

# The Governance of the Wolf-Human Relationship in Europe

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## Abstract

We analyze the architecture and functioning of wolf governance in the European Union revealing some of the dynamics between biology conservation and social management. Comparing Germany, Galicia (Spain), Portugal and Sweden as illustrative examples the paper highlights important similarities and differences in the governance conceptualizations and architectures. In the second part, the article examines struggles and challenges to the EU's protective governance paradigm. Our findings indicate that active opposition to wolves becomes especially visible in Sweden and Germany, the two countries with the least number of wolves but their fairly recent re-appearance. We conclude that such opposition cannot be sufficiently explained by rationally grounded disadvantages due, for example, loss of farm animals caused by the large carnivores and/or insufficient compensation measures. We argue it's more accurate to assume a clash of paradigms, which have in themselves vaster ontological, epistemological, experiential and axiological issues and which, in turn, strongly shape opinions, values and attitudes.

**Keywords:** wolf governance, biodiversity management, European Union, governance architecture, wolf-human relationship, Portugal, Galicia, Spain, Germany, Sweden

*“Wolf and bear aren't as strange to a man as another man”*

Estonian proverb

## 1. Introduction

After centuries of a troubled relationship between human and wolves that resulted in the extinction of wolf populations in major parts of Europe, new social attitudes towards wildlife and conservation have developed, in which the protection of wolves became institutionalized through governance. Governance comprehends a set of regulatory systems that involve several public and private actors and different kinds of regulatory arrangements. Built upon an axis of threat and protection, such governance has the foundational rationale of protecting wolf population from anthropogenic extinction and support its recovery through formalized and informal means of directing human behavior.

The governance of wolves stretches well beyond wildlife management practices. If it's correct to assume a strong “bio-physical” component addressing issues such as population growth, genetic status and other related issues, it remains central that the main goal of wolf governance is protecting wolves *from* humans but also, and critically so, managing human dissent that comes about *through* wolves. Threat and protection therefore work both ways, as wolves continue to be felt menacing to human interests which claim the right for protection. Therefore, at the heart of legislation and politics lie strong and even opposing perceptions of wolves, of wildlife and possibly unshared paradigms of what constitutes development and sustainability. Moreover, public reactions against but also in favor of wolves have put pressure on those entities responsible for the protection and accommodation of wolves, thus placing interesting but complex governance challenges to the Human-Wolf relationship.

## 2. Purpose and Approach

In this article we examine the management institutions for wolf governance in four European countries, Sweden, Germany, Galicia (Spain, Note 1) and Portugal. Despite the fact that wolf governance is regulated by a unified European framework in all of these cases, we ask the question whether one can observe considerable variations in the national, regional and local governance arrangements among those countries. Such an analysis provides a significant research contribution since wolf management has rarely been analyzed before from a political science perspective in these regions as most of the existing research focuses on the US context e.g. Sharpe, Norton & Donnelley, 2001; Nie, 2001). In addition to the analysis of political institutions, we bring in aspects of the social, cultural and historical context in order to clarify the observed differences in management approaches, their successes or failures. One noteworthy example is the fact that in Germany and Sweden, the (re-) occurrence and settlement of wolves happened fairly recent (and unintentionally), while in Galicia and Portugal the presence of wolves has never been interrupted. Such contextual differences were instrumental in the empirical choice of having these specific regions.

The analysis of wolf governance will be accommodated according to a specific conceptualization of governance systems as proposed by Burns & Stöhr (2011) using an institutional approach to governance. We aim to expound the nature and degree of complexity inherent to a socio-ecological system by revealing some of the dynamics between nature conservation and social management. The central theoretical concept takes the governance paradigm as an essentially shared model of reality that guides the actors' problem-solving activities.

Empirically, this study uses data that has been built upon previous research projects and substantiated with new empirical information. Governance paradigms are expressed and can be analyzed by discourses concerning the problems, the distribution of expert authority, policy authority and responsibility and appropriate solutions. Thus, our materials address institutionalized sources such as policy documents, law cases and reports from public agencies. Other sources include publications of mass media and private associations, as well as academic papers, research reports and other secondary literature. Relevant to this empirical framework are semi-directed interviews with various stakeholders, such as those representing administration, conservation groups, farm animal owners, hunters, experts and/or supporters of wolves.

After a short background description of wolves in Europe, we will introduce the theoretical framework and describe and compare the architecture of the wolf governance systems in Europe in general and in the four chosen regions. Then we will address some of the challenges to the existing governance systems followed by a discussion and the conclusions.

## 3. Wolves in Europe

Over millennia, wolves were prevalent inhabitants of the Northern hemisphere, but the extensive direct and indirect assault posed by humans has led to a severe diminishing and in many cases extermination of the *Canis lupus*. In Europe and by the 19<sup>th</sup> century, the wolf was only to be found in small isolated populations, prevailing in the Carpathians, Russian and Iberian territories. In the latter half of the 20<sup>th</sup> century the European territory underwent momentous transformations in the constitution of its geo-social fabric by way of rural migrations, changes in agrarian land structures and in many cases increased areas of forested land, an assortment of factors that has favored the reappearance of fauna, in which wolves are included (Note 2).

The four cases of inquiry cover two distinct scenarios concerning this evolution. In Iberia, despite fluctuations in numbers, the wolf population has never been extinct and consequently the presence of wolves, particularly in those areas where they are still to be found, is imbued in what might be described as social habit or familiarity of sorts. This is not the case for both Germany and Sweden, where the comeback of wolves was recent and unintentional. In Germany, the last wolf was shot in 1904 in Lusatia, an area in the East of Germany. Since the 1990s, wolves were crossing the Polish border to Germany and stayed primarily in the federal states of Saxony and Brandenburg. Since 2000 they also raise whelps on a regular base. In Sweden wolves were functionally extinct during most of the 20<sup>th</sup> century. In the late 70's a few wolves that most likely migrated from the Finnish-Russian population were observed in the northernmost part of Sweden including a successful reproduction in 1978. After another pair of breeding wolves was identified more south on the border between Sweden and Norway in 1983, steady reproduction led to a steady increase in wolf numbers and range expansions in the following years (Wabakken, Sand, Liberg & Bjärvall, 2001). Presently, wolf population reveals considerable variation according to our different cases, as can be seen in table 1, where we provide the most recent available information (Note 3) about the regions covered by the different cases as well as those areas within the respective cases where wolf densities is the highest. A polarized example of this variation comes through comparing the Swedish and the Galician case. In the latter, with less than 30 thousand km<sup>2</sup>, wolves are amply distributed, often in highly populated areas, with very

high livestock density and animal farming being carried mainly through extensive methods (animals grazing in pastures). In this setting, the average wolf density in Galicia is 1.68-2.49 animals per 100 km<sup>2</sup> for an area of ca. 30 000 km<sup>2</sup> and reaches 4.38 animals per 100 km<sup>2</sup> in province of Pontevedra. In Sweden on the other hand, the overall density is as low as 0.07 animals per 100 km<sup>2</sup> and even in the province with the highest number of wolves (Värmland) the average density is only 0.8 animals per 100 km<sup>2</sup> in an area of 18 000 km<sup>2</sup>.

