biologisk mangfold og forvaltning av verneområder*. Oslo. <https://kudos.dfo.no/dokument/riksrevisjonens-undersokelse-av-myndighetenes-arbeid-med-kartlegging-og-overvaking-av-biologisk-mangfold-og-forvaltning-av-verneomrader?evalueringsportalen=1>
- Nature Diversity Act, 2009.
- Nasjonalpark- og verneområdestyret. (n.d.). *Liste over alle styrene*. Retrieved May 31, 2023, from <https://www.nasjonalparkstyre.no/#boards>
- Nasjonalparkstyret. (n.d.). *Nasjonalparkstyret for Femundsmarka og Gutulia*. Retrieved May 13, 2023, from <https://www.nasjonalparkstyre.no/Femundsmarka/>
- Nasjonalparkstyret for Femundsmarka og Gutulia. (2014). *Forvaltningsplan for Femundsmarka nasjonalpark og Femundslia og Langtjønna landskapsvernområder*. http://www.nasjonalparkstyre.no/Documents/Femundsmarka_dok/Forvaltningsplan/Forvaltningsplan_Femund_net.pdf
- Nasjonalparkstyret for Femundsmarka og Gutulia. (2015). *Opnnevning av faglig rådgivende utvalg- nasjonalparkstyret for Femundsmarka og Gutulia*.
- Nasjonalparkstyret for Femundsmarka og Gutulia. (2020). *Forvaltningsplan for Gutulia nasjonalpark*.
- Nasjonalparkstyret for Femundsmarka og Gutulia. (2022). *Årsrapport 2022*. https://www.nasjonalparkstyre.no/uploads/files_femundsmarka_gutulia/Arssrapport_FemundsmarkaogGutulia_2022.pdf
- Naturvårdsverket. (2022). *Skyddade områden, naturreservat*. <https://geodata.naturvardsverket.se/nedladdning/naturvardsregistret/NR.zip>
- Naustdalslid, J., & Hovik, S. (1994). *Lokalt miljøvern*. Norsk institutt for by- og regionforskning.
- Neff, M. W. (2011). What research should be done and why? Four competing visions among ecologists. *Frontiers in Ecology and the Environment*, 9(8), 462–469. <https://doi.org/10.1890/100035>
- Niedziałkowski, K., Komar, E., Pietrzyk-Kaszyńska, A., Olszańska, A., & Grodzińska-Jurczak, M. (2018). Discourses on Public Participation in Protected Areas Governance: Application of Q Methodology in Poland. *Ecological Economics*, 145, 401–409. <https://doi.org/10.1016/j.ecolecon.2017.11.018>

- Norges nasjonalparker. (n.d.). *Femundsmarka nasjonalpark*. Retrieved July 2, 2022, from <https://femundsmarkanasjonpark.no/>
- The Norwegian National Research Ethics Committees. (2022). *Guidelines for Research Ethics in the Social Sciences and the Humanities* (5. edition).
- Ødegaard, R., Thyrum, K., & Valan, S. K. (2021). *Besøksstrategi for Femundsmarka nasjonalpark med tilgrensede landskapsvernområder*. https://www.nasjonparkstyre.no/uploads/files_femundsmarka_gutulia/Besoksstrategi-for-Femundsmarka-nasjonpark-og-tilgrensede-verneomrader.pdf
- Pimbert, M. P., & Pretty, J. N. (1995). *Parks, people and professionals: Putting "participation" into protected area management*. United nations research institute for social development. International institute for environment and development.
- Raatikainen, K. J., & Barron, E. S. (2017). Current agri-environmental policies dismiss varied perceptions and discourses on management of traditional rural biotopes. *Land Use Policy*, *69*, 564–576. <https://doi.org/10.1016/j.landusepol.2017.10.004>
- Reed, M. S. (2008). Stakeholder participation for environmental management: A literature review. *Biological Conservation*, *141*(10), 2417–2431. <https://doi.org/10.1016/j.biocon.2008.07.014>
- Richards, C., Blackstock, K., & Carter, C. (2007). *Practical approaches to participation* (2nd). *SERG policy brief: no. 1*. The Macaulay Institute.
- Robbins, P., & Krueger, R. (2000). Beyond Bias? The Promise and Limits of Q Method in Human Geography. *The Professional Geographer*, *52*(4), 636–648. <https://doi.org/10.1111/0033-0124.00252>
- Rossmann, G. B., & Rallis, S. F. (2012). *Learning in the field: An introduction to qualitative research* (3rd ed.). SAGE.
- Rowe, G., & Frewer, L. J. (2000). Public Participation Methods: A Framework for Evaluation. *Science, Technology, & Human Values*, *25*(1), 3–29. <https://doi.org/10.1177/016224390002500101>
- Ryvarden, L. (2021). *Nasjonlparker i Norge*. Store norske leksikon.
- Ryvarden, L. (2023). *Gutulia nasjonalpark*. Store norske leksikon.
- Ryvarden, L., & Tvedt, K. A. (2020). *Femundsmarka nasjonalpark*. Store norske leksikon.
- Singsaas, M. (2021). Zoned, but not resolved: balancing environmental conservation and local development through comprehensive land use planning in Rondane, Norway. *Journal of Environmental Planning and Management*, 1–28. <https://doi.org/10.1080/09640568.2021.1988526>

