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Assessing total legitimacy

in Swedish large carnivore policy

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Acronyms and abbreviations

CAB	County Administrative Board
CBD	Convention on Biodiversity
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
LC	Large carnivore
RLCC	Regional large carnivore committee
SEPA	the Swedish Environmental Protection Agency
WMD	Wildlife Management Delegation

Abstract

The importance of nature and biodiversity became widely acknowledged during the second half of the past century. The environmental movement contributed greatly to the initiation (and later adoption) of various international agreements on protection and sustainable use of natural resources around the globe. One highly contested natural resource is large carnivores. The role they play in eco-systems have been recognized through the adoption of aforementioned agreements for strict protection and viability. Yet it has been found that an increase of large carnivores can have negative effects on human activities. This is true for many countries around the world holding carnivore populations and Sweden is one of them. Sweden has undergone a policy shift in its environmental policy, from an anthropocentric view to a more ecocentric view, and there are several questions unanswered regarding the legitimacy of the policy. The lack of studies exploring the policy itself, specifically how the policy is formulated, what it contains, and how it relates to legitimacy, creates an opportunity to explore various legitimacy aspects of the policy content. The aim of this thesis is to assess total legitimacy in the current Swedish large carnivore policy using qualitative idea analysis. This study assesses how legitimate the current policy is, utilizing the theoretical concepts of policy ideas and total legitimacy to analyze the Swedish large carnivore policy and furthermore, to test the usefulness of the theory as an analytical tool. The results show that the policy lacks several key aspects of legitimacy, such as political and socio-cultural legitimacy, which hold the implication that the policy needs to be revised if total legitimacy is to be achieved. This paper contributes to fill a knowledge gap on how legitimacy can be studied and what further implication the legitimacy status have for management practices.

1. Introduction

The importance of nature and biodiversity became widely acknowledged during the second half of the past century. The environmental movement contributed greatly to the development of national environmental policies and the initiation (and later adoption) of various international agreements on protection and sustainable use of natural resources around the globe, such as the Bern Convention (Council of Europe 1979), CITES (IUCN 1975) and the Convention on Biodiversity (UNEP 1992). One highly contested resource is the large carnivores. The role they play in eco-systems has been recognized through the adoption of aforementioned agreements for strict protection and viability. It has been shown that presence of large carnivores have positive effects on the function of eco-systems in various ways (Ripple et al 2014). For example, wolf presence affects the behavior of ungulates which in turn have positive effects on vegetation, such as valuable deciduous trees such as aspen, rowen and willow (Fortin et al 2005). Yet it has also been found that an increase of large carnivores can have detrimental effects on human activities (Sjölander-Lindqvist 2009).

This is true for many countries around the world holding carnivore populations (cf. Rust et al 2015, Bruskotter et al 2011; Dressel et al 2015) and Sweden is one of them (Eriksson 2016). Here the governing of large carnivores has been the topic of political and scientific debate for a long period of time. The protection of the large carnivore species (during the 1920s and 1960s) constitute a major change in the policy: from having paid hunters to eradicate large carnivores to regulating strict protection of the species (Gov. bill 2012/13:191,16-20). By this policy shift it can be said that Sweden has moved from a pure anthropocentric relationship to nature and a view on large carnivores as pest species, to a more ecocentric view where large carnivores are considered to play an essential role in the eco-system (Eriksson 2016). Since then, the carnivore species have recovered and it is to be considered a success story in terms of ecological restoration (Sjölander-Lindqvist et al 2015; Eriksson 2016).

Parallel to this development, another influential policy development was the introduction of citizens' rights to be involved in decision-making that concerns them. For instance, the adoption of the Århus Convention (UNECE 1998) constitute an example of an expansion of public influence over policymaking. In general, this is to be considered a movement from government to governance in natural resource politics (Bäckstrand et al 2010). It is

evident that this has influenced the Swedish large carnivore policy in various ways. From 1999 and onward there has been a steady increase in public influence through various participatory mechanisms (Duit et al 2009), leading up to the latest organizational change: the implementation of Wildlife Management Delegations consisting of politicians and stakeholders (SFS 2009:1474). It is argued that these policy changes, moving from an anthropocentric to an ecocentric view on the carnivores and increased participation moving from government to governance, are likely to have built tension between fundamentally different views on nature conservation that possibly hamper current management, thus challenging the legitimacy of the policy (Eriksson 2016).

Consequently, in this thesis, the legitimacy of the Swedish large carnivore policy will be addressed. It is an interesting issue both from a societal perspective (increased conflicts over carnivore presence) and from a scientific perspective (various attempts to explain conflicts and facilitate "good" governance). Previous research has identified a lack of legitimacy in relation to the governance and management of large carnivores (Lundmark and Matti 2015, Hallgren and Westberg 2015, von Essen 2012, Cinque 2015, Sjölander-Lindqvist and Cinque 2013), and in relation to attitudes to large carnivores in particular between urban and rural populations but also to the use of management measures (Dressel et al 2015, Johansson et al 2012, Eriksson et al 2015, Frank et al 2015). However, to my knowledge, there is a lack of studies exploring the policy itself, specifically how legitimate the policy is in terms of total legitimacy.

There is a wide variety of theoretical concepts discussing legitimacy. Input legitimacy and procedural legitimacy are concerned with the procedural aspects of a system, while output legitimacy is concerned with effectiveness of the system, i.e. goal fulfillment (Scharpf 1997). Internal legitimacy is achieved when goals of a system is anchored in stakeholder beliefs, and external legitimacy is achieved when goals are in accordance with external actors' beliefs (Lundmark et al 2014). Total legitimacy is concerned with the normative justifiability of an authority and whether its claims are well founded (Borgström 2012, 10). By assessing whether or not a policy connects to legitimacy aspects as prescribed by the total legitimacy theory it will be possible to detect deficiencies in a policy which in turn has implications for both policy practice and the development of theory on policy analysis. Therefore, what will be explored in this thesis are the ideas expressed in the policy content. Policy content is defined as problem formulation, goals,

implementation and outcomes (Lange et al 2012, 409). Further, these ideas will be filtered through the theoretical framework of total legitimacy (Borgström 2012).

1.1 Aim and research questions

The aim of this thesis is to assess total legitimacy in the current Swedish large carnivore policy.

The research questions are:

- What ideas can be found in current policy?
- What are the concrete expressions of the ideas in the policy?
- How does the ideas and the way they are expressed in the current large carnivore policy correspond to the five aspects of total legitimacy?

1.2 Delimitations

There are several delimitations that need some consideration. First of all, there are previous studies exploring policy legitimacy in environmental policy (cf. Matti 2009) where it is stated that in order to answer the question of whether a policy is legitimate one need to investigate both public- and policy belief systems. However, this thesis demarcate itself from investigating public beliefs since that requires large sets of data on attitudes and perceptions about the specific policy, not only management efforts. It is not deemed feasible during the given time frame. Therefore, the thesis recognizes that it cannot answer whether or not the policy as a whole is legitimate but in line with traditional policy analysis it will contribute to half of such an assessment by exploring ideas expressed in policy documents.

Secondly, the five aspects of total legitimacy will not be given clear cut operational definitions, rather the theory is used as a normative prescription of an ideal type of legitimacy. This is due to several reasons. For instance, ecological legitimacy require ecological knowledge, however I am not an ecologist thus I will not assess ecological knowledge about certain species, rather, this thesis will problematize how such knowledge operate in the policy. This will be elaborated in the theoretical and methodological chapters. Lastly, this thesis will not investigate the actual implementation phase of the policy but it will explore the prescriptions for implementation in the policy. It thus excludes an assessment of the functioning of policy instruments and evaluation of management efforts since they are considered subsequent steps in the policy cycle and it is not feasible to analyze all steps in one and the same study (Cairney 2012, 32-33).

1.3 Outline

The thesis is outlined as follows. The first half is comprised by a literature review, followed by a chapter discussing theoretical perspectives on policy and policy ideas, ending with the theoretical framework of total legitimacy. Then a chapter on employed method is presented. The other half of the thesis is comprised by results, analysis, and ending with a chapter containing a concluding discussion.

2. Literature review

During the last couple of decades, there are at least two spectra of literature concerning large carnivores that has developed in Swedish social science research (Sandström et al 2015). One spectra in contemporary literature on large carnivore policy is chiefly occupied with questions of procedural legitimacy and organizational issues. The most recent institutional change in the Swedish large carnivore policy, namely the implementation of Wildlife Management Delegations (WMDs) (Gov. bill 2008/09:210) have gained a lot of scientific attention. In several studies investigating the deliberative and communicative practices in these delegations it has shown that stakeholders in the WMDs are continuously very polarized in the issue of co-existing with large carnivores. Also, the current design of the governance system seem to lack legitimacy, primarily in terms of internal legitimacy within the WMDs, where there is a lack of reasoned debate as prescribed by deliberative theory. Thus, there is a need for tools and procedures explicitly using communicative rational management (Lundmark and Matti 2015, Hallgren and Westberg 2015, von Essen 2012).

In a study investigating if increased participation offers a way of managing wicked policy problems it has shown that although representation and participation have been enhanced since 2010, the conflicts have not been reduced (Duit and Löf 2015). Further, in a suggested theoretical model, it is advocated that social networks, deliberation and social learning will increase both internal and external legitimacy within the WMDs, which in turn contributes to making the co-management sustainable (Lundmark et al 2014). In two studies exploring the role of CAB staff, it has also shown that managers in the governance system play a key role in implementing state regulations (Sjölander-Lindqvist and Cinque 2013) and are faced with several dilemmas in their professional role (Cinque 2015).

The second identified spectra in recent literature are studies occupied with individual responses to large carnivores and their management (Sandström et al 2015). It is argued, similarly to Matti (2009), that assessing public attitudes toward large carnivores can be used as a way of indicating socially linked prerequisites of conservation efforts (Dressel et al 2015). When analyzing self-reported fear of large carnivores, it was found that people with fear of these animals are less inclined to pay for conservation efforts (Johansson et al 2012). Furthermore, when measuring environmental value orientation it was found that Swedes (compared to Norwegians) hold a more ecocentric view on environmental values and the same study show that attitudes toward large carnivores were not causally related to carnivore abundance (Gangaas et al 2015). This is further supported by Eriksson (2016), who argue that political alienation of the rural population could be seen as one explanation to the rural populations' less supportive view on wolf policy.

In a study by Persson et al (2015) investigating the effectiveness of conservation performance payments show that having economic compensation for presence of large carnivores avoids poaching, thus leading to population recovery. It is partly supported by Zabel et al (2013) making an empirical assessment of carnivore conservation under a performance payment scheme insofar that if a performance payment is redirected within a reindeer herding community directly to herders, it has a positive effect on conservation.

Lastly, there are studies that cannot be categorized into the two strands of literature presented above. In a study by Darpö (2011) of the Swedish regulation on license hunting in comparison with the legal requirements of the Habitats Directive, it is demonstrated how the Swedish license hunting on wolf infringe on the Habitats directive strict regulation on protection of wolves. Further, in an article examining the decision to make impossible the judicial review of Sweden's implementation of EU species protection law, the same legal issue is displayed since Sweden has allowed wolf hunting using the same procedures. It is concluded that a ban on appeal to court is considered illegal (Darpö and Epstein 2015).

In sum, this predominance of studies focusing on procedural legitimacy and organizational questions opens up for a broader theoretical perspective not only accounting for traditional views on legitimacy or governance models. These two last studies are the only ones to my knowledge dealing with the policy itself, as defined in the

introduction. As this section also displays, there are numerous attempts of exploring the policy but from rather narrow perspectives. It can be argued that aforementioned studies constitute a depiction of the political legitimacy and to some extent the legal status in the current wolf policy which calls for further investigation of how the large carnivore policy relates to a broader take on legitimacy. I argue that procedural questions does not suffice, even though highly important, and similarly to Borgströms argument (2012, 10), the traditional dichotomous way of studying legitimacy: input- versus output legitimacy and internal versus external legitimacy, does not suffice to uncover what takes place within a policy. Further, as previous literature have only studied bits and pieces of a larger system this study will endeavor to account for the whole policy content. In order to answer the research questions there is a need for theoretical and methodological tools. These will be presented in the following chapters.

3. Theoretical framework and methods

In this chapter the theoretical framework and methods will be discussed. First of all, policy and the role of policy content in relation to policy ideas will be discussed. Policy content will be used as a tool to sort the material and ideas is what will be explored in the results. Then, a brief discussion on legitimacy will be held, followed by a presentation of the theoretical framework of total legitimacy that will guide the analysis of the results. How the analysis has been conducted will be presented in chapter 4.

3.1 Policy content as a sorting instrument

What will be explored in this thesis is how ideas in the large carnivore policy conform to normative aspects of total legitimacy by conducting an idea analysis of the policy content. Ideas are believed to gain public support and thus contribute to the perception of decisions as legitimate (Matti 2009, 25). A policy can be considered legitimate if it is normatively justifiable (Borgström 2012, 460), thus, a way to explore legitimacy of the policy is to compare the ideas in the policy and how they are expressed with normative criteria for legitimacy. The theoretical concept of a policy will not be used as a theory, rather it will be used to sort the material and thus structure the results. Later, a theoretical framework will be presented that will serve as the analytical tool.