Table 1. Present estimation on wolf population

Area	Area in 1000 km <sup>2</sup>	Inhabitants in mill	Human density in humans per 100 km <sup>2</sup>	Estimated present number of wolves	Wolf density in animals per 100 km <sup>2</sup>
Sweden	450	9.4	21	253-300	0.07
Germany	357	81.2	229	65	0.02
Galicia	29.5	2.8	94	420-625	1.68-2.49
Portugal	92	10.6	115	300	0.32
Värmland (Sweden)	18.2	0.31	17	144	0.82
Lusatia (Germany)	10	1,0	100	45	0.45
Pontevedra (Galicia)	4.5	0.94	210	200	4.38
Peneda-Gerês (Portugal)	0.7	0.01	13	26-42	3.7-6.0

The numbers are based on the sources outlined in Note 3 as well as own calculations.

#### 4. The Governance of Wolves

##### 4.1 The Governance Framework by Burns and Stöhr

According to the Burns & Stöhr (2011), the architecture of governance systems can be described and compared as governance paradigms (Note 4). The purpose of using paradigms in governance analysis is to interlink the three broad categories of ideas/culture, institutions and actors and show how they interrelate. Governance paradigms can be described and compared with the help of few dimensions:

The *social-organizational complex* describes the different groups of designated agents and their roles and relations including the following categories:

1. *Authority & Responsibility* describing the agents with formal or informal responsibility for addressing and / or resolving key issues and problems
2. *Expertise & knowledge requirements*: describing actors that are legitimate sources and producers of knowledge to explain the sources and solutions of a particular issue
3. *Other affected actors, stakeholders* describing the actors that are not part of the governance regime itself but are affected by it and/or try to influence it
4. *Procedures for (legitimate) decision-making* describing the designation of persons with authority to make decisions or defining who and how actors should be involved in a collective decision-making process. That also includes deliberating, resolving or settling conflicts, and deciding the nature of the problem and the right strategy and solutions. .

The *cognitive normative complex* describes the conceptual and normative characteristics of the governance system:

1. *Problem & issues*, containing framing and characterization of the key issues that the governance system is supposed to regulate,
2. *Goals & Priorities*, outlining the legitimate values and appropriate goals which are expected to be applied in the policy-making and governance processes
3. *Conceptualization/ Model of Situation or Issues*, describing the applied model(s) of the social arrangement, the natural or technological system and the interactions between them (which may or may not be correct)

4. *Solutions*, specifying the form and range of acceptable methods to achieve the goals including the appropriate, available institutional practices, technologies and strategies

Paradigms have actual consequences in shaping the behavior of the actors involved, thereby the two complexes exert different kinds of influence. Organization exerts a direct pressure influencing and regulating overt behavior, while the cognitive-normative factors stress the restricting, but also enabling and empowering role of the cognitive and normative models of actors about how the world is constructed and which guide them in pursuing their perceived ideal and material interests. The actions taken to implement solutions and the resulting outcomes stand outside the cognitive-normative model and feed back into it. To the extent they are visible, the range of actual outcomes will tend to either reinforce or undermine the various elements of the paradigm. Persistent failure to produce the desired outcomes (e.g. policy or market failures) will create challenges to one or more elements of the paradigm, creating either pressure for adjustment or a possible paradigm shift.

#### 4.2 *Social-Organizational Elements of Wolf Governance*

##### 4.2.1 Authority and Responsibility

Legitimated by democratic processes, public administration is by far the most powerful group of agents. It effectively represents the key regulatory authorities on various levels, working through the creation, implementation and enforcement of rules within the European and national legislative frameworks.

The highest authority in wolf governance in all four cases is placed at the *European Union level* - in particular the Council of Ministers in conjunction with the European parliament supported by European Commission's (EC) – Directorate-General for the Environment (DG Environment).

*On the national level*, our 4 cases display different regulatory arrangements:

In Sweden, policy decisions are made by the Swedish Parliament. The Swedish Environmental Protection Agency (SEPA) and county administrative boards are jointly responsible for implementing the policies. With a new Swedish predator policy in 2009 many tasks were delegated from the SEPA to the county administrative boards, whose authority became significantly strengthened.

In Germany, the highest responsible authority is the State Ministry of Environment. However, due to the country's strong federalism, it is mainly the federal governments (here especially the Saxony and Brandenburg Ministries of Environment) that work with wolf issues.

In Portugal, the official institution for wolf management is centered in the ICNB (Institute for the Conservation of Nature & Biodiversity). Specific tasks, such as surveilling poaching activities, are run by SEPNA (Serviço de Protecção da Natureza e do Ambiente), a branch of GNR (Guarda Nacional Republicana) (a rural paramilitary police force).

In Spain, particularly in Galicia, policy decisions and management are run by the Regional Ministry of Environment and Sustainable Development (Consellería de Medio Ambiente e Desenvolvemento Sostible). Due to Galicia's political autonomy in relation to Spain, the Galician Government has power to dictate additional norms on environment protection.

##### 4.2.2 Expertise and Knowledge Requirements

In wolf governance, like in most other governance systems, knowledge about institutions and the rules specified expressed in them is combined with the production and application of other kinds of specialized knowledges that are believed to be essential for the regulatory effectiveness and social legitimacy. Here we use knowledge broadly defined within a frame of governance, that is, the objectivated meanings of institutional activity that are conceived of as 'knowledge' within a social context, and transmitted as such, partaking of a symbolic universe that provides explanation and legitimacy (Berger, 1966:88). The institutional framework thereby defines who has the legitimation and authority to produce information and explain the causes and solutions of any particular relevant problem, and define it into – or out of existence.

Consistent with findings in other countries (e.g. Nie, 2001) we note that biophysical scientific knowledge is the main protagonist in all our cases of wolf governance. Science experts (mostly biologists and ecologists) closely linked to administration are the legitimate sources of knowledge, producing scientific examinations that serve as basic criteria for wolf management and policy assessment. Expert knowledge is a key tool in the solutions applied, information and control working through the means and methods to manage governance problems. This is well illustrated by the fact that in all cases developing information on both wolves and humans, a process which often correlates with the concept of "monitoring", is central in informing and shaping governance policies. This task may be carried mostly or exclusively by public officials (Galicia and Portugal) or may be taken by experts closely

working with official institutions (Sweden and Germany, see table 2). The scientific paradigm thereby refers to knowledge that is supposed to be based on observable, empirical and measurable evidence and is therefore regarded as objective, reliable and valid “truths” (Polanyi, 1962; Proctor, 1991) when it enters the policy process.