- Skjeggedal, T. (2006). *Lokal forvaltning av verneområdene i Forollhogna. Sluttrapport fra evaluering av forvltningsforsøket*. Trøndelag Forskning og Utvikling.
- Soeftestad, L. (1998). *The international workshop in community-based natural resource management (CBNRM)*. Washington, DC. World Bank Institute.
- Solheim, E. (2009). *Etablering av ny modell for forvaltning av verneområder – invitasjon til å delta i nasjonalpark-/verneområdestyrer*. Oslo.
- Statistisk sentralbyrå. (2023). *Vernede områder*. <https://www.ssb.no/natur-og-miljo/areal/statistikk/vernede-omrader>
- Statskog SF. (n.d.). *Om Statskog*. Retrieved June 19, 2023, from <https://www.statskog.no/>
- Stephenson, W. (1935). Technique of factor analysis. *Nature*, *136*, 297.
- Stephenson, W. (1965). Definition of opinion, attitude, and belief. *Psychological Record*, *15*, 281–288.
- Tippett, J., Handley, J. F., & Ravetz, J. (2007). Meeting the challenges of sustainable development—A conceptual appraisal of a new methodology for participatory ecological planning. *Progress in Planning*, *67*(1), 9–98. <https://doi.org/10.1016/j.progress.2006.12.004>
- UNECE (Ed.) (1998). *Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters*.
- van den Hove, S. (2000). Participatory approaches to environmental policy-making: the European Commission Climate Policy Process as a case study. *Ecological Economics*, *33*(3), 457–472. [https://doi.org/10.1016/S0921-8009\(99\)00165-2](https://doi.org/10.1016/S0921-8009(99)00165-2)
- Watson, J. E. M., Dudley, N., Segan, D. B., & Hockings, M. (2014). The performance and potential of protected areas. *Nature*, *515*(7525), 67–73. <https://doi.org/10.1038/nature13947>
- Watts, S., & Stenner, P. (2012). *Doing Q Methodological Research: Theory, Method and Interpretation*. SAGE Publications Ltd. <https://doi.org/10.4135/9781446251911>
- Webler, T., Danielsen, S., & Tuler, S. (2009). *Using Q method to reveal social perceptions in environmental research*. Greenfield. Social and Environmental Research Institute.
- Webler, T., & Tuler, S. (2006). Four Perspectives on Public Participation Process in Environmental Assessment and Decision Making: Combined Results from 10 Case Studies. *Policy Studies Journal*, *34*(4), 699–722. <https://doi.org/10.1111/j.1541-0072.2006.00198.x>