First, policy requires a definition. Policy can be thought of as a process. Paul Cairney defines policy as *"the sum total of government action, from signals of intent to the final*

outcomes" (2012, 5). The theoretical and empirical implication of this broad definition is that policy is to be thought of as a process, rather than an outcome or content. Simon Matti (2009, 94) argues in a similar way that making public policy is a process thus the policy itself is a process, it is always developing. The implication is that it is difficult to know what is outcomes versus process and decision-making versus implementation.

Secondly, policy can be seen as the content of a governance mode. Lange et al (2012) have developed a framework based on policy, politics and polity which was originally made to study governance. Policy refers to the policy formulation, implementation, goals and instruments to reach goals. Politics refers to the process of governance in terms of actors and their interaction, and polity refers to institutional rules that govern the aforementioned interactions (Lange et al 2012, 409). Thus, the intertwined nature of these dimensions denote that policy will be influenced by the other dimensions.

The definition of policy above corresponds to a third way of understanding policy; the famous way of approaching it as a cycle, dividing it into five separate parts: agenda setting, policy formulation, legitimation, implementation and evaluation. Then one part can be studied at a time (Jenkins-Smith and Sabatier 1993, Cairney 2012, 4). Agenda setting entail, among other things, defining what the problem is. Policy formulation is concerned with formulating objectives and finding appropriate instruments to reach the objectives. The legitimation part is about finding support for the policy in the society. Implementation of the policy is to delegate responsibility to carry out the policy, and lastly, the policy need evaluation, which constitute the feedback into the policy cycle (Cairney 2012, 32-33).

This thesis acknowledges policy as a process evolving through time and influenced by a number of factors, such as actors and institutional settings. However, to facilitate analysis I have chosen to explore policy in terms of problem formulation, goals, implementation and outcome within a given time frame in order to simplify a very complex study object. In line with Lindblom's theory of incrementalism (1959) I assume that the current policy is affected by previous policy decisions and that policy makers are limited in their effort to solve policy issues by their values/beliefs/ideas. Table 1 below constitute the questions I will ask the policy documents. The result section is structured according to these questions.

Important to note is that this thesis is concerned with public policy. In general, a public policy is a policy originated from state institutions resulting in public legislation (Hill 2005). Public policy can mean a variety of things, from the government's expression of intent to a whole package of legislation (Cairney 2012, 23-24). In this thesis, it refers to a specific government proposal together with formalized authorization of the same, i.e. legislation.

Table 1. Sorting instrument

Problem formulation	Goals	Implementation	Outcomes
How are problems addressed?	What are the goals and how are they presented? Which ideas are emphasized as important guiding principles in determining policy goals?	How is the implementation process described and justified? What actions are taken? How is responsibility distributed between sectors and levels? Are there strategies to monitor, adjust and improve performance?	How are the outcomes described?

3.2 The role of ideas in policy

In an environmental policy process there are multiple competing beliefs causing conflict over policy formulation and implementation. Beliefs are defined as world views, how an individual think things are and how they should be (Rohan 2000, see Matti 2009, 70). Therefore, when making political decisions, there is a need to settle these belief-conflicts by framing the policy by certain ideas or values (Matti 2009).

There is a plethora of definitions of ideas. One way to define ideas is as shared beliefs between different interests that give people a reason to work together. Other ways to approach ideas are by thinking of them as paradigms, norms, or normative standards of behavior, or political values and ideologies. However, in the case of large carnivore policy, there is one last definition that is most compelling: ideas in a policy can be thought of as the aggregated knowledge and beliefs within a political system which then is used to make decisions (Cairney 2012, 15-16). In order to clarify, beliefs and ideas are not interchangeable, rather, an idea is comprised of aggregated beliefs. As mentioned, ideas are believed to gain public support and thus contribute to the perception of decisions as legitimate (Matti 2009, 25). This understanding of ideas will be used henceforth. Therefore, by asking the empirical questions of table 1, I believe that main ideas of the policy will be captured.

In the following sections (3.3 and 3.4) I will present different ideas that are commonly found in natural resource policy. The purpose with these sections is that it is reasonable to expect that they will show in the results. Some of them have already been touched upon in the literature review, but they need to be considered to a greater extent.

3.3 Ecocentrism versus Anthropocentrism

There is a traditional divide between those holding ecocentric beliefs versus those holding anthropocentric beliefs when discussing human relations to nature (Quinn et al 2016). Thus it calls for a brief description of each idea in order to clarify key differences that might have an impact on the results and analysis of this thesis.

Ecocentrism emphasize the value of nature regardless of human conceptions of it. It means that nature has an intrinsic value and there is no hierarchy where humans stand above nature (Lundmark 1998, Kortenkamp and Moore 2001). As a political theory, it arose as a criticism against both capitalism and communism, in that both theories are very occupied with industrial growth and are essentially human-centered in their analyses. Broadly, it is stated that ecocentrism want to transform a violent, exploitive and unequal world to a sustainable, equal and harmonious one (cf. Meadows et al.1972, Sterba 2006). Ecologists embrace principles of complexity, diversity and symbiosis and argues that we need to manage environmental destruction for nature in itself in order to protect these inherent principles (Eckersley 1992, 60-61).

Anthropocentrism on the other hand is a worldview connected to human value and activity. Nature is a property for humans to use for their benefit and deciding on how to govern natural resources is central because natural resources affect human conditions (Kortenkamp and Moore 2001). Here it is more accurate to speak of a hierarchy of values where human values are top priority (Campbell 1983), and in terms of intrinsic value, only the human race has an intrinsic value while nature has an instrumental value (Quinn et al 2016).

In order to exemplify the difference between anthropocentrism and ecocentrism, I will use large carnivore governance as an example. Regardless of the decision content, it would be thought of differently between the two views. An anthropocentric would argue that carnivore issues have to be appraised in relation to human activities, what are the

consequences in relation to human welfare, will it benefit human activity or not? Whereas the ecocentric argue that carnivores have an intrinsic value and a right to exist regardless of what humans think of them. Depending on which view is most prominent it will have different effects on how a policy is designed (Matti 2009, 98).

3.4 Government versus governance

The second set of ideas concerns governing. The first idea is the traditional top-down governing and the second one considers collaborative governance. These ideas are occupied with issues on how to govern natural resources (Hardin 1968). Top-down governing refers to a centralized system where key decisions are made at the national (or supranational) level. The state plays a central role where the market and the civil society are recipients of government policies and adjusts accordingly (Driessen et al. 2012, 143-148). There is little influence from other levels and they are thought to implement the decisions taken at the national level (Hill 2005, 182-185). Swedish natural resource policy have always been strongly centralized with technocratic influence (Duit et al 2009, 125).

However, there are difficulties of managing large carnivores through centralized, top-down governing (Hiedanpää and Bromley 2010, Trouwborst 2010), thus a variety of different forms of collaborative arrangements have been developed where participation and representation of non-state actors in decision-making processes has been identified as vital for good governance (Bäckstrand et al 2010, Berkes 2010). As argued by Bäckstrand et al (2010, 3-8), all environmental governance is influenced by participatory or deliberative ideals. The basic idea is that participation and deliberation will strengthen democracy.

In order to exemplify the difference between top-down governing and collaborative governance in large carnivore policy it can be said that the top-down idea suggests that decisions on goals and appropriate management measures are most suited to be taken at the national level where there is a high level of technocratic competence and it is believed to hold the aggregated beliefs held by citizens in the issue (Weber 1978). The proponent of the collaborative idea would rather argue that policy will be strengthened through citizen participation and deliberation in decision-making processes in matters that concerns them (Ansell and Gash 2007). Depending on which view is most prominent it will have different effects on how the governing system is designed (Driessen et al 2012).

3.5 Legitimacy

Legitimacy is essentially connected to the exercise of power. Whoever is in a position of power need to legitimize his or her position, why that person has the right to be in the position to decide for/over other people. This has mainly been a philosophical quest based on normative principles of society but lately it has become subject to empirical investigation: *"Its [the empirical investigative effort] concern is less with the abstract validity of legitimacy claims than their acknowledgment by the relevant social agents, and with the consequences that follow from that acknowledgment for the stability of a system of rule and for the manner in which it is organized."* (Beetham 2012, 121). Following the distinction made by Dingwerth (2007, 14-15), there is a normative (philosophical) and a sociological (empirical) approach to legitimacy.

The basis of normative legitimacy is argued to be norms and decision-making procedures which often manifests itself as input-, throughput- and output legitimacy (Dingwerth 2007, p.15). For instance, an institution or actor has a formal right to rule as long as the exercise of power conforms to normative ideas of, for instance, transparency and accountability (Johansson 2013). From this perspective, it could be argued that a national government is entitled to rule because of its constitutional authority (Beetham 2012). Hence, the national government can decide about who participates and who is represented as long as it can be held accountable for its actions and conducts activities in a transparent manner (Black 2008, Bernstein 2011).

The normative approach is occupied with the acceptability of authority, i.e if an authority is normatively justified and whether its claim to governing is well-founded (Bodansky 2006). In relation to policy, acceptability means that the subject is accepting the policy based on normatively justified claims but not necessarily agreeing to it (Borgström 2012, 460). Black (2008, 144-145) argue that normative approaches to legitimacy can be divided into four separate categories of claims; constitutional claims, justice claims, functional/performance claims and democratic claims. Constitutional claims underline the importance of written norms, i.e laws, and other legal values. Justice claims are occupied with the conception of justice, what is right and true. Functional/performance claims emphasize the output and consequences of actions, such as effectiveness and efficiency and to what extent the organization regard professional and scientific norms. Lastly, democratic claims focus on how well the organization or regime is appropriate in relation to current governance mode.

In contrast, sociological legitimacy is occupied with the acceptance of authority where acceptance means that the subject is approving of and agreeing to the policy (Dingwerth 2007, 14-15). This approach claims that an institution or actor is legitimate if it *is believed* to have a right to rule by a majority of the people, i.e. the perception of legitimacy rather than the constitutional right to rule (Weber 1948, my italics). The perception of legitimate governing can vary a great deal among those affected by it and is thus not only based on common norms of what is acceptable. Following the arguments of Suchman (1995), Scott (2001), and Black (2008), legitimacy is socially constructed. Suchman defines social acceptability as: *"a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions."* (1995, 574).

3.6 Total legitimacy

In this section the theoretical framework will be presented. It takes a normative stance in the legitimacy debate. Originally it was applied to natural resource governance and it proposes four separate aspects of legitimacy: political/legal, economic, ecological and socio-cultural. The purpose of the total legitimacy-framework is to widen the scope of what elements or aspects that can be assessed and analyzed and it serves as a critique against the 'traditional' use of legitimacy theory, chiefly thought of as input, output and throughput legitimacy (Karhu and Mättää 2010, see Borgström 2012).

I have chosen to use this framework for policy analysis rather than analysis of governance. As shown in chapter 3, policy is intertwined with various aspects of governing, thus there is no hindrance to applying the framework on a similar study object. Also, in a study of Finnish wolf policy the framework was applied to policy documents rather than factors of a governance mode and it was found useful to discover weaknesses in the policy (Borgström 2012). However, some of the theoretical key concepts have had insufficient definitions which is why I have chosen to extend the framework with supporting sources. Also, I have separated political and legal legitimacy since I argue that they illustrate separate things.

1) *Political legitimacy*

Borgström defines political legitimacy as: *"the extent to which the regulatory process conforms to procedural demands, such as representation of relevant stakeholders, transparency, and accountability, […]."* (Borgström 2012, 11). Further, she states that *"political legitimacy requires that the relevant decisions be made through democratic decision-making procedures"* (Borgström 2012, 11). This corresponds to the definition of input legitimacy stated in the introduction.

Beetham (1991, 2012) offers three dimensions of political legitimacy: Political authority is legitimate when 1) it is acquired and exercised according to established rules (legality), 2) the rules are justifiable according to socially accepted beliefs about the rightful source of authority and the proper ends and standards of government (normative justifiability), and 3) when positions of authority are confirmed by expressed consent or affirmation of appropriate subordinates, and by recognition from other legitimate authorities (legitimation). All three are needed for political legitimacy, and if any of the dimensions are missing or lacking, we talk about illegitimacy, legitimacy deficit and delegitimization. Furthermore, he argue that these dimensions need to be filled with content and it will vary between historic eras and societies (Beetham 2012, 123-124), but for now it will constitute the base for political legitimacy.

In sum, political legitimacy is acquired when: 1) the process of policy-making is structured according to normative procedural demands; representation of stakeholders, transparency, accountability and democratic decision-making, 2) if the policy and political authority conforms to existing law and are accepted by the society, 3) whether the means, ends and standards used in the policy are accepted by those affected by the policy. However, societal acceptance will not be studied in this thesis.

