A COMPARATIVE CASE-STUDY OF NATIONAL PARK MANAGEMENT IN AORAKI/MT.COOK NATIONAL PARK (NEW ZEALAND) AND JOTUNHEIMEN NATIONAL PARK (NORWAY)

ET KOMPARATIVT CASE-STUDIUM AV NASJONALPARKFORVALTNINGEN I AORAKI/MT.COOK NASJONALPARK (NEW ZEALAND) OG JOTUNHEIMEN NASJONALPARK (NORGE)

ÅSHILD MYHRE AMUNDSEN

Norwegian University of Life Sciences
Department of Ecology and Natural Resource Management (INA)
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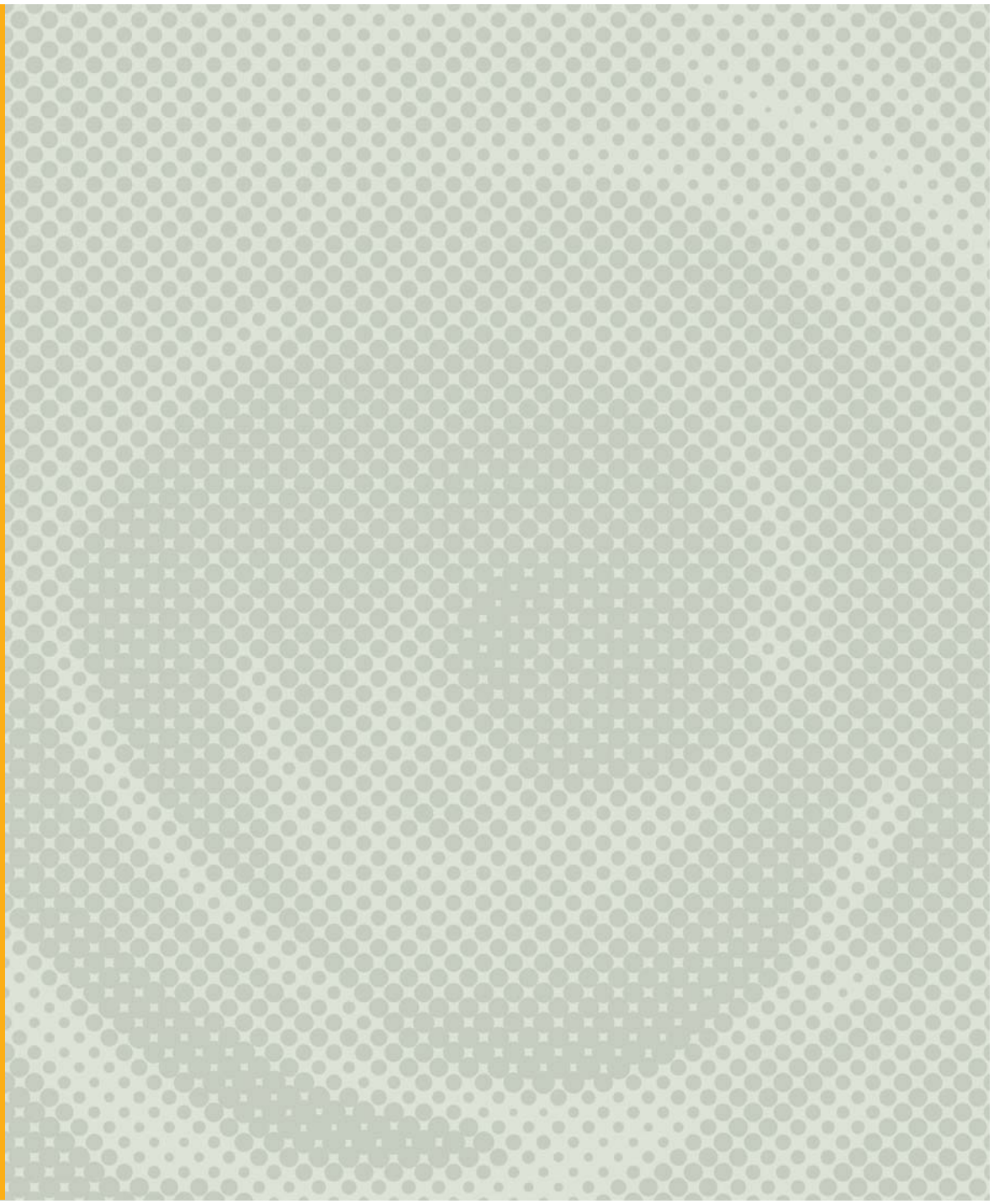

Preface

This thesis represents an output of a two years master study in nature based tourism, in the Department of Ecology and Natural Resource Management (INA) at the Norwegian University of Life Sciences (UMB). My research has been a part of a larger project called PROTOUR.

First and foremost, I would like to express gratitude towards my supervisors Jan Vidar Haukeland and Odd Inge Vistad, as well as Vegard Gundersen for their continuous follow up, guidance and support throughout this thesis. All of you have contributed with your knowledge and sense of critical judgment, guiding me in the right direction but always on my premises. Thank you!

Furthermore, I would like to thank Harald Klæbo at the County Governor in Oppland for his positive attitude and his colleague Marit Vorkinn, who both gave me valuable information and a "reality check" on national park management in Norway.

Since New Zealand is located almost as far from Norway as you can get, every piece of help and advice from "over there" has been highly appreciated. First, special thanks to my previous teacher at Lincoln University, Stephen Espiner, who is always eager to help and always does so in an excellent way. I hope you come to Norway one day! Thanks also to James Higham at the University of Otago, for reading through my thesis and giving me good advice towards the end.

Thanks to Knut Bjørn Stokke and Morten Clemetsen for arranging seminars and gathering students for a joint supervision. Inspiring!

Finally, thanks to my family, friends and my class-colleagues at Sørhellinga, for support and company during this semester. Last but not least, nothing would have been the same without my hero, roommate and best friend. Thank you, my love.

Norwegian University of Life Sciences, 14th May 2012

Åshild Myhre Amundsen

Abstract

The new national tourism strategy "Destination Norway" (The Ministry of Trade and Industry 2012) signals a political movement toward increased tourism development based on large protected areas, but the question is how or if this is achievable without reducing the nature qualities that attract visitors in the first place. One solution is to use international comparisons as a way to improve the knowledge base and adapt techniques developed by countries with long traditions in combining tourism, outdoor recreation and nature conservation, such as New Zealand. My research is a small contribution to a larger project named PROTOUR, and the overall goal has been **to examine how visitors and nature based tourism businesses are managed by the management authorities in Aoraki/Mt. Cook National Park**[1] **(New Zealand), and consider whether this approach is relevant or transferable to the management of Jotunheimen National Park (Norway).** My research objectives were to (1) identify some key differences and similarities between the two countries related to national park management (2) examine the scope of management instrument (e.g. legislation, policies, management plans) applied in Aoraki and Jotunheimen, and (3) discuss whether the former is suitable in dealing with the current challenges in Jotunheimen. The chosen methodology is a document analysis based on comparative case-study of Aoraki National Park and Jotunheimen National Park, in addition to communication with some key informants. My results show that even though nature protection is the main objective in Aoraki and Jotunheimen, the interpretation and implementation of this varies significantly. This does not only rely on the management authorities, but are also influences by e.g. cultural traditions and social norms. Two main management tools or techniques were identified in Aoraki; the Recreation Opportunity Spectrum (ROS) and the concession-system. They provide a comprehensive and overall management of visitors and commercial enterprises, and have the potential to deal with several of the identified challenges in Jotunheimen National Park. However, the Right of Public Access, ownership arrangements, management structure, financial means and more needs to be addressed before an introduction is feasible. Finally, I looked into how visitor information can be used as a tool to manage visitors in national parks and briefly examined two management approaches called VAMP and DMF.

[1] The official name is Aoraki / Mt.Cook – to simplify, the park is referred to as Aoraki National Park / NP

Sammendrag

Den nye nasjonale reiselivsstrategi "Destinasjon Norge" (Nærings-og handelsdepartementet 2012) signaliserer en økt politisk vilje for reiselivsutvikling basert på store verneområder, men spørsmålet er hvordan eller om dette er oppnåelig uten å ødelegge eller redusere de naturressursene som gjør området attraktiv i første omgang. En måte å øke kunnskapsgrunnlaget på er å sammenligne seg med land som har lange tradisjoner med å kombinere turisme, friluftsliv og naturvern og introdusere metoder eller teknikker utviklet der, som f.eks. i New Zealand. Oppgaven min har vært et lite bidrag til et større prosjekt kalt PROTOUR, hvor det overordna målet har vært å undersøke hvordan besøkende og naturbasert reiselivsbedrifter styres av forvaltningen i Aoraki / Mt. Cook National Park (New Zealand), og vurdere hvorvidt denne tilnærmingen er relevant eller overførbar til forvaltningen av Jotunheimen nasjonalpark (Norge). Mine problemstillinger var å (1) identifisere noen sentrale forskjeller og likheter mellom de to landene knyttet til nasjonalparkforvaltning (2) undersøke omfanget av forvaltningsverktøy (f.eks. lover, retningslinjer, forvaltningsplaner) anvendt i Aoraki og Jotunheimen, og (3) diskutere om forvaltningsverktøyene i Aoraki er egnet til å håndtere dagens utfordringer i Jotunheimen. Jeg har valgt dokument analyse som metodikk, basert på et komparativt case-studie av Aoraki nasjonalpark og Jotunheimen nasjonalpark i tillegg til kommunikasjon med noen få utvalgte informanter. Resultatene viser at selv om naturvern er det viktigste målet i både Aoraki og Jotunheimen, så varierer tolkningen og gjennomføringen av naturvernet betydelig. Sistnevnte avhenger ikke kun av forvaltningsmyndighetene, men blir også påvirka av bl.a. kulturelle tradisjoner og sosiale normer. To viktigste forvaltningsverktøy eller teknikker ble identifisert i Aoraki – ROS-modellen og bruken av «konsesjoner» (concessions) Kombinasjonen gir en helhetlig og overordnet styring av besøkende og kommersielle virksomheter, og kan potensielt håndtere flere av de identifiserte problemene i Jotunheimen. Imidlertid bør bl.a. allemannsretten, eiendomsforhold, forvaltningsstruktur og økonomiske midler undersøkes nærmere før et nytt forvaltningsverktøy kan introduseres.
Til slutt har jeg sett på hvordan informasjon kan brukes som et verktøy for å administrere besøkende i nasjonalparker og kort beskrevet to tilnærminger kalt VAMP og DMF.

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1 Introduction

"*All parks are created by society for a purpose, which has varied across time and geography*" (Eagles & McCool 2002, p.1)

Utilization of nature resources and free access to non-cultivated land have long traditions in Norway, a country where environmental problems of some scale only appeared 40-50 years ago (Hammitt et al. 1992). In the 1960s, ecological principles became more evident and the urge to protect valuable areas from human impacts such as hydropower emerged. Today, approximately 16 per cent of the mainland is under formal protection, and one vital question remains: how to manage these areas in an efficient and sustainable way?

Aasetre (1998) has described the Norwegian park management approach as "*classic nature protection*", where ecological principles prevail and tourism is considered as a threat to natural resources. Accordingly, there has been little emphasis on active management, visitor services and co-operation with local communities and different stakeholders (tourism businesses, landowners etc.). Public documents such as the Mountain Text "*Fjellteksten"* (The Ministry of Trade and Industry 2003) reflected a political movement towards increased tourism and regional development based on national parks, but this is less evident in official documents provided by the agencies in charge for nature resource management. In 2010, a new local management model was implemented, giving local communities increased responsibility in the management of protected areas. It is too early to evaluate the effect of this model, but the challenging balance between use and conservation is evident regardless of management model.

Even though the balance between use/conservation is a relatively new challenge in Norway, some countries have dealt with this issue for more than one hundred years. The value of international comparisons has been identified in a larger research project called PROTOUR[2], where my thesis is related to subgoal D:

[2] "Prospects for Managing Tourism Development in Protected Areas in a Period of Transition"

"*to position the Norwegian protected area policies with regard to tourism and recreation in an international context based on comparisons with other countries, particularly New Zealand and the USA*".

Choosing New Zealand felt natural to me, since I went there as an exchange student in 2011. My own experience as a visitor to national parks in both countries made me eager to find out if there was room for improvement in the Norwegian management approach based on the knowledge and experience gathered in New Zealand. The latter established one of the first national parks in the world and has more than 1/3 of the country under protection. Even though New Zealand share many of the same qualities as Norway (few inhabitants, spectacular and diverse nature, large protected areas etc.), their national parks are significantly more facilitated for visitors, and tourism businesses are acknowledged as legitimate stakeholders in public conservation areas. The relationship between protection and use has not emerged by chance but rather as a result of deliberate planning and management processes which will be considered in this study. The overall goal is to develop a more comprehensive understanding of how New Zealand manage nature based tourism and outdoor recreation in their national parks, and determine if this approach and knowledge is relevant to the management system regulating national parks in Norway.

Additionally, my goal is to provide the PROTOUR-project with a solid foundation for further research. My choice of language is based on this, as further research will happen in co-operation with James Higham at the University of Otago (NZ). Hopefully, my thesis will prove useful in the following research process.

1.1 Research Objectives

Overall goal

The overall goal with this research is to examine how visitors and nature based tourism businesses are managed by the management authorities in Aoraki/Mt. Cook National Park (New Zealand), and consider whether this approach is relevant or transferable to the management of Jotunheimen National Park (Norway).

Research objectives

1.) Identify some key differences and similarities between the two countries related to national park management
2.) Examine the scope of management instruments, including legislation, policies and management strategies /plans in Jotunheimen NP and Aoraki NP, and describe some of the main techniques used in the management of visitors and nature based tourism businesses.
3.) Discuss whether the approach applied in Aoraki is suitable to deal with the current challenges in Jotunheimen.

1.2 Definitions and Limitations

Glossary

As this thesis mixes terms from New Zealand and Norway throughout the paper, a short introduction of the most unique/common terms seems appropriate:

Back-country: protected natural areas that are not accessible by 2-wheel drive vehicles[3] or regular scheduled ferry of aircraft transport (New Zealand)
CMS/CMP: Conservation Management Strategies / Conservation Management Plans (New Zealand)

[3] Regular cars, not including 4WDs or bicycles (S.Espiner, 2012, personal communication)

Concessions: a lease, license, permit or easement, required for any commercial activity on public conservation land (New Zealand)

Concessionaire: holder of a concession (New Zealand)

Crown-land: equals public land (New Zealand)

Cultivated / uncultivated land: *innmark/ utmark* - cultivated land: farmyards, plots around houses and cabins, tilled fields, hay meadows, cultivated protected areasture, young plantations and similar areas where public access would unduly hinder the owner or user. Uncultivated land means land that is not tilled and that is not considered to be equivalent to cultivated land (Norway)

DOC: Department of Conservation

DMF: Destination Management Framework

EIA (environmental impact assessment): undertaken to determine the potential effects of an activity on the Park's natural and historic values. Can be demanded from a concessionaire (New Zealand).

Exemption practice: *dispensasjon,* - a special permit granted on the basis of a written application, allowing exemptions from laws and regulations, under certain conditions (Norway). The term **permit** (*tillatelse*) has a similar meaning in this context, and will be used interchangeable.

Front-country: protected natural areas that are accessible by 2-wheel drive vehicles or regular scheduled ferry or aircraft transport, and the associated facilities (New Zealand)

Individual decision: *enkeltvedtak* – an administrative decision related to the right or duties of one or more specific persons, according to the Public Administration Act 1970/2010 *Forvaltningsloven* (Norway)

Protection regulations: *verneforskrifter* – Set out by the King in Council, according to the Nature Diversity Act §34. Every national park has a set of protection regulations, describing the main purpose, objectives, regulations for use etc (Norway).

Protected areas: Protected Areas (New Zealand/Norway)

The Right of Public Access: *allemannsretten* – free access for everyone on non-cultivated land (*utmark),* regardless of ownership, defined and explained in the Outdoor Recreation Act from 1957 (Norway)

ROS: The Recreation Opportunity Spectrum

VAMP: Visitor Asset Management Program

Defining Protected Areas and National Parks

Protected areas (Protected areas) exist all around the globe, and cover nearly 14 per cent of the Earth's terrestrial surface according to the International Union for Conservation of Nature (IUCN, 2008). Protected areas can be divided into several categories such as national parks, wilderness areas, nature reserves, protected landscapes etc. Even though efforts has been made in order to standardize and define different categories of Protected areas, a significant diversity still exists (Mose 2007). The most recognized world-wide system is developed by IUCN, where national parks are defined as a Category II protected area. This includes large natural areas "*managed mainly for ecosystem protection and recreation*" (Eagles & McCool 2002, p. 19), where the main objective is to "*protect natural biodiversity along with its underlying ecological structure and supporting environmental processes, and to promote education and recreation*"(IUCN,2008). However, as long as IUCN's definitions are voluntary to apply and not legally binding, the term "national park" has various meanings throughout the world.

In **Norway**, a national park is defined through the Nature Diversity Act as

"*Large areas of natural habitat that contain distinctive or representative ecosystems or landscapes and where there is no major infrastructure development may be protected as national parks. Pedestrian access or protected areassage in accordance with the provisions of the Outdoor Recreation Act is permitted. The protection regulations should (….) ensure that people can enjoy an undisturbed natural environment"*

(regjeringen.no 2009)

In **New Zealand**, the National Parks Act

"*Shall have effect for the purpose of preserving in perpetuity as national parks, for their intrinsic worth and for the benefit, use, and enjoyment of the public, areas of New Zealand that contain scenery of such distinctive quality, ecological systems, or natural features so beautiful, unique, or scientifically important that their preservation is in the national interest*.

(*The National Parks Act* 1980)

Some suggest that Norwegian national parks correspond more to those of North American wilderness areas than to North American national parks, as the scope of tourist facilities is limited, motor vehicles prohibited and "*Nature comes first*"(Holt-Jensen 1978). The above definitions indicated more focus on the human dimension in New Zealand's approach to national park than Norway's. Notice for example the words "*pedestrian access is **permitted**"* versus "*benefit, use, and **enjoyment** of the public".*

Defining Outdoor Recreation and Nature Based Tourism

The distinction between tourism, leisure and recreation is often unclear, and although we define them differently, they frequently overlap. **Leisure** is usually defined as the time available to an individual when work, sleep and other basic needs have been met (Page & Dowling 2002 as cited by; Tangeland 2011), and **recreation** as any pursuit engaged upon during leisure time (Newsome et al. 2002). Additionally**, outdoor recreation** includes "*any activity which is undertaken on a voluntary basis during leisure time for personal enjoyment and satisfaction, and where the resource base (natural or cultural) is an important factor in the experience"* (Swinnerton 1989, p.524). As for tourism, the World Tourism Organization (UNWTO) defines **tourists** as people travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes (Tangeland 2011). The main focus in this thesis will be on outdoor recreation and **nature based tourism**, since I primarily examine visitor management tools and strategies applied inside large natural areas such as national parks. As there is no indisputable definition of this term (Tangeland 2011) and no simply way to distinguish nature based tourism businesses from the rest, my approach is simply to focus on businesses offering services to visitors inside the national park, primarily physical activities such as hiking, biking, climbing, jet-boating, heli-skiing etc. They all depend to some degree on the use of natural resources in relatively pristine natural areas such as national parks.

Some authors (such as Newsome et al. 2002) clearly distinguish between tourism, recreation and leisure, while others use tourism and recreation interchangeably (such as Haukeland & Lindberg 2001). We need to consider the context in order to decide what's most appropriate for this thesis. For example, if we want to consider the bio-physical impacts of visitation, the difference between nature based tourism and outdoor recreation seems less important. They often involve in the same activities and there is no easy way to separate them in a national park. On the other hand, if we

consider recreation to be a non-commercial activity and want to explore whether national parks contribute to the regional economy, there is an obvious need to distinguish between the terms. If we look at how the Department of Conservation (DOC) in New Zealand defines tourism in their national parks, visitors are perceived as tourists as soon as they use and pay for services provided by the private sector (a concessionaire) (Department of Conservation 1996b). A concessionaire needs a permit (called concession[4]) from the management authority to operate on public conservation land. However, to make such a distinction between tourism and recreation in a Norwegian context seems problematic. An obvious argument is that Norway doesn't use concessions. Furthermore, the research question is to consider **visitor** management strategies and tools. Accordingly, recreationists will also be considered since they are involved in the same activities and are hard to separate from tourists. The term "visitors" will therefore be used when referring to both recreationists and tourists.

Distinguish Conservation from Preservation

The terms "conservation" and "preservation" are often used interchangeable, probably because both concepts are strongly associated with resource protection. However, as public documents are an important source of evidence in this thesis, it can be important to note that the concepts usually have different meanings and aims in English. One interpretation is that **preservation** is "*concerned with protecting the natural and intrinsic values of natural landscapes and features in perpetuity*" while **conservation** is "*the management of a resource in a manner that sustains its capability to meet the needs and aspirations of current and future generation*" (Department of Recreation and Parks of Alberta 1988 as cited by; Swinnerton 1989). The distinction is hard to maintain throughout the paper, as there are no similar concepts in Norway. One could perhaps argue that the Norwegian term "*vern"* is closer to preservation than conservation, as preservation emphasize integrity, authenticity and intrinsic value (according to the previous reference).

[4] Look in the glossary for further clarification

2 Theoretical Framework

The following section draws on theories that can help us determine if the management approach implemented in Aoraki could be relevant for the management of Jotunheimen by examining a wide range of factors affecting national park management in New Zealand and Norway. This can roughly be divided into three, as described by Lindberg and Haukeland (2001):

• **«Natural Protection Regimes»** are widely defined as fundamental cultural traditions and social norms that affect how Protected areas and national parks are understood, interpreted, defined and managed.
The Right of Public Access is a typical Scandinavian regime, although similar principles exist elsewhere.
• **"Models"** refers both to specific approaches like the Recreation/Tourism Opportunity Spectrum and can, in this context, be defined as processes implemented to solve a specific problem. Laws and regulations, management plans and strategy documents also fall within this category
• "**Management**" refers to (1) land use/physical planning and on-site management of tourists and tourism/recreation infrastructure and (2) management to protect vulnerable resources from negative impacts and from different kinds of use. "Management" often refers to specific management actions, such as interpretation or restricted access.