- Webler, T., Tuler, S., & Krueger, R. (2001). What is a good public participation process? Five perspectives from the public. *Environmental Management*, 27(3), 435–450.
<https://doi.org/10.1007/s002670010160>
- Williams, D. R., Patterson, M. E., Roggenbuck, J. W., & Watson, A. E. (1992). Beyond the commodity metaphor: Examining emotional and symbolic attachment to place. *Leisure Sciences*, 14(1), 29–46. <https://doi.org/10.1080/01490409209513155>
- Worboys, G., Lockwood, M., Kothari, A., Feary, S., & Pulsford, I. (Eds.). (2015). *Protected Area Governance and Management*. ANU Press.
- Worboys, G., & Trzyna, T. (2015). Managing protected areas. In G. Worboys, M. Lockwood, A. Kothari, S. Feary, & I. Pulsford (Eds.), *Protected Area Governance and Management* (pp. 207–250). ANU Press.
- World Bank. (1996). *The World Bank participation sourcebook* (1. print). *Environmentally sustainable development publications*. World Bank.
- Yang, A., Zhang, W., Qi, F., & He, M. (2021). Research Progress of National Park Community Management Based on Web of Science. *Advances in Social Science, Education and Humanities Research*, 598, 372–379.
- Zachrisson, A. (2004). *Co-management of natural resources. Paradigm shifts, key concepts and cases* (Mountain Mistra Programme report No. 1). Umeå.

10. Appendices

Appendix 1: Background Survey

Appendix 2: List of Q statements

Appendix 3: Participant Guideline

Appendix 4: Scree Plot

Appendix 5: Interview Guide

Appendix 6: Final Set of Themes and Categories from the Qualitative Analysis

Appendix 7: Results from Background Survey

Appendix 8: Consensus-Disagreement List from the Q analysis

Appendix 9: Categories for the Discussion of Best Practice Guidelines

Appendix 1: Background Survey

(The survey was available on ArcGIS Survey 123 in English/Norwegian)

Questions marked with * were mandatory

Public participation in national park management

This survey gathers background information about the people participating in the research for my master's project about public participation in Femundsmarka and Gutulia national park.

This information is not the main data for my research, but it might be used for the interpretation of the results from the Q-sort.

Personal information/Personlig informasjon

To which gender identity do you most identify? / Hvilken kjønnsidentitet identifiserer du deg mest med? *

- male/mannlig
- female/kvinnelig
- others/andre

How old are you? / Hvor gammel er du? *

Where are you mainly located? (e.g., urban, rural, farm) / Hvor befinner du deg hovedsakelig? (f.eks. urban, landlig, gård) *

What is your highest education? / Hva er din høyeste fullførte utdanning? *

- Elementary school/Grunnskole
- Highschool/Videregående skole
- Higher education (3 years)/inntil 3 års høyere utdanning
- Higher education (4 or more years)/4 år eller mer høyere utdanning
- Other

What is your educational background? (e.g., ecology, politics, economy, tourism, management) / Hva er din utdanningsbakgrunn? (f.eks. økologi, politikk, økonomi, reiseliv, forvaltning)

About participation in the management of Femundsmarka and Gutulia / Om deltakelse i forvaltningen av Femundsmarka og Gutulia

How do you take part in the management of Femundsmarka and Gutulia National Park? / På hvilken måte deltar du i forvaltningen av Femundsmarka og Gutulia nasjonalpark? *

- Member of the national park board/Medlem av nasjonalparkstyret
- Member of the advisory committee/Medlem av rådgivende utvalg
- Member of the administrative contact committee/Medlem av administrative kontaktutvalg
- National park manager/nasjonalparkforvalter

→When answering national park board

Which stakeholder group do you belong to? / Hvilken interessegruppe tilhører du? *

- politician from a municipality/politiker fra commune
- politician from a county/politiker fra fylke
- representing Sametinget/representant Sametinget

Since when are you part of the national park board for Femundsmarka and Gutulia? (year) /

Siden når er du medlem av nasjonalparkstyret for Femundsmarka og Gutulia? (år)

→When answering member of the advisory committee

Which interest group are you representing? / Hvilken interessegruppe representerer du?

- Forestry/Skogbruk
- Tourism/Reiseliv
- Outdoor recreation/Friluftsliv
- Reindeer husbandry/Reindrift
- Owner/Grunneier
- Nature protection/naturvern
- Local society/lokalsamfunnet
- Others/andre

Since when are you part of the national park board for Femundsmarka and Gutulia? (year) /

Siden når er du medlem av nasjonalparkstyret for Femundsmarka og Gutulia? (år)

→When answering member of the administrative contact committee

How many times have you participated in a meeting of the advisory committee? / Hvor ofte har du deltatt på møtene i rådgivende utvalg? *