#### 4.2.3 Other Actors / Stakeholders

In a governance regime, agents other than key or core ones may be specified. This includes groups that attempt to influence or are affected by wolves and wolf governance. These actors might share or challenge the existing governance paradigm.

In all our four cases, *farmers* (mainly sheep owners) and, in some instances herders, are the group that most evidently stands out against wolves due to the loss of livestock by predation and the economic damage therein.

*Hunters* in Germany and especially Sweden (but less in Portugal and Galicia) tend to see themselves in competition with wolves. Concerns of hunters in these countries involve wolves extracting from the common pool of game animals (such as deer), impacting the behavioral pattern of game and - only in Sweden - the killing of hounds. For some, wolves are a target due to their high symbolic value as hunting trophies.

*Residents in rural areas*, where wolves live, are another group, which comes to the forefront in wolf governance. The (perceived) risk of wolf attacks on humans remains a lively debated issue in the cases where the resettlement of wolves is fairly recent (as in the Swedish and German case), whilst in Iberia where, albeit higher probability of direct contact, such perception is virtually non-existent.

Alongside rejection, actors with strong concern and support for wolves are also to be found in all our cases. *Environmental NGO's* - specifically wolf conservation organizations that can be more or less backed up amongst other broader conservation organizations - include for example the Grupo Lobo in Portugal, the Nature and Biodiversity Conservation Union in Germany, the Swedish Society for Nature Conservation (SSNC) in Sweden and ASCEL in Spain. Its members typically include science experts, which often form the core activists of their organizations. Together, and by sharing and pursuing common interests, a social scientific net of European wolf experts and activists is in function.

Support also comes from speckled voices in civil society that become visible through surveys (e.g. Forsa, 2010; Widemo, 2011), public campaigns, lobby work, media and art. However anonymous or diffuse it appears at first instance, this large fifth group, apparently more urban based, is crucial in following and feeding the public debates around wolf conservation, typically headed by environmentalist groups.

#### 4.2.4 Procedures for (Legitimate) Decision-Making

In the governance of wolves with different scales and multiple levels, *decision-making procedures* are necessary complex. At the *European Union* level, the DG Environment - is preparing directives and regulations that are decided by the Council of Ministers through “Co-Decision” with the European Parliament (Note 5). The specific decision-making procedures are regulated through “primary legislation” treaties such as the Treaty of Lisbon and allow for the adoption of “secondary legislation” (regulations, directives, decisions etc.), which serve as a framework for the national policies of the member states. The most important directive is the Habitat Directive enacted in 1992 by the EU (Council, 1992), regulating the specification and conservation of habitats and wild animals in Europe. The document outlines conservation goals and priorities as well as the form and range of acceptable regulations and measures that should be incorporated into national legislation by the member states (Note 6). The DG Environment takes decisions with regard to monitoring and enforcement of the Habitat Directive.

At the *national level*, the ministries for environment in Sweden and Portugal play an active role in decision-making and the actual management processes. Especially Portugal displays a highly centralized national reference, where regional decision-making power is reduced to its minimum. In Sweden the Parliament (national level) is closely articulated by regional predator councils in the counties, where representatives that are affected by or interested in large carnivores meet. These regional councils give advice to county administrations and “are of uttermost importance for the production and revision of regional management plans” (Schneider, 2009, p. 4).

In Galicia on the other hand, due to the accentuated Spanish regional autonomy, the national level serves little more than a legislative reference. Similarly, in Germany the federal states play an outstanding role in actual management decisions and its implementation including the creation and revision of management plans (in Saxony and Brandenburg), while the national ministry of environment provides the legislative frame (Note 7).

Although most important decision-making ends up at the national level, in all cases but Portugal, negotiating instruments and strategies involve forms of public participation at regional or local scale. The implementation of

Regional Management Plans in Sweden, Germany and Galicia are examples of operational decision making tools that tend to be more context sensitive and participatory. Nevertheless it is Portugal that produced the strictest conservation law as far as wolves are concerned, one dating from 1988, its protective degree exceeding that of the European directives.

The concrete participatory processes differ in intensity, configuration and outcomes in our cases. This might be understood in relation to a complex variety of socio, political and historical variables that characterize different contexts. In Sweden, delegates of different stakeholder groups are members of the county administration boards, whereas in Germany public authorities meet with stakeholders in an annual plenum. In Iberia, public participation is less (formally) institutionalized and incorporated in the administrative apparatus than in Germany and Sweden. This does not necessarily imply less participation *per se*, as shown in the full and enduring activity of Grupo Lobo (Portuguese case) or in the Galician meeting assemblies that have been carried out by local groups (e.g. GDR Ancares-Courel). In any case, impulses coming from grassroots, even when foreseen and absorbed in the institutional design of the governance system predictably realign the distribution of power and have therefore an effect in wolf policy making. In Germany for example, more than 50 stakeholder organizations and interests groups both from the environmental as well as the “anti-wolf” camp were involved in the preparation of the wolf management plan in Saxony in 2007.

There may be substantial inconsistencies, incompatibilities, or incommensurability between what is considered the most compelling way of thinking about a set of issues or problems and the way in which existing institutional rules dictate that it should be dealt with. Governance systems therefore usually provide institutional practices how *to deliberate, resolve and settle conflicts* between different social interests in conjunction with different scales, from the local to the international (Burns & Stöhr, 2011, p. 236).

Potential (legal) conflicts between member states and the European Commission are decided by the Court of Justice of the European Communities. The Swedish case provides a very recent example, where there are differing opinions between the EC and the Swedish government as to whether or not wolf culling in Sweden is in accordance with the existing rules agreed in the Habitat Directive (see later).

The complexity in decision-making procedures is enhanced by the very role the *state* assumes in managing conflicting interests. In Portugal, it assumes a more classic directive role, withholding the law no matter the sides. Other configurations tend towards the no less established conciliator’s part, opting to ensure that the “virtue” is to be found somewhere in middle grounds. Again, this is eloquently expressed in the Swedish case, where, in a matter of few months, the state allowed for the culling of wolves and immediately after announced the interest in taking in more fresh genetic stock.

Lastly, one should consider those mechanisms that allow for participation and mediation in conflict situations. Some of these *negotiating arrangements* seem considerably structured and articulated, part of the overall public/administrative process - as the case in the county administration boards in Sweden and an annual plenum on wolves issues in Germany. Others are more spontaneous, where different collective and individual actors meet and debate, according to ad-hoc conditions, with no direct relation to the main official institution, as in the case of Galicia.