2) Legal legitimacy
Beetham's first dimension of political legitimacy (Beetham 2012, 123-124) corresponds to legal legitimacy. Borgström argue that a policy becomes legally legitimate when a regulation is consistent with the prevailing legal culture and when *"the extent to which the main substantive features of the regulation are acceptable"* (Borgström 2012, 11). Legal culture is defined as *"the values of the society in the form of civil rights and legal principles"* (Borgström 2012, 13). However, there is not sufficient literature to provide supporting or contrasting definitions of what legal legitimacy is and thus it is not clear

how to apply the concept. Rather, the concept of legality seems more fitting to the intended meaning of legal legitimacy.

Legality is heavily debated by plenty of scholars but a common definition of legality is the formal validity of the law (Kelsen 1970, see Tuori 2002, 243). Legal legitimacy and legality seems to be closely connected, therefore I choose to equate the two. My interpretation based on the empirical examples from Borgströms article is that legal legitimacy is concerned with how well the policy corresponds to constitutional rights. In other words, whether or not an action is compatible with the law and political culture (Beetham 1991), which essentially reconnects to the definition of legality. Thus, high conformity between policies and/or laws means that the policy is legally legitimate.

3) Economic legitimacy
Economic legitimacy concerns cost-effectiveness, whether or not the regulation is cost-effective and in what way the regulation affects other economic activities (Borgström 2012, 11). Thus, to be legitimate, the cost of the regulation should not exceed the benefits from the same regulation. A policy as such demand effectiveness, efficiency and legitimacy to be considered 'good'. The definition of effectiveness is goal fulfillment, i.e the capacity of the governance arrangement to achieve intended objectives. In contrast, efficiency is defined as the optimal use of resources to achieve policy goals, for instance cost-effectiveness (Heinelt 2010, 65-66).

My interpretation of Borgströms line of argument is that the value calculated per wolf is compared with the total value that the state need to compensate for the damages done by that particular wolf. If the compensation is less than the value of the wolf, then the policy is legitimate. Thus, the important feature is that there is an adequate compensation system in place. One observed problem with this in Finland is how to design the compensation scheme for those exposed to wolf attacks, and how to create incentives for citizens to provide eco-system services (Borgström 2012, 465). Furthermore, Borgström argues that the wolf brings economic benefits such as eco-tourism, or that the wolf predates game thus creating profit by decreasing browsing damages and lower numbers of traffic accidents. Is the economic gain from having wolf higher or equal to the economic values it makes damages for? If the answer is yes the policy is considered legitimate. However, this study will not investigate budget expenditures and incomes, rather it will see how the policy relates to economic values.

Borgström adds that the costs should "be shared in an equitable way" (Borgström 2012, 14-15), although it remains largely unclear how sharing should play out. How do one measure that the costs are shared in an equitable way? According to Borgström: as long as not only one or a few actors bear the costs, it is economically legitimate.

4) Ecological legitimacy

Ecological legitimacy is defined as follows: *"Ecological legitimacy requires that the regulation is compatible with the current ecological knowledge and is ecologically effective"* (Borgström 2012, 11). Furthermore, *"in order to be legitimate, environmental regulation needs to be based on a credible scientific theory. In addition, ecological legitimacy requires that the regulation be effective, so that its ecological goals are met"* (2012, 17).

This requires some clarification. Ecological knowledge must be connected to ecological science since the citations put emphasis on credible scientific theory and no other kind of knowledge. I interpret 'credible scientific theory' as a common agreement from the academic society about what credible science is, in other words, that the researchers follows predetermined shared rules on how to conduct research. Thus, in the case of large carnivore policy, the regulation should be based on best available knowledge on the topic. But, there are several problems with this. There is a predominance of science in this types of processes (von Essen 2015) which is why I criticize the narrow definition provided above and argue similarly to previous literature that other kind of knowledge such as local- and indigenous knowledge should be included (cf. Lute and Gore 2014). Thus I will look for that as well.

The second problem in Borgström's article is that the only reference to 'good science' when speaking of ecological legitimacy are studies covering the reintroduction of wolves in Yellowstone National Park and thus it is claimed that conservation of wolves is ecological legitimate (cf. Smith and Ferguson 2006). This is problematic since this particular reintroduction of wolves happened in a national park, thus not including human dimensions of a reintroduction. As mentioned in the introduction, I will not evaluate scientific knowledge. Thus I will diverge from Borgström's definition and rather problematize how the policy relates to science and other forms of knowledge

Regarding effectiveness, the literature in this field suggest that in order to achieve legitimacy, regardless of what kind of legitimacy, there will be a trade-off for effectiveness (Heinelt 2010, 65-66). Building legitimacy takes time and plenty of resources which is why effectiveness stands back. Vice versa, if a decision or policy is to be effective, there cannot be a time-consuming procedure to supply solid grounds of legitimacy (Matti 2008). Thus, my interpretation of the insufficient definition provided by Borgström is that ecological effectiveness refers to the *implementation phase* of a regulation, how else could effectiveness be measured? Since this thesis have a clear delimitation against implementation this will not be investigated to any great extent.

5) Socio-cultural legitimacy

"For a regulatory system to be legitimate in socio-cultural terms, it should fit into people's everyday lives. This means that the regulation should not have detrimental effects on people's livelihoods, hobbies and culture" (Borgström 2012, 17). This is the definition provided by Borgström and in this case it implies that the policy should not have effects that restricts peoples' activities such as hunting, owning livestock and other domestic animals, recreational values of visiting the forest, et cetera. Previous research have shown that the presence of large carnivores definitely restricts the rural populations way of living, both in terms of livelihoods, hobbies and cultures (Skogen and Krange 2003, Sjölander-Lindqvist 2008, 2009). Thus, what is interesting to see is how the policy accounts for this.

An important discussion to tie to is the one of the wolf controversy in Sweden not really being about the animals, it is about differing perceptions on environment and human interactions with nature (Sjölander-Lindqvist 2009, 131). In a dissertation by Max Eriksson (2016) the change in attitudes toward wolf is investigated. His results indicate that rural context (and conceptions) need to be taken into account when formulating policy to avoid political alienation of the rural population. Similar findings have been presented in Norway about socio-cultural diversification (Skogen 2001), culturally embedded representation (Figari and Skogen 2011) and attitudes to wolf relating to cultural patterns (Skogen and Thrane 2008). Thus it is possible to assume that socio-cultural legitimacy not only include how well the regulation fit into peoples' everyday life, but also how well it accounts for varying perceptions in the society in general.

The theoretical definitions are summarized in the table below.

Table 2. Total legitimacy

Categories	Theoretical definition
Political legitimacy	Democratic decision-making Representation of relevant actors Accountability of decision-makers Transparency throughout the process
Legal legitimacy	Legality Conformity between relevant policies
Economic legitimacy	Cost-effectiveness Equitable sharing of costs between actors
Ecological legitimacy	Primary use of ecological science Effectiveness to reach goals
Socio-cultural legitimacy	Minimum social impact Accounting for socio-cultural factors

4. Method and material

4.1 Research design

Given the aim and research questions of this thesis, the research design is qualitative in its nature and it approaches the problem by using a case study design where one single case will be examined. A case study entails a detailed and thorough investigation of one single case, a current phenomenon in a specific context (King et al 1995, 3-4). The primary goal is to describe and elucidate a specific phenomenon of legitimacy deficit in the Swedish large carnivore policy. This design is useful for its possibility to narrow down a broad field of research into one case which opens up for testing a theoretical model on a real world context in a systematic manner. Thus, this thesis employ a deductive approach where the aim of the method is to link empirical observations with a theoretical framework (Hartley 2004).

Criticism against case studies is that the results from such a study cannot be generalized to a larger context (Bryman 2012, 79). However, that is not the point with this study. Even if generalizability can be useful in order to say something about a larger context, this study is an attempt to explain a specific policy within a specific context. In the same line of argument, a quantitative approach would not suffice to analyze the political structures that this study aims for. Thus, I argue that a case study design provides a more realistic view of the study object than other designs, and it opens up for tying the study to a larger statistical process if needed. Lastly, a case study might introduce unexpected results during the study process which opens up for new perspectives and research directions (Hartley 2004).

4.2 Case: Swedish large carnivore policy

The Swedish large carnivore policy is interesting to examine because of its unresolved political conflicts. Plenty of scholarly attempts have been made to try to explain why the system in this particular policy field struggles with such great difficulties. The policy of 2013 is chosen for analysis. It is considered a piece of a larger policy which originally ranges from 1999 and onwards. It is chosen because it is the most recent policy change, thus it seems most reasonable time to find sufficient material on what the policy contains.

First of all, it is a case of the global transition in natural resource governance moving from traditional top-down governing toward decentralized modes of governance with the purpose to increase legitimacy (Duit et al 2009), yet struggling with perceptions of illegitimacy. Secondly, it has undergone many changes without any proven improvement in the societal situation, in terms of political conflicts and media debate. Thirdly, in relation to other cases of large carnivore policy, Sweden has come far in terms of normative standards of governance, i.e. decentralization, power sharing, etc. (Hansson et al 2016, unpublished) which can pave the way for comparative approaches to understand other cases struggling with similar issues. Fourth, and last, it is a case where the *effects of* the policy gain a lot of attention from the academic society, not the policy itself.

4.3 Material

A search for and collection of literature and material has been conducted between 29th of August and 1st of November 2016. Scientific literature have been used as background of the field and the search for it was conducted by searching four databases; Google Scholar, Scopus, Web of Science and Academic Search Elite (see appendix 1 for a list of key search words). The literature consists mainly of peer-reviewed articles and to some extent grey literature to avoid the problem of publication bias. Examples of grey literature that has been used are public investigations, public evaluations and academic theses. This was found using web search engines. The selecting criteria were 1) region of study: Sweden and to some extent Scandinavia, and 2) study object: some aspect of the policy area of large carnivores.

In search for policy documents I traced references in the scientific literature to white papers by searching public websites such as governmental and parliamentary databases. The material used in this study are primary sources of policy documents stipulating the current policy. These are various international agreements (Bern Convention, CBD, CITES,

Dir. 92/43/EEC), three governmental bills (gov. bill 2000/01:57; 2008/09:210; 2012/13:191), the appurtenant governmental investigations (SOU 1999:146; 2007:89; 2011:37; 2012:22), parliamentary reports (report 2000/01:MJU9; 2000/01:174; 2009/10:MJU8; 2009/10:7; 2013/14:MJU7) and laws and regulations (SFS 2016:556; 2009:1474; 2009:1263; 2007:845). Also, various sources that to some degree evaluates outcomes of the policy have been used. These are an evaluation made by SEPA on the Swedish Environmental Objectives from 2016, inventory reports by Wildlife Damage Center, and secondary sources such as Swedish news media and scientific literature. The material used for analysis is summarized in table 3 below.

The official policy documents will state what the current policy contains, how the state argue for certain policy choices, motives for goals and instruments, et cetera. When a state communicates its decisions and implementation it is most easily done in writing, it is not expected to communicate individual opinions (Bryman 2012, 496-497). Using written sources is not only beneficial. Just because a state official policy is stated in formal writing does not mean that we can detect battles/structures/expressions of power taking place. Also, there is a gap to the actual implementation of the policy which is very important to be aware of. Therefore, it cannot be assumed that the stated policy equals the actual policy at play in the society. However, the chosen material is deemed to be adequate since this study is focused on the writing of the policy and not the implementation phase.

Table 3. Material

Selected documents for analysis	Context and relevance
Gov. bill 2012/13:191	Bill stipulating the new large carnivore politics.
SOU 2012:22	Key public investigation, serves as basis for the bill.
Parliamentary report 2013/14:MJU7	Report from adopting the bill as legislation.
Evaluation on the Swedish Environmental Objectives 2016	Evaluation of all of Swedens env. objectives, one concerns biodiversity
Inventory reports 2016, Wildlife Damage Center	Latest inventory of the LC species: wolverine, lynx, wolf and bear
Swedish news media: Radio Sweden and The Swedish public service broadcaster	Reporting on current events regarding the LC species
Previous literature: Lundmark and Matti 2015, von Essen 2012, Hallgren and Westberg 2015	Conducted research on certain aspects of implemented management

4.4 Idea analysis

In order to fulfill the aim of the thesis the material should be categorized to enable analysis of what the text communicates. Conducting this type of analysis means that one or several ideas are analyzed and to some degree deconstructed in a contemporary and/ or then context. However, it should not be misinterpreted that this method only account for ideas, simultaneously it is an analysis of what the text does not communicate (Beckman 2005, 48-50). An idea can be defined as "a conception of reality, a valuation of phenomena or a conception of how one must act" (Bergström and Boréus 2012, 140). What will be analyzed here is a public policy and its ideas on legitimacy, thus the method is suitable to use in this study.

There is no template on how to conduct an idea analysis, rather it is up to the researcher to build a model based on the research question and theoretical framework. Thematic analysis is a similar method to idea analysis where one analyzes data by dividing it into various themes. Ritchie et al. (2014) divides the thematic analysis in two separate parts which is a way that I will follow. First, the researcher conducts data management which essentially means that the researcher familiarizes him-or herself with the material with the purpose of identifying its content and how it relates to the research aim and questions (2014, 279-284).