- Every meeting/Alle møtene
- Often/ofte
- Rare/sjelden
- Never/aldri

Appendix 2: List of Q statements

No.	Statement (English)	Statement (Norwegian)
1	Current physical meetings do not give enough room for dialogue and discussion.	De nåværende fysiske møtene gir ikke nok rom for dialog og diskusjoner.
2	The advisory committee has influence on the national park board at the moment.	Det rådgivende utvalget har innflytelse på nasjonalparkstyret per i dag.
3	The advisory committee is an arena for dialogue, discussion, and knowledge exchange for its members.	Det rådgivende utvalget er en arena for dialog, diskusjon og kunnskapsutveksling mellom de ulike aktørene.
4	The collaboration between advisory committee and board is good now.	Samarbeidet mellom det rådgivende utvalget og styret fungerer nå bra.
5	Meetings with other management bodies (e.g., committees from other parks, central authorities) would have a positive impact on the work of the advisory committee.	Møter med andre administrasjons organer (f.eks. sentrale myndigheter) ville hatt en positiv innflytelse på arbeidet til det rådgivende utvalget.
6	Current mechanisms for public outreach and communication are effective.	Nåværende kilder for offentlig informasjon og kommunikasjonsmetoder er effektive.
7	Communication between advisory committee and board is mainly coming from the board.	Kommunikasjonen mellom rådgivende utvalg og styre kommer hovedsakelig fra styret.
8	Participation in the advisory committee should be paid (not only travel expenses).	Deltagelse i rådgivende utvalg bør dekkes økonomisk (betaling arbeidsfortjeneste, ikke bare reiseutgifter).
9	Meetings should stimulate dialogue instead of just providing information.	Møtene burde inspirere til dialog istedenfor å være rene informasjonsmøter.
10	It is important that members of the advisory committee get approved by the national park board (after election).	Det er viktig at medlemmer av det rådgivende utvalget er godkjent av nasjonalparkstyret (etter valg).
11	The advisory committee should have the lead in the meetings.	Det rådgivende utvalget burde lede møtene.
12	At the moment all relevant interests are represented in the advisory committee.	Per i dag er alle relevante interesser representert i det rådgivende utvalget.
13	The participation approach cannot be open to just anyone who wants to participate, participation has to be restricted in some way.	Deltagelse kan ikke være åpent for alle som vil delta, og må begrenses på en måte.
14	An important part of the advisory committee is to build trust among the different stakeholders (members of the committee and board).	En viktig del av oppgavene til det rådgivende utvalget er å bygge opp tillit mellom de forskjellige deltakerne (medlemmer av rådgivende utvalg og styret).
15	Environmental education and participation help achieve nature protection goals.	Miljøutdanning og deltagelse hjelper å oppnå naturvern mål.
16	Too many politicians are involved in national park management at the moment.	For mange politikere er involvert i nasjonalparkforvaltningen for øyeblikket.
17	The task of the advisory committee is understandable and clear.	Oppgaven til det rådgivende utvalget er klar (e.g., rolle i nasjonalparkforvaltning).
18	There should be more than one meeting per year for the advisory committee.	Det rådgivende utvalget burde ha mer enn ett møte i året.
19	The current use of workshops creates enough room for dialogue and discussion.	Workshopene fungerer godt og er med på å skape gode dialoger og diskusjoner.

20	The advisory committee should be mainly included in bigger projects (e.g., visitor strategy) but not in daily management activities.	Det rådgivende utvalget burde hovedsakelig bli inkludert i store prosjekter (f.eks. besøksstrategi), men ikke i den daglige administrasjonen.
21	Laws are interpreted in favour of development of natural areas.	Lover er tolket i favør for utvikling av naturlige arealer.
22	National parks should be managed primarily by owners.	Nasjonalparker burde hovedsakelig ha grunneierstyrt forvaltning.
23	The advisory committee should have more power in decision-making for national park management.	Det rådgivende utvalget burde ha mer makt i beslutningsprosesser rundt nasjonalparkforvaltningen.
24	People affected by nature conservation should be financially compensated.	Mennesker påvirket av naturvern burde får økonomisk kompensasjon.
25	The national park board has too much power.	Nasjonalparkstyret har for mye makt.
26	Good national park management solutions primarily come from the central level (government).	Gode løsninger for nasjonalparkforvaltning kommer hovedsakelig fra det sentrale nivået (statlig).
27	National park management for Femundsmarka and Gutulia is transparent.	Nasjonalparkforvaltningen av Femundsmarka og Gutulia er transparent.
28	National park management is based on scientific knowledge.	Nasjonalparkforvaltning er basert på vitenskapelig kunnskap.
29	The meetings need an experienced facilitator.	Møtene trenger en erfaren fasilitator.
30	Joint meetings of the advisory committee with the whole national park board would make it easier to give advice.	Fellesmøter med hele nasjonalparkstyret ville gjøre det enklere å gi råd.
31	Only conservation experts should make decisions on national park management.	Bare eksperter innen naturvern burde ta beslutninger om nasjonalparkforvaltning.