#### 4.3 Cognitive-Normative Elements of Wolf Governance

The organization of wolf governance in Europe is accompanied by certain goals, conceptualizations as well as models of the situation and appropriate solutions that are more normative in its nature but nevertheless influence the way the governance system is shaped.

##### 4.3.1 Problem or Issue

In our four cases, the dominating *problem or issue* in wolf governance is similarly conceived by European and national authorities in that the wolf is taken as an endangered species that has to be protected against human threat in order to prevent extinction. In recent years, social issues resulting from the wolf-human coexistence such as lack of acceptance, prejudice and economic damages are increasingly entering the policy discourse and addressed by different solution mechanisms.

##### 4.3.2 Goals and Priorities

Governance *goals and priorities* at the supra-national level are explicitly pointing to its protection. The EU’s Habitat Directive is fairly explicit in that the overarching goal is to achieve and maintain a “*favorable conservation status*” of the lupine species, which is defined and assessed based on a number of parameters (population dynamics, range, sufficient habitat, prospects of long-term viability) using a traffic light system (Note 8). On the national

level however, this priority might have to be compromised against competing goals and interest due to regional particularities and elective pressures. This is especially explicit in Sweden (see later).

#### 4.3.3 Conceptualization / Models of the Situation or Issues

There are two formalized, basic *conceptualizations* of the object of governance – wolves - at the EU level. The Habit Directive distinguishes between strictly protected species (Annex IV) and species that can be exploited as long as conservation targets are not jeopardized (Annex V). The wolf is listed under annex IV (strictly protected) for Sweden, Germany and Portugal but listed in Annex V for North of Spain including Galicia.

Scientific expert knowledge serves as governance reference for the foundational why wolves should be protected (their value) while information and criteria related to nature derived from biophysical science often dominates the process (e.g. the criteria of “favorable conservation status” as the goal definition). Accordingly, article 18 and 19 of the Habitat Directive (Council, 1992) stresses the importance of scientific monitoring and forecasts activities (including for wolf governance) and the necessity of improving the scientific and technical knowledge. As in other areas of environmental governance, science and scientists hold in all four cases a considerable amount of power through the influence of scientifically legitimized arguments in decision-making, be that in favor of conservation but also in backing up culling procedures (Widemo, 2011).

#### 4.3.4 Solutions

The concrete *means and methods* to manage perceived problems are rather heterogenous. This variety can be organized according to similar mechanisms or instruments. Adapting Ratamáki classification on policy Instruments and their application to Finnish Wolf Policy (Ratamáki, 2010, p. 327), one can distinguish four broader categories of instruments:

*Administrative mechanisms* pronounce the criminalization of hunting and/or edict hunting/culling permits. In response to wolf hunting farm animals/pets, another complex of solutions concerns *economic mechanisms* by means of financial funding that is being applied to prevention and compensation for wolf damage. Further, *Planning instruments*, such as zoning conservation areas, creating corridors or establishing common strategies in border countries may also be implemented with greater or lesser clout according to different countries. Finally, *information instruments*, that either provide input (e.g. through monitoring) or are directed at creating outputs (through training and education) are applied in order to improve the effectiveness of the governance system by raising knowledge/awareness both at the decision-makers level as well as the affected publics (Note 9).

Both the economic and administrative tools are solidly established in all our governance arrangements. Planning instruments seem to be a solution mechanism with lesser investment from governments despite its popularity with experts on nature conservation (e.g. Mech, 1995). The importance of creating, for instances, corridors for wolves’ dislocations or avoiding the impact of great infrastructures such as highways are predictably a much more thorny area of policy making which easily provokes social resistance. The outreach activities, in the Iberian case, seem to deserve lesser official investment in the overall scheme of action when compared with the newer governance cases such as Germany where external communication and public work is conceptualized as the main pillar of wolf management activities (SMUL, 2009, p. 9).

The specific combination and weight given to these complexes of solutions vary among the different cases. Such differences can be understood from the fact that solutions are the outcome of different logics of legitimacy whereby typically the state may assume different roles or more or less “soft powers”. We see that in “older” governance systems, like the ones practiced in Iberia, there’s a change from giving priority to counteractive financial measures (payment for damage) to more preventive ones (fencing, Sheppard dogs, etc.) with experts agreeing that the latter (information and negotiating instruments) are the most efficient tools to avoid both wolves attacks and human hostility.

Culling is a specific solution that is used or understood quite differently in our studied cases and therefore it’s particularly eloquent of a lesser explicit logic that takes its sense and meaning according to socio-cultural contexts. The legitimacy of applying culling consequently reveals other matters beyond the strict rational goal of increasing or decreasing wolf population/threats to which it explicitly relates. To this effect, off-record policy debates around the benefits of emitting occasional wolf-hunting permits invoke its effective sanitary effect in “deflating human ill will”. Other rationale arises in relation to culling, which in Sweden is explicitly bound to the concept of “problematic individuals”. There, culling seems the most effective measure of ensuring human safety, either in a longer frame of time or as an immediate response, as illustrated by the fact that “problematic individuals within the carnivore populations are removed as fast as possible” (Schneider, 2009, p. 17). Such label does not escape

controversy amongst European debates, as a Portuguese officer argued that “there are no problematic individuals but instead ‘problematic circumstances’, such as lack of wild game and badly protected farm animals”.

The architecture of the wolf governance system in Europe is summarized in Table 2 for the different illustrative cases. The table also shows the similarities and differences between the cases with regard to the different social organizational and cognitive normative elements of the governance system.

Table 2. The wolf governance paradigms in four European cases

	<b>Portugal</b>	<b>Galicia</b>	<b>Germany</b>	<b>Sweden</b>
<b>SOCIAL ORGANIZATIONAL ELEMENTS</b>				
<b>Authority and Responsibility</b>	<b>EU level:</b> Framework decisions (e.g. Changes in Habitat Directive): Council of Ministers in conjunction with the European Parliament Monitoring and Enforcement: European Commission (DG Environment)			
	ICNB	Regional Ministry of Environment and Sustainable Development National	Ministry of Environment Federal Ministries of Environment (esp. Saxony and Brandenburg)	Quasi-technocratic: Regional Councils (County administration) Swedish Parliament (SEPA)
<b>Expertise and knowledge requirements</b>	Mainly Administration officers	Mainly State Rangers	Senckenberg Museum for Natural History Görlitz (NMG) Wildbiologisches Büro LUPUS Saxon State Office for Environment, Agriculture and Geology Hunters, rangers (wolf observations)	SEPA (surveillance and monitoring) Surveillance: County administration staff, reindeer herders and hunters
<b>Procedures for (legitimate) Decision-making</b>	<b>EU level:</b> Directives (e.g. Habitat Directive) are prepared by the European Commission (DG Environment), decided via “Co-decisions” (Council of Ministers and European Parliament) and provide the framework for decisions of the member states			
	Management decisions on national level Grupo Lobo (NGO) involvement.	Management decisions on regional level Recent NGO involvement taking in different stakeholders	Management decisions on Federal State Level Stakeholder (farmers, NGOs) and expert involvement during the development of the management plan and in annual plenum	Management decisions on regional and national level Stakeholder (herders, hunters, NGOs) and expert involvement (in surveillance and management in the country administration)
<b>Other Actors / Stakeholders</b>	Farmers, herders, NGO	Farmers, hunters (slightly), NGOs	Shepherds, Hunters, NGOs, public at large	Farmers, Hunters, herders, NGOs, some dwellers on wolf populated regions, public at large