The second part of the analysis is about abstraction and interpretation. In contrast to the aforementioned sorting, this is where the analysis is conducted. The analysis can be both descriptive and explanatory. If conducted descriptively, the data is sorted into themes and then connections between themes are to be identified by investigating how data differs within a certain theme. This serves as a base for further subcategorization of the data. Explanatory analysis on the other hand seeks to explain how data is connected in a certain way rather than another, i.e. why the data entails certain patterns. Formulating explanations can be done in several ways, for instance by referring back to the theoretical framework (Ritchie et al. 2014, 284-286). The analytical tool will be an ideal type of legitimacy constructed by five categories. A category serves the purpose of elucidating the most important features of the ideal type. Thus, the ideal type is a tool to sort the text and facilitate interpretation (Bergström and Boréus 2012, 150).

One advantage of idea analysis is that it gives structure to the analysis and tools to sort the material. A disadvantage is the risk that the text is forced into a model although it

does not fit. It is then an expression of validity problems, that it does not measure what is intended to be measured. A balance must be struck when creating ideal types and its categories so that they will not be too fine-tuned and not too wide (Bergström and Boréus, 166-167). Furthermore, the options must be mentioned to give more strength to the arguments of an idea analysis. Interviews can be said to be a more in-depth way to usurp material. If the aim had been to understand the specific perception in people, experiences or underlying explanations for certain positions, then interview had been appropriate (Yeo et al. 2014, 178). Neither is the study designed to explore group dynamics, the way people talk to each other or how discourses arises (Finch et al. 2014, 212), thus focus groups are excluded.

4.5 Conducting the analysis

The idea with the chosen method is to shape the data into a manageable form and then create a story around it. The processing of data has been made in several steps. Following Ritchie et al. (2014) course of action I began with data management where I read through the material several times to understand how the documents were structured, to understand the context and finding main themes of the content. Empirical questions have been used to sort the content (see table 1). The second part of the method has been the idea analysis. Here table 2 has been used to analyze the policy content according to its ideas on legitimacy. Each category of the legitimacy aspects have been ascribed theoretically defined demands for achieving legitimacy. During the analysis of policy documents, certain wording and phrases were assigned to a theme from the analytical framework and the most important ones have been extracted. This way I was able to see in what way the policy talks about important legitimacy features, but also what the policy leaves out, thus might cause delegitimization as prescribed by the theory.

Also, it is important to point out that this kind of analysis is to be considered a mix of exploratory, descriptive and explanatory approaches in that it explores somewhat new material that has not been analyzed in previous studies (to some extent), and it is descriptive in the sense that it presents what the policy states. Lastly, it is explanatory because it links the observations to a theoretical framework where an answer to the research questions will be provided.

To clarify, I intend to present the way in which I think that the ideas, policy and legitimacy are interrelated. Since ideas are understood as ways to legitimate policy choices (Matti 2009, 25) I argue that exploring what ideas communicate is a way to determine the normative legitimacy of the content. An object (an actor, an institution, an authority) has an idea for a policy area (e.g large carnivore management). As an example, the idea is that the policy area should be permeated by a human-centered perspective, i.e that the formulated problems, the objectives and the tools used for implementation shall aim for human-centeredness and that human needs are prioritized over other needs. Then, the idea is communicated to the public (through e.g text or speech) with the aim of legitimizing certain choices, actions, or proposals related to the policy area. The idea is legitimized if it 1) meets the normative requirements of legitimacy (e.g total legitimacy aspects) or 2) if it is accepted by a large majority of the public (e.g sociological legitimacy), or both.

Therefore, studying a text about a policy area and bringing forward ideas found in the content, how they relate to each other and how they relate to normative versus sociological legitimacy, will facilitate elucidation of the policy area. The relationship between policy ideas and legitimacy is that the policy ideas must conform to the regulations of the theory of legitimacy. Assessing the conformity between different ideas (policy ideas and theoretical ideas) gives an understanding of the legitimacy deficit in the large carnivore policy.

A second question is how the different aspects of the total legitimacy framework are measured. As mentioned in the delimitation-section, there is no operational definition provided. However, I will try to explain the line of thought of conducting the analysis.

The first prerequisite for political legitimacy is that the policy conforms to normative procedural demands. Thus, I will look for mentioning of stakeholder positions, how decision-making is designed, how the process shall be transparent and if and how decision-makers can be held accountable for decisions. A second prerequisite is that the policy ought to be accepted by society. This will be measured by looking at consultative responses as consultative parties are assumed to represent the broader society. If there are conflicts and a lot of disagreements between the policy and the consultative responses, the acceptance is assumed to be low.
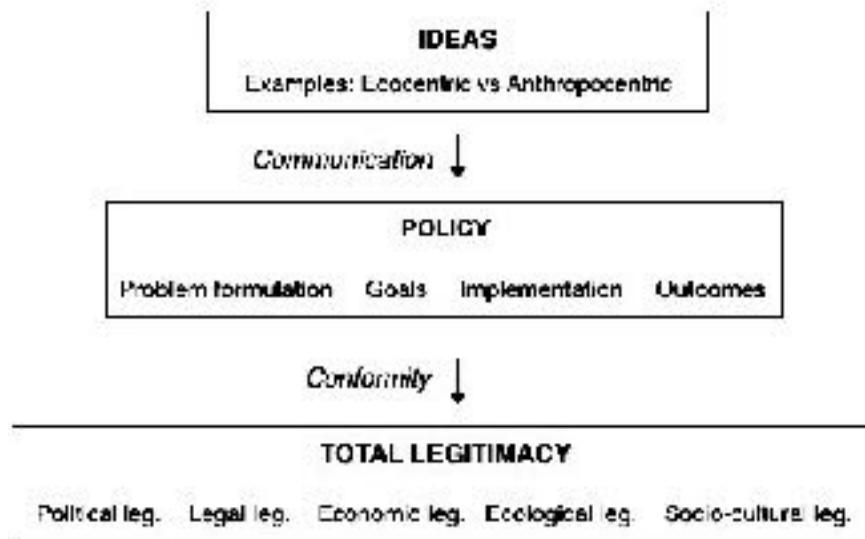
The first prerequisite for legal legitimacy is that there is high conformity between policies. Conformity is measured by accordance between content, acknowledgements and such. A second prerequisite is that there is a formal validity of the law. This is intertwined with political legitimacy: acceptance by society and conformity to procedural demands. Thus, it has been covered by previous measurements. A third prerequisite is that the policy conforms to existing law. By reading many policy documents I have an understanding of the context, thus for instance there are some international and environmental policies that are particularly important, such as the Environmental Objectives, international law and civil rights. So conformity between *all* laws will not be measured, rather I want to see to what extent other policies are accounted for and if/how the policy thinks it should be integrated.

One feature of economic legitimacy is that the regulation is cost-effective and that there is an optimal use of resources to achieve policy goals. This will not be measured, but I will look for how costs and benefits are addressed. Efficiency, i.e the capacity of the governance arrangement to achieve intended objectives, will be measured by looking at how outcomes are described, if intended objectives are reached. The last prerequisite is equitable sharing of costs. It will be measured by looking at which actors are mentioned in relation to costs and what strategies are proposed to handle costs.

Ecological legitimacy is made up by effectiveness, that ecological goals are met, and ecological knowledge. I will compare policy goals with outcomes to determine the effectiveness of the policy and I will look for what kinds of knowledge are advocated in the policy. Lastly, socio-cultural legitimacy requires a fit into peoples' everyday lives and that the policy accounts for varying perceptions on large carnivores. The fit cannot be measured in reality, rather I will see if the policy relates to the rural population throughout relevant parts of the policy and I will look for what perceptions are mentioned in the policy.

All aspects of total legitimacy does not have to be accounted for in each part of the policy content, however, it is important that all aspects are accounted for somewhere in the policy. Since the aspects are intertwined in theory, they ought to be intertwined throughout the policy as well.

Figure 1. Linkage between ideas, policy and total legitimacy

IDEAS
Examples: Ecocentric vs Anthropocentric

Communication ↓

POLICY
Problem formulation   Goals   Implementation   Outcomes

Conformity ↓

TOTAL LEGITIMACY
Political leg.   Legal leg.   Economic leg.   Ecological leg.   Socio-culture leg.

5. Findings

5.1 Background on the large carnivore policy in Sweden

As mentioned in the introduction, the governing of large carnivores in Sweden has been the topic of political and scientific debate for a long period of time. Back in 1927-28, the bear and lynx became protected by law in Sweden, but it was not until 1966 and 1969 the same measures were taken for wolf and wolverine (Duit et al 2009, 133). Since then, the carnivore species have recovered (Wabakken et al 2016).

Despite the successive recovery of the five large carnivores species, Sweden did not have a concise large carnivore policy until 2000 (SOU 1999:146, Gov. bill 2000/01:57, Parl. report 2000/01: MJU9, Parl. Comm. 2000/01:174). Due to the increase of large carnivore populations and Swedens international commitments to ensure biodiversity and protection of threatened species (e.g Bern and EG), the aim was to ensure the continued existence of bear (*Ursus arctos*), wolf (*Canis lupus*), wolverine (*Gulo gulo*), lynx (*Lynx lynx*) and golden eagle (*Aquila chrysaetos*) in the Swedish fauna. In order to guarantee favorable conservation status for these species as instructed by the Habitats directive, minimum population ranges for each of the carnivore species was established (SOU 1999:146). Apart from numbers and range there were also emphasis on reducing social conflicts by implementing regional large carnivore committees (RLCC) at the county level. The primary goal of these committees was to give advice on management to a national large carnivore committee (NLCC), which in turn operated under the authority of the

SEPA. The regional committees comprised regional interest representatives (SOU 1999:146).

A couple of years later an alteration was adopted (SOU 2007:89, Gov.bill 2008/09:210, Parl. report 2009/10: MJU8, Parl. Comm. 2009/10:7). This was deemed necessary due to increasing populations of large carnivores, hence increasing conflicts, but also because the recent implementation of regional committees was criticized for hierarchical governing by the SEPA. The main change was the introduction of Wildlife Management Delegations, a decision-making body within the CABs replacing the RLCCs. The aim was to increase regional and local influence in management of the large carnivore populations by mixing political representatives with stakeholders, thus adopting a collaborative approach.

In 2010, the government appointed a governmental investigation to re-evaluate the wolf population targets, evaluate the outcome of the collaborative approach and further tools to reduce conflicts between humans and large carnivores (SOU 2011:37; SOU 2012:22). Based on this investigation, legislation changes were adopted (Gov. bill 2012/13:191, Parl. report 2013/14:MJU7). This is what constitute the most recent change in the large carnivore policy and it is this change we will be occupied with henceforth.

5.2 Policy content of 2013
5.2.1 Problem formulation
First of all, the problem formulation will be examined by looking at how problems are addressed (see table 1). There are three overarching problem statements in current policy:

"In modern times Sweden has never had this high amount of large carnivores as it has today. The intention to preserve the large carnivores have therefore been successful. This means new challenges to design a policy that facilitates a sound management of large carnivores, that finds a good balance between the goal to reach and maintain favorable conservation status for the species and simultaneously account for people living and working in areas with high large carnivore densities". (Gov. bill 2012/13:191, p. 14)

The first problem is concerned with ecological issues such as favorable conservation status and densities of populations. Subsequently, the policy is concerned with the wolf and its poor genetic status: *"The crucial problem that needs to be addressed in the first stage is the very high level of inbreeding in the Scandinavian population"* (Gov. bill 2012/13:191, p. 35). This problem statement stems from earlier governmental documents where the wolf population has been thoroughly researched and evaluated:

"The Scandinavian wolf population stems from three individuals and is, despite immigration of a few unrelated individuals, still strongly inbred. To decrease the average inbreeding coefficient to an acceptable level it requires more unrelated individuals contributing with new genes." (SOU 2012:22, p.100)

The wolf population has had a slow growth over the past decades with little variation in the gen pool, which is considered a problem for a viable population. During the 1990's and onwards it has increased rapidly, but there are inbreeding effects such as less puppies per wolf pair (Gov. bill 2012/13:191, p.17). It is stated that: *"The Finnish-Russian wolves and their offspring have been essential for the positive development of the inbreeding coefficient."* (Gov. bill 2012/13:191, p.18). By talking about the positive effects of immigrated wolves this quote suggests that the government sees immigration as a possible solution to the inbreeding problem.

The second problem is concerned with socio-economic costs of holding large carnivore populations.

"The Wolf Committee report show that the large carnivore issue carries a large amount of socio-economic dimensions. Economic interests are often put against each other. A main issue is that conservation values are put against the costs for e.g industries and other interests in areas with large carnivores" (Gov. bill 2012/13:191, p.21)

The costs constitute a major problem since they are unevenly distributed, both geographically and between different social groups. Direct costs are attacks on people, dogs and livestock, but also state management costs. Indirect costs are extra work for livestock owners, anxiety, stressed livestock and reduced opportunity to hunt. The bill states that direct and indirect costs are equally important to acknowledge (Gov. bill 2012/13:191, p.22). The SOU (2012:22) points to separate views on reality regarding costs and benefits between cost carriers and governmental authorities.