Only the columns (*søyle*) where you place the statements are relevant, and the rows (*rad*) are irrelevant. You are welcome to comment on statements while ranking them.

A common sorting technique is:

1. Read through all the statements.
2. Sort the statements into three piles "I agree", "I sort of agree" and "I disagree".
3. Find the two statements from the "I agree"-pile you most agree with and put them in column 4 in the chart.
4. Find the two statements from the "I disagree"-pile you most disagree with and put them in column -4 in the chart.
5. Now fill up the chart with the other statements from the piles.

Remind: You can still rearrange the statements at any time

Under this link you can find the document:

English version: https://docs.google.com/drawings/d/1jNE_WgJKs-y5TvEt1TyvOKn4b1dGwbZ8alhSmuraCCE/edit?usp=sharing

Norwegian version: https://docs.google.com/drawings/d/1popQ5VhKnR4AUw3nOvq-2DAm_GroLC8t_5BqzTMyfqA/edit?usp=sharing

4. A short interview

I will ask you some questions about the Q-sort and your experience with it. This information is going to be useful for my data analysis.

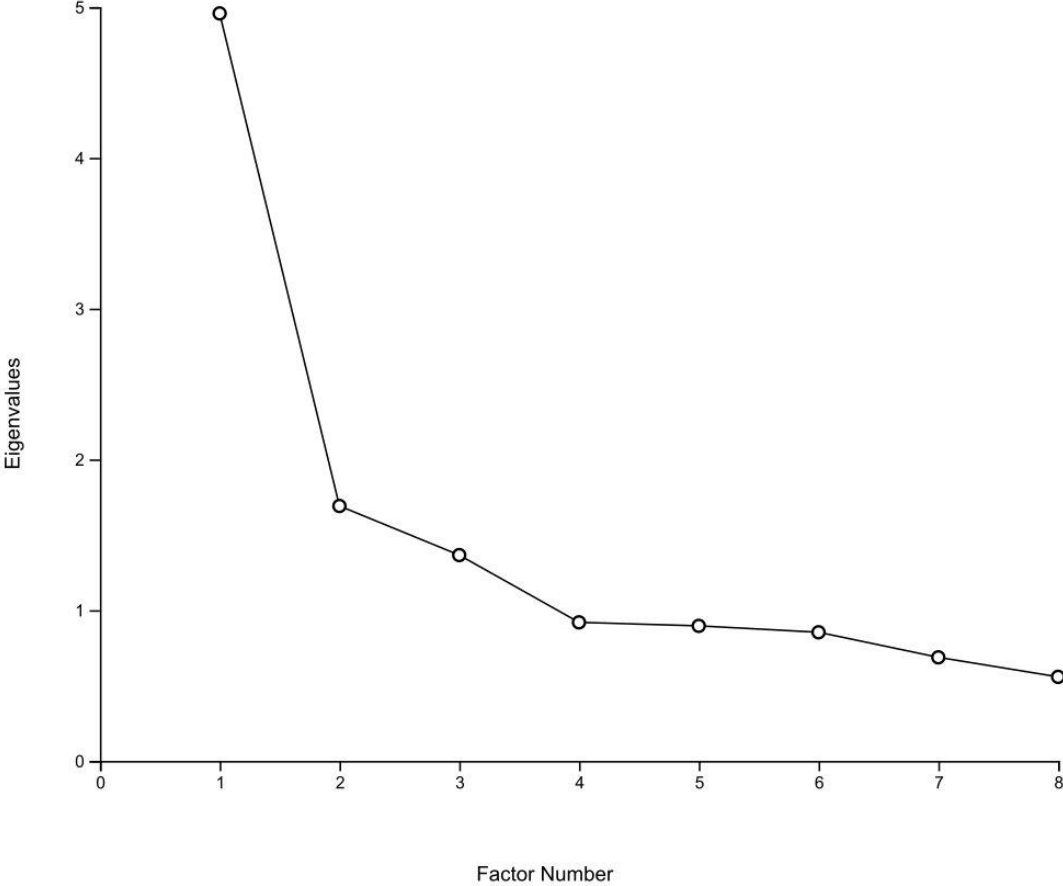
If you have more comments or ideas on how to improve public participation in national park management, you are welcome to tell me about it here 😊