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**COGNITIVE-NORMATIVE ELEMENTS**

<b>Problem or Issue</b>	Wolf as endangered species	Wolf as endangered species	Wolf as endangered species	Wolf as endangered species
<b>Goals and Priorities</b>	Protection of wolves, Maintain population	Protection of wolves, Maintain population Balance/coexistence between wolves and humans	Protection of wolves, Increase wolf population Avoidance of damages to farm animals and humans by wolves	Protection of wolves, Increase wolf population, Refresh genetic basis Avoidance of damages to farm animals and humans by wolves
<b>Conceptualization / Model of the Situations or Issues</b>	Not “hunting resource” Wolves hunt farm animals Humans threat species (poaching and indirect menaces)	“hunting resource” (weak) Wolves hunt farm animals Humans threat species (poaching and indirect menaces)	Not “hunting resource” Wolves hunt farm animals Humans threat species (poaching and indirect menaces) Strong fear is manifested especially among residents Numbers of wolves are important for genetic preservation	EU: Not “hunting resource” National: “hunting resource” (strong) Wolves hunt farm animals (also reindeer and hunting dogs) Humans threat species (poaching and indirect menaces) Strong fear is manifested especially among residents Numbers of wolves are important for genetic preservation
<b>Solutions</b>	Informal management Plan Economic mechanisms (only compensation); Administrative mechanisms (criminalization of hunting) Planning instruments (zoning); Information instruments (monitoring, education –by NGO);	Regional Management Plan Economic mechanisms (mainly compensation); Administrative mechanisms (criminalization of hunting and/or edict hunting/culling permits) Planning instruments (zoning); Information instruments (monitoring, education); Negotiating arrangements (outside state);	Regional Management Plan Economic mechanisms (compensation & prevention); Administrative mechanisms (criminalization of hunting and/or edict hunting/culling permits) Information instruments (monitoring, education);	Regional management plan Economic mechanisms (compensation & prevention); Administrative mechanisms (criminalization of hunting and/or edict hunting/culling permits) Planning instruments (zoning); Information instruments (monitoring, education); Negotiating arrangement. (Committees as negotiating tool) Hunting permits, criminalization of hunting violations

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## 5. Challenges to the EUs Wolf Governance Paradigm

In most modern governance systems, one of the main challenges is being able to coordinate and integrate the different regulatory mechanisms, diverse agents and their differing material and ideal interests as well as differences in their governance conceptions (Burns & Stöhr, 2011, p. 6). In wolf governance, against the objective of conservation stand threats of anthropogenic nature and wolves perform, by sheer *modus vivendi*, a threat to human interests, attacking domestic animals and inspiring fear. Many of the newer operational governance documents, such as Management Plans, recognize these aspects as conflictual *per se*. However, comparison shows that *regardless of the actual verified hazard or the extent of pragmatic losses* (see table 3), social opposition to wolves is present in all countries examined in this study.

As outlined earlier, in all our four cases, farmers, herders are the group that most evidently stands out against the EUs protective paradigm joined by hunters in Germany and Sweden. NGOs and the public at large tend to show a similar conception in agreement with EU protection paradigm. This conception is often grounded on social positive values attached to wolves, particularly translated into a scientific discourse since ecological informed arguments are often the only culturally legitimate language to express social benefits.

Studies outline that the wolf as a topic appears less relevant to a broad share of the public in Germany (Kaczensky, 2006) while in Sweden, especially in recent years, the debates around wolf management receive high media coverage and public attention (Karlsson & Sjöström, 2007). Demonstrations of support are logically more visible when dissent becomes manifest and the media typically plays an important role in disseminating and building such attitudes, in fact feeding social dissention and conflict, a scenario which has been particularly obvious in the Swedish case.

Attitude studies consistently find a correlation that equates less tolerance to wolves in rural populations, particularly those dwelling in wolf territories, and higher acceptance in urban dwellers (Williams, Ericsson, & Heberlein, 2002 for Europe and the US; Karlsson & Sjöström, 2007 for Sweden; Kaczensky, 2006 for Germany; Espirito-Santo, 2007 for Portugal) (Note 10). However, Karlsson and Sjöström as well as Kaczensky argue that proximity alone seems to be a superficial variable to explain different attitudes. Instead, negative personal experiences but especially negative media representation and friends experiences (see also Hook & Robinson, 1982) appear to be better explanatory variables (Note 11) added by general attitudes towards wildlife and wolves (expressed for example by membership of nature conservation organizations etc.). Overall, a more encompassing set of social and historical variables that tend to define rural perceptions and attitudes towards wildlife and nature but also to state administration - and that clearly overrun wolves *per se* - need to taken into account (Coimbra, 2005).

Further, differences in perceptions identified in countries are not only due to different rational interests but – maybe more than in many other areas of governance – affected by different cultural and normative conceptualizations which ultimately lead to social conflict. This can be illustrated with the following data (Table 3) on number of attacks and reimbursements comparing the Swedish and the Portuguese cases.

Table 3. Comparison of number of attacks and reimbursement in Portugal and Sweden in 2010

	Portugal*	Sweden**
Verified attacks (each attack could affect more than one animal)	2 500	76
Reimbursement:	700 000 €	827 000 SEK (ca. 92 000 €)
Prevention:	-	3 769 000 SEK (ca. 419 000 €)
Total expenditure:	700 000 €	4 596 000 SEK (ca. 511 000 €)

\*IICNB (2010) \*\*Viltskade Center (2011b)

Different methods make comparisons tricky; however variations are such as to be eloquent, particularly if one equates the number of attacks and state expenditure in the case of Sweden and Portugal, the Swedish numbers much more favorable to those human interests that collide with the wolf presence and still where animosity and lack of acceptance seems to be more intense and harder to placate. This is the underlying reason that forces a

different approach than that which takes number of wolves and attacks as the literal source of a problem requiring the subsequent linear measure: less wolves and/or bigger financial compensation.