Another similar, but more detailed approach is to describe a hierarchy of fundamental components for the management of protected land. This includes "*a sound legislative framework, good planning systems, and the use of a range of management tools to achieve desired outcomes*" (Higham & Maher 2007, p. 6), as visualized in the model underneath:

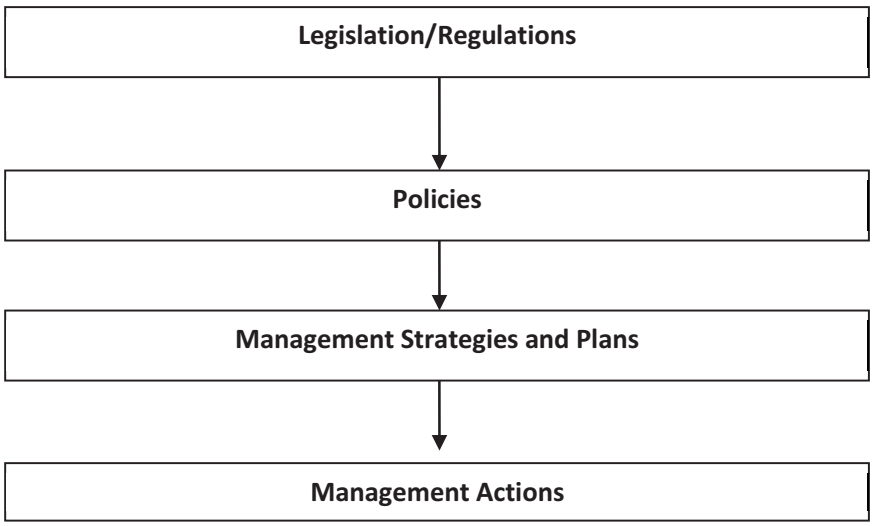

Figure 1: Protected Area Management: Hierarchy of Management Instruments (Maher 2006)

One could argue that an additional, higher "regime-level" should be placed on top, as legislation exists in a much broader social context. Even though legislation / regulation might be perceived as something "static", it is shaped, developed, interpreted and applied according to society's existing cultural traditions and social norms, e.g. the discussion sections in the first public national park plan in Norway(Naturvernrådet 1964). This needs to be taken into account when the goal is to get a comprehensive understanding of national park management in Norway (Jotunheimen) and New Zealand (Aoraki).

An integration of the two approaches from Haukeland/Lindberg(2001) and Higham/Maher(2007) will be described in this chapter, and applied in the result-chapter.

2.1 Management Regimes

"Humans are the dominant species in every national park (…). In short, to understand the natural systems of the park you must understand the park's most dominant species" (Campell 1979 as cited by; Field & Machlis 1992, p. 282)

Different Approaches to Man-Nature Relations

People around the globe perceive nature values and environmental problems differently, due to personality, cultural background, education etc. We can divide nature-approaches into two main groups; the human-centred or anthropocentric view and the life-centred or ecocentric outlook (Newsome et al. 2002). The main difference is whether or not we put humans in the centre of the natural world. The anthropocentric view claims that humans are the Earth's most important species. This implies that humans are distinguished from, and in charge of, the rest of nature, and also that natural resources are there to be utilized through science and technology. On the contrary, the ecocentric view emphazise the intrinsic value to all forms of life, regardless of their potential or actual use to humans. It assumes that "*nature exists for all of earth's species and that humans are not apart from, or in charge of, the rest of nature*"(Newsome et al. 2002, p. 4). Main principles underlying the ecocentric perspective includes intrinsic value, biodiversity, sustainability, conservation, individual responsibility etc.

Ecological Planning and National Parks Management

National parks and protected areas have experienced considerable change since the first national park was established in Yellowstone in 1872 (Booth & Simmons 2000). Some of the main objectives with the first protected areas were to protect beautiful nature and endangered species (Mose 2007), but also to provide opportunities for outdoor recreation and tourism (Eagles & McCool 2002). However, as society changed, so did the purpose and function of Protected areas. During the 1960s, concepts like ecological planning and endangered species emerged fully fledged, along with the rise of a new science called ecology (Eagles & McCool 2002). Ecological principles now became more essential in the establishment and management of new parks, aiming to preserve whole ecosystem and their dynamic free from human impact. This increased the tension between use and conservation, based on the concept of "*higher ecological integrity in the absence of human interference"*(Eagles & McCool 2002, p. 22).

Human Dimensions in National Park Management

According to Mose (2007), many protected areas are currently changing again, becoming increasingly important as instruments for regional development. This can be described as a shift towards the paradigm of the dynamic-innovation approach (integration protection), contrary to

the paradigm of the static preservation approach (segregation approach). The former is characterized by a policy mix where top-down and bottom-up approaches are intertwined, and the idea of cooperation is essential. This suggests that "*nature can only be protected by man in a sustainable way if mankind considers itself to be a part of nature*" (Mose 2007, p. 13). Eagles and McCool (2002) also emphasize this, arguing that it is shallow to view human impacts in Protected areas as something utterly negative. F. Tilden wrote that "*through appreciation comes protection"*(Tilden 1977, p.38), acknowledging that both the establishment and management of protected areas are dependent on human support. This can only be ensured in a long-term perspective if sufficiently large numbers of people in a society visit and value these areas.
The figure underneath shows some of the dimensions affecting the management of Protected areas and national parks:

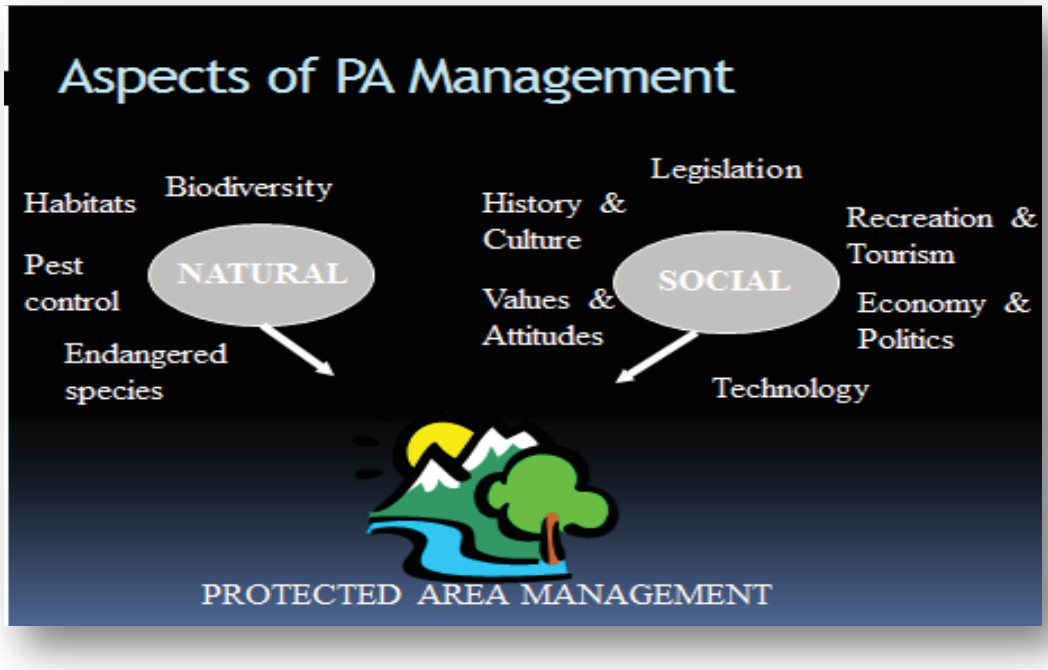

Figure 2: Different Aspects of Managing Protected Areas. (Chrys Horn, 2011, personal communication)

2.2 Legislation

A sound, robust and clear legislative framework is critical for the management of tourism and recreation on protected areas (Higham & Maher 2007), as every goal set out in policies,

strategies, plans and models must have their basis in the law. One main difference related to national park management is whether the legislative framework has an anthropocentric approach with human values in the center (such as recreation and economic development), or a biocentric approach where natural values prevail. Furthermore, if the legislative framework regulating protected areas and national parks is diffuse, confusing or unclear, this is likely to affect every level further down, making it hard for planners and managers to do their work efficiently and systematicly.

2.3 Policies

National policies are often used as a means to interpret relevant legislation into the context of the situation at hand. Even though a detailed study of different national policies in New Zealand and Norway will be too extensive for this thesis, a few key documents will be mentioned and referred to in the result-chapter. This includes public documents prepared by the management authorities, such as handbooks and national strategies. Higham and Maher (2007, p.7) note that in most cases, formal policies can "*inform management plans and strategies, and provide valuable guidance to management participants*".

2.4 Use of Models in Management Strategies and Plans

Management strategies and plans are frequently applied tools in national parks around the world. In order to improve the quality of these plans, a **variety of models** has been developed, attempting to "*provide protected area managers with planning tools that can enable them to* ***produce management plans*** *and other statements of desired goals, objectives and desired outcomes, upon which management actions can be based*"(Higham & Maher 2007, p.7). An in-depth analysis of the different models has been undertaken thoroughly elsewhere (e.g. Gundersen et al. 2011; Manning 1999) and will not be provided here; only the models most relevant to New Zealand will be described, together with a short introduction on why these models were developed.

Since the 1960s, there have been increasing concerns about appropriate use levels of outdoor recreation areas (Manning 1999). The main concern has been how increased use could have a negative effect on the natural resource base, although some were also concerned that more users would reduce the quality of the recreation experience due to crowding and user-conflicts. As a

result, the concept of carrying capacity was adapted, referring to "*the ultimate limits to growth as constrained by environmental factors*"(Manning 1999). As it developed, a three-dimensional concept was added, looking at an environmental, social and managerial dimension. Despite much attention and research, the concept of carrying capacity remained hard to implement. The main challenge was to decide how much impact or change should be allowed along the three dimensions – how much is too much? Deciding that there is no "magic number", one changed the question into asking "how much is acceptable". In order to apply the concept of carrying capacity to outdoor recreation, a series of models was developed, including "Limits of Acceptable Change (LAC), "Visitor Impact Management" (VIM) and "Visitor Activity Management Process" (VAMP) (Manning 1999). However, all were based on the "mother of all models", the Recreation Opportunity Spectrum (ROS) from 1978/9[5] (Gundersen et al. 2011; Haukeland & Lindberg 2001).

The Recreation Opportunity Spectrum (ROS):

The Recreation Opportunity Spectrum was developed in North America in 1979, and is based on a wide range of empirical and theoretical research from outdoor recreation (Gundersen et al. 2011). It is primarily a user-oriented model which recognizes that recreation areas are visited for a great variety of reasons, and that this diversity needs to be actively managed (S.Espiner, 2012, personal communication). ROS identifies three key components of recreation management; settings (opportunities), activities and experiences. The settings (zones) can range from pristine (wilderness) to increasingly modified (urban), from easy access to difficult access and from strict regimentation to no regimentation (Gundersen et al. 2011) The settings will have attributes that can be classified as physical (biophysical and facility), social (users and their behavior) and managerial (rules and regulations) (Devlin & Booth 1998). According to Devlin and Booth (1998, p.122), ROS is a macro approach, "*best applied to large areas which offer a spectrum of recreation opportunities.* By combining activities and settings, different experiences and outcomes are achievable. This zoning-system allows managers to separate visitors and to match them with their desired experience.

[5] Developed simultaneously by Driver and Brown:1978 and Clark and Stankey: 1979 (Haukeland & Lindberg 2001)

Limits of Acceptable Change (LAC)

Limits of Acceptable Change (LAC) was developed in 1985 and can be viewed as an operationalization of ROS, allowing both managers and users to agree on standards of desired environmental conditions in the different reacreation classes. The goal of LAC is to reveal a series of **indicators** and **standards** that help define the different ROS classes (Gundersen et al. 2011), which then should be measured and controlled frequently through monitoring. LAC do not divide between social and environmental factors, but simply refer to indicators of change and "standards" to maintain quality of environments / experiences (S. Espiner, 2012, personal communication). Where ROS has been criticized for being too static and without any kind of user-participation, the element of participation is one of the strongest arguments for applying LAC. The downside is that the model is very costly and requires both sufficient staff and financial means to be successfully implemented.

Eagles and McCool (2002) argue that ROS is a more anthropocentric model focusing on visitor satisfaction and "human outcomes", while LAC is more 'ecocentric' or environmental-focused. I would however emphasize that this is highly dependent on how the model is implemented and interpreted. For example, whether LAC is ecocentric will depend mainly on the stated objectives, standards and indicators, not only on the model.

2.5 Management Actions and Visitor Impacts

Despite the many positive benefits associated with using national parks for outdoor recreation and tourism, use will eventually lead to a variety of detrimental impacts on the environment. Impacts of visitation can be measured in terms of biophysical (ecological) effects, social effects or economic effects (C. Horn, personal communication, 2011). This chapter will mainly focus on biophysical effects, which again can be divided between **a.)** irreversible impacts such as heavy infrastructure and technical installations and **b.)** reversible impacts, often related to recreation activities e.g. hiking. This can include impacts such as vegetation clearance, widening of tracks, wildlife disturbance, litter, water pollution, toilet waste and so on (Department of Conservation 1996b). If we go back to the classification at the beginning of this chapter, management can be looked upon as the "ground level", often referring to specific management actions, such as interpretation or restricted access. Planning for national parks must be linked to decisions about

how those goals and objectives will be realized through actions(Higham & Maher 2007). However, if and how such management actions are used in the daily management of a national park depends heavily upon the regime and models implemented "higher up" in the system. There are several management actions available to prevent or reduce negative impacts on a site (Aas et al. 2003; Department of Conservation 1996b), such as:

- Modify the timing of visitor behavior (visitor use can be shifted to times which cause less impact, such as avoiding nesting time)
- Reduce the use of the site (zoning), by moving the visitor activity / facility / service to areas less vulnerable for human impacts, canalize traffic to some key points, restrict numbers by using fees or booking etc. We can distinguish between temporal, geographical, seasonal and ecological zoning.
- Increase the resistance of the site (by either strengthening/hardening or shielding it from impact)
- Utilize certification and concessions
- Information, interpretation and persuasion using on-site panels, signs, guiding etc.

As noted by Higham and Maher(2007), alternative management actions can be described as occurring along a continuum, from reasonably "soft" and indirect interventions through to "hard" or direct actions:

"

"Soft" (Indirect)	**"Hard" (Direct)**
E.g. information, advocacy	E.g. physical site work
Interpretation	Restrictions on access to site

Soft or indirect management actions seek to influence visitor behavior by increasing their knowledge and changing their attitude, while hard or direct management actions force or direct behavior change, using commands or bans, or directly by reducing resource impacts by hardening sites (boardwalks etc.) or leading traffic away from vulnerable resources/species by use of physical measures. As already mentioned, not every management action is feasible everywhere. For example, the Right of Public access makes it hard (if not impossible) to implement management actions that restrict access or require the use of fees.

Figure 3: Wide path in, Mt. Cook National Park (Photo: Iselin Benum)

3 Methodology

The main purpose with methodology is to develop a strategy for ways to gather, manage and analyze data, using either a qualitative or quantitative research approach (or a combination).

The empirical data in this study is based on a **comparative case study** of Aoraki National Park in New Zealand and Jotunheimen National Park in Norway. Data were collected by using **qualitative methods** such as document analysis and to some extent interviews /communication with key respondents / informants from both countries.

During the next chapter, I will present my research design and methods for data sampling and collection more thoroughly. Discussion on the choice of method and data strength / weaknesses (validity and reliability) will be provided in the discussion chapter.

3.1 Research Design

"A good research design is clearly defined, with coherence between research question and methods, which will generate valid and reliable data and which can be achieved with the available resources"

(Ritchie & Lewis 2003, p. 75)

Exploratory, Descriptive or Explanatory Research Methods

According to Yin (2009), every method can be used for three purposes - exploratory, descriptive and explanatory. This research will mainly take a descriptive approach, where information about management strategies and tools will be investigated and described for both countries / national parks in order to illuminate the research question. Background information about Norway and New Zealand is necessary to understand the context and to see the chosen cases in a broader perspective, aiming to get a more comprehensive understanding. Some part will explanatory in order to discuss "*whether the approach applied in Aoraki is suitable to deal with the current challenges in Jotunheimen"*.

Extensive or Intensive Research Design

Another important decision when choosing research design is to determine whether the study should go wide (extensive) or deep (intensive) (Jacobsen 2005). This thesis will have an intensive research design, characterized by a detailed study of few units (two national parks), where the goal is to provide, as far as possible, a comprehensive description of a phenomenon (management of visitors and tourism businesses in Aoraki and Jotunheimen).

Comparative Case Study Design

Case study is frequently applied within intensive research design, because it allows the researcher to obtain in-depth information about the situation in a particular case. The term "case" originates from the latin word "casus" and emphasize the meaning of a single case (Jacobsen 2005). It can be defined as:

"*A strategy of research that aims to understand social phenomena within a single or small number of naturally occurring settings. The purpose may be to* ***provide description through a detailed example*** *or to generate or test particular theories*"

(Bloor & Wood 2006, p.26)

When the same study contains more than a single case, the term "multiple case design" is applied (Yin 2009). Conclusions arising from at least two cases will usually be more powerful than those coming from a single case alone. This study compares two cases, Aoraki and Jotunheimen. Comparison can be an effective approach within qualitative research. However, its main quality lies in understanding rather than measuring the phenomenon being studied, capturing "*multiple perspectives which are rooted in a specific setting, and provide detailed understanding which is holistic and contextualized*" (Ritchie & Lewis 2003, p.75).

3.2 Case Selection

Jacobsen (2005) describes three types of comparative case design:

(1) Compare different cases
(2) Compare similar cases
(3) Compare cases as unequal as possible

In the beginning of this research process, the goal was to find two national parks in Norway and New Zealand fairly similar when it came to natural heritage and visitation. The challenges related to tourism, recreation and nature conservation within the park's boundaries needed to be comparable. As it is, this research falls under Category (2) because it compares cases which are relatively similar along one or several pre-selected dimensions. However, they are also different in many ways, e.g. visitor management in national park. In the next two paragraphs, I will argue why Aoraki and Jotunheimen were chosen for this research.

Jotunheimen National Park

As previously mentioned, this research is a part of a larger project called PROTOUR, which again complements and builds on a project called SUSTOUR (Veisten et al. 2007). As Jotunheimen is a part of the SUSTOUR **and** PROTOUR research area, it felt natural to choose this as a case. Firstly, it allows this research to build on previously gathered knowledge about eg, tourism development and management regimes in Jotunheimen. Furthermore, the Jotunheimen has long traditions in mixing tourism, recreation and conservation, and is (as far as my knowledge goes) the only Norwegian park with comparable visitor-statistics over a given time-period (Vorkinn 2011) and a visitor strategy draft (Vorkinn 2012). Additionally, Jotunheimen seems to be a natural priority area for sustainable tourism development due to relatively robust nature and large visitor attractions such as Galdhøpiggen and Besseggen.

Aoraki National Park

With Jotunheimen as a starting point, the next goal was to find a national park in New Zealand with similar challenges related to natural heritage and visitation as Jotunheimen. New Zealand has 14 national parks. As I searched for alpine parks with high visitation, Westland and Aoraki stood out as suitable candidates. Choosing between Aoraki and Westland was hard without much previous knowledge, and both had their pros and cons. However, Aoraki is located in Canterbury, the same region I lived in when I was on study abroad in New Zealand spring 2011. As I know people in Canterbury, I felt it would be easier to gather information about the Park as a result. Furthermore, Aoraki is a popular destination for visitors, and finding the balance between use and preservation is a highly relevant issue. The Park illustrates some of the diversity that exists in New Zealand, covering a large part of the ROS scale, from backcountry remote zone to

front-country short stop zone (setting). Finally, a review of all the national parks in New Zealand would take too long for this thesis, and Aoraki was therefore considered suitable within the given timeframe.

3.3 Data Sampling and Collection of Primary Data (interviews, informants)

The main methodology in this thesis is a document analysis, as described in the following paragraph. However, as I will discuss later on, using documents as a main source has its limitations. A common approach is to **use interviews as an additional source**, which can be one of the most important sources of case study information according to Yin(2009). Interviews can be done to improve the knowledge base and to gather missing information, but also as a "reality check" – do the documents describe the reality, or only a vision of it? While it would have been better to interview several people related to the management of Jotunheimen and Aoraki, the resource constraints of the project permitted the inclusion of only a small selection of key informants from Norway and New Zealand, including

- Marit Vorkinn (employed by the County Governor, Oppland, Norway)
- Harald Klæbo (employed by the County Governor, Oppland, Norway)
- Stephen Espiner, researcher and senior lecture from Lincoln University (NZ)
- James Higham, researcher and professor at the University of Otago (NZ)
- (Poma Palmer, management planner at Canterbury Conservancy, NZ).

I communicated with my informants in different ways. Most communication with people from New Zealand took place via e-mails. This was considered as the most efficient, even though Skype could have been an option. Additionally, lectures and communication with my professors at Lincoln University improved my knowledge significantly (for example, I learned a lot through the subject "Tourism and recreation in protected areas"). As for the choice of informants, Stephen Espiner was a natural person for me to contact, as he was my teacher when I was studying abroad, and has a wide range of publications related to tourism and recreation in New Zealand's protected areas. Furthermore, James Higham is connected to the PROTOUR project, and offered his help through my supervisor, Jan Vidar Haukeland. He has also done extensive research within tourism, some of it applied in the theoretical framework (Higham & Maher 2007).

Despite attempts to contact the Aoraki Area Office, no return communication was received within the study timeframe. My next step was to contact Canterbury Conservancy, which directed me to Poma Palmer (DOC planner). He had (amongst other things) an important role in writing the management plan for Aoraki. Unfortunately, due to reorganization in DOC and earthquakes in the Canterbury region, P.Palmer had a very tight schedule. Consequently, most of the information from New Zealand had to depend on secondary sources (as described in the following section).

As for the choice of Norwegian informants, Harald Klæbo has been actively involved in revising the management plan for Jotunheimen, and was working on the daily-management of Jotunheimen (e.g. granting / refusing exemptions, information etc.) until May 2012, when the new local management model was implemented. Marit Vorkinn is the author of the Visitor Strategy, as well as a researcher within this field (e.g. previously employed at the Norwegian Institute for Nature Research). I completed one interview with each, following the guidelines of a **focus-interview**. This type of interview is described by Yin (2009) as relatively open-ended and conversational, but more likely to follow a certain set of questions derived from the case study protocol than an in-depth interview. My approach was to apply an interview-guide with specific themes, aiming to gather additional information which was unavailable or insufficient explained in public documents. The interviews took approximately two hours each, and the interview guides are added as appendix.
I also had regular contact with H. Klæbo previous to the interview, using mail and phone. No recording was done, as I was mainly after facts – not the respondent's personal views or feelings. Both informants got the chance to look through and revise the answers, and H. Klæbo accepted and did some few adjustments.

All communication with informants is cited as **"personal communication"** throughout the thesis. Additionally, the term "informant" has purposely been applied rather than "respondent". According to Yin (2009), a respondent may be considered more as an informant if communication takes place over an extended period of time, the respondent assists in finding additional sources, other respondents etc. Another distinction is whether the respondent is directly involved in the phenomenon being studied, or have a more indirect role (e.g. as a

researcher, professor). Based on the latter, it would be most accurate to say that Vorkinn and Klæbo should be considered as respondents and Espiner and Higham as key informants.

3.4 Data Sampling and Collection of Secondary Data (documents, literature)

The empirical data in this master thesis will primarily be based on a **document analysis of public documents**, such as legislation, policies and plans related to national park management. The choice of methodology was based on the guidelines set out in the PROTOUR project plan, stating that the "*empirical data will be based on an extensive content analysis of key New Zealand policy documents and Management Planning Strategies (1987-present). These will be analyzed and interpreted in relation to the Norwegian policy context*". Extensive interviews with key actors will be conducted at a later stage through the PROTOUR-project, and my task was therefore to create a good foundation for the on-going project by looking at key documents and methods implemented into New Zealand's national park management.