If it's okay for you, I would like to record the meeting for later analysis of the data.

Takk for meg!

Svenja Gercken

Appendix 4: Scree Plot



Appendix 5: Interview Guide

Regarding the Q-sort

- How did you feel while doing the ranking of the statements?
 - o Which statements were the *most difficult* ones to place and why?
 - o Which statements were the *easiest ones* to place and why?
- Did you use a strategy to decide where to put statements?
- Where do you put the zero salience line?
(midpoint btw card you feel positive or negative about)
- How do you interpret your sort? Is it *reflecting your perspective* on the issue?

Regarding national park management in Norway

- Do you think the current form of participation is ideal as it is?
- What makes it easier for local interest groups (non-state actors) to get involved with the management? Now in comparison to before
 - o *Examples: proximity of the park managers to the park, establishment of advisory committee, financial support (paid employees from NGOs can use working time)*
- Does participation in the committee creates more trust in the decision-making process of the national park board? → for RU members
- If you had all the resources you needed, would you change anything in the current participation approach?
- Where do you see national park management in 2050/the future? Are there possibilities we haven't explored yet?

Appendix 6: Final Set of Themes and Categories from the Qualitative Analysis

Theme: Public participation approach in Femundsmarka and Gutulia National Parks

Category: Advantages of the approach

- committee as meeting point
- workshops as a key
- small group
- national park managers

Category: Challenges of the approach

- lack of knowledge on organisational structure

Category: Influence of the committee on decision-making

Category: Possible improvements of the approach

- communication
- common meetings (*Fellesmøter*)
- monetary compensation for volunteers
- more meetings

Theme: National Park Management in Norway

Category: Political board as a challenges in Norwegian national park management

- lack of expert knowledge
- legislative period
- non-locals
- represented interest

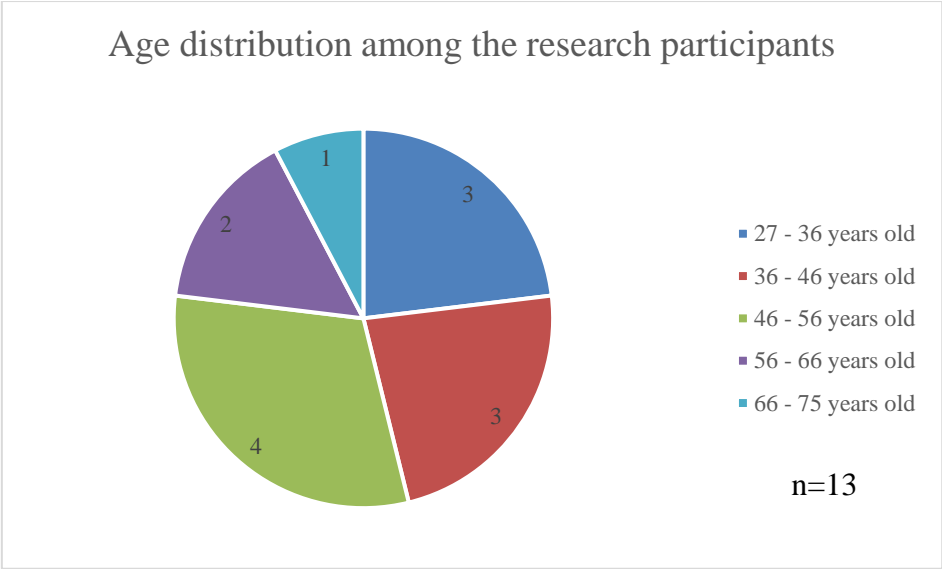
Category: Ideas for improvement in Norwegian national park management