Specific industries such as reindeer husbandry and summer pasture farming are more vulnerable to carnivore attacks. These cultural livelihoods are threatened by the presence of large carnivores since it is very difficult to prevent damages on free-grazing animals. It is said that reindeer husbandry is most gravely affected, summer pasture farming is affected too but not to the same extent. The way that these industries are conducted is a

way of maintaining and developing cultural ways of living. The policy document argue that reindeer husbandry is the most important anchor for survival of Sami culture.

Both industries contributes to nature conservation as well. Especially summer pasture farming contribute to the survival of endangered native breeds which is a part of nature conservation. Also, grazing in various environments has proven to be important from a biodiversity perspective and reindeer herding is a prerequisite for the environmental objective of "A magnificent mountain landscape" (SEPA 2016). Further, cultural heritage and nature conservation, are also combined with psychological strains; the stress of surviving on one's livelihood worsens when in conflict with large carnivores.
A third problem statement concerns recreational values connected to the forest. Examples of these threatened recreational values are negative impacts on hunting- and dog related activities. Carnivore presence effects hunting by decreasing game densities and killing hunting dogs. This in turn causes lower land leasing prices and lower property prices in the rural area. Following quotation depicts the issue:

"Furthermore, these consequences might affect rural attractiveness. Such developments in these areas undermine wildlife management which is based on the voluntary participation of hunters." (Gov. bill 2012/13:191, p.24).

Fear of large carnivores is identified as a major issue; fear of getting attacked, fear of children getting attacked and fear of having livestock attacked. The policy acknowledges concerns among the human population living in areas where there are large carnivore populations to continue with activities such as jogging, skiing, berry picking, etc., with the fear of encountering large carnivores.

5.2.2 Goals
In order to investigate what is said about goals I will begin by identifying what goals there are and how they are presented. The goals can be categorized to ecological goals and socio-economic goals. It is stated that:

"The overarching and longterm goal for the large carnivore policy is that wolf, bear, wolverine, lynx and golden eagle shall reach and maintain favorable conservation status, while livestock keeping is not significantly hampered and socio-economic consideration is taken into account." (Gov. bill 2012/13:191, p. 26).

Consequently, reaching and maintaining favorable conservation status are considered ecological goals while livestock keeping and socio-economic consideration are socio-economic goals. Some of the consultative responses (the SEPA, several CAB's and the Reindeer Herder Association) critically asks how 'significantly hampered' is defined since the bill does not provide any definition (Gov. bill 2012/13:191, p. 27).

Furthermore, it is said that the government assesses that all five large carnivore species have reached favorable conservation status according to the Habitats directive:

> *"In the government bill, the government believes that wolf, bear, wolverine, lynx and golden eagle in Sweden have reached favorable conservation status according to the Habitats directive. Therefore, the government decide, in accordance with the guidelines provided by the European Commission on how to manage large carnivores, that an active management shall be implemented." (Gov. bill 2012/13:191, p.14).*

Thus, the first part of the ecological goal appear to have been reached. Important to note here is that not all consultative parties agrees with this statement. Many of the consultative parties oppose that wolf and wolverine really have favorable conservation status. For example: *"A majority of the consultative parties that have commented on the conservation status of the wolf have agreed with the conclusion of the SOU that the conservation status is not favorable"* (Gov. bill 2012/13:191, p.35).

Another issue is the population size of the wolf. There is a great discrepancy between different consultative parties regarding how many wolves is preferable. It ranges from 200 to 2500 individuals (Gov. bill 2012/13:191, p. 36).

Since the bill states that the favorable conservation status have been reached the goals are primarily concerned with *maintaining* favorable conservation status. The two sub targets are to increase the number of animals and population range. Continuing of the issue of range, the policy is concerned with densities:

> *"The wolf population have successively spread naturally in Sweden. It is still concentrated in Värmland and Dalarna county. With the purpose to limit the socioeconomic consequences and improve the possibilities to keep livestock the concentration of wolf population should be reduced where it is most dense." (Gov. bill 2012/13:191, p. 38)*

Related to the problem formulation about the inbreeding coefficient and genetic variation of the wolf: *"In a second step, when the inbreeding coefficient has been reduced, the Scandinavian wolf population have to increase in size."* (Gov. bill 2012/13:191, p.35).

The table below is a rough sketch of the ecological goals. All carnivore species shall increase in terms of population size and range. The wolf population inbreeding coefficient need to decrease by immigration of Finnish-Russian wolves, and the high densities of populations need to decrease. This is interlinked with the population range.

Table 4: Ecological goals

	Population size	Range	Inbreeding	Density
Wolf	Increase	Increase	Decrease	Decrease
Bear	Increase	Increase		Decrease
Wolverine	Increase	Increase		Decrease
Lynx	Increase	Increase		

* *empty box indicates that there is no information in the policy document.*

The Scandinavian research project Skandulv has shown that: *"…contact with another population, the bigger the better, is more important than population size in itself."* (Gov.bill 2012/13:191, p. 38). Thus, creating a passage through the reindeer herding area for wolves to migrate is stressed as an important measure.

An overlapping goal between ecological and socio-economic goals is:

"Against this background, the regular regeneration of the wolf in large parts of the reindeer herding area is not possible to reconcile with modern reindeer husbandry. But to the extent that it may be possible with single regeneration it should be limited to the area where they do the least damage, whether it is in season areas or in the winter pastures." (Gov. bill 2012/13:191, p.39)

This quote is situated in a context where they have just described the content of the two earlier governmental bills (2000/01:57 and 2008/09:210) which both have reached the conclusion that it is not possible to have a single wolf pack in the reindeer herding area due to several reasons, but yet the policy chooses to explicitly state that it should be possible to hold wolves where they make the least damage.

Now to the socio-economic goals. One goal from a previous bill is connected to socio-political aspects of the policy: *"The management of large carnivores shall be adaptive, the operational responsibility shall be regional and the regional influence shall increase."* (Gov. bill 2012/13:191, p.8). Continuing on the same theme: *"Therefore, it is very important that people affected by large carnivores are given the opportunity to find participation in management."* (Gov. bill 2012/13:191, p. 14). The bill proposes that the regional level, i.e the CABs, shall be responsible for accounting of and implementing socio-political aspects in management. Regional influence and participation shall increase and management shall be facilitated through adaptive management.

The last socio-economic goal is connected to reindeer herding. It is proposed that: *"The tolerance level for damages on reindeer caused by large carnivores shall be maximum 10 percent, based on the actual number of reindeer in the Sami village."* (Gov. bill 2012/13:191, p.65).

Furthermore, which ideas are emphasized as important guiding principles in determining policy goals? As shown in above quotations, the guiding principles are ecological and socio-economically sound management of the large carnivore populations. Also, there is a recurring idea that Sweden has a responsibility to live up to its agreements, especially the Habitats directive. It is stated that: *"The government and the Parliament have by several occasions decided that Sweden shall preserve biodiversity, which entails our populations of wolf, bear, wolverine, lynx and golden eagle."* (Gov. bill 2012/13:191, p. 27) and that *"Sweden's international commitments constitutes the frames for actions that are performed for threatened species conservation in Sweden and for the management of our carnivores."* (p. 28). In addition, *"…the biodiversity shall be preserved and be used in a sustainable way, for present and future generations."* (Gov. bill 2012/13:191, p. 27).

The European Commission have provided guidelines for management of large carnivores at a population level. These two guidelines are: *"…management shall take place over national borders and an active management is needed in order to have a well-functioning coexistence between large carnivores and humans."* (Gov. bill 2012/13:191, p. 28). The concept of favorable conservation status is of central importance in the Habitats directive and is continuously used in the Swedish policy documents.

5.2.3 Implementation

Moving on to the implementation, I ask how the implementation process is described and justified (see table 1). The implementation is not described as a process, rather it is thought of as separate tools that are, to some extent, connected to the goals and management levels. Specifically, the policy describes implementation by regional management and hunting. Starting with regional management, actors such as the SEPA and the Sami Parliament are supposed to play a minor role in relation to the CABs and Wildlife Management Delegations. The argument for having Wildlife Management Delegations with some decision-making power is: *"…to reach acceptance for large carnivores and to achieve a real regional responsibility and local influence over management."* (Gov. bill 2012/13:191, 57).

Furthermore,

"The Wildlife Management Delegations are implemented in order to contribute to collaborative management at the regional level of game as a common resource. Collaborative management means that all affected parties should participate in order to formulate management goals. This can lead to effective and more legitimate management since more people are contributing with their competence." (Gov. bill 2012/13:191, p. 57-58).

The government assesses that further steps toward regionalization can be made since the large carnivore species have reached favorable conservation status. It is stated that the government will make changes to the regulation during its term of office. However, the actual changes made in the Regulation of Wildlife Management Delegations (2009:1474) are three: 1) in counties with a reindeer husbandry delegation one of the political representative shall be appointed in consultation with the Sami parliament, 2) one of the tasks of the delegation is to adopt a regional management plan, 3) that a delegate is appointed for a four-year term. None of these are mentioned in the bill and neither is it explained how these changes contributes to regionalization.

Concerning hunting of large carnivores there are two types; protective and licensed hunting. The right to make decisions on the different hunting types have been delegated to the CABs from the SEPA. This delegation takes place when a management area have reached a species minimum level (Gov. bill 2012/13:191, p.48). However, it is clearly stated in the Habitats directive that hunting of protected species can only take place under very specific circumstances. The bill devotes a separate chapter on the practical implementation of protective hunting but there is no guidelines or suggestions on licensed

hunting. The implicit argument for using hunting as implementation is that the government estimate that all carnivore species have reached viable population status, thus one feasible way to handle serious damages made by large carnivore is to hunt them (Gov. bill 2012/13:191, p.50).

Thus, to implement hunting and regional management there must be different tools or actions explicitly stated in the policy (see table 1). What has been found is that different types of hunting (as described above), monitoring, national and regional management tools, and a management tool specifically directed towards the reindeer herding communities are the stated actions to reach goals.

Monitoring

The CABs are responsible for monitoring large carnivore populations in respective county. The SEPA compiles the information to get a national overview. One identified problem is the monitoring made by SEPA. It is responsible to appraise if hunting is appropriate based on the sizes of the large carnivore populations but it has shown that the SEPA does not monitor the implemented hunting in a satisfying way. Thus the appraisal of appropriate hunting is obstructed. This problem is argued to jeopardize adaptive eco-system based management. One explanation is lacking resources at SEPAs disposal (Gov. bill 2012/13:191, p. 52).

National and regional management tools

Management tools other than monitoring and hunting are: minimum levels, national and regional management plans, economic subsidies and compensation, various staff at the CAB and information to the public. Minimum levels of carnivore species are decided by the SEPA, after suggestions by the Collaborative Councils. Management plans are made for 5 year periods for each of the species, nationally and regionally, with the purpose to incorporate regional socio-political factors. Economic subsidies are granted for preventative measures, and economic compensation are given for presence of and damages made by large carnivores. The CAB provide inspectors and field staff that help people when large carnivores have damaged or attacked property. Certain counties employ so called emergency groups. Lastly, there is extensive contact with the public/ citizens, both via information and physical meetings. For instance, it is suggested that the meeting minutes from these two bodies should be uploaded on the CABs website in

order to make it available for the public to increase transparency. (Gov. bill 2012/13:191, p. 59).

Management tool for reindeer herding communities
The bill proposes a management tool specifically designed to improve the relationship between the reindeer herding industry and large carnivores. The tool is a model designed by the SEPA and the Sami Parliament for adaptive management of large carnivores living in the reindeer herding area:

"The proposed management tool is based on that the CABs and the Sami villages consult each other and determine how to locally maintain a sustainable reindeer husbandry while contributing to a favorable conservation status of large carnivores." (Gov. bill 2012/13:191, p. 68)

Basically, the CABs shall have closer cooperation with the Sami villages and a formalized collaboration regarding preventative measures, protective hunting, economic compensation and inventories (Gov. bill 2012/13:191, p. 68-71). Further, the management shall build on national and regional management plans for the carnivores and on assessments of the predation pressure in the whole reindeer herding area and at local community level (Gov. bill 2012/13:191, p.69).

There are strategies to monitor, adjust and improve performance. Adaptive management is the key concept which the policy is focused on in terms of revising performance. This is how the policy defines adaptive management: *"An adaptive management means that actions are monitored and adjusted continuously against targets in a knowledge-building manner. Learning is an ongoing process in this type of management."* (Gov. bill 2012/13:191, p.15).

Below are some examples of tools/strategies that the policy proposes. The primary tool to accomplish adaptive management is management plans:

"Management plans are the central and regional tool for the practical management of large carnivores. The plans should be concrete and contribute to greater transparency in large carnivore management. They are also the adaptive tool that can be used for a strategic management […]." (Gov. bill 2012/13:191, p.16)

Furthermore, the policy also point to the role of the WMDs as a tool in relation to performance, to account for socio-cultural, economic and ecological interests:

"Wildlife Management Delegations shall ensure that trade-offs between different interests is made in the management in accordance with the ecosystem approach. […]. Regional targets for carnivores impact on livelihoods, cultural expressions and biodiversity should be established. It is mainly the Wildlife Management Delegations' task to formulate these objectives and to annually monitor them in the context of carnivore management." (Gov. bill 2012/13:191, p.16).