Document analysis is defined as "*the careful examination of documents and their content in order to draw conclusions about the social circumstances in which the documents are produced and read*" (Bloor & Wood 2006). Literature and research related to the research question will also be studied. According to Jacobsen (2005), document analysis is recommended when the collection of primary data is impossible, e.g. if the source is unavailable. In my case, collecting primary data from New Zealand would have been very challenging due to large distances, a short time frame and limited financial means. As this is a comparable case study, it felt natural to use document analysis as a main method for data collection in Norway as well.

The preparations and collection of data will follow the structure of a qualitative content analysis (*innholdsanalyse).* According to Grønmo(2004), this includes the following steps:

Preparations:

- Select theme(s): *Management of visitors and nature based tourism businesses in Jotunheimen and Aorakis*
- Decide which type of documents your research requires: *Primarily official documents and frameworks such as Acts, policies etc.*
- Find or gain access to relevant documents: *Mainly through Internet, library, key informants and supervisors*

The sampling of data has been purposive in that I have sought out public documents, legislation, reports and theses relevant to the research question. Management plans and strategies, visitor strategies, general policy for national parks and legislation like the National Park Acts and Nature Diversity Act are all examples of such documents. I started with a broad examination of relevant documents, and went on to select and categorize relevant content throughout the data collection and analysis.

The choice of documents is likely to be uneven, as my objective is to discuss whether New Zealand approach is transferable into a Norwegian context, not the other way around. Therefore, when choosing public documents in New Zealand, I will mainly look at documents directly relevant to the management of visitors and tourism businesses in Aoraki. In order to evaluate whether this approach is relevant or transferable to a Norwegian setting, my search for public documents in Norway must have a broader focus, including research reports, political guidelines, White papers, etc. Only by means of this broader perspective will it be possible to obtain a more comprehensive understanding of how the management of visitors and tourism businesses in Jotunheimen actually works, and how it is affected by the wider contextual framework.

3.5 Data Analysis for Primary and Secondary Data

Yin (2009, p.129) describes the analysis of case study evidence as one of "*the least developed and most difficult aspects of doing case studies".* The depth and richness of qualitative data makes the data analysis challenging and time-consuming, where the reader must rely on the author to make an effective presentation of the key findings. A rather special characteristic with using document analysis is that the collection of data and the analysis partly take place simultaneously (Grønmo 2004). As a consequence, the researcher increasingly gains more knowledge by going through new documents, aiming to understand their value and connection to other documents during the process. A challenging aspect with this method is that the flow of new documents and information may seem endless, and so analysis can "go on forever". This proved to be challenging also in my research, as the number of public strategies and plans related to tourism and recreation in New Zealand's national parks is large, even when limiting the search to Aoraki National Park. It became necessary to settle with a set of key documents after a while and select some main categories. Two main categories were already identified in the research

objectives; the management of (1) visitors and (2) nature based tourism businesses in national parks". By using a simplified content analysis, I divided these two categories into several sub-categories, such as information, concessions, management models, exemption practice, zoning etc.. The last step was to interpret and analyze the selected documents according to the chosen categories, my overall goal and research objectives. Interviews and communication with informants were used to supplement information from public documents and to evaluate whether the documents were trustworthy.

My own experience as a visitor to national parks in New Zealand and Norway is likely to affect the interpretation and analyze of documents and collected information. I choose to regard this as a strength rather than a weakness, as it has allowed me to interpret official documents with a critical sense based on personal knowledge and experience.

3.6 Validity and Reliability

Validity and reliability are usually applied to evaluate the strength of data. V**alidity** refers to whether the research "*produces an accurate version of the world*" (Bloor & Wood 2006) and is commonly divided into two distinct dimensions; **internal** and **external** validity. The former relates to whether you have investigated what you claim to investigate, and the latter is the "*degree to which conclusions are appropriate to similar populations and locations outside the study area*", often referred to as generalizability (Bloor & Wood 2006, p.148)

Moving on to **reliability**, this is "*the extent to which research produces the same result when replicated*", or said in another way: whether the research findings would be the same in another study, using the same or similar methods (Ritchie & Lewis 2003). However, whether or not this is possible to measure in a qualitative research has been questioned on several occasions. I will discuss both the validity and reliability of my research finding in the discussion-chapter.

4 A Short Profile of Norway

Figure 4: Map of Norway (Ryste 2012)

Norway lies in the northern outskirt of Europe, and is a sparsely populated land with approximately 5 million inhabitants. The country is a constitutional democracy, divided into 19 counties (*fylker*) and 429 municipalities *(kommuner*) (Thorsnæs & Berg 2012).

The majority of Norway's inhabitants are ethnically Nordic, but the Sami people (also called Lapps or Lapslanders) are a significant minority group (Encyclopedia Britannica Online 2012b). The Sami people have been closely linked to large natural areas such as national parks because of traditional reindeer herding, mainly in the northern part of Norway.

"Nature has been a key attraction for tourism in the Nordic countries for decades" (Fredman & Tyrväinen 2011, p. 177) and includes deep fjords and valleys, glaciers, high peaks, waterfalls, forests, lakes, cultural landscapes and a long coastline. Seven properties are inscribed on the World Heritage List, both cultural and natural (UNESCO World Heritage Centre 2012a), and as much as two-third of the country is mountainous (Encyclopedia Britannica Online 2012b). Norway has few endemic species, but is internationally responsible for the managing the only remaining populations of wild mountain reindeer (*Rangifer tarandus*) in Europe (The Norwegian Wild Reindeer Centre).

An important aspect of Norwegian identity is to own a secondary home, mainly a cabin in the mountains, the forest or by the coast. On average, the number of cabins increases with 3000 each year (The Ministry of Trade and Industry 2003), reaching 405 883 secondary homes (*fritidsboliger)* in 2011 (Statistics Norway 2011). Secondary homes have traditionally been regarded as a good foundation for increased respect and stimulating positive attitudes towards

nature, conservation and recreation. It could however be discussed whether this is still valid, as the demand for high standards and "urbanization" has increased considerably in recent years.

4.1 National Park History in Norway

The first protected area in Norway was set aside already in 1884 (Directorate for Nature Management 2011b) but approximately 80 years went by before the declaration of the first national park. In 1962, Rondane National Park was established as the first of its kind, a large mountain area with a significant population of wild reindeer. The numbers of protected areas and national parks have grown considerably since the 1960s, as hydro-electric power and other human interventions increasingly posed a threat to the natural heritage.

Compared with other developed countries, national park management in Norway has received limited resources, both in terms of political attention, staff and financial means (though with some significant changes the last few years. The process of protecting areas should be complete in 2010, according to the White Paper No. 62 (1991-1992). Currently, **16 per cent** of the total land area in Norway (not including Svalbard) is under some sort of protection (Statistics Norway 2010). This can roughly be divided into three categories – nature reserves (IUCN Category I), national parks (Category II) and protected landscapes (Category V) (Ministry of the Environment: Norway 2008-2009).

National parks account for the majority of protected areas in Norway, covering 9.3 per cent of protected land mass, not including Svalbard (Statistics Norway 2010). In total, **Norway has 35 national parks on the mainland** and seven on Svalbard (Directorate for Nature Management 2012). Over 2000 protected areas are classified as reserves, while 195 are classified as protected landscapes (Statistics Norway 2010). Other categories of conservation areas include habitat management areas, marine protected areas and *naturminner (*removed in the new Nature Diversity Act 2009).

The majority of national parks in Norway are located on public land, but 14 national parks include private land as well (Heiberg et al. 2005). One extraordinary example is Hardangervidda National Park, where approximately 50 per cent is private land. However, the majority of national parks in Norway are found in *"predominantly state-owned alpine regions, whereas costal or forest landscapes – particularly in the southern and western part of Norway – are*

underrepresented" (Haukeland 2011; Ministry of the Environment: Norway 2004, p.12). This is not unique for Norway - it is a global phenomenal that alpine areas (often perceived as "waste land") are protected before forest and coastal areas, partly due to limited economic interests and fewer conflicts over resources (S. Espiner, 2012, personal communication).

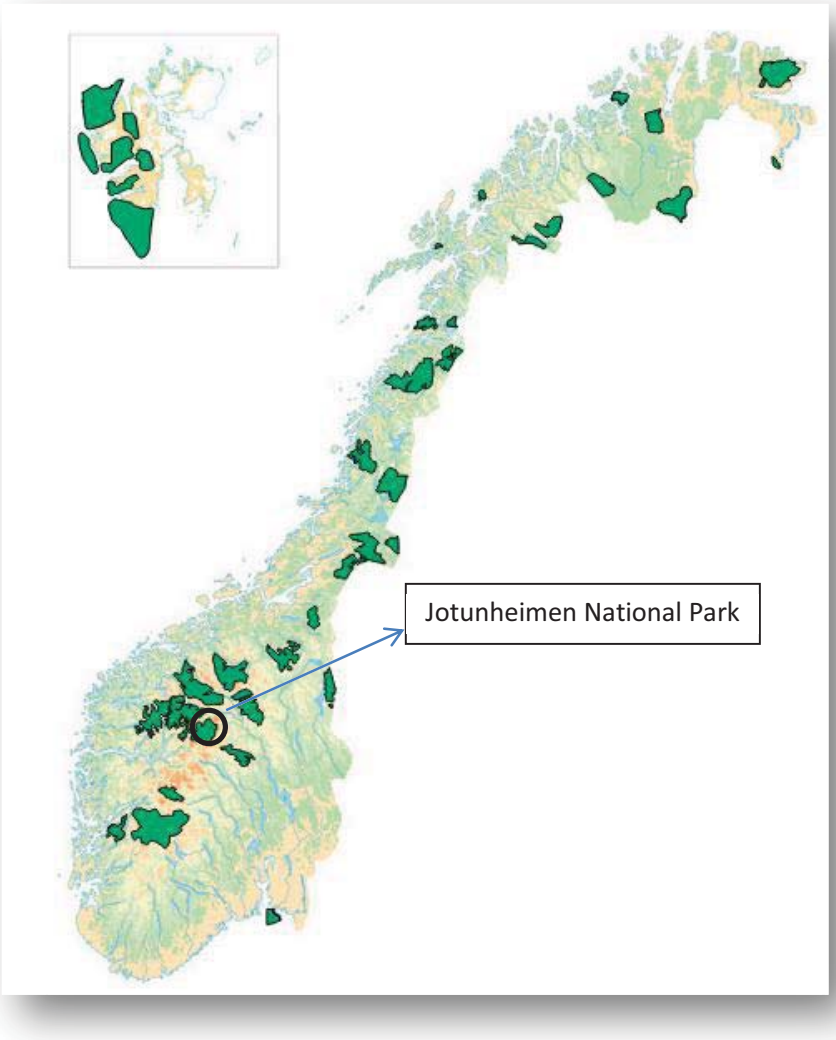

Figure 5: National parks in Norway, Svalbard in the left corner (Directorate for Nature Management)

4.2 Tourism and Recreation

The value of tourism to Norway

The Ministry of Trade and Industry (2011) states in a press release that the tourism industry is one of five selected priority industries in Norway. Tourism is increasingly important especially in rural areas, as job opportunities within forestry and agriculture are declining. In 2010, "*a total of 4.8 million foreign guests stayed overnight in Norway, while 1.4 million were on a daytrip from abroad*" (The Institute of Transport Economics: TØI 2010). Most overnight visitors are from Germany, Sweden, Denmark, the Netherlands and the UK. According to Statistics Norway (2009), tourism directly contributed with 3.3 per cent of Norway's GDP, as well as 6.3 per cent of the total workforce. A total of 159 400 people were employed in the tourism industry in 2006 (The Ministry of Trade and Industry 2009).

Tourism and recreation in Norway's national parks

Norway strongly encourages regional development, aiming to maintain settlements also in rural parts of the country. Since most national parks in Norway are found in remote mountain areas, tourism is increasingly seen as a means to create jobs and economic development. A report done by Heiberg et.al (2005) shows that Norway's national parks and landscape conservation areas have a quite high number of commercial enterprises, covering a wide range of products and activities . This is despite a relative restrictive policy, where facilities and infrastructure have been kept to a minimum. Furthermore, commercial activities like tourism were actually prohibited without a permit in three Norwegian national parks (such as Jotunheimen National Park) until 2003, when the ban on commercial activities was lifted. Environmental impacts are currently the main reason to regulate an activity, regardless of commercialization(The Ministry of Trade and Industry 2003)

The so-called "**Mountain text**" (The Ministry of Trade and Industry 2003) and the national tourism strategy "**Destination Norway**" (The Ministry of Trade and Industry 2012) indicated a growing political support for sustainable tourism development in selected national parks. Greater budgets for managing national parks, increased effort in developing management plans and several projects to increase value-creating activities reflect this change. One example is the establishment of "national park municipalities" and "national park villages" in 2008 (The

Ministry of Trade and Industry 2009). NP villages are a part of a larger project, "*Naturen som verdiskaper*", and the goal is to provide good examples of how the National Park villages with practical actions take advantage of and can be good hosts for its national park. To become a NP municipality, at least 30 per cent of the municipal land, or an area of 300 km^2 needs to be protected as a national park. Currently, 31 NP municipalities and five NP villages exist, together with 14 National Park Visitors' Centres.

It is essential to keep in mind that outdoor recreation (*friluftsliv*) and contact with nature is a core element in Norwegian culture and national identity (Hammitt et al. 1992). This is closely linked to the Right of Public Access (*allemannsretten*), which provides everyone free access to non-cultivated land (*utmark*). This principle also exists within protected areas, although regulations can be made under certain circumstances. **The Norwegian Trekking Association DNT** (2012) was established in 1868 and has made use of this right for around 140 years. DNT has a wide range of marked routes and cabins for hikers all of over Norway, including many of the national parks. This is Norway's largest outdoor life organization, with more than 240,000 members in 57 local organizations, e.g. "DNT Oslo og Omeng" (The Norwegian Trekking Association: DNT). DNT aims to promote "*straightforward, active, versatile and environmentally-friendly outdoor activities and to preserve the outdoors and the cultural landscape*", and is dependent on the continuous support from volunteers to reach this goal.

The majority of Norwegian national parks lack visitor statistics data due to limited staff, resources and demand for such data. Additionally, as there are no fees to pay when entering a Norwegian national park, it is for methodological reasons challenging to measure the exact number of visitors.

5 National Park Management in Jotunheimen National Park

5.1 A Short Profile of Jotunheimen National Park

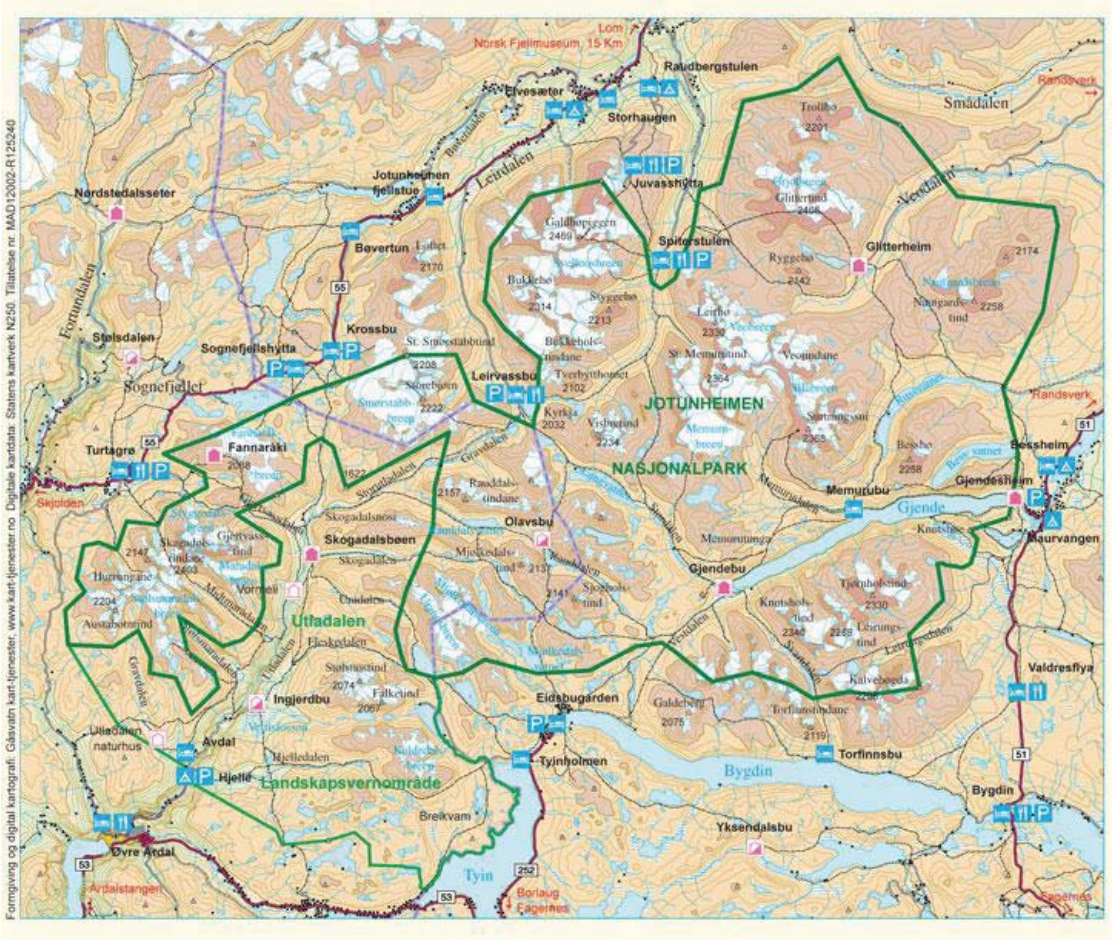

Figure 6: Map of Jotunheimen National Park (Directorate for Nature Management 2010d)

History, location and natural environment

Jotunheimen is located in central-Norway and contains characteristics from both eastern and western mountain scenery, including lush valleys, glaciers and some of the highest peaks in Northern Europe, including 256 peaks higher than 2000 meter (Moranduzzo 2008). The Park lies within the Counties of Sogn & Fjordane and Oppland, including five municipalities; Lom, Vågå , Vang,Luster and Årdal (Dybwad & Klæbo 2008).

Jotunheimen was suggested as a national park already in 1904 by Yngvar Nielsen, the chairman of the Norwegian Trekking Association (DNT) at the time. Even though attempts were repeated three times, it took as much as 76 years before Jotunheimen was declared as a national park, covering an area of 1151 km^2 / 115 100 ha (Ryvarden 2011). Utladalen Protected Landscape (314 km^2 / 31 400 haa) lies next to the parks border, and the two protected areas are managed through the same management plan. 95 per cent of Jotunheimen is located on public land (*statsallmenning)* and the natural values in the area are relatively robust (Harald Klæbo, 2012, personal communication). However, some species are more vulnerable than others, including a small population of wild reindeer in the western part of Jotunheimen.

Main objectives

The **main purpose with establishing Jotunheimen** was to protect "*a wild, distinctive, beautiful and largely untouched mountain scenery [with geological deposit], flora and fauna [and cultural heritage]) at the transition between eastern and western mountain scenery*" (County Governor; Oppland & County Governor; Sogn og Fjordane 2008; Lovdata.no 1980). The sentences in brackets are added in the new proposition for protection regulations (verneforskrifter), which are currently under approval. Agriculture, outdoor recreation (*friluftsliv),* hunting and fishing, education and research are listed as secondary goals.

Furthermore, outdoor recreation and public access is emphasized as a separate objective in the new proposition, using a common Norwegian approach – "*the Public should be entitled to experience nature through traditional and simple outdoor recreation with a low degree of infrastructure / technical facilitation*"(County Governor; Oppland & County Governor; Sogn og Fjordane 2008).

Tourism and Recreation in Jotunheimen National Park

User-interests are strong in Jotunheimen, and especially outdoor recreation (*friluftsliv)* has a long tradition, starting approximately 150 years ago. One of the most famous foreigners who promoted Jotunheimen as a valuable recreation area was W. C. Slingsby from England, known as "the father of Norwegian mountaineering" (*norsk fjellklatrings far)* (Ryvarden 2011). The area **offers a range of potential recreation activities**, such as hiking, fishing, hunting, climbing and

skiing. Modern activities such as kiting and mountain biking gradually receive more attention, but traditional activities are prioritized in the management plan. Jotunheimen is famous for its wild and beautiful mountains, and has two particularly large visitor attractions: the peaks of Galdhøpiggen and Besseggen. Norway's highest unregulated waterfall Vettisfossen is located in Utladalen Protected Landscape next to the national park, but this has limited access due to a narrow path. Most of Jotunheimen has relatively easy access, although no roads cross the national park boarder (due to Norwegian legislation, roads are not accepted in NPs) (Dybwad & Klæbo 2008).

Jotunheimen is one of few national parks in Norway where **user-surveys** have been conducted regularly, in this case in 1992, 2002 and 2010 (Vorkinn 2011). The results are valuable in a management perspective and have been used to develop a visitor strategy for Jotunheimen. Results show e.g. that the number of nationalities has increased from 27 to 47 in the time-period 2002-2011, resulting in higher diversity and different needs, motivations and expectations. In general, the travel pattern around Jotunheimen is characterized by "*rundreiseturister*" (directly translated into round-trip tourists). Visitors travelling like this are particularly interested in "high-lights", aiming to see as much as possible on a busy travel-schedule. This corresponds well with the increasing demand for shorter trips and more day-trips than earlier. Unfortunately, there are no measures or estimates on the annual number of visitors to Jotunheimen in the surveys.

The Norwegian Trekking Association (DNT) is a large and significant stakeholder in Jotunheimen, represented through "DNT Oslo og Omeng" (to simplify, the term DNT Oslo will be applied for the rest of this thesis). DNT Oslo is responsible for maintaining approximately 300 km of tracks inside the Park, as well as the majority of huts in Jotunheimen. In total, nearly 600 beds exist within the area. Furthermore, approximately 30 companies were involved in organized activities (*organisert ferdsel*) on a commercial basis in Jotunheimen in 2003 (Vorkinn 2011).

Motorized traffic is discouraged and should be kept to a minimum according to Norwegian legislation, protection regulations and finally the management plan. The new protection regulations (currently under approval) states that motorized traffic is prohibited on land and water, and in the air, less than 300 meter from the ground. However, exemptions may be granted by the management authorities, as described in chapter 7.5.1. Boat traffic on Gjende and

transportation of fuels and foods to tourism huts are appropriate examples, while unnecessary use of motorized vehicle (e.g. heli-skiing) would not be accepted.

Tourism is a priority area for several **local communities** surrounding Jotunheimen, using the national park as a means to attract visitors. Earlier in this thesis, I mentioned that Jotunheimen was a part of PROTOUR's case study area, because of its connection to *Nasjonalparkriket* /"the National Park Realm". The latter is a regional project, aiming to make "*Nord-Gudbrandsdalen to national park region nr. 1 in Northern Europe*" (Regionkontoret for Nord-Gudbrandsdalen). Furthermore, the village of Lom (gateway to Jotunheimen) has been given status as a national park village and municipality by the Directorate for Nature Management. The numbers of stakeholders within and outside Jotunheimen are many and diverse, making collaboration challenging and time-consuming.