In sum, the considerations above show that a more complex set of social variables is necessary to frame different perceptions, values and attitudes towards wildlife in general and wolf governance in particular. An analysis of the cognitive-normative and social organizational preferences and perceptions of different actors might help to explain some of the variation among the different cases (Note 12). In the next section, we will discuss some of these key differences and the resulting challenges to wolf governance following a similar structure as before.

### *5.1 Challenges through Differences in Cognitive-Normative Perceptions*

The relationship between humans and wolves has evolved carrying long streams of tension across Europe, which became largely incorporated in many traditional representations and practices. Today new aspects come into play, not least through the prevalent reach of governance regulations that introduce a *Problem or issue* which is highly revolutionary in certain contexts: the idea of the wolf as a creature that needs and deserves protection. When legal protection was starting to be introduced in European countries, most actors promoting protection were ignorant of the social consequences (Breitenmoser, 1998). So when such notion is enforced in rural backgrounds, it seems even ludicrous or perverted in the way it switches identity roles: the offender becomes victim and the victim is further penalized (Note 13). Thus, the issue of wolf conservation and the resulting *Goals and Priorities* may be challenged from its foundational reason of existence (the protection of wolves is unnecessary) all the way into how it unfolds in implementing solutions (Note 14).

In wolf management analysis it becomes common to speak of different general *conceptualizations* of wolves. Ratamäki (2008) mentions three main “images”: the wolf as “an endangered species,” “a game animal,” or “a pest”. While all three of these images can be found in the discourse about wolves in our four cases, we suggest a fourth that is equally present: the wolf as the synthesis of qualities such as wildness, freedom and beauty, symbolic attributes that are felt to be as much under threat as its physical bearer (Note 15). This last image is mostly to be found amongst urban and younger population.

Accordingly, depending on which conceptualization is prevalent among a certain group of actors, different goals and priorities, models of the situation and preferable solutions are promoted.

One of the most outstanding areas of conflicting conceptualizations in wolf management regards the question whether or not and if under which circumstances wolves can be killed in Sweden. The Swedish parliament decided in 2009 to manage wolves through controlled hunting (under the “culling” category). Thousands of hunters enrolled in the culling of 28 wolves in Sweden in 2010 (Note 16). The measure was accompanied by strong protests from a number of NGOs. Most importantly, SSNC and three other NGOs reported the Swedish licensed wolf hunting to the European Commission, where the EU environment Commissioner Janiez Potočnik threatened to initiate a formal proceeding against Sweden in front of the Court of Justice. This conflict can be seen as a result of the EU’s strategy of standardizing policies and the monitoring of its implementation within its area of influence. While from the EC’s perspective, this strategy ensures equal treatment for all member states, it has been criticized for being ignorant for the special conditions in particular countries and regions (Linell & Boitani, 2012; Hiedanpää & Bromley, 2011; Stöhr & Chabay, 2010). Similarly, there is an ongoing dispute in Germany whether to re-conceptualize wolves by including them in the “hunting act” (Jagtrecht), in which case a different legal set of rules would apply. If successful, this shift would delegate more authority and responsibility to hunters, but also mean a simplification of culling procedures. On the other hand, in Galicia, where culling would be in accordance with the EU’s Habitat Directive, this measure is rarely applied and when it does it follows a different rationale, so that the killing is not associated with hunting as a sportive activity (Note 17). On this last topic, interviews in Iberia reveal how experts consider that the culling of protected animals through “hunting” is a somewhat archaic, undesirable custom. On a broader scope, it’s relevant to consider that the moral conundrum contained in the act of killing animals is present across societies and all societies have interpretations of why and how people should kill animals (Eder, 1996, p. 93).

The previous example also shows how different conceptualizations connect to struggles over the appropriate *solutions*. Such conflicts appear more apparent in Sweden and Germany. Other conflicts involve the amount and rules for compensation of damage and preventive measures (Note 18). The existing governance systems seek to respond to both human direct and indirect attacks on wolves as well as on human assets. Administrative tools forbid or allow culling, responding to what is perceived as a priority. Thus, for instances, the Portuguese rule of wolf protection is to be upheld no matter the damages on livestock and these are to be resolved without compromising the centrality of such resolution.

In sum, this section supports a more general conclusion already put forth: when hard data is under close scrutiny (see table 1 and 3), establishing a direct correspondence between number of wolves, attacks on livestock and social hostility, seems superficial, if not inefficient reasoning to deal with matters of conflict. In the same measure, economic losses – often highlighted as the central focus of damage in wolf debates – seems at closer scrutiny to be much less a nuisance than change of status quo (e.g. the case of Swedish or German farmers that need to incorporate new routines, like fencing and working with mastiffs) or matters of an emotional nature, portrayed by deep fears of wolf attacks on people, despite empirical evidence, or - the emotional shock of finding those animals which one cares and feels responsible for unexpectedly slaughtered.

### 5.2 Challenges through Differences in the Social Organizational Perceptions

Often grounded in the variety of cognitive-normative perceptions discussed in the last section, challenges for the wolf governance paradigm also evolve with regard to the different elements of the social organization. *Authority and Responsibility* and *Procedures for Decision-making* are constantly contested by the different groups of affected actors trying to gain greater power within the governance process on all levels. While the example of Sweden shows that these conflicts even include national governments versus the European Union, much more often this relates to interest groups on a regional and local level such as NGOs, hunting and farmers organizations. In the Swedish case, however, allocating power to local stakeholders seems to be directly correlated to the culling decision therein, a decision which, according to most experts and public, contradicts the very goal of wolf governance. From a critical perspective, one might argue that such correlation seems to point out that the popular assertion on power distribution as means to achieve good ethical governance is not without its predicaments. Stakeholder participation has implicit issues of “representation” and one of the most debatable questions in Swedish wolf governance relates precisely to the fact that, despite official surveys conveying a majority of strong public support, local representatives had a disproportioned weight in the culling decision (Note 19).

However, it is relevant to underline that conflicts regarding authority and decision-making procedures do not derive solely because of wolves but to a large degree through wolves. Several expert veterans witnessing wolf governance unfold across policy making, paperwork, meetings and debates are well aware to what degree strong reactions to wolves have less to do with actual issues such as attacks or losses but instead serve more as venue for venting anger towards power/ disempowering arrangements (administration, EU, UAC confinement).