Finally, the policy acknowledges inventory/monitoring as an important strategy and element of adaptive management: *"An adaptive ecosystem-based management of large carnivores places high demands on adequate follow-up of the number of animals killed, as well as quality-assured results from inventory of large carnivore populations."* (Gov. bill 2012/13:191, p.52).

Lastly, in relation to implementation, it has been investigated how responsibility is distributed between sectors and levels (see table 1). The SEPA has the overarching responsibility for all of Sweden's environmental policy. SEPA is the primary authority to manage and protect the carnivore species and it has the authority to decide on hunting of bear, wolf, wolverine and lynx. This privilege is currently delegated to the regional levels with some requisites. SEPA also decides on minimum levels of carnivore populations and national management plans (Gov. bill 2012/13:191, p.54-55).

The Sami parliament is primarily responsible for administering economic compensation and subsidies for large carnivore presence in the reindeer herding area (Gov. bill 2012/13:191, p.55-56).

There are three Collaborative Councils corresponding to three management areas. This is a level in-between the national and regional level. The primary task for these councils is to discuss issues from the regional level and suggest minimum levels of carnivores for their respective management area to the SEPA. This level was created in the policy of 2008/09 with the argument of strengthening adaptive management since territories and animals move across county borders (Gov. bill 2012/13:191, p. 58, 51-52).

The CABs have a big responsibility in terms of implementation of the policy as well as coordination and decision-making. For example, national goals shall be implemented within their county, decisions need to be made on protective and licensed hunting, and they employ information to and contact with the public (Gov. bill 2012/13:191, p. 56).

Within each CAB there is a Wildlife Management Delegation with the responsibility to make suggestions on minimum levels of carnivore populations, and overarching guidelines on the development of carnivore management in the county. Delegates are politicians representing the public interest and stakeholder groups (Gov. bill 2012/13:191, p. 57). Finally, it should be emphasized that about half of the consultative parties argue that decisions regarding large carnivores shall be taken politically, while the other half thinks that decisions shall be made on a scientific basis (Gov.bill 2012/13:191, p.30).

5.2.4 Outcomes

Since the policy does not discuss outcomes I have used supportive sources to be able to assess the outcomes of the policy. These supportive sources are Evaluation of Swedish Environmental objectives of 2016, Inventory reports by Wildlife Damage Center, Swedish media news of 2016 and previous scientific literature on the Swedish large carnivore management. To this material I have asked how outcomes are described (see table 1).

The national Environmental objective corresponding to this field is "A rich plant- and animal life". Within this objective there are sub targets on biodiversity stating that biodiversity and ecosystem services shall be integrated into political-, economic- and other kinds of decision-making where it is relevant (p. 355). Further, there is a sub target on threatened species stating that action plans for threatened species shall be implemented or under implementation at latest year 2015 (p. 359). Lastly, a sub target on genetic diversity states that mapping and monitoring of genetic diversity shall be started at latest year 2015 (p. 365).

The sub target regarding threatened species and their favorable conservation status have not been reached, there is no significant effect over the last years environmental work in order to reach favorable conservation status (SEPA 2016, 285). However, the second sub target regarding the action plans for threatened species have been reached. The third sub target regarding the genetic diversity has not been reached and is not anticipated to be reached in time. It is stated that the knowledge on genetic diversity among large carnivores have increased, and it is a trend anticipated to continue through the use of DNA-based inventory (SEPA 2016, 365).

Based on inventory of 2016, there has been an increase of the wolf population, both in terms of individuals and range. There has been one immigrant wolf from the Finnish-Russian population establishing the past year, therefore the inbreeding coefficient has

decreased slightly. From 2016, Skandulv has been commissioned to launch a new model for estimating the population size which has not been or can be evaluated yet. It is stated that the growth of the wolf population is hampered by hunting. The hunting quota is equal to the growth rate of 15 % (Wabakken et al 2016).

The lynx population has increased as well both in terms of size and range (Tovmo et al 2016). There is no report on bear inventory from this year, the most recent is from 2013/14 where it was found that the population is decreasing due to increased protective and licensed hunting. The range had increased that year (SEPA 2014). Inventories of wolverine show a rapid decrease of 33% from last year. There has not been any inventory made outside the natural range. The report tell the difficulties of making inventory of particularly wolverine due to weather conditions and the way wolverine behave (Brøseth et al 2016). Comparing table 5 to table 4 we can see that ecological goals are not fully met.

Table 5. Outcome of ecological goals

	Population size	Range	Inbreeding	Density
Wolf	Increase	Increase	Decreased/No diff	
Bear	Decrease	Increase		
Wolverine	Decrease			
Lynx	Increase	Increase		

 * *empty box indicates that there is no information.*

It should be mentioned that there is no public or governmental evaluation of socio-economic effects of the policy, yet. Therefore, previous literature (see literature review) have been used. In terms of socio-political outcomes, one study show an overrepresentation of hunter/outdoor interests in the WMDs, because the representatives in the WMDs are participating mainly for their personal interest and not in particular for the interest they represent, i.e. informal representation (Lundmark and Matti 2015). Furthermore, the role as delegate in the WMD is confusing regarding being both a trustee (getting trust from your organization to represent them) and being an authority (having decision-making powers together with the CAB) (von Essen 2012). Lastly, there is a misfit between institutional frames and members expectations in that the delegation meetings lack reasoned debate, the role of the chairperson is problematic, there is a strong purposive atmosphere, there is also a perception of restricted ability to influence the top-down structure (von Essen and Hansen 2015, Hallgren and Westberg 2015).

Finally, it is important to point to the contemporary media reporting in Sweden where these issues are discussed. Two examples will be presented. In April 2016 the Swedish Radio made an interview with Mattias Åhrén, Professor of Law, arguing that the new national management plan for wolf is in conflict with Sweden's international commitments on protecting indigenous people's rights. In the case of Swedish goals for wolf, i.e. increased population size and range and passage through the reindeer herding area, they are not compatible with modern reindeer herding. Further, it is argued that Sweden needs to prioritize international law on human rights over biodiversity (Sweden Radio 2016-04-26).

The other example is Sweden Television broadcasting news in November of 2016 announcing that there are much more wolverines than shown by inventory, and the species have spread to the coast of Northern Sweden and to the central parts of Sweden. Further, in the broadcast scientists at the Swedish University of Agriculture Sciences depicts the problems with taking inventory of wolverine populations (SVT News 2016-11-29).

5.2.5 Summary of findings

In the table below the findings are summarized. There are three different problem formulations regarding ecological concerns, socio-economic concerns and recreational concerns. The goals revolves mainly around the favorable conservation status. The main strategies for implementation are regional management and hunting. The outcomes are not discussed in the policy documents, but they are partly evaluated by other sources which shows problems with representation and communication at regional level and violation of Sami rights.

Table 6. Results

Problem formulation	Goals	Implementation	Outcomes
Deficient genetic variation wolf	Favorable conservation status: - Reach - Maintain	- Adaptive management - Monitoring - Management plans	Genetic status for each species (see table 5)

Problem formulation	Goals	Implementation	Outcomes
Uneven distribution of costs	- Reduce densities - Spread - Least damage	- Regional management - Hunting - Economic compensation - Participation - Information - Tool for Reindeer herding communities	- Representation problems in WMDs - Non-deliberative - Violating human rights (Sami rights)
Recreation - Hunting - Fear			

6. Analysis

1) What ideas can be found in current policy?

I have identified four different ideas in the large carnivore policy. Hardly surprising, the two main ideas are an ecological idea and a socio-economic idea, corresponding to ecocentric and anthropocentric values. However, there are also two additional ideas concerned with governing: top-down governing and collaborative governing, mainly in relation to implementation.

The ecological idea has been identified primarily in the problem formulation and subsequent goals where the policy is primarily concerned with the ecological status of the wolf, the inbreeding among the wolves and the immigration of wolves from other populations. The policy signals a clear will to improve the situation for the Scandinavia wolf population. Further, the goals are concerned with maintaining favorable conservation status of the large carnivore species, i.e the large carnivore populations need to increase in both size and range. The ecological idea corresponds, to some degree, to ecocentrism in that it is primarily concerned with the large carnivore species welfare. As prescribed by the theory on ecocentrism, it holds an idea that animals (and all living things) have an intrinsic value which is equal to the value of humans. Where this idea stems from will be discussed to a greater length under question 2.

The socio-economic idea has also been identified primarily via the problem formulation and goals. It is concerned with the uneven distribution of costs and benefits between different geographical areas and different social groups. The associated goals are focused on spreading large carnivores to decrease densities, thus decreasing the tension

for certain social groups. The implementation tools connected to the socio-economic idea are adaptive management, management plans, hunting, economic compensation, participation and information spreading. Based on the theoretical definition of anthropocentrism, I argue that the socio-economic idea is an anthropocentric idea where problems for humans are addressed. Costs of having large carnivores is a central theme, i.e what costs do humans experience and how can they be reduced.

The idea of top-down governing has been identified primarily via the implementation. It is evident in the policy document that the state is responsible for the ecology of the large carnivore populations since the SEPA have a large responsibility for: national management plans, inventory and monitoring of the populations, monitoring of regional management plans and hunting decisions, in order to have an overarching view of the development for the species conservation. Most likely, this idea of central governing is due to international and supranational agreements that Sweden is obligated to comply with. In other words, the Swedish government is primarily accountable upwards to the European Union which is why the government must demonstrate control over the policy.

But at the same time, the regional level has been given a great responsibility, which is evident in the policy documents. An idea of a collaborative form of governing has been identified at all levels below the national level, i.e the Collaborative Council and the WMDs. The state pushes responsibility downwards to the CABs to handle politics and socio-cultural factors in the regional management, as shown by quotations in the result chapter, while letting the SEPA deal with the ecological concerns. The explanation for this is mainly due to the favorable conservation status, i.e the species that are not assessed to have favorable conservation status are managed by the SEPA. However, the problem is that the government does not provide any guidance in the bill on how to incorporate the socio-economic factors in decision-making which leads me to believe that the central government does not have the will or competence to guide, dictate or advise regarding socio-cultural factors.

2) What are the concrete expressions of the ideas in the policy?

The ideas identified are ecocentrism, anthropocentrism, top-down governing and collaborative governance. So, how do these ideas relate to each other? What are the concrete expressions of the ideas? For instance, which ideas are prioritized? What are the consequences of the way they are expressed? Based on what has been presented

above, the ideas are manifested as non-integrated spheres, piled on top of each other. It is evident that the policy is an attempt to find compromise between different interests, the whole premise for the governmental bill is a political pressure to solve conflicts between social groups regarding the coexistence with carnivores.

An example of such a compromise is the overarching goal of the policy: Favorable conservation status of the large carnivore species shall be maintained at the same time as human activities shall not be significantly hampered and socio-economic factors shall be taken into account. This is a vague formulation and it is not explicitly stated how this goal shall be reached. Evidently this goal constitute an attempt to compromise between an eco-centric idea of maintaining favorable conservation status and an anthropocentric idea of human welfare and human factors affecting management. However, I argue that these two ideas of the goal are non-compatible since having larger and expanding populations will affect human activities negatively. Thus, the policy must take a clearer position in how human activities shall be compensated for co-existing with large carnivores, assuming that Sweden must hold greater large carnivore populations due to international agreements.

This issue of compromises, that really are not compromises, are found throughout the policy. In the problem formulation, three main ideas are lined up next to each other (see table 6). In the goal formulation, the goals are mainly tied to the ecological idea, i.e the preserving of large carnivores and how the populations will be affected by decreasing densities, spread, etc. But then, in the implementation content, almost all tools are considered socio-economic tools, thus not designed to fulfill the aforementioned goals. Hunting and monitoring are exceptions that will help reduce densities and keep track of the development of the populations. Thus my main argument is that the policy is built on unsustainable compromises between fundamentally incompatible ideas. The ideas are not integrated nor is there consistency where ideas permeate each part of the policy content in any logic way, as described in this paragraph.

One remarkable thing in the policy is that the bill states that the species are threatened and that it is difficult to conduct inventory, thus difficult to assess population sizes for the five species. But later on, it is clearly written that the government assesses the species to have reached favorable conservation status. Thus, in contrast to latest available ecological knowledge, the government chooses to look at the issue differently. Partly, it

could be explained by the fact that scientists do not always agree on what is right and the government chose a side in relation to current research. However, this action seems contradictory in the context, partly because several of the consultative parties and previous policy documents oppose it, but also because the policy is mainly occupied with the welfare of the animals. It would seem more feasible to argue for the subsequent goals the way the policy actually does if the government would acknowledge that the species does not have favorable conservation status. Thus my interpretation is that the government acts in accordance with the idea of top-down governing where the government is accountable upwards within a top-down system, and need to signal control over the ecological status of the carnivores and the political situation to other actors, such as the European Commission.