5.2 Management Authorities

There is no exaggeration to say that the management of national parks in Norway is characterized by a fragmented structure. As noted by M. Vorkinn (2012, personal communication) Norway has a tendency to establish a new legislation or a new institutional body to solve management demands and problems, instead of reorganizing what we already have. Norway's first agency for managing protected areas was established in 1955, followed up by the employment of a "nature conservation- inspector" in 1960 (Berntsen 1977). The Ministry of Environment (MD) was launched in 1972, with the responsibility to manage areas protected through the Nature Conservation Act (1970). The task and responsibility was later transferred to the County Governors on a regional level, while the Directorate for Nature Management (one of five government agencies under the Ministry of Environment) was given the practical, coordinating and decisive responsibility on the national level.

Currently, **The Ministry of Environment** is at top of the hierarchy, with the overall political responsibility for protected areas. The Ministry claims that its aim is to *"promote an optimal balance between the utilization of (our) resources for economic growth and the protection of natural resources for the benefit of human well-being and health*"(Ministry of the Environment: Norway 2012b).

On the next level, **the Directorate for Nature Management** (DN) serves as "*an executive and advisory body for the Ministry*", responsible for the "*development of policy and strategies and administrative tasks related to protection and sustainable use of biological diversity and outdoor recreation"*(Ministry of the Environment: Norway 2012a).

Furthermore, the **Norwegian Nature Inspectorate** (SNO) was established in 1998 as a separate unit (in accordance to the Nature Inspectorate Act 1996). Their main area of responsibility is control and inspection to prevent environmental crime and ensure the protection of natural resources, as well as other practical management tasks, including information and interpretation (Directorate for Nature Management 2010a). They have been inspecting Jotunheimen National Park and Utladalen Protected Landscape since 1998 (Vorkinn 2012).

The County Governor represents the King and the Government of Norway on the county level, and represents the connecting tie between the state and the municipalities. This institution was previously responsible for the management and supervising of established conservation areas, but is currently going through a transition phase, where the management authority is transferred from the County Governor(s) to decentralized political bodies due to the new local management model. **Municipalities** are now encouraged to apply for the management of protected areas, including national parks. The aim is to establish inter-municipal boards, consisting of one political representative from each of the affected municipalities as well as one from the affected County Authority. National park managers will be employed by the Country Governor, but reside in the local area close to the national park (Ministry of the Environment /Erik Solheim 2010). The County Governor will still have a role as a supervisor for the local boards and has a right to submit complaints (*klageadgang)*.

This local management model was implemented in Jotunheimen in June 2011, and has led to the establishment of a new **National Park Board**, including one political member from each municipality and from each of the Country Authorities of Oppland and of Sogn & Fjordane. Two **national park managers** are recently employed by the Country Governors to serve as secretaries for the Board and to revise the management plan for Jotunheimen, starting up in May 2012 (Harald Klæbo, 2012, personal communication). In short, their mandate includes measures to maintain and restore the natural and cultural environment, decision-making in accordance with

the regulations set out for Jotuheimen (e.g. exemption practice), make or revise the management plan and tasks related to information and facilitation in collaboration with SNO (Ministry of the Environment /Erik Solheim 2010).

Local boards (*tilsynsutvalg)* were established already in 1990, one for each municipality. They consist of different stakeholders, such as land-owners, farmers etc. The local boards will continue to exist regardless of the new management model, and each board will have two members represented in an advisory board (*rådgivende utvalg*) for the local national park board (County Governor; Oppland & County Governor; Sogn og Fjordane 2008). Other stakeholders will also be seated here, such as DNT Oslo, tourism stakeholders, nature conservation organizations and so on. A model is added underneath an attempt to visualize the structure of the management authorities:

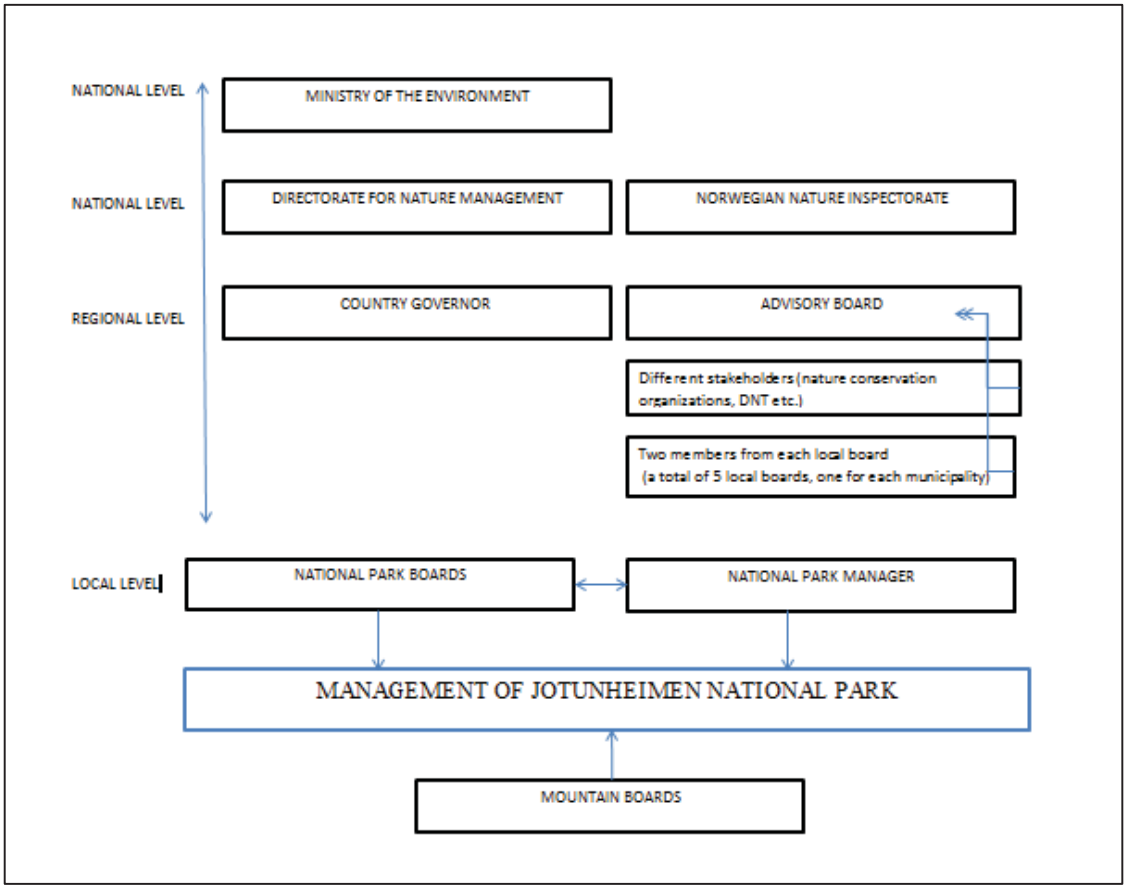

Figure 7: Management Authorities in Jotunheimen (Source: Amundsen, 2012)

To make it even more complicated, tasks related to fishing, hunting, grazing etc. on public land (*statsallmenning*) is regulated through the "Mountain law" (*fjelloven*), and is managed by **Mountain Boards** (*fjellstyrene*) – one for each municipality.

Staff and Budget

Because the present local management model is so new, information about staff and budget must be based on the old management model. This includes management tasks performed by the Country Governors of Oppland and of Sogn & Fjordane, as well as tasks performed by the Nature Inspectorate (SNO) from 2006 to 2011. According to the Visitor Strategy (Vorkinn 2012), the annual management efforts performed by the Country Governors accounts for approximately 4 months of work (total), while SNO has had around **400-500 working days** (*dagsverk)* annually since 2005. Financially, approximately **700 000 NOK /** 149 876 NZD were financed by the management authorities in 2011, increasing to **2 100 000 NOK** / 449 630 NZD if we include special projects.

As an additional note, the Government has proposed to increase the budget for large protected areas with more than 132 (NOK) million in 2012 (Ministry of the Environment 2011). The majority will be paid out as compensation to landowners, and it is therefore uncertain how much Jotunheimen will benefit from this increase. However, what we **can** assume is that the work performed by the national park management staff will increase significantly due to the new local management model, with the employment of two national park managers working full-time all year around on the management of Jotunheimen.

5.3 Management Instruments

The following section will give an overview of the most relevant management documents in Jotunheimen, looking at three levels: legislation, policies and management strategies /plans. How these are implemented and followed up will be described next.

5.3.1 Legislation

The first Act regarding protected areas in Norway was approved in 1910. This Act was reviewed and revised in 1954, 1970 and finally in 2009, changing name from the Nature Conservation Act to the **Nature Diversity Act (2009)**. Other relevant legislation is **the Planning and Building Act (2008), the Outdoor Recreation Act (2011)** and the **Act regulating motor traffic on uncultivated land and in watercourses(2003).** The latter sets a general ban against motorized traffic on uncultivated land (*utmark*), which is also valid for national parks (with some exceptions).

The Planning and Building Act primarily regulates nature surrounding conservation areas in the buffer zones (*randsoner*), while the Right of Public Access is regulated through the Outdoor Recreation Act. According to this Act, tenting and other non-consumptive uses such as traditional recreation activities, harvesting of berries and mushrooms and the use of campfires in parts of the year is for everyone to enjoy, regardless of land-ownership (Hammitt et al. 1992). There is, however, an obligation to use the resource *carefully*. These rules are also valid for Jotunheimen.

5.3.2 Policies

Two of the most relevant policies related to tourism and recreation in protected areas in Norway are the **White Paper No. 62 (1991-1992**) (Ministry of the Environment: Norway 1991-1992) for national parks and other larger protected areas / *Ny landsplan for nasjonalparker og andre større verneområder i Norge*) and **DN's Handbook No. 17-2010** "Area protection and management" / *Områdevern og forvaltning (Directorate for Nature Management 2010b)* . The former provides a framework for the scope of national parks in Norway, while the latter gives more detailed instructions and guidelines to managers.

No national visitor strategy exists (like in New Zealand), but despite this, Jotunheimen has developed its own visitor strategy. This is currently under approval (spring 2012) and is called "**Visitor Strategy for Jotunheimen and Utladalen Landscape Protected Area 2013-2017**" (Vorkinn 2012).

5.3.3 Management Strategies and Plans

According to the Plan and Building Act (2008) §7-1, a "county master plan" (*fylkesplan*) must be developed once each election period. Jotunheimen is described in the county master plan for Oppland and Sogn & Fjordane, but there are no direct guidelines toward national park management in them.

The Nature Diversity Act from 2009 states that a draft strategic **management plan** must be established when a decision is made to protect an area, together with an operational management plan when relevant (regjeringen.no 2009). This is a work in progress; 29 national parks had an approved management plan by October 2010 (Directorate for Nature Management 2010c).

Management plans are typically designed to clarify conservation rules and regulations, and draws guidelines for use, management, information /interpretation and facilities. The final draft must be approved by the Directorate for Nature Management (Directorate for Nature Management 2011a; Heiberg et al. 2006). Jotunheimen and Utladalen are regulated in the **Management Plan for Jotunheimen National Park and Utladalen Protected Landscape (Dybwad & Klæbo 2008).** The management plan is currently under approval at the Directorate for Nature Management together with the protection regulations (the latter must be approved by the King in Council). I will focus on the new protection rules and management plan even though they are not approved yet. This is based on communication with the co-author H. Klæbo, who told me that there is not likely to be any major changes later on.

5.4 How are Visitors Managed in Jotunheimen National Park?

As previously mentioned, no national visitor strategy exist in Norway. The main guidelines for visitor management in Norway must therefore be found in **DN's Handbook No. 17-2001** "*Area protection and management".* This policy document acknowledges how valuable national parks can be for recreation and tourism, but also emphasize that nature conservation is the primary objective. My interpretation of the Handbook is that visitors should not be managed "for the sake of visitors" or to improve the visitor quality, but mainly to minimize pressure on vulnerable nature, to reduce safety hazards and to increase knowledge about nature conservation. The visitor

should be allowed a freedom of choice, and "soft" management actions such as information is preferred. However, stronger regulations and physical on-site management are required when necessary, e.g. in terms of vulnerable nature or great hazards. (Directorate for Nature Management 2010b, part 5, p.26).

5.4.1 Zoning

The management plan for Jotunheimen uses zoning as a methodology to reach its main objectives (as stated in chapter 1.1.). Three different zone categories are identified, including:

I. Protection zone (*vernesone*)
II. User zone (*brukssone*)
III. Zone with special development or encroachment (*sone med spesiell tilretteleggelse og inngrep)*

It is important to note that nature conservation is the main objective regardless of zone, but increasingly so in Category I areas. These are described as more or less untouched areas with few signs of human impact and are strictly regulated to prevent new interventions. 28 per cent of Jotunheimen is identified as a **Category I** area, which again is divided into four sub-areas (*teiger).* According to the Country Governor, it has been important to maintain areas within the national park boarder with few facilities and a real sense of wilderness and silence (H. Klæbo, 2012, personal communication)

However, the majority of the park is categorized as a user zone (Category II), with a few areas as a Category II. This reflects that both managers and users regard Jotunheimen as a "visitor-park" (*brukspark),* due to few vulnerable species and long-standing traditions for recreation and tourism. The overall strategy set out in the management plan is restricted to maintain or improve the existing facilities (tracks, signs etc.) in the user-zone, minimizing the number of new interventions (*inngrep)*.

5.4.2 Visitor Information

Providing visitors with relevant and useful information is a challenging, but highly important task in the management of tourism and recreation in national parks. There are currently no detailed national guidelines in Norway on how management authorities should use information in their work, although information is emphasized as important in several documents (e.g. DN's Handbook No. 17). A brand and communication strategy for national parks is also emerging from DN / MD (The Ministry of Trade and Industry 2012). According to M. Vorkinn at the County Governor of Oppland (2012, personal communication), most information provided by the management authorities is based on what they want to communicate (rules and regulations, conservation values etc.) and not necessary what visitors seek (practical information on things to do, weather forecast, tracks and so on).

As for Jotunheimen, **the numbers of actors related to visitor information are many and fragmented.** This includes two national park centres in Lom and Utladalen, the Directorate for Nature Management (DN), the Norwegian Nature Inspectorate (SNO), the Mountain Boards, the National Park Boards, the Norwegian Trekking Association (DNT) and tourism businesses such as Jotunheimen Reiseliv AS (operates three visitor information centres in the region). Even so, information about Jotunheimen as a genuine tourism destination is lacking. Instead, there are several commercial actors providing tourist information about "their part" of Jotunheimen; or institutional actors, providing information about conservation values, regulations and authorities (DN, SNO, the County Governors etc.). DNT has an informative webpage, but it only describes DNT's products and offers. The benefits of creating an official website covering both Jotunheimen and Utladalen are therefore emphasized both in the Visitor Strategy and in the management plan.

Visitor Centres have an important role in providing visitor information. As previously mentioned, Jotunheimen has two national park centres in the valleys surrounding the park – the Norwegian Mountain Museum (*Norsk Fjellmuseum)* in Lom and *Utladalen Naturhus* in Utladalen. The former is authorized by the Directorate for Nature Management, while the latter is not. An authorization includes rights, obligations and financial support as set out in a report by DN (Directorate for Nature Management 2005), but it is important to note that the center is not **operated** by the management authority (DN). The Norwegian Mountain Museum (main visitor

centre) was founded by a number of actors, including Lom municipality, the Norwegian Trekking Association, Norwegian Society for the Conservation of Nature and several others. The Museum has an entrance fee and is mainly open from the 21th of May – 20th of September (only by appointment the rest of the year). Jotunheimen Reiseliv AS (tourism information) is located in the same building and is open to visitor every day throughout the year. Most national park centres in Norway are privately owned (foundation).

Figure 8: The Norwegian Mountain Museum in the village of Lom - National Park Centre for Jotunheimen, Breheimen and Reinheimen National Parks. (Store Norske Leksikon 2009)

The use of **social media** such as Facebook varies a lot. Some actors (such as Norsk Fjellmuseum in Lom, the County Governors, and the Ministry of the Environment) use it actively, while others (Norwegian Nature Inspectorate, Directorate for Nature Management) have no activity on Facebook.

5.5 How are Tourism Businesses managed in Jotunheimen National Park?

As pointed out in the theoretical framework, a clear and sound legislation is critical in the management of tourism and recreation in national parks. It is therefore interesting to note that the Nature Diversity Act, the main act regulating national parks in Norway, never uses the word tourism or tourist (*turisme, reiseliv, turist*). The closest we get is section 22, regulating access to uncultivated land with the following sentence:

"*to prevent damage or disturbance to plants or animals, the King in Council may make regulations regarding the organization of major events on uncultivated land and regarding nature studies, photography, etc. and forms of access and passage that may cause particular damage"* (regjeringen.no 2009).

Outdoor recreation is regulated through the Outdoor Recreation Act (1957). The Right of Public Access is specified through this law, equally important for both tourists and recreationists. Even so, the term tourism or tourists are not mentioned in this Act either).

The next level is the protection regulations and management plan for Jotunheimen, which have their basis in the legislation but are more detailed and regulates this area specific. The general rule regulating both tourists and outdoor recreationists under the term "organized traffic" (*organisert ferdsel)* states that organized traffic which can have a negative effect on the natural environment, such as larger events and competitions, permanent arrangement etc. must seek permit from the management authorities. The management plan sets the limit on 50 persons each trip each day (100 if walking on a marked path). As noted by the Country Governor in Oppland, this limit is so high that the majority can use the area without a permit, commercial or not (H.Klæbo, 2012, personal communication).

In the annual report for Jotunheimen and Utladalen (The Norwegian Nature Inspectorate: SNO Jotunheimen et al. 2011), the management authorities states that it is essential to keep a close contact with businesses arranging organized activities /tours in Jotunheimen. It could however be questioned whether this is possible, since the management authorities no longer knows the number of operating businesses due to an amendment in 2003, when the ban on commercial activity was lifted (H. Klæbo, 2012, PK). Another important point set out in the Visitor Strategy

draft, is that the management authorities should not be a *driving-force* towards economic development / value creation, but have a more *indirect* role by giving visitors a good experience.

5.5.1 Exemption Practice

As mentioned, a permit is required under certain circumstances. This is considered as an exemption from the protection regulations, and can be given by the management /administrative authority as an individual decision (*enkeltvedtak)* according to the Public Administration Act(Lovdata.no 1970 / 2010). The permit is usually granted for three years at a time, maximum four (H.Klæbo, 2012, personal communication). If nothing harmful / unacceptable happens, the permit can be prolonged one year at a time.

When can a permit be granted?

A general rule set out in the Nature Diversity Act §48 states that "*the administrative authority may grant exemption from a protection decision if it is not contrary to the purpose of the protection decision and cannot make a significant impact on the conservation value, or if safety considerations or important public interests make it necessary*" (regjeringen.no 2009).

The protection regulations for Jotunheimen § 3 pkt 1.2 identifies a number of situations which **can** be granted a permit by the management authorities, including but not limited to the building of fences, constructions of new buildings necessary for the operation of tourism cabins in the national park, signposting etc. Permits for motorized traffic is one of the most common things to apply for, as this is prohibited in national park according to the Act regulating motor traffic on uncultivated land and in watercourses(2003) and in the protection regulation §6. The zoning system is used when deciding whether a permit should be granted or not; the majority of applications and permits are located in the user zone.

What is required from the applicant?

Applying for a permit is free of charge, and there are few guidelines at hand for the applicant.. The Nature Diversity Act §48 (regjeringen.no 2009) states that "*an application for exemption shall contain necessary documentation of the impact of the project on the conservation value"*, but this section is rarely used in Jotunheimen (H.Klæbo, 2012, personal communication). The most common approach is to evaluate each application according to §8-12, including the precautionary principle, user-pay principle, the risk of cumulative effects and as far as

reasonable, a scientific knowledge base. According to this*, "the costs associated with preventing or limiting any damage caused by a project to biological, geological and landscape diversity shall be carried by the project owner"* unless this is very unreasonable.

6 A Short Profile of New Zealand

New Zealand is a remote and isolated country in the South Pacific Ocean, and consists of two main islands – the North and South islands. It has around 4, 4 million inhabitants, and is a parliamentary democracy divided into 12 regions and 74 territorial authorities (Central Intelligence Agency et al. 2012). The latter includes 58 district councils and 16 city councils (Heiberg et al. 2005). Nature is one of the main reasons why tourists go to New Zealand, which is reflected in Tourism New Zealand's "100% pure" campaign and three areas on the UNESCO's World Heritage list for "*outstanding universal value*" (UNESCO World Heritage Centre 2012b). New Zealand has been geographically separated from other land masses for over 80 million years, and has developed a unique and ancient wildlife as a result (Department of Conservation n.d.-j).

Figure 9: Map of New Zealand (Encyclopedia Britannica Online 2012a)

The nature is both scenic and diverse, including beaches, active volcanoes, caves, glaciers, forests, valleys, fjords and high snowcapped mountains. New Zealand is unique in terms of endemic animal and plant species - 90 per cent of all insects, 80 per cent of trees and 25 per cent of all bird species are endemic (Heiberg et al. 2005). Unfortunately, New Zealand's natural environment has been faced with extreme challenges as immigrants from Europe introduced new species for food, fur and game animals for sport. By 1851, New Zealand had hundreds of introduced species, both plants and animals such as deer, rabbit, possums, hares, sheep and goats (Booth & Simmons 2000). As a result, pest control and the protection of endemic species is a significant part of conservation management in New Zealand today.

It is important to know that New Zealand consists of two main groups – the indigenous Maori of Polynesian heritage and European New Zealanders. The latter were colonists and later immigrants from the British Isles, which can help explain why "*the nature of parks and reserves in New Zealand has been influenced both by the park establishment within North America, and a British heritage"(Booth & Simmons 2000, p. 39).* Immigration from areas like Asia, Africa and Eastern Europe has increased the cultural diversity, which is one of the reasons why minority rights play an important role in New Zealand politics. DOC states that "*the protection of intrinsic natural and historic values is the department's primary concern"* and aims to consult Iwi[6] to ensure that "*the Maori cultural values of department-managed areas are protected"*(Department of Conservation 1996b, p.13).

6.1 National Park History in New Zealand

New Zealand was one of the first nations to establish a national park after Yellowstone (Pigram & Jenkins 2006), and has a long tradition of protecting areas in a global perspective. The first protected natural area (reserve) was set aside early in the 1880s. Furthermore, Tongariro National Park was gifted to the people of New Zealand by local Maori in 1887, and finally formalised by Act of Parliament in 1894 (Booth & Simmons 2000).