- connected management system
- decision-making by more interests
- resources

Category: Future challenges for Norwegian national park management

- physical challenges
 - climate change adaptation
 - pressure on land
- social challenges
 - social media
 - tourism
 - Allemannsretten
 - public awareness for nature
- channelling and preparation (*tilrettelegging*) for tourists

Appendix 7: Results from Background Survey



Appendix 8: Consensus-Disagreement List from the Q analysis

No.	Statement	Factor I	Factor II	Factor III	Note
11**	The advisory committee should have the lead in the meetings.	-3	-3	-3	Consensus
10**	It is important that members of the advisory committee get approved by the national park board (after election).	-4	-3	-4	Consensus
12**	At the moment all relevant interests are represented in the advisory committee.	0	-1	-1	Consensus
5**	Meetings with other management bodies (e.g., committees from other parks, central authorities) would have a positive impact on the work of the advisory committee.	2	1	2	Consensus
6**	Current mechanisms for public outreach and communication are effective.	0	0	-1	Consensus
4	The collaboration between advisory committee and board is good now.	1	-1	0	
7*	Communication between advisory committee and board is mainly coming from the board.	0	2	0	Consensus
22	National parks should be managed primarily by owners.	-3	-4	-4	Consensus ?
9	Meetings should stimulate dialogue instead of just providing information.	1	4	2	2 deviates
8*	Participation in the advisory committee should be paid (not only travel expenses).	1	2	-1	Consensus
13	The participation approach cannot be open to just anyone who wants to participate, participation has to be restricted in some way.	-2	1	0	
20	The advisory committee should be mainly included in bigger projects (e.g., visitor strategy) but not in daily management activities.	-1	1	-2	
27	National park management for Femundsmarka and Gutulia is transparent.	3	0	1	

14	An important part of the advisory committee is to build trust among the different stakeholders (members of the committee and board).	4	3	1	
24	People affected by nature conservation should be financially compensated.	0	0	3	3 deviates
2	The advisory committee has influence on the national park board at the moment.	3	0	0	1 deviates
17	The task of the advisory committee is understandable and clear.	1	-3	0	2 deviates
26	Good national park management solutions primarily come from the central level (government).	-2	-2	1	
23	The advisory committee should have more power in decision-making for national park management.	-2	0	2	3 deviates
29	The meetings need an experienced facilitator.	2	-2	-2	1 deviates
15	Environmental education and participation help achieve nature protection goals.	2	-1	3	
3	The advisory committee is an arena for dialogue, discussion, and knowledge exchange for its members.	4	3	-1	
16	Too many politicians are involved in national park management at the moment.	-1	1	4	3 deviates
21	Laws are interpreted in favour of development of natural areas.	-1	-2	3	
28	National park management is based on scientific knowledge.	2	-1	-3	
18	There should be more than one meeting per year for the advisory committee.	0	2	-3	
19	The current use of workshops creates enough room for dialogue and discussion.	3	2	-2	
31	Only conservation experts should make decisions on national park management.	-1	-4	2	3 deviates

1	Current physical meetings do not give enough room for dialogue and discussion.	-3	3	1	
30	Joint meetings of the advisory committee with the whole national park board would make it easier to give advice.	-2	4	-2	2 deviates
25	The national park board has too much power.	-4	-2	4	3 deviates