Furthermore, it is stated that densities of large carnivore populations in certain counties need to be decreased, but at the same time it argues that e.g the wolf population have to increase in size and range, even so far as to suggest that wolves should be able to be in parts of the reindeer herding area where it does least damage. Previous policy documents have shown that that is not possible, together with Sami consultative parties, but the government chooses to disregard this knowledge. This could be interpreted as a priority of ecological welfare of the wolf over reindeer herding, which is also confirmed by Mattias Åhrén (SR 2016). Other difficulties displayed in the policy are the lacking definitions of key concepts in relation to reindeer herding. For instance, "the area where they do the least damage"; what area is that? How is that decided upon? By whom? And what is 'least damage' in number of reindeers? The policy is evidently trying to combine two separate views, one where the land is used by reindeer herders, which would be gravely affected by wolf presence, but yet the policy tries to conciliate other interests that proposes wolf establishment all over Sweden. It is very difficult to interpret what applies in the matter of wolves in the reindeer herding area, which holds the implication that it must be difficult to implement.

Over time, one can see that the same ideas persist. The policy has had the same problem of incompatible ideas since the beginning which could be an explanation for the continued perceived illegitimacy. One can assume that the legitimatization, i.e when the policy is communicated convincingly to the public so that it is accepted, it will become more difficult since it is 1) based on opposing / conflicting ideas, 2) disordered, thus not transparent. This together creates illegitimacy as prescribed by the legitimacy theory. The

interest conflicts have never been conciliated, rather they have been embedded deeper with each policy document. An assumption made at the beginning of the thesis is that policy-makers are limited by their inherent ideas and values, and this shows in the policy since it does not deviate from predetermined ideas. However, conciliation might not be possible since the ideas of eco- and anthropocentrism stems from different ethics (cf. Kortenkamp and Moore 2001), thus it is rather a question of agreeing to decision-making procedures and governing.

I argue that the policy lean toward an ecocentric perspective where on the one hand it addresses key problems for various interest groups (like summer pasture farming, reindeer herding, hunting, etc.) but in the next paragraph it is back to promoting increased population sizes and ranges despite the previously mentioned socio-economic problems. There are lot of examples of how the policy recognizes that humans and animals are equally important and the policy tries to solve problems by acknowledging human dimensions in the initial problem formulation, especially from an economic point of view. But these socio-economic factors are not given space later on in the policy. The non-monetary problems are not given much space either and are not mirrored in goals or tools for implementation. Thus, there is a line of thought where the carnivore conservation is prioritized in the end. There is definitely a grey zone in matters of ethics, and I would not like to state that the policy makes a stance in relation to values of different beings, but I would like to point out that the concern for the welfare of the large carnivore species is dominant throughout all parts of the policy content. There might be several explanations for this but one plausible explanation is that the state is obligated to prioritize the viability of the carnivore species through commitment to international agreements.

The idea of Sweden's international responsibilities are closely connected to the ecological idea, i.e. the policy have received most of its basic ideas from international and supranational agreements. Consequently, it is reasonable to believe that the socio-economic idea is a response to local and regional concerns. This leaves the national level stuck in the middle with the responsibility to implement international conventions, directives, acknowledge all interests and make new policies in relation to the most prominent ideas. Since the policy struggles with striking a balance between different ideas and levels, as evident by the policy content, it is reasonable to believe that there is a lack of acceptance to authority upwards (in this case the EU) which must be addressed in some way. I will return to this discussion later.

Thus, the answer to the second research questions is that the four ideas are non-integrated. Compromises leads to a inconsistency in the policy where the problem formulation and goals are heavily occupied with ecological matters but the implementation phase is occupied with tools directed toward socio-economic concerns. Parallel to these tracks, which I argue stems from eco- and anthropocentric values, are the ideas of governing where the policy cannot choose whether it is placed within a top-down governing system or within a collaborative governance system. The top-down approach can be traced to the international agreements on welfare for the carnivore species, but where the collaborative ideal stems from is not evident.

3) How does the ideas and the way they are expressed in current large carnivore policy correspond to the five aspects of total legitimacy?

The purpose with this research question is to detect conformity between the policy content, which have been presented in the two previous research questions, and the total legitimacy-framework, in order to assess the legitimacy of the policy. The policy does not need to fulfill all prerequisites from each aspect in each part of the content. However, it is important that all prerequisites are fulfilled somewhere in the policy.

Problem formulation

The findings show that there are three problem formulations: an ecological idea, a socio-economic idea and a idea of recreational values. First of all, the ecological idea is strongly connected to ecological legitimacy via the use of ecological knowledge, i.e scientific knowledge. The problem formulation is built on ecological scientific knowledge on large carnivores. My role is not to analyze the scientific knowledge, rather, I can state that other kind of knowledge than scientific knowledge is not a topic of discussion in the policy, neither incorporated in some way. However, it is stated that bringing in different interest will contribute to knowledge on the subject by the use of WMDs. Thus, other forms of knowledge is briefly recognized but not analyzed, i.e how it shall be properly incorporated.

Secondly, the socio-economic idea in the problem formulation states, among other things, that reindeer herders and summer pasture farmers experience a stress to survive on one's livelihood. This could be considered a structural problem on behalf of the state since it has not been made profitable to run these kinds of industries. This idea of industries competing with large carnivores for survival together with the idea of

recreational values corresponds to both socio-cultural legitimacy and economic legitimacy. The prerequisite for socio-cultural legitimacy is minimum social impact, i.e fit of the policy on everyday life of citizens by accounting for socio-cultural factors. The policy accounts for social impact in its problem formulation by listing all groups that are affected by presence of large carnivores and how they are affected. It also account for the different opinions that these groups hold.

However, it is not stated how these groups are represented in the formulation of the problem, neither how these various views are incorporated in all stages of the policy. To be clear, ideally the groups that are experiencing problems with large carnivores should have a place in formulating the problem in order to account for relevant socio-cultural factors (Ansell and Gash 2007), thus increasing the socio-cultural legitimacy for the policy. Further, this kind of process should be present at all stages of the policy, not only in terms of formulating the problems, but also formulating goals and subsequent implementation strategies. Also, the second prerequisite for socio-cultural legitimacy is that the regulation or policy should not have a great impact on peoples' everyday life, but evidently the policy does affect peoples' way of living. Thus, together with previous arguments, it could be argued that the policy does not meet socio-cultural legitimacy.

The connection to economic legitimacy is made primarily by the concern for equitable sharing of costs and benefits. In the problem formulation it is identified that inequitable bearing of costs is a problem. However, the policy has not clarified how the carrying of costs shall be shared in a more equitable way and it is not followed-up throughout the subsequent parts of the policy content. The second prerequisite for economic legitimacy is cost-effectiveness, which is not mentioned, little less problematized, in the problem formulation. For instance, it is identified that conservation values are plotted against other kinds of values but it is not addressed as a problem, i.e that the current policy might not be cost-effective and in need of economic scrutiny. However, it is difficult to assess the cost-effectiveness (which is problematized in the theory-section), but what can be said is that the policy does not address cost-effectiveness in the same sense as defined by the theoretical framework. Thus, the problem formulation is heavily occupied with economic matters, but not in the way proposed by the theoretical framework of total legitimacy. Since the policy explicitly states that there is an inequitable sharing of costs, and there is no recognition of cost-effectiveness, it can be said that the policy does not fulfill that criteria for economic legitimacy.

Thus, there is a hierarchy to discern in the problem formulation where ecological welfare of the large carnivore species is prioritized over socio-cultural fit and equitable sharing of costs. Further, socio-economic concerns are prioritized over recreational values in that recreational values are much less problematized, nor are they consequently followed-up in the goals. Furthermore, in the problem formulation, important aspects such as a concern for effectiveness are not met. It has been shown by previous research that there is a trade-off between effectiveness and legitimacy when governing modern societies (cf. Heinelt 2010), but in this case effectiveness is a prerequisite for legitimacy, thus not a trade-off, rather they build on each other. This lack of concern for effectiveness can primarily be explained by the incompatible ideas in the policy.

Goals

The findings show that there are primarily two goals: one ecological and one socio-economic. The ecological goal is mainly concerned with increasing the size and range of the large carnivore populations, while the socio-economic goal is concerned with reducing the negative consequences for various stakeholders. The goals mainly correspond to legal legitimacy. The elements constituting legal legitimacy are legality and conformity to other policies/laws. It has been found that the policy lacks conformity to other key regulations such as the Reindeer Husbandry Act, the Swedish Environmental Objectives and the Habitats directive.

The policy is accounting for the importance of reindeer husbandry, both from a cultural perspective and from a biodiversity perspective, but the Reindeer Husbandry Act is not mentioned, and not accounted for in any other way, which can be interpreted as a disregard to international law on indigenous peoples' rights. To clarify, there is a built-in conflict in the goal formulations where large carnivores shall increase while the negative consequences for, for instance, reindeer herders shall decrease. These proposals of increased large carnivore presence in the reindeer herding area clearly makes the reindeer herding more difficult to carry out and live off, thus the policy does not account for reindeer husbandry in the way as it is prescribed by the Reindeer Husbandry Act or international law.

Secondly, it could be argued that the policy is not conformed to the Swedish Environmental Objectives on biodiversity and magnificent mountain landscape. On one

hand, biodiversity shall flourish by having both large carnivores and reindeer grazing/ summer pasture farming. On the other hand, reindeer herding is a prerequisite for magnificent mountain landscape. I argue that reindeer husbandry and presence of large carnivores are competing, thus, competing goals are put together without a strategy to handle the competition. This could be explained by the fact that there can be different forms of legality, i.e formal validity, depending on which idea is prioritized. There are human rights and international law on indigenous rights on one hand, which connects to anthropocentrism, and then there are animal rights on the other hand which essentially reconnects to the main ideas of ecocentrism. They are competing since they stem from different ethics. The conclusion is that the policy lacks legal legitimacy since this issue is not acknowledged and there is no strategy to integrate the separate ideas in the goal formulation.

Implementation

The findings in the implementation content are the ideas of governing. First of all, implementation tools such as monitoring on population level and monitoring of hunting decisions are made at the national level. These tools are directly connected to ecological issues, thus the national level have primary responsibility for the ecology of the carnivore species. Implementation tools such as adaptive management, regional stakeholder influence and participation, protective hunting, etc., are implemented at the regional level. Thus, implementation tools connected to socio-economic factors are the responsibility of the regional management level. Here, there are two parallel ideas on governing. One is a top-down idea in relation to ecological issues where the state have a high influence over decisions and implementation. The other idea is a collaborative idea where stakeholders and regional interests shall be incorporated in management in relation to socio-economic issues. The ideas of governing found in the implementation content corresponds to the ideas of political and socio-cultural legitimacy.

The first prerequisite for political legitimacy is a democratic decision-making process. Since the regulation and legislation is adopted by the elected parliament, it could be argued that the policy comply with the democracy criterion (Borgström 2012). However, there are decision-making processes at lower levels too, regarding management decisions, and the decision-making process where stakeholders and politicians are involved at regional level, is clearly designed to inform the SEPA, not to strengthen the ownership over the process for all involved parties. It is designed so that the national level

set the frames and the CABs have an enormous responsibility to implement. This corresponds to a top-down idea of governing. However, according to the theory, this distribution of power and discretion may seem peculiar. Would it not be more rational to reenforce collaboration at all levels of the management chain, and throughout the whole process, where both decision-making and implementation are made in a democratic manner? Thus the policy lacks a democratic decision-making process as informed by theory. Similarly, it has been found by previous research that there is a democratic deficit in large carnivore management since the processes for collaboration are not designed properly (cf. Duit et al 2009, Lundmark and Matti 2015).

A second prerequisite for political legitimacy is that the policy ought to be accepted by society. Continuing on the ideas of governing, the policy also shows that there is a conflict between different interests where decisions shall be made. About half of the consultative parties argue that decisions on large carnivores shall be taken politically, while the other half thinks that decisions shall be made on a scientific basis. Scientific basis can mean different things, but my interpretation based on the context is that these parties advocate that the SEPA shall make decisions. Thus, there is not an agreement between consultative parties and the state on how the decision-making process should be designed and it illustrates two separate ideas of governing in the policy and among the actors.

Since the Habitats directive set the frame for what the individual member state can do in terms of conservation it could be argued that the perceived illegitimacy of this frame is the democratic deficit of the European Union institutions (cf. Hix 2008). The core problem of the crisis of legitimacy in the EU has been the relative weakness of the European Parliament and thus a lack of accountability when political decisions are made (Ward 2010). A relevant question is how ordinary citizens can affect politics at EU-level and if the EU really is the appropriate political level to make decisions on regulations of species protection (Darpö 2011). This highlights the need for a political discussion on the authority of the European Union and how to design procedural aspects such as mechanisms of accountability. Further, this connects to political legitimacy in that it is a matter of procedural questions of representation and accountability.