The establishment and management of protected areas and national parks in New Zealand has "*always been complicated by two quite contrasting philosophies on nature conservation*", whereas one sees wilderness areas as barren and sterile, while the other values nature for its intrinsic worth (Higham & Maher 2007, p. 11). The development and managing of protected

[6] Iwi: tribe, people (Canterbury Conservancy & Department of Conservation 2004)

areas in New Zealand can be divided into four phases – the period of acquisition from the 1890s to 1920s, a period of maintenance (1930s-1950s), and a management phase covering the period from 1960s to late 1980s (Roche 1981). In addition, a business and negotiation phase can be added from 1987 and onwards (Booth & Simmons 2000). The beginning and the last phase (1987=>) will be given most attention in this thesis, since a review of the whole national park history is less relevant.

The first ten national parks in NZ were created primarily to protect the most scenically parts of the country, located in mountainous regions where human settlement, agriculture and industrial development were difficult or impossible (Booth & Simmons 2000; Department of Conservation n.d.-a). The motives were economic rather than aesthetic; Egmont NP was set aside to help 'buffer' important farm land at the base of Mt Taranaki and other early protected areas were set aside for their future tourism potential (S. Espiner, 2012, personal communication). Unfortunately, this policy left valuable ecosystems like lowlands and coastal areas unprotected. Arthur's Pass (1929) was the first real "conservation park", established primarily to protect flora and fauna. During the 1960s, estimated visitation to protected areas grew from 346 500 in 1962/63 up to 2 500 000 by 1977 (Lucas 1977 as cited by Booth & Simmons 2000). The growth was largely domestic – increased international visitation occurred at a later stage. In order to protect nature from the rising pressure caused by visitors, concepts like zoning and "master plans" were implemented into the national park planning, and by the 1980s, ecological principles increasingly received more attention(Booth & Simmons 2000).

The Department of Conservation was launched in 1987, created by the Conservation Act (see more details under "management authorities and legislation"). The changes were part of a period of state sector reform, occurring in New Zealand from 1984 to mid-1990s (S. Espiner, 2012, personal communication). Furthermore, the Department was established with an expectation of an entirely new relationship with Māori; Section 4 of the Conservation Act requires the Department to "give effect" to the principles of the Treaty of Waitang (Department of Conservation n.d.-c) .

Today, **approximately one-third of the land area is under some sort of protection** (Pigram & Jenkins 2006). This includes 14 national parks, 51 forest parks and 3500 reserves, the latter

divided into several categories, like historic-, recreation-, and scientific reserves, as well as wilderness areas (Horn 2011). National parks are established on public land (Crown land).

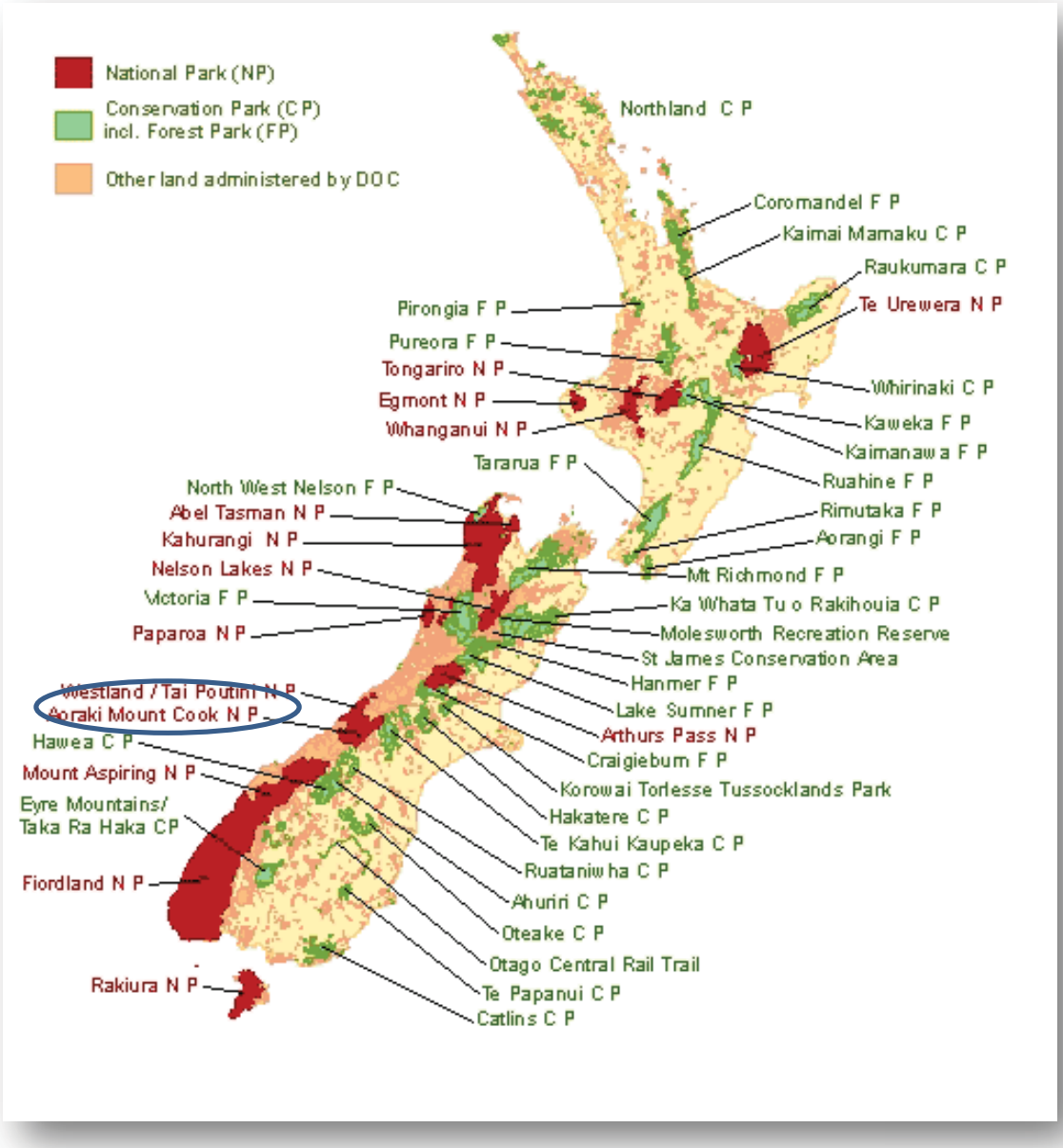

Figure 10: Map over conservation land, New Zealand (Department of Conservation n.d.-i)

6.2 Tourism and Recreation

The value of tourism to New Zealand

New Zealand was the first country in the world to form a government department for tourism (Lincoln University 2012), but experienced only slow growth in visitation until the 1960s. A lack of interest in the private sector led the government to set up the Tourist Hotel Corporation (THC) to expand government hotels in 1955, but they remained unprofitable until the 1980s and were eventually sold to private companies. In 1990, the Tourism Department was replaced and most governmental support redirected to the New Zealand Tourism Board, which became responsible for international marketing of the country (McClure & Te Ara - the Encyclopedia of New Zealand 2010).

By the 1980s, the annual tourist number had reached half a million for the first time, and today, the Ministry of Economic Development (2011, p.3) writes that tourism is *"one of the country's leading export industries*". It directly support 4,8 % of the total workforce in New Zealand, or said in another way: 91,900 full-time equivalent jobs (Ministry of Economic Development: New Zealand 2012). Approximately two and a half million international tourists came to New Zealand in 2011; most visitors were from Australia, UK, USA, China or Japan. Statistics indicate that tourism directly contributes with 3,8 % of New Zealand's total GDP (gross domestic product), and indirectly contributes with 4,8 % (Ministry of Economic Development: New Zealand 2012).

Tourism and recreation in New Zealand's national parks

In general, New Zealand as a country is well organized and prepared for tourists. A network of 26 DOC visitors' centres and approximately 90 visitor information centres (called i-SITEs) makes it easy to find your way around and into New Zealand's national parks (Rawlings-Way et al. 2008). DOC's total budget in 2006/2007 was 277,2 million NZD[7], where around 42 per cent of this amount was spent on managing recreation, and 47 per cent on managing natural heritage (Eagles & Hillel 2008). This equals approximately 1 319 388 840 NOK, when 1 NZD = 4,76 NOK (exchange rate pr. 12.04.2012)

[7] This has currently increased to approximately 300 million NZD in 2012 (S.Espiner, 2012, personal communication).

The link between tourism, recreation and national parks has been strong from the very beginning. According to Henwood(1982), the support for parks establishment and effective management in New Zealand were drawn from preservation groups such as skiing and tramping clubs, not central government (as in the United States). The tradition of guiding visitors into this "scenic wonderland" started already in 1887, when local Maori began guiding in the Waitomo Caves (Hall & McArthur 1993). Even though more emphasis has been put into preservation aspects since the 1960s, the "*support from tourism interests is still vital for the continued political survival of many parks*" (Eagles & McCool 2002, p.7). In other words, managing issues associated with visitors, both tourists and recreationists, are nothing new in New Zealand. What has changed over the protected areast decade is "*the mix of visitors to our parks and other protected areas and the experience which they seek*" (Department of Conservation 1996b, p.4). International tourists now "*predominate in many of the higher profile locations*" (Department of Conservation 1996b, p. 4). To deal with this increase, booking systems were introduced to some of the Great Walks[8], such as Abel Tasman Coastal Walk. This can easily be a source of conflict, as New Zealand has "*a strong back country tradition of free access to natural areas and of outdoor activities in such places*" (Hall *et al.,* 1997, p.52). Increased international tourism can lead to more regulations, and limit access for domestic tourists and recreationists. A concession is required for any commercial activity on public conservation land, as we will look closer into in the result chapter.

[8] Great Walks are the department's premier walking tracks (Department of Conservation n.d.-g)

7 National Park Management in Aoraki National Park

7.1 A Short Profile of Aoraki National Park

Figure 11: Map of Aoraki / Mt. Cook National Park (Department of Conservation n.d.-d)

History, location and natural environment

The Aoraki area was first given protection status in 1885, and later declared as a national park in 1953. The Park covers an area of 707,28 km² / 70 728 ha, and is situated on the eastern flank of the Southern Alps on New Zealand's South Island in the Canterbury region. The climate is rough

and alpine, with more than a third of the area covered in snow and ice. New Zealand's highest mountain, Aoraki, lies within the border of the national park, and is surrounded by several peaks over 3000 meters. New Zealand's largest glacier Tasman Glacier is also located here.

Aoraki Village is located within the national park, and approximately 150 people lives permanent in the village to service the Park and its visitors. The number is increasing during the summer-season due to the temporary staff. The village is managed through an own section in the management plan, and "*has the potential to become New Zealand's best known visitor destination*" according to the "village vision" (Canterbury Conservancy & Department of Conservation 2004, p. 147)

Indigenous Maori are strongly associated with the area, and consider Aoraki to be their most sacred mountain ("Aoraki" is Maori and was officially added to the name of the mountain, park and visitor centre in 1998). Furthermore, Aoraki is on UNESCO's World Heritage list, as a part of the South West New Zealand Heritage Area, due to its "outstanding universal value"(Canterbury Conservancy & Department of Conservation 2004). The title as "World Heritage Area" gives us some idea about the qualities of this area, and according to Vangsnes (2003), as much as 750 endemic species exist within the Park. Unfortunately, introduced animals are also a part of the Park's fauna, some used in a commercial setting (e.g. thar hunting).

Main objectives as stated in the Aoraki National Park Management Plan

According to the management plan (2004), the Park is managed under the twin aims of the New Zealand national park philosophy: preservation as far as possible in its natural state and freedom and access for public enjoyment. The primary objectives in the management plan are based on the management philosophy in Section 4 of the National Park Acts 1980 and goes like this (emphasis is done by me):

1.) To **preserve in perpetuity in their natural state**, as far as possible, the landscapes, indigenous ecosystems and natural features of Aoraki/Mount Cook National Park.
2.) To **preserve for the benefit, use and enjoyment of the public**, the character of Aoraki/Mount Cook National Park as a natural area of exceptional beauty, geological and ecological significance and biological diversity**, to the extent that this is consistent with Objective 1.**

3.) (To give effect to the principles of the Tiriti o Waitangi/Treaty of Waitangi, to the extent that the provisions of the National Parks Act 1980 are clearly not inconsistent with them).

As the last objective has no similar counter-part in Jotunheimen's NP management plan, the main focus will be on primary object one and two. It should however be added that New Zealand's approach to Maori would have been more relevant if this thesis looked at a national park located further north, where "Sami" are depending on large protected areas to practice reindeer herding.

It is important to add that the **Aoraki Village** has a separate set with objectives, whereas "*recreational and public amenities*" are stated as a primary objective (objective 1), and nature conservation to "*the extent that is this is compatible with objective 1*". This is close to the opposite from the objectives valid for the rest of the national park.

Tourism and Recreation in Aoraki National Park

The area was early known for its scenic beauty and tourism potential, and public recreation and tourism has a long-standing tradition in the Park (Canterbury Conservancy & Department of Conservation 2004). The establishment of The Hermitage Hotel in 1884 was an important milestone – after that, several huts and accommodation became available near or at the Aoraki Village. The Park has increasingly become more accessible, as State Highway 80 upgraded to high standard in 1975. Flights are also available from inside the park, as Aoraki / Mt. Cook Airport was built in 1960.

Activities such as climbing, skiing, walking or flying are popular, as well as e.g. heliskiing, boating, biking, 4WD Tours etc. While "*most traditional backcountry activities (e.g. climbing, tramping and hunting) may be static or in decline except to localized sites (e.g. Mueller Hut), front-country activity is growing especially in icon sites like the Hooker and Tasman valleys"*(Department of Conservation 2011a, p. 4). Research shows that guided activities are becoming increasingly popular especially *"when offering a mode of travel (e.g. boat) not readily provided by visitors themselves"*(Department of Conservation 2011a). However, most visitors restrict their visit to the Village and Visitor Centre, both located within the national park. If we look at the International Visitor Survey conducted by the Ministry of Tourism (1997-2008), the numbers of international visitors to Aoraki has grown from approximately 154 000 to 202 000 in the time period 1997-2008. In fact, as much as 70 per cent of the visitors to Aoraki are overseas

tourists, mainly from Japan, USA and Australia. With the easy access, the Park is a natural stopping point for international visitors, which helps explain why over half (67 per cent) of the visitors are day visitors. **Visitor numbers are estimated to be approximately 300 000 annually** (Department of Conservation 2010).

Concessionaires are a significant group of stakeholders within tourism and outdoor recreation in Aoraki, and DOC is naturally an important actor, running the Visitor Centre and providing tracks, huts, signs etc. There are approximately 600 beds available for visitors inside the Village, as well as Park huts, a camping ground and three club lodges outside the village.

Some of the above activities depends on the use of **motorized traffic**, such as heli-skiing and 4WD Tours. This can be an important source of income for tourism operators, but also easily a source of conflict between use / conservation and different visitor groups. According to the General Policy for National Parks (New Zealand Conservation Authority: NZCA 2005) , a national park management plan should specify where the use of vehicles and any other forms of transport may be allowed. The use must be "*consistent with the outcome planned for places*" and "*where adverse effects on national park values, including natural quiet, can be minimized*".

7.2 Management Authorities

The Department of Conservation (DOC) is "*the leading central government agency responsible for the conservation of New Zealand's natural and historical heritage*"(Department of Conservation 2011d). Five agencies were disbanded to create DOC, including giants like the New Zealand Forest Service and Department of Lands and Survey. Currently (2011), DOC manages an extensive network of front and backcountry places, including over 230 picnic areas, 13,000 km of tracks (including Great Walks), 660 historic places, 330 campsites and 2,200 km of roads and 950 huts(Department of Conservation 2011b). It is a decentralized organization with a National Office in Wellington and 11 conservancy offices located throughout the country (Department of Conservation n.d.-k). Each conservancy is divided into several area offices, and the main role is to provide quality conservation management in the region it manages. The organization chart looks like this:

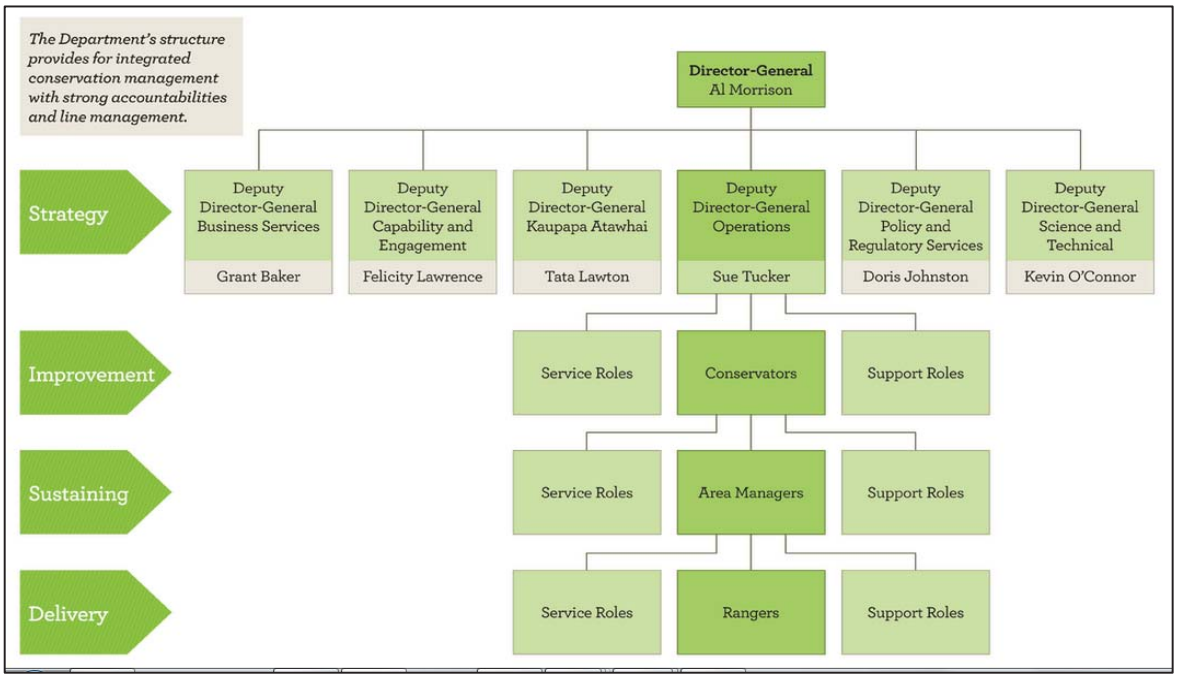

Figure 12: DOC's organization chart (Department of Conservation n.d.-l)

As illustrated in the chart, the **Director-General** has an important leadership role as chief executive, and is responsible for the delivery of agreed outcomes with the **Minister of Conservation** (currently Hon Kate Wilkinson). The Director-General is a public servant – not an elected member of office. Ministers come and go with changes in government; the Director-General does not (S. Espiner, 2012, personal communication). Another important distinction: the Ministry for the Environment co-operates with DOC, but is not on top of the hierarchy the same way as the Ministry of the Environment in Norway.

Furthermore, the New Zealand Conservation Authority (NZCA) and the conservation boards act as advisors for DOC. The **NZCA** is an "*independent statutory body appointed by the Minister of Conservation to advice on the department's policy and activities at a* ***national*** *level*" (Department of Conservation 1996a). It consists of twelve members with diverse background and expertise, and one vital task is to oversee Conservation Management Strategies (CMSs), developed for each region in the country. The **conservation boards** are only responsible for the Conservation Management Strategy for their region, and are appointed to advice DOC's policy and activities at a **regional** level. In total, there are 13 conservation boards, each with a defined geographical area (Department of Conservation 2011c). Most members are appointed from public nominations, and

the aim is to be a multitalented team, including farmers, trampers, tourism operators etc. Both NZCA and the different conservation boards exist to create interaction between the community and DOC.

Aoraki is located in the region of Canterbury, and is therefore managed through **Canterbury Conservancy Office**, which manages approximately 808 000 haa / 8080, 00 km^2 of public conservation land, including two national parks (Aoraki and Arthus Pass).The region is then divided into five areas, where Aoraki is managed through **Aoraki Area Office**. The office lies within the National Park, together with the Visitor Centre. The Department of Conservation is also responsible for the management of Aoraki Village, including infrastructure such as water and sewage (Department of Conservation 2010).

The **Aoraki Area Office** has a wide range of responsibilities within the national park(Department of Conservation 2010). In short, this includes:

- A biodiversity and threatened species program
- The Aoraki / Mt. Cook Visitor Centre
- Historical resources
- Public awareness, education and interpretation
- Handling threats, such as introduced pest plants and animals
- Managing concessions
- "Search and rescue", in co-operation with the Police Department for Search and Rescue operations
- Running a volunteer program (e.g. at the Muellers Hut)

The **Canterbury Conservation Board** is involved with conservation planning on a regional level, and represents the community interest in DOC's work. The Board has several tasks, such as monitoring the implementation of the Canterbury Conservation Management Strategy, helping and assisting on the writing of Aoraki Management Plan and other conservation-related issues (Department of Conservation n.d.-e).

I have tried to visualize the management structure for Aoraki national park (a part of Aoraki Area Office) in the model underneath:

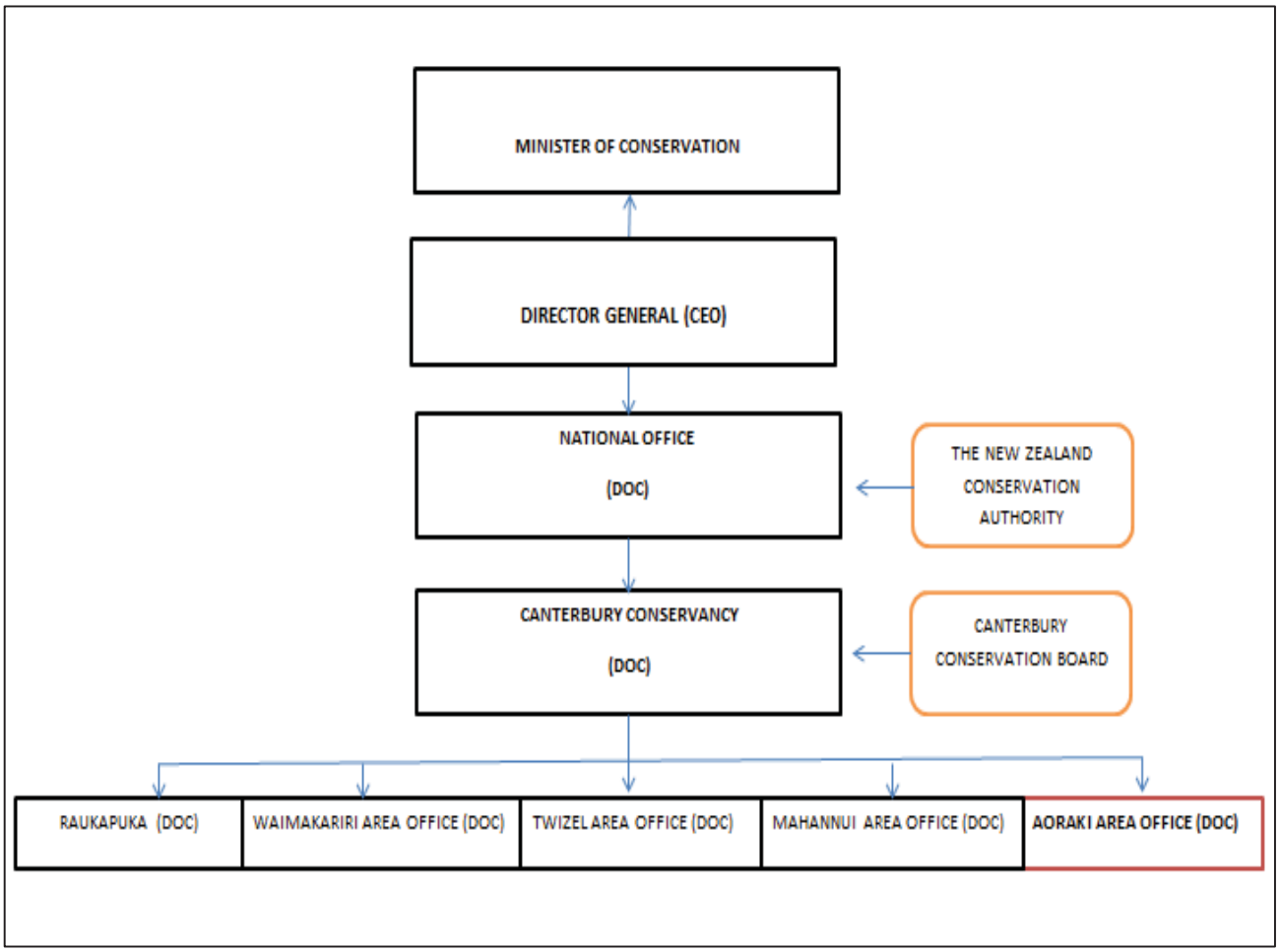

Figure 13: Management structure, Aoraki National Park

Staff and Budget

The Aoraki Area Office of the Department of Conservation employs **18 permanent staff** and up to **15 seasonal staff** over the summer period, managing both the national park, Aoraki Village and the visitor center. In addition, Canterbury Conservancy has staff involved in the management of Aoraki.