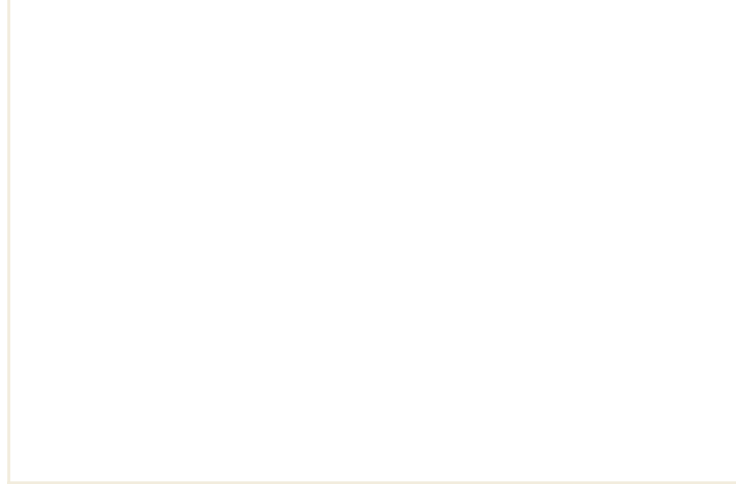
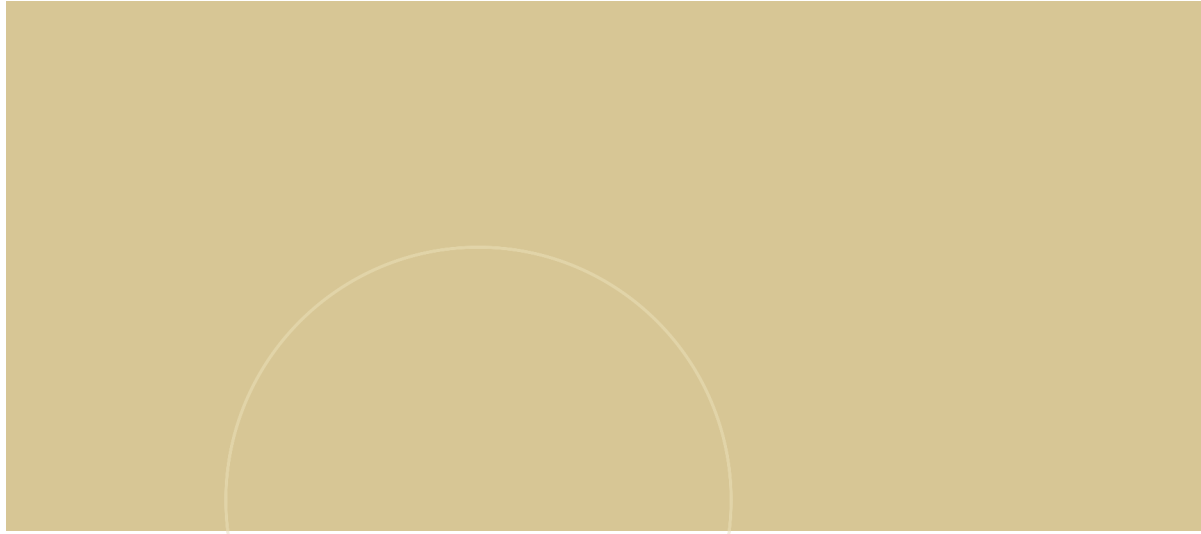
* shows consensus statements that are non-significant at $P > 0.01$

** shows consensus statements that are non-significant at $P > 0.05$

Notes are based on the researcher's interpretation.

Appendix 9: Categories for the Discussion of Best Practice Guidelines

Category	Notes	Reed 2008	Rowe & Frewer 2000
Focus of the process on empowerment, independence, equity, transparency, trust and learning	Empowerment of the participants, influence on decision-making, address inequalities, trust and relations for more equality, small groups	Underpinning philosophy for empowerment, equity, trust and learning	Influence, transparency, independence
Early involvement	Inclusion of participants from the beginning of the process	Early involvement	Early involvement
Stakeholder representativeness	Representation of all affected parties in the society <i>Dovers et al. 2000: managers identify and select participants, methods for selection SA or SNA</i>	Systematic stakeholder representation	representativeness
Clear objectives and tasks	Understandable mandate for the advisory committee	Clear and self-defined objectives	Task definition
Adequate choice of method	<i>Dovers et al. 2000: method has to be suitable for all participants</i>	Method adjusted to socio-cultural context	Resource accessibility (for everyone to realise their tasks), structured decision-making (by using suitable methods)
Role of national park managers	Skills and experience of the managers, relations and involvement with local interests	Skilled facilitator (experience with tools, open, maintain pos. dynamic, animation for questioning)	
Integration of local and scientific knowledge	Presence of it in the committee, maybe also bigger scale in the management in general	Local & scientific knowledge	
Institutionalised participation	Make participation a norm and standard in thinking and acting	institutionalisation	



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