Regarding accountability in the national policy, the national level will be held accountable via national elections but lacking mechanisms of accountability at the regional level were

criticized already when the RLCCs were in place (Sandström et al 2009), which is why it is surprising that there is no guidelines on how to design such mechanisms appropriately at the various management levels. Accountability is a pivotal part of the democratic political system (Borgström 2012) but it is not mentioned anywhere in the policy, i.e how working actors can be held accountable for their actions and decisions.

Furthermore, throughout the policy it is advocated that all actors and levels must streamline the way they work, they need to be explicit in information to the public and on how to make inventories, etc. My interpretation of this is as a way to meet the transparency criteria. However, by reading the consultative responses and comparing them to the governmental bill it is evident that there are divided opinions regarding key matters such as number of carnivores, favorable conservation status, number of injuries, and so on. Thus, even if the processes are transparent, different actors end up with different perceptions on reality, which leads me to the conclusion that differing perceptions are caused by what idea the actors hold.

Regarding socio-cultural legitimacy, the management tool that is designed for reindeer herding communities and the CABs to use corresponds to socio-cultural legitimacy in that the policy tries to create a fit between policy and reindeer herding, but also to political legitimacy in that it constitutes a way to involve affected actors in an institutionalized manner. However, the policy requests a formalized cooperation but it seems eminently informal. It might need to be clarified who decides what, how it relates to or complement the WMDs, how implementation is organized, etc. According to previous studies, close cooperation between the state and reindeer herding communities leads to better conservation outcomes (cf. Zabel et al 2013). Thus, with some clarification the policy could achieve higher socio-cultural and political legitimacy.

Furthermore, the findings show that the two types of hunting, quota regulated and protective, are thought of as important implementation tools. Hunting is an anthropocentric idea where humans controls other populations by killing. Using it as a tool in management can be seen as a strategy to involve those affected by large carnivores, thus creating a better fit to the rural population's activities and increasing the socio-cultural legitimacy.

Lastly, the main tool to solve both the ecological and the socio-economic problems is adaptive management. This tool primarily links to ecological and socio-cultural legitimacy via the use of ecological knowledge, effectiveness to reach goals and the use of other forms of knowledge. However, the policy does not described how the adaptive management process shall take place. One can ask the question: what about the adaptiveness in adaptive management? The prerequisite for adaptive management is that there are mechanisms of feedback into the system so that new decisions can be made on best available knowledge. However, this process is not discussed in the governmental bill or the parliamentary decision report. It could be argued that the policy does not account for other forms of knowledge than the self-funded research projects (such as Skandulv), thus lacking in legitimacy.

Outcomes

Outcomes differs from the other parts since there has been no formal evaluation of the management system as a whole. The sources discussing outcomes of the policy have shown that ecological goals of the policy has not been reached yet (see table 4 and 5). This corresponds to ecological legitimacy in regards to effectiveness. Effectiveness to reach goals is not mentioned in the policy. According to the total legitimacy theory, this is an important part of natural resource policy. Comparing outcomes with policy goals show that few of the goals have been reached. The explanation for this might be that the Swedish government did state that the large carnivore species have reached favorable conservation status, thus there is no urgent need to be effective. Rather, it could be argued that the effectiveness of the Swedish policy is, or has been, high since the number of all the large carnivore species are increasing, thus constituting restoration success. A parallel could be drawn to a similar study made in Finland where it is argued that ecological effectiveness of the wolf conservation policy is not met since the number of wolves is decreasing (Borgström 2012). However, I would not state that the policy is ecologically legitimate since goals and outcomes does not match.

Furthermore, the sources discussing lacking legitimacy in terms of procedural legitimacy in the collaborative units corresponds to political legitimacy as discussed above. However, given that the objectives are in conflict with each other, one could not have expected satisfactory outcomes.

7. Concluding discussion

This thesis have addressed legitimacy in the Swedish large carnivore policy. There are several problems in current management; increased conflicts over carnivore presence and, from a scientific perspective, there have been various attempts to explain conflicts and how to facilitate governing of the resource. It was argued in the introduction that policy changes in natural resource politics (moving from an anthropocentric to an ecocentric view on large carnivores and increased participation moving from government to governance) are likely to have built tension between fundamentally different views on nature conservation that possibly hamper current management, thus challenging the legitimacy of the policy (Eriksson 2016). The aim of this study was to assess the total legitimacy of the Swedish large carnivore policy, by analyzing the ideas that the policy is built on. Three questions were posed in the beginning of this thesis. What ideas can be found in current policy? What are the concrete expressions of the ideas in the policy? How does the ideas and the way they are expressed in the current large carnivore policy correspond to the five aspects of total legitimacy?

First of all, the identified ideas are ecocentrism, anthropocentrism, top-down governing and collaborative governance. Compromises between these ideas leads to an inconsistency in the policy where the problem formulation and goals are heavily occupied with ecological matters but the implementation phase is occupied with tools directed toward socio-economic concerns. Parallel to these eco- and anthropocentric tracks are the ideas of governing where the policy cannot choose whether it is placed within a top-down governing system or within a collaborative governance system. The top-down approach can be traced to the international agreements on welfare for the carnivore species, but where the collaborative ideal stems from is not evident.

Secondly, both ideas of eco- and anthropocentrism are theoretically consistent with the total legitimacy framework when separate - this is not the problem. The problem is that they are not compatible with each other. One have to prioritize, which this policy does not do in any consistent way. Rather, it mixes all four ideas. Subsequently, the idea of top-down governing is at odds with the total legitimacy-framework. The normative criteria for governing, i.e. political legitimacy, is heavily influenced by participatory approaches which is different from top-down governing. Thus, there are three ways to discern regarding governing: either the system need to be re-centralized so that the SEPA have

responsibility for all decision-making, thus making accountability and transparency easier to observe. Either, it has to be much more decentralized where real decision-making power is given to the collaborative units, thus increasing democracy in the system. Or, the distribution of power and management responsibilities need to be clarified and the arguments for the chosen system need to be enhanced (i.e normative justification).

In contrast, the collaborative approach has the potential to optimize the outcomes of the total legitimacy criteria. In relation to political legitimacy, a collaborative approach is a way of incorporating the necessary elements for increased legitimacy, such as involving relevant actors at all decision-making levels, designing mechanisms of accountability, increasing transparency, i.e how and why certain compromises have been met between different ideas or interests. In relation to ecological and socio-cultural legitimacy, a collaborative approach hold the opportunity to designing adaptive management in a way where different forms of knowledge can be incorporated, thus taking more consideration to local conditions.

Assuming that ideas is a way of legitimating policy choices, this study has found that the ideas do not conform neither to each other nor to the normative theoretical framework. The ideas of ecocentrism and anthropocentrism are connected to how the problem is identified. The ideas of governing (top-down vs. collaboration) are connected to what implementation strategies that are proposed. The goal formulation is situated in-between. The goals are connected to the ideas of ecocentrism and anthropocentrism as well as to ideas of top-down- versus collaborative governing. Thus, my conclusion is that formulating goals is key for the policy process, because 1) formulating goals constitute a way to assemble the non-compatible ideas and find out what they have in common and can agree on, and 2) how the goals are formulated have great impact on the implementation stage. Thus, a plausible explanation for why management is struggling with various issues may be because policy goals are not formulated properly, not because stakeholders have a polarized view on large carnivores. So, I argue in line with previous research findings (cf. von Essen 2012, Hallgren and Westberg 2015, Lundmark and Matti 2015) that designing communication between different interests is key, not to conciliate different ethics, but to find common ground for goal formulation.

Thirdly, I have found that there are shortcomings in each of the five legitimacy aspects. Regarding political legitimacy, it lacks all prerequisites except transparency. Legal

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legitimacy is not met since the policy is not conformed to relevant policies such as the Environmental objectives or the Reindeer Husbandry Act. Economic legitimacy is difficult to assess since there is no mentioning of cost-effectiveness or how equitable sharing shall be achieved. It is stated as a goal but it is not found in the implementation. Ecological legitimacy is partly met since the policy uses ecological knowledge in its assessments, however it does not account for ecological effectiveness, i.e how ecological goals shall be reached as efficiently as possible. Further, it states that other kinds of knowledge shall be incorporated at the regional level within the frame of adaptive management, but it is not defined what kind of knowledge, what it will contribute with or how it complements the existing knowledge. Lastly, the implementation section is occupied with tools connected to socio-cultural concerns, such as hunting, economic compensation and information but socio-cultural legitimacy is not achieved since the policy does not fit the rural populations everyday lives. Thus, the conclusion is that the policy struggles with a legitimacy deficit from a normative standpoint.

The findings in this study contributed to the understanding of why the policy struggles with conflicts. The policy is built on competing, non-compatible ideas. Instead of highlighting strategies in which these ideas can be integrated, it rather piles competing interests on top of each other which results in four separate tracks throughout the policy. There are obvious conflicts of interests in this policy area (Sjölander-Lindqvist 2009) and the policy process has been incapable of managing these conflicts. Resolving these conflicts is difficult, but managing them by integration and acknowledgements could have been made in a more systematic manner. The large carnivore policy is a policy that has gone through several changes during a short period of time which implies a too rapid decision-making process. It needs much more consideration of socio-political dimensions and how to integrate competing interest through all parts of the policy, i.e agreeing on the key problems, subsequent goals, and appropriate implementation processes closely linked to the problem formulation.

Furthermore, that the policy lacks legitimacy have been found by previous research too (cf. Lundmark and Matti 2015, von Essen 2012, Darpö and Epstein 2015), with the only difference that previous research have not investigated the policy documents. However, I argue that breaking down and analyzing the content was helpful to point out obvious deficiencies that hamper legitimate governing of large carnivores. It is clear to me that the policy need to be revised once more but this time it should be done in a different manner.

Based on previous literature, it is evident that policy-making is affected by a range of things, such as institutional setting and what actors are at play (cf. Sandström et al 2009, von Essen 2012), but therefore the design of the stated policy need to be carefully considered. I would suggest to start by listing the prerequisites for legitimacy and legitimate governing which is provided by the wealthy literature in this field. For instance, using the total legitimacy framework imply that the five aspects need to be fulfilled by the policy (though with certain changes which I will return to shortly) and could be used as a "check-list" for policy makers. If key requirements of each aspect are not met, the policy cannot be legitimate.

The total legitimacy theory is a comprehensive framework comprising key themes of natural resource policy, i.e politics, law, economy, ecology, and socio-culture. But the problem with such a wide array of themes is that it can be applied and interpreted in many ways which is why there is a need for clear demarcations in relation to the study object. The theoretical framework shall be criticized for being flawed in its theoretical definitions and its absence of operational definitions. These shortcomings made the analysis difficult to conduct.

Political legitimacy is a concept that is relatively clear how it should be used since there is a lot of previous literature that can facilitate a discussion and demarcation (cf. Beetham 2012). Legal legitimacy on the other hand is a novel concept in need of clarification on how to study it. Assuming it is similar to legality there are not many prior works on how legality is measured in this kind of policy. Economic legitimacy is not a well-known concept either. It is suggested by previous studies (cf. Borgström 2012) that one way to investigate economic legitimacy is by comparing incomes and expenditures of the policy, however, it needs to be clarified what the purpose of such a conception is. Ecological legitimacy, to my knowledge, is not a commonly applied concept either and as I mentioned in the theory-section I am critical to the narrow usage of knowledge in policymaking. Evidently, ecology in relation to large carnivores is pivotal knowledge but there need to be a wider theoretical discussion on how ecological knowledge can be legitimate. Also, at the present time, all kinds of knowledge is recognized, not only ecological, but also local and traditional knowledge, but this seems absent in this framework. Thus, there is a need to integrate different kinds of knowledge. Socio-cultural legitimacy is similar to political legitimacy in that there is a broad literature on how to relate to socio-culture in relation to large carnivores (cf. Sjölander-Lindqvist 2009, Skogen

and Krange 2003). However, how do we measure socio-cultural fit and thus increasing and decreasing legitimacy? That is still largely unclear in this framework.

Despite these theoretical and methodological deficiencies, using this analytical tool revealed some key issues with conservation of large carnivores, such as inconsistencies in the policy formulation, which would not have been detected by merely using e.g procedural legitimacy (Borgström 2012, 25). This indicates the need for more comprehensive approaches to policy-making and policy analysis than what has been done in previous studies. In relation to contemporary literature, this study confirms many previous results regarding the lack of political legitimacy and organizational issues in management of large carnivores. In the introduction I delimited this study from an approach where sociological legitimacy, i.e the public's perception of the policy, would be explored. However, I believe that studying public beliefs (Matti 2009) would be the natural next step. It has been done to some extent (Eriksson 2016), but it could be framed as to explore how well public beliefs conforms to the policy beliefs found in this study (ecocentrism, anthropocentrism, top-down governing, collaborative governing), to assess the policy legitimacy (Matti 2009).

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Appendix 1. Search words

Management

Governance

Wolf

Bear

Lynx

Wolverine

Sweden

Institution

Political

Policy

Collaborative

Environmental

Large carnivores

Human-carnivore conflict

Conflict

Decentralization