The Aoraki Area Office (DOC) operates on an annual budget of approximately §**1.6. million (NZD)** / 7.5 million (NOK) in 2010. The budget is funded from government, as well as revenue from concessions, hut fees and sales from the visitor centre (Department of Conservation 2010).

7.3 Management Instruments

The following section will give an overview of the most relevant management documents in Aoraki, looking at three levels: legislation, policies and management strategies /plans. How these are implemented and to some extent are followed up by management actions will be described and explored next.

7.3.1 Legislation

The most significant period regarding legislative changes in the administration of protected areas and outdoor recreation in New Zealand started round in the early 1950s (Devlin & Booth 1998), with the most relevant Act being the **Conservation Act** (1987) and the **National Park Acts** (1928, 1954 and 1980). The former was created to "*promote the conservation of New Zealand's natural and historical resources*", and brought together five government agencies under one department (DOC) in order to do so. The Conservation Act sets out the majority of DOC's responsibility and roles.

However, the most interesting legislation in this context is the National Park Acts. The Act emphasizes that parks were to be maintained in natural state (first) and public to have right of entry (second). This requires a balance to be struck between the dual requirements of *"preservation in perpetuity"* and *"for the benefit, use and enjoyment of the public*" (*The National Parks Act* 1980). A national park status can only be revoked by an Act of Parliament (Department of Conservation 1996a).

7.3.2 Policies

New Zealand has especially two national policies vital for the management of tourism and recreation in national parks. One is the "**General policy for National Parks**" from 2005, which aims to provide guidance for the management of national parks and make sure that "*national parks are preserved and maintained in perpetuity*" (New Zealand Conservation Authority: NZCA 2005, p.3). Another important strategy is the departments "**Visitor Strategy"**(1996b, p.2) developed to "*guide and inform all the department's planning and management relating to visitor services and where relevant, it may also assist the implementation of conservation management*

strategies as well as management plans for national parks". A biodiversity action plan and an historic strategy were developed at the same time.

7.3.3 Management Strategies

Every region must have a conservation management strategy (CMS) that gives an overview of conservation issues and provide direction for the management of conservation areas, as required under the Conservation Act 1987. In this case study, Aoraki is managed through the **Canterbury Conservation Management Strategy.** This is *"intended to replace most of the existing conservation management plans*" and "*provides for the integrated management of all areas, species and activities managed by the Department within a Conservancy"* (Department of Conservation 2000/2002, p.1). It should be reviewed on a 10 year cycle.

7.3.4 Management Plans

Each national park in New Zealand has a national park management plan (CMP), in accordance with the National Parks Act from 1980 (Department of Conservation 1996a). The Plan lasts for 10 years, and its main purpose is to implement the CMSs and provide a detailed site-specific plan for the integrated management of natural and historical resources within a particular area / national park (Department of Conservation; New Zealand Conservation Authority 2006). Both CMSs and CMPs are prepared by conservancies in consultation with various stakeholders, such as conservation boards, conservation organizations, non-governmental organizations, iwi etc. Public consultation processes are required on a five year basis. Aoraki National Park is regulated through **Aoraki National Park Management Plan**.

7.4 How are Visitors managed in Aoraki National Park?

7.4.1 Models (ROS, VAMP, DMF)

The Recreation Opportunity Spectrum:

The development of management models have been described in the theoretical framework, including "the mother of all models", the **Recreation Opportunity Spectrum (ROS**). ROS was adopted by DOC in 1993 (Higham & Maher 2007) to "*identify the range of settings appropriate for different recreational activities*" (Department of Conservation 1996b, p.6). The model was required for several reasons; one being that the majority of visitor facilities in New Zealand lay in the back-country, even though urban populations increasingly desired accessible short walks and coastal facilities. Simultaneously, people became concerned that areas with "true wilderness" were gradually disappearing in the early 1980s (Department of Conservation 1996b). We will look closer into how this model is implemented in New Zealand and especially Aoraki, as it is an important tool for visitor management in the Park.

The Visitor Strategy (Department of Conservation 1996b) describes a number of important pre-steps. This includes an identification of conservation values, examining potential visitor impacts on these values and finally determines a suitable management regime and monitor program. If the effects or impacts are inconsistent with the conservation of a particular site, the activity will not be allowed.

ROS identifies three key components of recreation management; settings (opportunities), activities and experiences. Seven main recreational "zones" or settings have been identified in the Visitor Strategy, including:

Urban - Urban fringe – Rural – Backcountry – Remote – Wilderness Areas

Moderately difficult	PHYSICAL ACCESS	Very difficult
High density of people	SOCIAL	Low density of people
Highly developed	MANAGERIAL	Undeveloped

(Strict regimentation) “ (No regimentation)

Coastal areas are also included in the seven settings. Based on them, seven visitor groups were identified, including: (1) Short Stop Travellers (2) Day Visitors (3) Overnighters (4) Backcountry Comfort Seekers (5) Backcountry Adventure Seekers (6) Backcountry Seekers and (7) Thrill Seekers. Visitors will have different expectations and requirement to facilities, services and activities based on which setting they are located in, as visualized in the scale. There is no perfect correlation between the ROS classes and the Visitor Groups, but visitors will always be in one of the seven visitor groups and use one or more ROS classes.
After adopting ROS, every national park in New Zealand should be considered within this framework, even though some parks are highly developed (e.g. Aoraki) and some are more remote and “wild” (e.g. Te Urewera NP). This is a key point, since it reflects the diversity of NZ’s national parks, ranging from one scale (e.g. wilderness areas) to another (e.g. human settlement) within the national park boarder.

In order to implement ROS into Aoraki, the management plan focus on “*any opportunity that are unique or nationally best represented within the Park*” (Canterbury Conservancy & Department of Conservation 2004, p.31). The Parks main features have previously been described, including e.g. high peaks, glaciers, a highly photogenic landscape and icon status as a visitor destination. Based on this, the settings appropriate for Aoraki set out in the management plan are:

1. Backcountry remote;
2. Backcountry walk in;
3. Backcountry accessible - motorized;
4. Front-country – short-stop;
5. Highways, roadside opportunities and visitor service sites[9]

The main idea is to provide visitors with a range of recreational opportunities within different management settings, allowing the visitor to choose which area is most suitable for his or hers wishes and desires (natural quiet, physical challenges etc.). Concession activity (as described in

[9] The fifth setting is a specific one for the Park and is a sub-set of the urban and/or rural ROS settings

the next chapter) can also be managed according to appropriate settings, e.g. to reduce visitor conflicts by limiting the number of concessionaires in a backcountry remote-setting.

Based on the identified settings, Aoraki mainly provides for these visitor groups:

- Short-stop travelers, day visitors, overnighters (and to some extent backcountry comfortseekers) in setting nr. 3 and 4.
- Backcountry adventurers and remote seekers in setting nr. 1. and 2.

The ROS framework was not developed with environmental protection in mind, although there may be some positive benefits. There are no indicators and standards built into the Recreation Opportunity Spectrum (as in LAC) – it is mainly a visitor management tool. When an environmental issue arises (species, habitat etc.) this is likely to be addressed by DOC outside the ROS framework (S. Espiner, 2012, personal communication).

The Visitor Asset Management Program (VAMP)

The only reference related to VAMP in the management plan is the following statement: "*the Department's Visitor Asset Management Programme (VAMP) defines the required design standards for all structures available for use by the public on land administered by the Department. Nothing in this Plan allows for lesser standards to be used in the Park" (Canterbury Conservancy & Department of Conservation 2004, p. 132).* But what is VAMP?

As described in the context-chapter, DOC is responsible for an extensive network of visitor infrastructure, including walking tracks, roads, huts, campsites and visitor centres. Some of DOC's main responsibility has been to organize, maintain and enhance this visitor service infrastructure, which has been challenging due to limited funds and large areas. To maximize the use of time and resources, they developed what they named the "Visitor Asset Management Programme/VAMP". The intention is to maintain a sustainable core tourism network allowing a range of recreation opportunities. VAMP is based on three components (Cessford & Thompson 2002):

- **Visitor Groups**: As identified in the Visitor Strategy, using the ROS-framework (e.g. day visitors, overnighters). Visitors are classified according to their facility and service need. This is the keystone of the VAMP-approach.
- **Visitor Sites**: Management units that are spatially defined places. They provide facilities for priority visitor groups, including nodes such as camp-sites, viewpoints etc.
- **Visitor Asset**: This includes structures such as huts, bridges, signs and so on. Each asset is uniquely numbered and management data is recorded and maintained in a comprehensive site-specific database (VAMS), which is made accessible to DOC staff throughout the country.

Even though DOC has a significant responsibility for infrastructure maintenance through VAMP, it uses a range of partners. The two main categories are through community involvement (e.g. voluntary contributions) and commercial enterprise (tourism concessions, as described in the next chapter) (Cessford & Thompson 2002).

Destination Management Framework (DMF)

The Destination Management Framework has been developed by DOC to ensure that the delivery of recreation opportunity is "*focused, fit for purpose, demand-driven, affordable and that the Department works with others to provide such opportunities"* (Department of Conservation 2011b). DMF is described by the Department as a "*coordinated approach to manage the elements that make up a destination – its attractions, values, the people, infrastructure, access and how the place is marketed" (Department of Conservation 2011b)*. Destinations are divided and managed according to four main categories; as icons, gateways, local treasures or backcountry network. The framework is part of a range of change programs implemented by DOC to better reach its conservation objectives and has a significant focus on commercial opportunities and economic prosperity. This involves choosing places that are most likely to be successful, and reduce the effort in low-priority areas.

However, as the DMF is not yet integrated into the management plan for , it is hard to evaluate whether the framework is relevant/transferable to the management of Jotunheimen National Park. For that reason, no detailed description of the framework will be provided in this thesis. Even so, it is interesting to observe how the management authorities in New Zealand implement a

framework so strongly emphasizing visitor's needs, investing in popular places with commercial / community potential based on the principle that people needs to enjoy conservation areas in order to protect them into the future.

7.4.2 Visitor Information

The Department of Conservation rarely uses the term information, but rather the term "interpretation" (see the glossary, chapter 1.3), which is acknowledged as fundamental to the Department conservation work. The national guidelines are set out in the DOC's Interpretation Handbook and Standard (Department of Conservation 2005). The handbook is designed to assist DOC staff and others "*translating the conservation issue into action by developing effective messages and stories about New Zealand's great natural and cultural inheritance and its preservation*" (p. vii) and describes e.g. a range of communication methods, interpretation standards and ways of planning interpretation.

As for Aoraki, visitor information is treated through the Canterbury Conservancy Plan 2000, to ensure that "*consistency is maintained throughout the Conservancy*" (Canterbury Conservancy & Department of Conservation 2004, p.95). In addition, the Visitor Centre has its own "Visitor and Information Centre Strategy" (2001). Even though access was limited, it still gives an idea of the effort DOC put into visitor information. As described in the result chapter, "most visitors restrict their visit to Aoraki Village and Visitor Centre". The latter is operated by the Department of Conservation, has free entrance and is the booking agent for all local activities (Lake Tekapo i-SITE). It clearly has a significant role in providing visitors with relevant and accurate information, as it is the first stop for most visitors to Aoraki. The visitor centre is located in the national park and is open to visitors 364 days annually.

The Department of Conservation uses a wide range of interpretation forms related to Aoraki National Park. This includes publications, interpretation panels at points of interest in the park and for the naming of flora and fauna, education programs, encouraging artistic interpretation of the Park through the national Wild Creations Artists in Residence Program, guiding (either by DOC or concessionaires) and more (Canterbury Conservancy & Department of Conservation 2004).

Figure 14: Inside the Aoraki/Mt. Cook National Park DOC Visitor Centre (Lake Tekapo i-SITE)

Internet is an increasingly important channel for marketing and visitor information, and DOC's website www.doc.govt.nz provides information about every national park in New Zealand, including Aoraki. The site gives detailed information about the features of each national park, activities, accommodation and how to plan/prepare.

The activities described are mainly those provided by DOC (such as tracks, viewpoints etc.), but with a separate page listing activities provided by concessionaire and their contact information. Information about DOC's conservation work, community involvement and conservation management strategies and plans are also easily accessible on this webpage. Mt. Cook Mackenzie is another actor providing visitor information about the whole region, including Aoraki (similar to "tourism information" in Norway, called i-SITE in New Zealand).

There are no pages or groups indicating that DOC uses Facebook in their communication with visitors.

7.5 How are Tourism businesses managed in Aoraki / Mt. Cook National Park

7.5.1 Concessions

Concessions are a significant and important tool when dealing with tourism businesses on public conservation land in New Zealand, and will therefore be thoroughly examined, looking at relevant legislation, national policies and Aoraki Management Plan.

DOC defines concessions as "*an official authorization for commercial organizations in an area managed by the Department" (Parr 2000, p.6)* and are *"required for any commercial activity on public conservation land to mitigate environmental and social impacts and address health and safety issues"(Department of Conservation 2008).* The principle behind the concessions system is that those taking private gain from the public conservation land ought to compensate the public (via DOC) for this benefit. A concession may be in the form of a lease, license, permit or easement, and is required for a variety of commercial activities, including accommodation,

transport services, research, resource use, events, filming, commercial education or instruction activities, guiding, bungy jumping and services such as shops, restaurants etc. (Department of Conservation 1996b).

The number of concessionaires on public protected areas in New Zealand has increased significant recent years; reaching 1800 tourism concessions in the financial year 2009-2010, more than 3800 in total (Department of Conservation n.d.-h). Concession activity and diversity has increased considerable also in Aoraki, covering a wide range of activities such as guided rafting and climbing expeditions, heli-skiing, thar-hunting, boating activity etc. (Canterbury Conservancy & Department of Conservation 2004).

When is a concession required?

According to the General Policy for National Parks, a concession is required whenever an individual or group undertake recreational activity for specific gain or reward, whether financial or otherwise on public conservation land (New Zealand Conservation Authority: NZCA 2005).

What is required of applicants for concessions?

Applicants for concessions need to complete a number of tasks and fulfill certain criteria's to be approved as concessionaires by the Department. This varies with the different types of concessions, but normally include a description of the proposed activity, an identification of where the activity will be carried out, a description of potential effects and any actions that will be taken to avoid, remedy or mitigate adverse effects, as stated in the Conservation Act (*Conservation Act* 1987). The applicants must also indicate the type of concession wanted (a lease, license, permit or easement) and their ability to carry out the activity. As noted in Aoraki management plan (2004, p.103), "*an appropriate detailed environmental impact assessment* (EIA)" may also be required of applicants. A similar comparable concept in Norway is the use of impact assessment (*konsekvensanalyse),* as defined in the Planning and Building Act.

The term "effect", as used in the above paragraph, is defined in New Zealand's legislation, and include any positive or adverse effect; temporary or permanent effect; protected areast, present or future effect; as well as any cumulative effect which arise over time or in combination with other effects (*Resource Management Act* 1991). The reference to "cumulative effects" is especially

important in this context – even though the adverse effect from one applicant may be insignificant, the cumulative effects from several applicants can be severe.

Whether a concession is granted depends on several factors. The management plan states that all applications for concession proposal must be considered in accordance with " *relevant legislation, statutory planning instruments and the objectives and policies in this plan*"(Canterbury Conservancy & Department of Conservation 2004, p.103). A concession contract will have to be reviewed every third year, and amendments may be necessary to ensure the effects of the activity are well managed. It is important to note that concessions are not indefinite – they can be revoked.

Fees and costs

As concession activities vary in size, scale, complexity and effects, DOC has developed four different processes for considering concessions, including conforming, one-off, non-notified and notified. This varies from small-scale activities with low impact such as guided walks in certain areas (conforming), to activities believed to have a significant effect (notified). The latter can include public notifications and hearings, and are more expensive than low impact-activities. Fees are required both to process a concession application (regardless of approval) and when a concession is approved (on-going fees). On-going fees can include an annual management fee, a monitoring fee, annual rental and activity fee per head or a minimum of $200 NZD / approximately 1000 NOK per year (Department of Conservation n.d.-f).

What is the relationship between DOC and the private sector, as stated in official documents?

Managing tourism concessions on protected land is one of five inter-related goals set out in the national visitor strategy (Department of Conservation 1996b), and aims to "*allow the private sector to provide visitor facilities and services where they do not compromise the intrinsic natural and historic values of areas managed by the department and do not compromise the experience or opportunity of other visitors*". The Department acknowledge that concessionaires can provide valuable service to visitors, with DOC functioning as "*a leader, guide and facilitator*" (Department of Conservation 1996b).

Furthermore, the Department has a significant role in monitoring concessions within Aoraki, as illustrated in the following model of DOC's concession management framework:

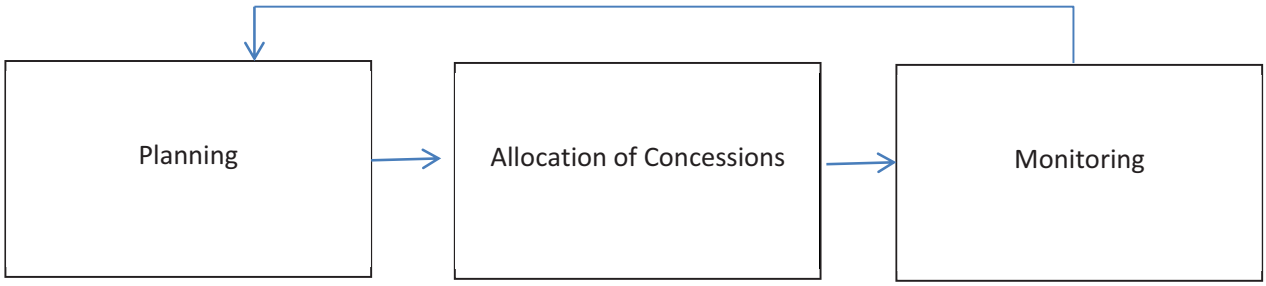

Figure 15: DOC's concession management framework (Higham & Maher 2007)

Monitoring is increasingly important when visitor use increase, and a "must" when the aim is to avoid, remedy or mitigate potential adverse effects on the Park's natural, historical, cultural and recreational values.