Struggles also include the *expert and knowledge requirements*. The production of scientific knowledge on wolves is not a straightforward venture, particularly when it comes to seek a reliable and accurate portrait of numbers of individuals, distribution and behavior. Technical difficulties coupled with the species reputedly complex behavior is enough to make wolves an intricate and uncertain object. But beyond descriptive aims, no lesser challenge comes in assessing data, a further and crucial step in assisting management decisions. For example, after determining quantity of individuals, the genetic quality of such population is also to be considered. While the Iberian wolf has a sturdy genetic stock, the approximately 200 wolves present in Sweden are derived from a very narrow genetic base, therefore presenting intrinsic fragilities. From there it follows the obvious: whether 200 wolves or 600 wolves are too many or too few is by no means a strict ecological judgment. In Sweden, the official set goal number of wolves to reach favorable conservation status is 450 (SOU, 2012, p. 90). Hunter’s associations on the other hand argue that already 150 wolves would fulfill this objective (e.g. Svenska Jägareförbundet, 2012, p.2), while ENGOs see the necessary minimum at 700 individuals (e.g. Naturskyddsföreningen, 2012, p. 6). All of these actors refer to some scientific base of their argument. Similar dissents can be found about the best strategy to cope with the dangers of genetic inbreeding (von Essen, 2012:12). Social and political variables become highly relevant in this context as systematically highlighted by researchers both in Europe and the US (e.g. Bath, 2009; Nie, 2001).

In addition, in wildlife management it is not uncommon that scientific knowledge might compete with other knowledge systems, in particular with the local, traditional and indigenous knowledge of stakeholders and communities (see e.g. Stöhr & Chabay, 2010). However, in wolf governance this appears to be less of an issue as such and in our cases, some governance arrangements give room for other actors, besides experts, to bring knowledge input by way of wolf monitoring and surveillance. However, to what degree this means integrating other’s knowledge systems, seems disputable, more likely the case being of other actors producing the same kind of knowledge, we could say, para-scientific. More importantly, given the role of scientific knowledge and its social legitimacy, it is of no surprise to find in wolf debates the same data, commonly regarded as ‘objective, reliable and valid ‘truths’” being used to back up opposing arguments, revealing that such knowledge cannot exert, on its own, the so called Solomon’s justice. Unable to escape the complexities of communication and its distortions, scientific knowledge is a field open to social interpretation, a key political weapon in the governance arena.

## 6. Discussion

We have seen that in our four contexts, power, knowledge and conflict are major keys in wolf governance. Several authors point to a confrontation of images, in which the wolf is taken from being “a pest” to a precious and endangered creature. We argue it’s more accurate to assume a clash of paradigms, which have in themselves vaster ontological, epistemological, experiential and axiological issues and which, in turn, strongly shape opinions, values and attitudes. Consequently, even if power issues related to participation, are changing to be more inclusive, they cannot be expected to resolve this clash of paradigms per se.

The development of wolf governance seems to portray what Kooiman described as a change in public governing practice whereby the state progressively assumes the facilitator or cooperating partner role (Kooiman, 2003). These ideas can be applied to our four cases, where a top down, center forward state policy is expected to give way to more context sensitive and participatory approaches (the empowerment of the participatory county administration boards in Sweden and regional management plans, advised by EU’s latest regulation, illustrate this process). However it might be argued that despite these political arrangements, integration of different paradigms, which relate to values and attitudes in relation to wildlife in general and wolves in particular has not been fully successful. In this respect Sweden makes for an interesting case in so far it shows that despite assuming a strong arrangement of multi-stakeholder participation, conflict and controversy involved in wolf policy has not been resolved; in fact it seems the place where acrimony reaches its highest peak. The reasons for such occurrence are obviously complex and exceed a governance analysis. However, it is equally possible to argue that the unfolding of participation in governance presupposes a stage of dissent that does not illustrate failure inasmuch as a necessary step to reach real convergence. Some authors argue that the consensus-based model tends to avoid rather than resolve conflicts because the fundamental decisions – often relating to visions of the future and underlying values (i.e., paradigms) – are either avoided or postponed. For that reason, conflicts and their underlying sources need to be explicated rather than concealed and are seen as an important source of collective learning (Wals, 2009, p. 28). Consensus focused processes have a negotiation dimension that – if ignored - might be a significant barrier to collective learning and trust building, and only reinforce existing power imbalances (e.g. Stöhr and Chabay, in press). The combination of participation and conflict in the Swedish case does not illustrate so much a conscious approach in collective learning but more a set of governance structures that seeks to promote participation coupled by a society which tends to expect it.

With all four cases assembled together we have a variety of responses that play by a common theme – safeguarding the coexistence of wolves and humans. It tells of the predicaments and challenges involved in the arduous task of building participatory democracy and sustainability in a bio-culturally diversified world. Our findings indicate that active opposition to wolves becomes especially visible in Sweden and Germany, the two countries with the least number of wolves but with a fairly recent re-appearance. This demonstrates the difficulties of governance transformation and institutionalization processes that involve both formal rules and regulations (the social organization) but also – maybe even more important – the alignment and integration of the values and norms among the different actors involved and affected.

## 7. Conclusion

In this study we examined the European wolf governance system and its implementation in Galicia (Spain), Germany, Portugal and Sweden. On a general level, the cases show a number of similarities under the overarching framework of the European Union. In all cases, public administration has the authority and responsibility to implement the European objective of wolf protection while also limiting the physical but also economic damage caused by wolves. In Portugal the authority tends to be more centralized, while in the other cases management responsibility is delegated to the regional level to a large extent. The implementation of the European framework is realized by direct administrative measures (e.g. criminalization of wolf hunting, licenses) in combination with economic measures (damage compensation, support for preventive measures for wolf damage), planning measures (e.g. regional management plans, zoning conservation areas) and information (monitoring, campaigns). All cases use biophysical science as main base for policy decisions and the monitoring of the wolf status and policy impacts. Opportunities for stakeholder participation are also present in all cases, though they are much more institutionalized in Germany in Sweden, while in Portugal and Galicia such arrangements tend to be informal in character. As a consequence, though negative attitudes towards wolves among certain groups (rural population in wolf regions, hunters, farmers etc.) can be found in all cases, organization, visibility and political influence of such opposing groups is higher in the two northern countries. The result is that clashes between the standardized European governance framework and its interpretation and implementation on the national and regional level are therefore also more apparent as demonstrated in the Swedish case (see also Trouwborst, 2010).

Governance of wolves gives us access to key sustainability issues in keeping up with biodiversity goals. How to integrate different and often colliding human interests that surface in relation to wolves? How to articulate and balance power arrangements in a context of multilevel complexity? If, on one hand, the answers to these questions directly address the ultimate goal of wolf policy which is the conservation of the wolf, it also relates to the continuity, one might be inclined to say, sustainability of those governing institutions that stand to be judged by its constituents, particularly in some contexts where wolf policies catch so much public attention.