8 Summary

8.1 Results from Norway and New Zealand

Table 1: Summarizing results from Norway and New Zealand

	Norway	**New Zealand**
Total Area	385 186 km^2 (Ryste 2012)	270 534 km^2 (Store Norske Leksikon 2010)
Protected land area, total %	Total: 16 % (61 629 $km^{2)}$ National parks: 9,3 % (35 822 km^2)	Total: 33 % (89 276 km^2) National parks: approx. 10 % (27 053 km^2)
First national park	1962	1887 / 1894
Categories of conservation areas	- National park - Protected landscapes - Nature reserves - Habitat management areas - Marine protected areas	- National parks - Forest parks - Specially protected areas (wilderness areas, conservation Parks, Ecological Areas etc.) - Marginal Strips - Stewardship Areas - Different types of reserves (for recreation, scenic, nature, historic, scientific, government or local purpose etc.)
Management authority	- Ministry of the Environment (MD) - The Norwegian Directorate for Nature Management (DN) - County Governor - National Park Board /municipalities - Mountain Boards	- Minister for Conservation - Department of Conservation - Conservancy (DOC) - Area office (DOC) - (Ministry for the Environment)
Nature Inspectorate	The Norwegian Nature Inspectorate (SNO)	The Department of Conservation (DOC)
Conservation Management Strategy	All counties have a master county plan, but no conservation strategy	All regions have a conservation management strategy
National Park Management Plans	29 national parks have management plans	All national parks have management plans

Zoning	Exist in some national parks, but only in parks with a management plan, for example Jotunheimen	The ROS framework is adopted at a national level in NZ, dividing visitors into different groups, based on settings
National parks on private or public ground	National parks are located on public and private land	National parks are located on Crown land / public land
Compensation to land-owners when protecting private land	No acquisition. Right to compensation regardless of conservation category (national park, reserve etc.), but only under certain conditions set out in the Nature Diversity Act §50.	Acquisition of private land for national parks follows the rules set out in the National Parks Act, section 9
Infrastructure within the national park	A Norw. NP is by definition without roads. However, it is common to have a road going towards the park or along the border.	Roads (for cars) cross the national park border (Aoraki, Arthus Pass etc.)
Settlement within the national parks	No	There are people living permanent within some national parks (e.g. Aoraki)
Right of Public Access in NP	The Right of Public Access ("*Allemannsretten*") gives everyone free access to uncultivated land "*utmark*", including national parks	Free access for the public to national parks, but booking is required on popular routes, e.g. some of DOC's Great Walks
Visitor center (linked to national parks)	14 National Park Visitor Centre (usually entrance fee)	26 DOC visitors' centres (usually free of charge)
Tourism contribution to GDP	Direct contribution: 3,8 per cent	Direct contribution: 3,3 per cent
Number of employees, tourism	Full-time (not specified if it is direct / indirect): 159 400 / 6.3 per cent	Full-time, direct: 91,900 / 4,8 per cent (Full-time, indirect: 87, 900)

8.2 Results from Aoraki National Park and Jotunheimen National Park

Table 2: Summarizing results from Aoraki National Park and Jotunheimen National Park

	Jotunheimen National Park	**Aoraki /Mt. Cook National Park**
Area / Size	1151 km^2 / 11 5100 haa	707 km^2 / 70 728 haa
Established as a national park	Declared national park in 1980	The core of the area was first protected in 1885, declared national park in 1953
Special features	- Alpine area - Some of the highest peaks in Northern Europe - Tourist attraction: Besseggen and Galdhøpiggen (Norway's highest mountain), Vettifossen (waterfall) - A small population of wild reindeer	- Part of World Heritage Area - Alpine / harsh environment - New Zealands highest mountain Mt.Cook / Aoraki (3754) - 19 peaks over 3000 meters - 40 % glacier (Tasman glacier) - 300 species of plants, 40 species of birds - Famous for climbing
Main objective	To protect "a wild, distinctive, beautiful and largely untouched mountain scenery" (…)	To preserve in perpetuity in their natural state, as far as possible, the landscapes, indigenous ecosystems and natural features (…)
Secondary objectives	Agriculture, outdoor recreation (*friluftsliv),* hunting and fishing, education and research	- preserve for the benefit, use and enjoyment of the public - To give effect to the principles of the Tiriti o Waitangi/Treaty of Waitangi

Relevant legislation	- Nature Diversity Act - Planning and Building Act - Act regulating motor traffic on uncultivated land and in watercourses - Outdoor Recreation Act - Public Administration Act	- Conservation Act - National Park Acts - Reserves Act - Walkaway Act - Aoraki /Mt. Cook National Park Bylaws 1981
Conservation Management Strategy	None – only master county plans for Oppland and Sogn&Fjordane County	Conservation Management Strategy for Canterbury
Management plan	Yes – from 1998. Revised version is currently under approval by the Directorate for Nature Management (since 2008)	Yes, approved in 2004 (lasts for ten years)
Zoning	Using three zones: IV. Protection zone (*vernesone*) V. User zone (*brukssone*) VI. Zone with special development or encroachment (*sone med spesiell tilretteleggelse og inngrep)*	ROS-approach based on the Visitor Strategy, using these "zones" /settings: - Backcountry remote - Backcountry walk in - Backcountry accessible – motorized - Front-country – short stop - Highways, roadside opportunity and visitor service sites
Managing tourism business	Using e.g legislation, protection regulations, management plan and exemption practice. Commercial activity on conservation land – no fees	Using e.g. legislation, conservation strategy, management plan and concession practice. Commercial activity on conservation land - fees
Use of motorized	Unwanted – but can be allowed	A national park management plan

vehicles (*motorisert ferdsel)*	based on an exemption granted by the management authorities	should specify where the use of vehicles and any other forms of transport may be allowed
Visitor Centre	Yes – Norsk Fjellmuseum (located in Lom, gateway to Jotunheimen) and Utladalen Naturhus	Yes - Aoraki/Mt Cook National Park Visitor Centre (DOC) and Lake Tekapo i-SITE (Mt. Cook Mackenzie)
Visitor numbers	Some estimates have been made, but too uncertain to be used (M. Vorkinn, 2012, personal communication)	Approximately 300 000 visitors each year
Visitor Strategy	Under approval this spring (2012)	The Visitor Strategy from 1996 is integrated into the management plan
Web-page	Several, including - www.dirnat.no (DN) www.fylkesmannen.no (County Governor) http://www.fjell.museum.no/ (National Park Centre), www.turistforeningen.no (DNT) etc.	Main page by the Department of Conservation: www.doc.govt.nz Additional page by the Lake Tekapo i-SITE (regional tourism info.): www.mtcooknz.com/mackenzie/home/)

9 Discussion

This chapter will provide a discussion of limitations associated with my choice of methodology, including data strength and potential bias.
In terms of national park administration and management, there are similarities and differences between Norway and New Zealand. This chapter summarizes the core themes in the findings, emphasizing those relevant for the research question and the management of Aoraki National Park and Jotunheimen National Park. The next step is to discuss whether the techniques and management approaches applied in Aoraki National Park are transferable despite contextual and institutional differences between the two countries. Final remarks and a conclusion will be provided at the end, along with suggestions for further research.

9.1 Choice of Methods

9.1.1 Limitations and Data Strength

This has been a challenging research for several reasons, with a high degree of flexibility and continuously new knowledge and insight along the way. As the data collection and analysis are performed simultaneously, it has been demanding to stay focused on the research questions and not get overwhelmed by the continuous scope of new documents and relevant information.

As previously described in the methodology chapter, the empirical data in this research will mainly be based on a document analysis, in addition to communication and a few interviews with key informants. During the following paragraphs, I will discuss limitations with this methodology and the consequences this might have for the thesis validity and reliability.

As every other method, document analysis has both strengths and weaknesses as a source of evidence. From a researcher's point of view, documents are valuable because they can be reviewed repeatedly, are unobtrusive, exact and cover a long span of time, events and settings (Yin 2009). Furthermore, qualitative research has the particular advantages of flexibility, which makes the researcher open to new change in objectives and research methods during the process (Ritchie & Lewis 2003). What makes this methodology challenging is that the researcher's

concept of reality or contextual understanding can affects the selection and interpretation of documents (Grønmo 2004). I tried to minimize this by using the management plan as a key document from the beginning, selecting other documents based on references in the management plan. For example, most management plans build on legislation, national policies and so on. By using the management plan as a basis for the selection of documents, I aimed to minimize my own role and the bias connected to me as a researcher and improved the reliability of my findings.

Still, my concept of reality and contextual understanding will nevertheless affect how I interpret and analyzed these documents. The context-chapter is an attempt to deal with this – by presenting relevant facts about Norway and New Zealand, I hoped to improve both my own and the readers contextual understanding and provide a more accurate version of reality. The latter is also essential to improve the external validity of mine findings. As noted by Yin (2009), case studies as a design are often criticized for providing little means for generalization or external validity. I have tried to deal with this (within the limitations of a case study design) by continuously placing Jotunheimen and Aoraki into a larger context, e.g. by looking at legislation and policies valid for other national parks.

Limited access to or incomplete collection of documents is an important bias to be aware of, for example documents from New Zealand only available on DOC's intranet (only accessible for DOC employees). Consequently, some documents of potential value were not readily available / accessible (e.g. the "Visitor and Information Strategy" from Aoraki Visitor Centre).
I have tried to minimize this bias by gathering as much information and documents as possible when I lived in New Zealand, and I used both my supervisors and informants to gain access to the most relevant document in Norway.

Important when reviewing any document is to understand that it is written for a specific purpose and some specific audience other than those of the case study being done" Yin (2009). Public documents, which are the main type of documents in my case study, have usually been thoroughly discussed, reviewed and revised to communicate a specific meaning. They should therefore be used and interpreted with care, which I have aimed to do. I was satisfied with the information provided by my key informants in this study, although it was harder than anticipated to communicate with the management authority. For example, DOC faced organizational

restructuring in 2011, which affected the availability of key informants. Attempts to mitigate the influence of these impacts included the use of alternative sources of information, such as academics at key institutions in New Zealand's South Island.

My study of the two countries' national park management systems has provided some preliminary comparative results, but future research should ideally use extensive interviews with key informants to further explore differences, similarities and ways in which the benefits of each system might be shared.

9.2 Differences and Similarities between Norway and New Zealand

The National Park History

New Zealand was one of the first countries in the world to establish a national park, and has naturally gained more experience and knowledge within this field then Norway, which was approximately 70 years behind. How does the national park history affect the management of national parks today? As emphasized in the theoretical framework, the purpose and function of protected areas changes with society. The first national park in Norway was declared in the 1960s, coincident with the rise of the new science called ecology. If we look at the first national policy concerning protected areas in Norway, it actually states that the main rule should be that "*areas protected according to the Nature Conservation Act should not be utilized for economic profit*", except from modest use related to old traditions (Naturvernrådet 1964, p.4). It also suggests that areas valuable for outdoor recreation should be separated and protected according to another law, the Outdoor Recreation Act from 1957. The strong emphasize on ecological principle and nature preservation from the very beginning can help us explain why visitor management so far has received limited attention, staff and financial means in Norway. Contrary, even though nature conservation has been the main objective in New Zealand's national parks, tourism and recreation has always had a strong position and been a solid argument for nature protection. Both legislation and management authorities have for a long time acknowledged the importance of humans and their continuous support for nature conservation, which is less evident in Norway.

The nature resource base in Norway and New Zealand has many similarities, including scenic and diverse nature with "icon status "such as peaks, waterfalls and fjords. However, one of the major differences between Norway and New Zealand is the high amount of threatened endemic species in New Zealand. To ensure the continuous survival of these species, conservation and **active** management such as pest program have been necessary, and even more; it has been reliant on an efficient and well-functioning management authority. The only similar counter-part in Norway is probably the effort to protect the last remanding population of wild reindeer, which has led to a great deal of tension and arguments between different stakeholders (e.g. in Rondane National Park).

Management Authorities

The structure and function of management authorities is likely to be one of the areas where Norway can benefit significant by learning from New Zealand. As previously mentioned, DOC brought together five agencies when it was established, and has since been going through a series of major institutional rearrangement (Booth & Simmons 2000; P.Palmer, 2012, P.K). This illustrates some of the continuous challenges associated with the management of protected areas and national parks, also in New Zealand. Even so, the Department of Conservation is still only one agency, responsible for managing everything from tourism businesses, visitors, infrastructure and nature conservation on public conservation land. Of course, co-operation with local communities and different stakeholders is just as essential for the management authorities in New Zealand as in Norway. However, **one** main agency in charge of the overall process is likely to make collaboration easier and less time-consuming.

One example (presented to me by M. Vorkinn at the County Governor) can be effective to illustrate the above statement. In order to establish common guidelines for signage within the National Park Realm, the collaboration between a large number of stakeholders and management authorities were necessary, including the National Park Center in Lom, SNO, the Mountain Boards, the County Governors, DNT, DN and more. In this context, everyone is allowed to say no, but no-one has the overall authority to say yes. This is a problem in the management of Norwegian national parks, because it can make the implementation of even minor visitor facilities time-consuming and challenging, resulting in high transaction costs. As noted by M. Vorkinn (2012, personal communication), there is currently a gap between strategic and

operational planning in Norway. Even with a political movement towards increased tourism in national park, this is less evident on an operational level. It is too early to evaluate the success of the new local management model in Norway, but there can be no doubt that this adds another level to an already fragmented and complicated management structure. The Eastern Norway Research Institute has adequately named the phenomenon "the battlefield of regimes" (M. Vorkinn, 2012, personal communication).

It is essential to note that the Department of Conservation is equally responsible for visitor management and nature conservation in national parks. In Norway, the Norwegian Trekking Association (DNT), which is a membership organization and not a part of the management authorities, has the main responsibility for maintaining tracks, sign-posting, huts etc. in national parks. Nature conservation, on the other hand, is managed by MD, DN, SNO, the County Governor and currently the national park boards and national park managers. The Mountain Boards are also involved if the national park lies on public land (*statsallmenning).* To make it even more complicated, the role of formal non-governmental organizations appears greater in Norway than in many English-speaking countries, such as the Norwegian Society for the Conservation of Nature*,* FRIFO and FL[10] (Haukeland & Lindberg 2001). The fragmented and sectorial management structure in Jotunheimen has implications when evaluating whether the NZ approach is transferable into a Norwegian context, as will be discussed later.

Tourism

When looking at official figures such as gross domestic product (GDP) and the numbers of employees in the tourism industry, New Zealand and Norway are surprisingly equal. And yet, my personal experience as a tourist to both countries is that NZ is more developed and facilitated for tourism. One example is the range of i-SITEs all over the country, managed by Tourism New Zealand and funded by the New Zealand Government, which provide visitors with a consistent network of visitor information facilities. Contrary, the quality of visitor information around Norway can appear both inconsistent and random from a visitor's perspective. Yet, why is this relevant to visitation to national parks? I would argue that if the goal is to reach a sustainable tourism development based on natural resources (such as national park), the effort put into the tourism industry **in general** needs to significantly higher than today. Political guidelines (e.g. the

[10] FRIFO: *Friluftslivets fellesorganisasjon,* FL: *Friluftsrådenes Landsforbund*

new national policy "Destination Norway") show political will and faith in increased revenue from tourism in and around national parks, but this is to less evident in guidelines and policies set out by the management authorities of protected areas in Norway (e.g. DN's Handbook No. 17).If we look at New Zealand, the Destination Management Framework (DMF) implemented by the Department of Conservation encourages "*integrated management of places, as that is the way visitors experience them—as a whole place, not a series of different parts*". DMF emphasize that working with others, e.g. Tourism New Zealand, is an important success factor to reach the goals set out in the framework. Better co-operation between public authorities and private stakeholders within tourism and nature conservation is likely to be a key factor if the goal is to develop (sustainable) tourism in Norway's national parks.

Traditions Concerning Nature Use and Outdoor Recreation in and outside Protected areas

Another contextual difference between Norway and New Zealand is the urge to protect large natural areas for the "benefit, use and enjoyment of the public". It is likely that this has been much higher in New Zealand, as private landowners have a stronger position and can restrict access on private ground. Contrary, the Right of Public Access ensures everyone to enjoy non-cultivated land regardless of ownership in Norway. This has another implication related to concessions, as will be discussed under concession-chapter.

The period with human settlement in New Zealand has been short compared to Norway. Here, people have harvest common resources for a millennium, and the "*period of minimum regulation in use of wildlands is very long compared to the recent period of more strict regulations*"(Hammitt et al. 1992). The strong cultural connection to nature and long tradition with easy access to common resources is likely to make more direct management approaches such as regulations and allocations less feasible in Norway versus New Zealand.

9.3 Are the Methods Applied in Aoraki Transferable to Jotunheimen?

The result chapter presented some main methods applied in the management of visitors and tourism businesses, based on relevant legislation, policies and management strategies /plans in Jotunheimen and Aoraki National Parks. The aim with this chapter is to evaluate whether some of

the described methods used in Aoraki could be successfully introduced to deal with the current management challenges in Jotunheimen.

9.3.1 The Recreation Opportunity Spectrum

The implementation of models such as ROS and LAC into a Norwegian context has been discussed in other research articles before, e.g. in Haukeland&Lindberg (2001) and Gundersen et. al (2011). However, this research had a broader approach covering Norway in general, while I have a more narrow approach covering mainly Jotunheimen and Aorakis. I would therefore argue that my thesis still can add something new or valuable to this discussion.

One essential purpose with ROS has been to reduce crowding and conflicts between different user-groups. In Norway, the main conflict has been between use and conservation, not between different visitor-groups. After all, the Right of Public Access ensures access to large natural areas in Norway, and tensions between user-groups have therefore been limited. Even more, outdoor recreation is simply not perceived as a threat to the natural environment in Norway (Hammitt et al. 1992), and it is therefore not surprising that the main objective has been to protect these areas from irreversible human impacts, not to manage them to e.g. avoid crowding. Accordingly, it is not surprising that ROS has received none or little attention in Jotunheimen (and Norway in general, even though it has been tried out e.g. at Svalbard).
During the next paragraph, I will discuss whether this is still valid, whether the current management approach is sufficient and if / how ROS could be successfully implemented in Jotunheimen national park.

Challenges related to the current management of visitors in Jotunheimen National Park

The user-survey (Vorkinn 2011) shows that most visitors (84 per cent) are satisfied with the current management of Jotunheimen in the summer 2010, but approximately 20-25 per cent believe that it could have been better facilitated (*tilrettelagt).* Additional, there is high resistance against "untraditional activities" such as Sports events and helicopter use. The fact that the majority of visitors are satisfied with the current management approach[11] needs to be taken into account when evaluating whether new approaches are necessary or wanted to increase visitor

[11] It should be taken into account that most visitors is likely to include the work performed by DNT in their answer

satisfaction. However, satisfied visitors are not equal to a sound protection if conservation values. For example, it is disturbing how less people actually know the rules and regulations valid for the national park, especially when the Right of Public Access leaves most of the responsibility up to the visitor.

User-surveys (Vorkinn 2011) show a significant increase in the number of nationalities visiting Jotunheimen, where foreign visitors constituted 45 per cent of the total. Furthermore, the White Paper No. 39 (Ministry of the Environment: Norway 2001) shows growing interest in modern activities such as kiting and mountain biking. Diversity is not restricted to a wider range of activities, but also to a wider range of preferences within the same activity. This can be referred to as the wilderness purism scale, dividing visitors into groups along a scale based on their preferences towards e.g. physical facilities, social contact, environmental impacts and personal freedom (Vistad & Vorkinn 2012) .So far, the management authorities in Jotunheimen have responded to increased diversity by giving "traditional and simple outdoor recreation with a low degree of infrastructure / technical facilitation" first priority (Dybwad & Klæbo 2008). As noted by Haukeland and Lindberg (2001, p.47) "*the historic hegemony of the upper middle class type of outdoor recreation in Norway can lead to an inertia and resistance to change, with problems avoided by simply excluding new and different recreational activities and experiences*". I would argue that there could be room for higher diversity in a park like Jotunheimen, being one of the best-known parks for outdoor recreation and nature based tourism in Norway.

Even though it is reasonable to argue that crowding is a rare phenomenon in Jotunheimen (and in Norway in general), it is increasingly evident on day-walks such as Besseggen and Galdhøpiggen, which attracts a large amount of visitors each summer. This can be problematic for some users (strong purists) and increase the pressure on natural qualities such as vegetation and soil. It also illustrate some of the resistance against physical impacts in a Norwegian context, as there are no toilets on a 8 hours walk – even though this would probably be more gently on natural resources than people walking all over. However, crowding is not necessary a problem for all visitors, but on the contrary; the social element is part of the product, and can improve the feeling of safety and well-being.

Is the Recreation Opportunity Spectrum relevant / transferable to the management of visitors in Jotunheimen National Park?

Challenges with introducing ROS to Jotunheimen National Park: As described in the theoretical framework, the Recreation Opportunity Spectrum is a macro approach, best applied to large areas which offer a spectrum of recreation opportunities. Aoraki National Park has been used to demonstrate how this framework could be applied in "real life", offering a wide range of setting from "backcountry remote" to "front-country short stop". One of many challenges with implementing ROS into a Norwegian management context is the potential to offer this "spectrum" of recreational opportunities. According to the Nature Diversity Act (regjeringen.no 2009), only areas where there is "*no major infrastructure development*" may be protected as national parks. In addition to the general ban against motorized traffic, this limits the scale of recreational activities and settings feasible in national parks like Jotunheimen. Providing visitors with facilities in the urban end of the ROS-scale **within** the national park is not likely based on Norwegian law.

Additionally, the implementation of ROS requires increased management effort, resources, qualified staff and attention beyond what has currently been present. Institutional issues (as discussed in section 9.2) will have to be addressed before such a model can be successfully implemented.

Potential benefits: Planning systems such as ROS can provide a systematic approach to manage a wider range of recreational activities and users, and to match visitors with their desired experience. The result is likely to increase both visitor satisfaction and economic prosperity, but is also suitable to protect areas with "wilderness" qualities in order to satisfy visitors searching for remote backcountry activities and experiences. In general, frameworks such as ROS could be valuable to redefine the current management approach in Jotunheimen / Norway – and to integrate visitor management into the core of national park management. After all, visitor management and nature resource management does not need to be contradictory, but serve the same purpose; to protect natural and cultural values so they can be preserved and enjoyed today and in the future.

An increase in non-motorized recreational activities might also be necessary to improve the profitability to tourism businesses in the national park and its buffer zones. It is hard to make money on "simple, traditional outdoor recreation" such as cross-country skiing and hiking in Norway, especially if the target group is domestic visitors (the majority has basic skills in outdoor recreation).

Possible solutions: In order to offer the whole spectrum of settings, activities and experiences described in ROS, it might be necessary to expand the area and include the buffer zones surrounding Jotunheimen. A conservation management strategy as used in New Zealand / Canterbury could prove useful in such a context, providing an overall management of the whole region / county. On the other hand, CMSs only includes land managed by DOC, while this would have to include land managed by both the management authorities in addition to different municipalities. Still, it might not be an impossible scenario, as the new local management model is likely to improve the co-operation between local authorities (municipalities) and regional/national authorities (the County Authority, the County Governor and the Directorate for Nature Management

Another alternative as presented by Gundersen et al. (2011, p.6) is to base strategic planning on the highest administrative level on the two extremes of a ROS model spectrum. This involves **(1)** identifying areas in the most pristine (e.g. protected zone) and in the most accessible spaces (e.g. gateways) within a conservation area", as they are likely to be vulnerable to change or change fast and **(2)** set clear conservation goals for the future management of these areas. A simplified LAC-process is suggested for operational planning.

ROS is mainly a visitor management tool, and is not developed with environmental protection in mind, although there may be some positive effects (S. Espiner, 2012, personal communication). For example, the most remote areas are likely to be protected from the crowds through management actions that aim to preserve the remote experience (no tracks, signs, facilities etc.). This corresponds well with the current protection zone in Jotunheimen, designed to protect vulnerable nature and allow for remote "wilderness" experiences. Even so, ROS should mainly be perceived as a tool to increase diversity and visitor satisfaction, but not as a completely new approach to nature resource management. LAC is likely to be more suited to deal with this, but

since the Department of Conservation never really embraced this model, I will not examine LAC's transferability to Jotunheimen in this thesis.

9.3.2 The Visitor Asset Management Program and the Destination Management Framework

As the management plan for Aoraki only briefly mention VAMP (Visitor Asset Management Program) and has no references to DMF (the Destination Management Framework), I will not discuss them as thoroughly as e.g. the Recreation Opportunity Spectrum and the concession system. Both VAMP and DMF needs to be further examined before it is possible to discuss whether they are relevant to a Norwegian management approach. I will however make a few comments based on the information provided in the result chapter

VAMP

Since the Norwegian Trekking Association (DNT) is responsible for the majority of visitor facilities in Jotunheimen National Park; a program to "organize, maintain and enhance the visitor service infrastructure" might seem more useful to DNT than to the management authorities. On the other hand, the Norwegian Nature Inspectorate (SNO) has an important role in providing visitor information and different kinds of facilitation (bridges, panels etc.) in Jotunheimen National Park and other conservation areas. A program set out to make this work more efficient and allow a more comprehensive management of the whole visitor infrastructure managed by SNO could be valuable also in a Norwegian context. However, because the VAMP-approach builds on the visitor groups identified through the ROS-framework, a successful implementation of the ROS-framework is essential before introducing VAMP. If this is not achievable, a simplified solution could be to focus only on visitor sites and visitor assets. Each asset could be numbered, with management data recorded and maintained in a site-specific database. This solution would not allow the matching of visitor groups with visitor sites, but could still be useful to maintain and keep track of the existing visitor infrastructure.

DMF

The Destination Management Framework is DOC's new approach to destination management under the slogan "*doing the job better – so more people will participate*" (Sutton 2010). It was introduced by DOC as a way to deal with changing visitor demands and to improve economic

performance when it became obvious that DOC could not "*afford its current investment approach in the future"* (Department of Conservation 2011b). Even though limited budgets are a reality in both countries / national parks, "improved economic performance" is far from the reality or approach to national park management in Norway. This is important, because it illustrate one of the **key differences** between the management approaches in Aoraki vs. Jotunheimen; while nature resource management in Jotunheimen is primarily supported by the state, nature resource management in Aoraki is dependent on the continuous income from concessionaires and visitors. Additionally, New Zealand as a country is more dependent on tourism than Norway, and conservation areas are vital to attract and satisfy visitors. This does not necessarily mean that the Destination Management Framework is irrelevant in a Norwegian context - it simply makes it more important that the framework is adapted to the unique challenges found here. It is likely that increasing demand from visitors, tourism businesses and local communities might lead to a stronger emphasize on economic prosperity also in Norway's national parks. Accordingly, DMF could be a useful as a guideline for how national parks could be used as a means for economic prosperity and regional development.

Partnerships

Another interesting aspect is the range of partners co-operating with DOC, both to maintain visitor infrastructure (in addition to VAMP) and to manage destinations (through DMF). According to Cessford and Thompson (2002), this includes concessionaires, volunteers from local communities etc. Efficient ways to involve more people and especially local communities to care and support for nature conservation is essential in a long-term perspective, and was a key argument for the current change of management models in Norway (which increasingly involves local communities). Accordingly, it could be interesting for future research to examine how DOC collaborates with different partners through DMF and more in general.

9.3.3 Visitor Information

Even though "information" or "interpretation" is not transferable in the same way as a model (e.g. the Recreation Opportunity Spectrum), it still plays a significant role in the management of visitors in national parks. Furthermore, improved ways and methods to deliver accurate and relevant visitor information are more easily embraced in a Norwegian context, since it is less

controversial than e.g. concessions. During the next paragraph, I will discuss some of the challenges with the current provision of visitor information about Jotunheimen national park, and whether DOC's approach could prove useful to reduce or deal with these challenges.

My overall impression is that visitor information related to national parks both at a national and local level is gradually improving in Norway, and Jotunheimen is far ahead many similar national parks in Norway within this field. Even so, I would argue that there is still room for improvement, especially related to the use of internet as a channel for visitor information. The Department of Conservation has taken this task seriously, and the result is easy accessible information and not least: demand-driven information combined with information about nature conservation. I have provided a print-screen of DOC's webpage on Aoraki National Park, just to give an illusion on how such a web-page might look like:

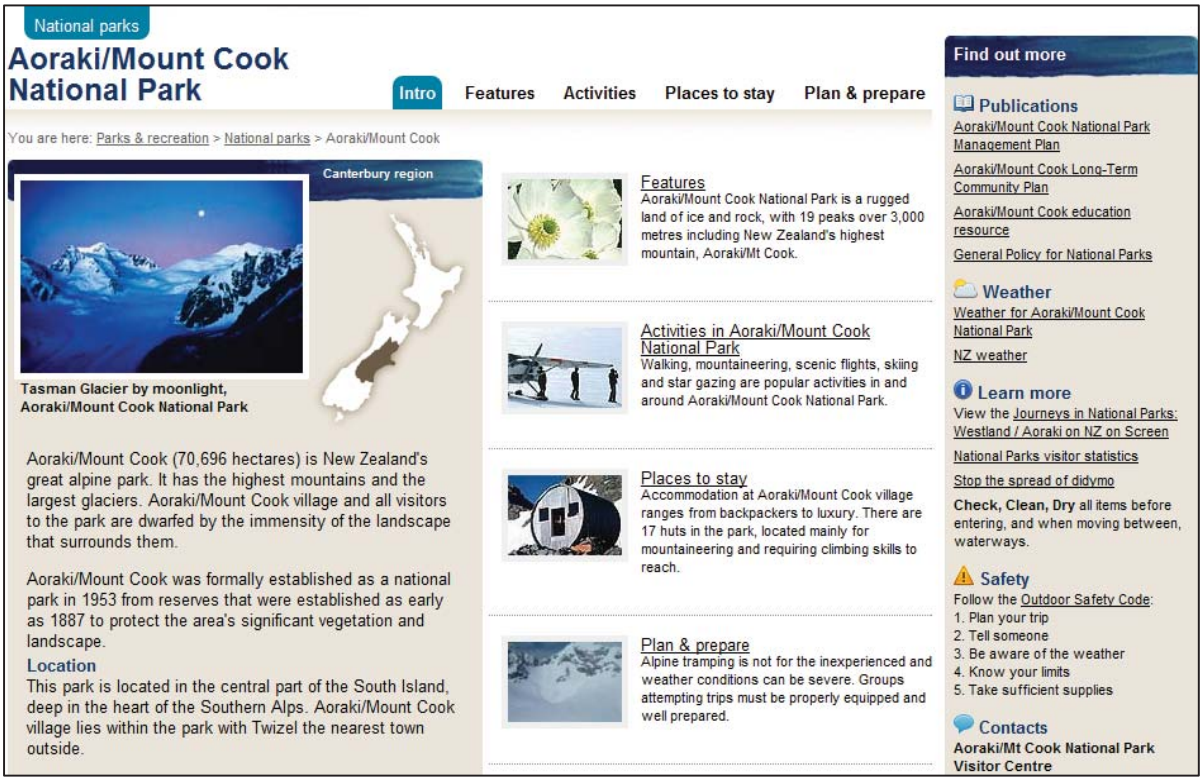

Figure 16: DOC's webpage about Aoraki / Mt. Cook National Park. Notice the management plan in the right corner (Department of Conservation n.d.-b).

The management plan for Jotunheimen acknowledges the need for common webpage, and this is understandable. However, there are many advantages with creating a webpage providing visitors with relevant information including practical information, natural values, conservation work etc. about **every national park in Norway**. Such a page should be developed on **a national level**, both to make it more accessible and because the scope of web-page on a regional and local level already is too high. The task is likely to fall on the Directorate for Nature Management, possible in collaboration with DNT, as they already have a wide range of practical information on their web-page.

As for Jotunheimen National Park, the picture is increasingly complicated because of the high number of actors providing visitor information on a more general basis. If we compare with New Zealand, Aoraki National Park is primarily promoted through Lake Tekapo i-SITE on a regional level and Tourism New Zealand on a national level, in addition to the Department of Conservation (as far as my knowledge goes). However, since this is not an area of improvement for the management authorities, I will not discuss it further.

The Destination Management Framework emphasize that "*promotion is directly linked to an understanding of visitors preferences*". Although this task has been taken serious in Jotunheimen with regular user-surveys, this is less evident in the rest of the country and seems to be an area for improvement. Another key output set out in DMF is that "*information and promotion is focused on increased participation".* In my point of view, this needs to be more acknowledged in Norway and taken into account when providing visitors information. I will give one example to illustrate my view. A policy developed by the Directorate for Nature Management (Directorate for Nature Management 2005) identified a disparity between the primary target group for national park centers (visitors in the park) and those who actually visit. Instead of evaluating **why** the target group had limited interest in the visitor centers, the respond was to adapt the information to those who did not intend to visit the national park. I would argue that the focus on visitors need and participation needs to be higher, as visitors are permitted but rarely encouraged into national parks.

9.3.4 Concessions

According to the protection regulations, only "*organized traffic which can have a negative effect on the natural environment, such as larger events and competitions, permanent arrangement etc."* needs a permit from the management authorities (County Governor; Oppland & County Governor; Sogn og Fjordane 2008). If we look at this approach from a New Zealander's point of view, it probably sounds extremely liberal. No fees, no applications? However, if is important to note that the legislative framework exclude high-impact activities such as motorized traffic in **every national park**, unlike the legislation applied in New Zealand. Popular activities in Aoraki, such as heli-skiing and 4WD Tours would simply not be allowed in Jotunheimen or in any other national parks in Norway. This is both a blessing and a curse, depending on the respondent. Still, it obviously makes the management of tourism businesses less essential than in Aoraki (provided that people actually respect the law). The question we need to ask is: what are the consequences of status quo? If increased tourism based on natural resources is a political goal, how suited are the current management approach to deal with this growth?

<u>Challenges related to the current management of tourism businesses in Jotunheimen National Park:</u>

After the commercial ban against commercial activities was lifted in 2003, the management authority was left without any overview or indications of the scope of tourism enterprises operating in Jotunheimen National Park (H.Klæbo, 2012, personal communication). The low level of control can be challenging, as it makes communication, regulation and monitoring less efficient.

Figure 17: The label approved by DOC, used by concessionaires

User-surveys show that the majority are first-time visitors, with limited previous knowledge or experience about Jotunheimen (Vorkinn 2011). When the management authorities have no control or means to regulate the tourism businesses operating in the park, no **quality assurance** is feasible either. In Aoraki, a DOC' label is provided for concessionaires. The label shows that the business has

protected areassed environmental and safety standards set by DOC, and that a part of the visitor spending goes back into conservation work.

Contrary, "everyone" can offer commercial activities such as guiding or skiing within the legislative framework in Jotunheimen. It is however challenging, if not impossible, for (first-time) visitors to separate between a serious tourism-operator and an unserious one. This could lead to a negative visitor experience, but it also makes it challenging for businesses, as they have no thrust-worthy label or symbol to illustrate that they are approved by the management authority to operate on conservation land. Certifications systems such as "Ecotourism Norway" (*Norsk Økoturisme,)* could be an option, but it would only reduce some of the challenges mentioned above. Environmental and safety standards would not be controlled by the management authority, but by the company providing the certification. Furthermore, as long as certifications are voluntarily, it would not be a sufficient quality assurance for the range of tourism businesses operating in the national park.

Is the use of concessions relevant / transferable to the management of tourism businesses in Jotunheimen National Park?

Challenges with introducing concessions to Jotunheimen National Park: Probably one of the main differences between Aoraki and Jotunheimen is the relationship between the management authority and the private sector. The Department of Conservation emphasize that the private sector (concessionaires) has an important role to play, both to improve access, income, biodiversity and services. For example, many concessionaires contribute directly to protect biodiversity either financially or by physically undertaking the work themselves. Sentences like "*business opportunities consistent with conservation are enable"* and "*more business, more conservation*" are efficient to illustrate how the DOC increasingly combine business and nature conservation (Department of Conservation n.d.-h) . Could something similar be possible in a Norwegian context? I would argue that one of the main challenges is the lack of mutual gains between the private sector and the management authorities. I will give some examples underneath to illustrate my point.

If we start with the management authority, the number of staff and financial means provided to manage Jotunheimen National Park has so far been very limited, especially if we compare with

other European countries (Lindberg n.d.). Accordingly, management of tourism businesses through exemption-applications only increases their work load; it provides no income or benefits whatsoever (compared to e.g. concessions). Moreover, if tourism businesses are able to increase visitation within the national park, the management authorities gain no profit on this (compared to DOC, who earns money from the visitor centre, huts, own activities such as guiding etc.).
On the other hand, tourism businesses would probably protest vehemently against a concession system. Why? For a start, it is never popular to pay for something that was previously free of charge. But I think the main reason lies in the fact that the management authorities provide few visitor facilities such as tracks, huts, maps, pamphlets, toilets, signs, events, marketing campaigns etc. Compared to the Department of Conservation, tourism businesses receive little help from the management authorities in providing for and/or attracting visitors. The most important actor within this field is DNT (the Norwegian Trekking Association). Should they have to pay for a concession, even though they provide the majority of tracks, signs, huts etc.? The thought is highly unlikely.

The fact that national parks are located on private and public land in Norway also complicates the introduction of concessions. Even though 95 per cent of Jotunheimen lies on public land, the problem still remains – concessions would have to be introduced on a national basis, including parks such as Hardangervidda NP (with a wide range of private landowners). According to the Nature Diversity Act (regjeringen.no 2009), *a landowner or a holder of rights in property that is wholly or partly protected as a national park (..) is entitled to compensation from the state for financial losses incurred when protection makes current use of the property more difficult".*
Based on this, many landowners get their property protected without any compensation from the state. This is important, because the whole intention with concessions is that "those taking private gain from the public conservation land ought to compensate the public (via DOC) for this benefit". Consequently, it would seem highly unfair if the management authorities gained profit based on concessions on private land, protected or not.

Additional, the Right of Public Access (*allemannsretten)* has implications for the introduction of concessions. As previously mentioned, landowners have a stronger position in New Zealand, and can restrict access on private property. Although there are some rights of public access also in New Zealand, the issue is very complicated and what is "legal" and what is "practiced" may well

be different (McDonald 2011; S. Espiner, 2012, personal communication). In Norway, private landowner must allow pedestrians on uncultivated land according to the Outdoor Recreation Act (Lovdata.no 2011). In fact, commercial enterprises can also operate for free, even on private, uncultivated land. Why then, should tourism businesses be willing to pay for concessions in national parks, when they can operate for free outside the conservation area? One could argue that the term "national park" are valuable to enterprises because it attracts more visitors, but research has proven this to be valid only to a certain extent (Heiberg et al. 2005).

Potential benefits: The introduction of concessions in Jotunheimen National Park could have a wide range of potential benefits. For a start, planning and control to reduce biophysical and social impacts would be significant easier. By using concessions, the management authority could be more ahead of problems, instead of discovering changes or impacts when the damage already is done. It would especially be easier to evaluate and monitor cumulative effects. A more overall management of the whole area would be possible, using the ROS framework to match concessionaires with appropriate visitor groups. Visitor satisfaction is likely to improve, as every business would have to be approved by the management authority and satisfy a set of criteria. Moreover, businesses could operate in a longer perspective, because the number of businesses in the national park would be controlled and regulated according to the management plan. Increased communication and contact between tourism businesses and the management authorities is likely to benefit nature conservation as well – either financial (through concession fees), by increased knowledge about conservation values and protection regulations or possible by delegating certain conservation tasks to private actors.

Possible solutions: As discussed above, contextual differences between Norway and New Zealand makes the introduction of concessions more challenging than previously assumed. Accordingly, one should be cautious about applying solutions established elsewhere without seeking a comprehensive understanding of the hierarchy of management instruments, including the highest regime-level (fundamental cultural traditions and social norms). The introduction of concessions would have the potential to deal with several of the challenges related to the current management approach, but not without obstacles. One possible solution is to introduce concessions, but with limited or no fees. One could argue that this would be the same as to reintroduce the previously ban against commercial activities. However, by using some of the

application forms and approaches applied by DOC, this would be a more extensive than just a permit, divided into different categories based on (potential) impacts and with more emphasis on objectives and monitoring. This would at least regain some of the previous control and communication between management authorities and tourism businesses. Additionally, it could work as a type of certification system, where approved businesses could use a label provided by the management authority (similar to the label applied in Aoraki).

The danger is that so much time and efforts goes into the handling of concessions, reducing time and effort put into other management tasks. In Aoraki, this challenge could be dealt with efficiently due to increased income based on concessions. If we introduce concessions in Jotunheimen but without fees, concessions are likely to be perceived as nothing more than just additional "paper-work" by tourism businesses and management authority both. Several potential benefits related to concessions would then disappear or be reduced significantly.

Briefly summarized, the concession system has a wide range of potential benefits, and could deal with several of the current challenges in Jotunheimen National Park. Still, it would have to be adopted and adjusted into a Norwegian context, and this is not necessarily easy given the current management approach and the Norwegian Trekking Association's (DNT) strong position as a visitor facilitator / tourism business in national parks.

9.4 Final Remarks

Since my discussion includes many different elements, I have chosen to make a brief summarize of the main elements before the final conclusion.

Norway and New Zealand share many **similarities** at first sight. They are both sparsely populated and remote countries with a high GDP per. capita and high dependency on natural resources, such as agricultural, fishing and forestry. Due to large "untouched" natural areas, New Zealand and Norway offers a wide range of opportunities for nature based tourism and outdoor recreation, and has protected approximately 25-35 000 km^2 as national parks. The latter are free of charge and open for the public to use and enjoy, even though restrictions may occur in both countries if the

natural qualities are threatened. Regional development and settlements in the rural parts are important to both countries.

Despite their similarities, there are of course several **differences**, some relevant to the management of national parks. **The management structure** in Jotunheimen appears fragmented and inefficient compared to the Department of Conservation in Aoraki, and the money and effort put into nature resource management and visitor management significantly lower (based on figures about staff and budgets in section 5.2 and 7.2.).

Due to New Zealand's geographical isolated location, the number of **endemic and threatened species** makes conservation areas and active management crucial. Accordingly, the need to restrict human impacts and visitor pressure is more urgent than in Norway, where free access to common resources has long traditions.

Both countries have rich natural resources, but a large part of Norwegian welfare is based on oil and gas. Even though tourism is one of five priority areas for the Norwegian government, **New Zealand's economy is currently more dependent on tourism than Norway**. However, as job opportunities within forestry and agriculture are declining in the rural parts of Norway, tourism is likely to be more important in the future.

The Right of Public Access is a deeply cherished part of Norwegian culture, and is something most politicians and resource managers deal with very carefully (Hammitt et al. 1992). The Right of Public Access has implications for the feasibility of management actions; where New Zealand use more direct management actions, e.g. booking systems to reduce visitor pressure on icon sites in national parks, Norway mainly applies more indirect approaches such as information.

This thesis has looked at some main techniques applied in the management of visitors and tourism businesses in Jotunheimen and Aoraki. **The Recreation Opportunity Spectrum** has been adapted by DOC to provide a wide range of recreational settings, activities and experiences. Zoning is already applied in Jotunheimen, but without identifying visitor groups and matching them with appropriate settings and activities. ROS could be a way to maintain "traditional, simple outdoor recreation" while at the same time meeting visitor demands for urban front-country zones

/ settings. The results indicate the current management approach is insufficient to deal with different visitor needs and demands particularly in the urban end of the ROS-scale.

The **Visitor Asset Management Program** and **Destination Management Framework** are not necessarily transferable as techniques or tools, but rather imply a way of approaching visitor management in conservation areas. The results describe some main features about VAMP and DMF, but conclude that further research is necessary before the question of transferability could be answered.

Indirect management approaches such as **information and interpretation** are highlighted as important in Norway as well as New Zealand. The results has focused on one main areas for improvements in Jotunheimen and Norway in general – the development of a webpage similar to the one provided by the Department of Conservation, integrating visitor information and conservation messages into one page.

Concessions has the potential to deal with several of the identified challenges in Jotunheimen and provide potential benefits such as increased control and ways to regulate potential (cumulative) social and biophysical impacts, a quality assurance for visitor and businesses and a communication channel between the management authorities and the private sector. Still, several obstacles are identifies which complicates the introduction of concessions to Jotunheimen. Possible solutions can be to adapt the concession system into a Norwegian context (e.g. reduce or remove fees) or to address the identified challenges (in section 9.3.4).

Finally, I would like to add that the introduction of the different approaches should not be interpreted separately, as they complement and build on each other. For example, VAMP builds on the visitor groups set out in the ROS-framework, concession applications are considered within the ROS-framework etc.

10 Conclusion

Even though the goal with this thesis has been to provide the PROTOUR-project with solid background information for further research, it also presents some interesting results on its own. I was surprised to discover that despite many similarities, New Zealand and Norway has a significant different approach to outdoor recreation and nature based tourism in national parks. Nature preservation may be the main motive for protecting areas in both countries, but the implementation and interpretation of this varies significantly.

The management of national parks is affected by a wide range of factors which affects the transferability of management tools and methods. Even though Aoraki and Jotunheimen share many of the same characteristics at first sight, it is vital to identify the unique challenges present in Jotunheimen before adopt different techniques suitable to deal with these challenges.

The results describes some of the challenges present in Jotunheimen National Park, including a fragmented management structure, a lack of mutual gain between the management authority and tourism businesses, as well as limited control and objectives related to the level of activity within the park. A comparison with New Zealand and Aoraki National Park has introduced some potential techniques to mitigate or avoid these challenges, e.g. concessions, but with several obstacles in the way. My overall impression is that several of these obstacles must be dealt with at a **national** level – the management authorities in Jotunheimen can only improve so much on their own. New Zealand did some major changes in 1987 by establishing the Department of Conservation. It might be time to do something similar in Norway by examining the range of factors affecting the administration and management of protected areas simultaneously, maybe through a NOU (Official Norwegian Reports). However, this depends on increased political pressure and attention, which is currently not evident.

Due to the discussed limitations related to document analysis and secondary sources, further research should be based on extensive interviews with management authorities in New Zealand and Norway, as well as a more thoroughly analysis of the range of management instruments This is essential to gain more in-depth knowledge about decision-making and management practice, and provide a better foundation for how to deal with this issues in Norway.

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Appendix 1: Interview guide, Harald Klæbo

Give a brief introduction of PROTOUR and stated goals and research objectives.

Briefly about yourself:
- Work tasks and role in the Jotunheimen National Park
- To get an exemption approved - what does it take?
- What is the main difference between "exemption" and "*tillatelse*"? What lies in the different expressions - how long can such a permit" last?
- The Nature Diversity Act states that *"søknad om dispensasjon etter første ledd skal inneholde nødvendig dokumentasjon om tiltakets virkning på verneverdiene"* - how extensive should this evidence be?
- For how long can an appicant receive an exemption from the protection regulations?
- Number of applications for exemption and number recognition
- Different zones and exemption-practice; are they actively combined?
- What about zoning and visitor managent?

Visit Strategy:
- The need for a visitor strategy - benefits (potential disadvantages)
- Can it strengthen the management of conservation values in any way?
- Have the administrative authorities asked for such a strategy, or is it mainly demanded by the

tourism industry?

Regulation of traffic:
- What management strategies are appropriate in Jotunheimen to regulate traffic, canalize traffic, etc.? To what extent is physical measures such as signage, paved, etc. used?
- Are the management authority working actively with DNT to canalize traffic into user zones and away from the protected zone? How is this collaboration possible?
- How does the management authority interpret to the term "visitor quality"? Is this a task for the management authority?

Konsesjoner /Concessions:
- In New Zealand, tourism businesses must pay to use protected areas for commercial purposes. Provided that the legal framework was in place, do you think this could have been transferred to a Norwegian context? Why / why not?

Appendix 2: Interview guide, Marit Vorkinn

Questions to Marit Vorkinn

Researcher give a brief introduction of goals and research objectives:

Briefly about yourself:
- Task and role related to Jotunheimen National Park

Visitor Strategy:
- Why is there a need for a visitor strategy in Jotunheimen?
- Is there any initiative to create a visitor strategy at national level? Is there a need for such a strategy?
- Has the application of models such as ROS, LAC. been considered? Why /why not?
- What are the main benefits of integrating visitor management with nature resource management in your point of view? Any disadvantages?
- Have you co-operated with the tourism industry in the preparation of the plan, if so, how?
- Who are going to carry forward the work of visiting strategy until 2015?
- What is the main purpose with the visitor strategy? What are the objectives?

Management Structure in Norway:
- Can you explain what you mean by sectorial vs. geographical approach?
- What measures do you think is appropriate to achieve a less fragmented management structure in Norway?
- Do you think the new local management model can increase the focus on the visitors? Economic development / prosperity?

Regulation of traffic:
- What measures are appropriate to channel / regulate traffic in Jotunheimen, as you see it?