Acknowledging the complexity of issues that underlie the human-wolf conflict seems a major desirable step in the governance system. To that extend, it's sensible to consider the fact that governance of wolves stretches well beyond biology conservation know-how since it includes, and critically so, social management (for a similar argument in the US context see Nie, 2002; Redpath et al., 2013). In this arena, strong, enduring cultural perceptions come into play, a complex and ancient arrangement of symbolic resonance that should not be limited to the most plain discourses, such as "wolves as pests – direct assailment to human interests" or "wolves as desirable – endangered pieces of the ecological set". History, hard data and analysis prove such relative truths to be anemic in their explanatory capacity. On the other hand, it is useful to consider that cultural perceptions, as much as governance arrangements, carry the impulse of the past but are a pliable matter under continuous social construction and interaction.

Governance of wolves reveals that wolf issues take up more general political themes in addition to the actual issue of wolf politics *per se*. It relates to the multilevel nature of environmental policies and consequent articulation of power between local and macro scales. Questions of democracy and empowerment, functioning and reform of governance are thus built in to the discussion of wolf politics. Our four cases seem to illustrate interesting differences but also converging orientations in governance. The surging of context sensitive Management Plans, a growing emphasis on prevention strategies beyond financial compensation and the involvement of stakeholders in the conception and decision process along with the implementation of an assortment of negotiating tools are all examples of governance building a societal strategy complementary to the ecological/administrative one.

Overall, being able to include and integrate multiple worldviews and power relationships seems as much a social as an environmental positive outcome. In wolf governance it seems particularly crucial to work consciously on the diverging norms, values, interests and images people bring forth, thus becoming possible to understand their roots and their tenacity, but also to begin a collaborative process in which shared meanings and joint actions emerge that will allow creating a common sustainable world for both humans and wolves.

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## Notes

Note 1. Due to considerable variation of political and administrative structures present in different regions of Spain, Galicia was selected as one particular, intrinsic case (not extensive to Spain).

Note 2. According to WWF's "Living Planet Report" (WWF, 2010), the period between 1970 and 2007 saw an average increase of wild animal populations of 43% in Europe.

Note 3. These numbers serve only as rough indications and are based on different sources (Viltskade\_center, 2011a; Vargfakta, 2011 based on Viltskade\_center, 2011a for Sweden; Ruiz de Almirón, Robles & Llana, 2009 for Galicia; LUPUS, 2012; Reinhardt, Kluth, Blum and Koerner, 2011 for Germany and Álvares, 2004 for Portugal). Census dates between countries do not always coincide and methods of survey give room to a wide range of variation.

Note 4. The paradigm concept is usually associated with Thomas Kuhn's work on science and refers to a "cognitive model shared by a particular community of actors and which facilitates problem solving. It provides a conceptual framework that helps actors interpret events and their causes, asides in their identification and definition of relevant problems and solutions, and suggest what kinds of criteria might provide useful measures of success and failure." (Carson, Burns & Gomez, 2009, p.11).

Note 5. Co-Decision, since the adoption of the Lisbon Treaty called "Ordinary legislative procedure" stresses that neither the European Parliament nor the Council of Ministers can adopt legislation without the others assent (European Commission, 2012).

Note 6. Besides Habitat Directive and the general treaties decisions with regard to the protection of wolves are also framed by two international treaties (e.g. Linell & Boitani, 2012). First, in 1973, came the Convention on International Trade in Endangered Species (CITES); 152 states signed, and the Wolf was listed as endangered species. By the end of this decade came the Bern Convention on Conservation and Protection of Wild Plants and Animals, signed by 45 States.

Note 7. Mainly through two laws, the Federal Law on Nature Protection and the Protection of Animals Act.

Note 8. The traffic light system is a popular 3-grade assessment matrix distinguishing green (favourable), amber (unfavourable/inadequate) and red (unfavourable/bad)

Note 9. There is research on US wolf governance indicating that educational measures and outreach can have a positive impact on tolerance and support levels for wolves (Troxell et al., 2009). We are not aware of similar studies in Europe.

Note 10. No data could be found for Spain or Galicia. A study of children's attitudes towards large carnivores (Bath & Farmer, 2000) indicated that attitudes towards wolves are actually more positive among rural children than those living in semi-rural areas.

Note 11. Since media information about negative incidents is more likely to be communicated in local media in and close to wolf regions than in for example urban areas, negative attitudes nevertheless correlate with closeness to wolf regions (Karlsson & Sjöström, 2007, p.614).

Note 12. While in the first part we presented the social organisation first, we start now with the cognitive normative part. As Burns & Stöhr (2011; 2012) outline, there is no uni-causal direction from normative-cognitive features to the social organization or vice versa. While it is apparent that a change in normative-cognitive features, e.g. through learning or a change of the problem, a change in the social organization of a governance system can also lead to changes in the cognitive-normative configuration, e.g. if new actors become powerful.

Note 13. An objective and/or subjective condition of disempowerment is a widespread trait of peasantry identity, a fact thoroughly established in rural studies (Shanin, 1987) and therefore understanding "rural complaints" over wolves cannot dismiss this general background.

Note 14. Several authors have argued that the goals and priorities established in the Habitat Directive as such reflects the greater influence of Environmental NGOs on the European decision-making compared to the national governments creating a mismatch of priorities (see e.g. Fairbrass & Jordan, 2001; Weber & Christophersen, 2002; Paavola, 2004). The Swedish case of wolf governance provides an illustrative example of this.

Note 15. This fourth image is linked to that of "endangered species" since the latter is as an established social venue of expressing positive value but should not be reduced to its strictest scientific sense.

Note 16. The official quota was 27 (Naturvårdsverket, 2010) wolves but 28 were actually shot. For 2011, the quota was set to 20 wolves (Naturvårdsverket, 2011) of which 19 were actually killed.

Note 17. Officially, both officers (from the ministry of environment) and hunters - being properly authorized - are allowed to carry out culling in Galicia. However, interviews indicate that killing is only used for controlling *massive* losses of farm animals, since losses are very common to start with. Consequently wolves may be hunted by hunters, but the act of killing is not seen as 'hunting' opposed to the Swedish case where culling becomes a 'hunting event'.

Note 18. For example in Germany, compensation for damages caused by wolves in "wolf regions" are only given to those having taken preventive measures in forehand, while damages outside wolf regions are not dependent on this condition. Conflicts therefore do not only evolve about the amount of compensation but also this measure as such and the definition of "wolf regions".

Note 19. "In 2009, 71 % of the Swedes expressed that they were pleased to have wolves in Sweden" (Widemo, 2011). Similarly, in Germany are two third of Germans against taking the wolf into the hunting act (Forsa, 2010). See also Nie (2001, p.9) for a discussion of the problem of participation in the US wolf governance context.

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