ENVISION

Governance Arrangement Inventory

Deliverable 5.1.

The Sierra de Guadarrama National Park (Spain)

ENVISION is a 3-year research project that develops an inclusive approach to the management of protected areas with the aim of improving biodiversity and human well-being. We engage diverse groups of stakeholders of a protected area, such as recreational users, local residents, local businesses, land owners, agriculture, researchers or local governments and protected area managers.

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ENVISION

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1. Abstract

This deliverable corresponds to ENVISION task 5.1, aiming to identify the governance arrangements behind protected areas (PAs) management, as well as the strengths and gaps in coordination across involved institutions. PAs are the most important legal instrument for the in situ conservation of biodiversity and ecosystem services over the long-term. In the context of PAs, it is internationally and widely recognized that the active involvement of local stakeholders in governing these spaces is pivotal to achieving better conservation outcomes. Understanding PA-governance systems offer a means to identify barriers and opportunities to widen participation and engagement of stakeholders within these natural spaces. This report sheds light on these issues through a case study in a European PA: The Sierra de Guadarrama National Park (Spain). Through 67 semi-structured interviews and field observations, we have examined and documented the PA governance arrangements at both formal and informal levels, identified the stakeholders involved, explored how mechanisms shape the arrangements, and what is their ability to achieve the desired outcome. Findings reveal that governance arrangements in this National Park are usually shaped by both formal procedures and informal routines. We disentangle four types of governance arrangements in the PA according to the different sorts of responsibility and multiple levels of influence that stakeholders have in establishing them through both formal and informal mechanisms: prescriptive, informative, consultative and cooperative. Interestingly, while we can find the identified formally-established arrangements in each of these four categories, those based on informal routines are mainly dominated by cooperative arrangements, that is, those in which the stakeholders involved share responsibility and have equal ability to achieve these arrangements, which facilitate their engagement in conservation decision-making. These findings provide an empirical basis to reflect about the nature and features of the mechanisms and relationships that shape both formal and informal arrangements and the implications in terms of stakeholders' active involvement in PAs governance. Insights from this case study provide a useful analytical framework for scholars and decision-makers to analyse governance arrangements in National Parks and other types of PAs through the lenses of inclusive conservation and identify strengths and weaknesses to reflect on how to improve stakeholders' engagement in PAs.

2. Introduction

2.1. Background

2.1.1. International level

The Convention of Biological Diversity (CBD) promotes Protected Areas (PAs) as the most important legal instrument for in situ conservation of biodiversity and ecosystem services over the long-term (CBD, 1992). This international convention recognizes that PAs provide livelihoods for nearly 1.1 billion people as well as that these areas are the source of drinking water for over a third of the world's largest cities, and are essential to ensure global food security. Acknowledging the relevance of these conserved territories for human well-being, the CBD urges the states and parties concerned to establish and manage PA systems effectively. These are conceived as natural spaces where special measures are taken through a management system in order to preserve global biological diversity and address the livelihood needs of local communities.

Effective management of PAs is recognized as a critical means to achieve the objectives of the CBD, and, in turn, the Agenda 2030 Sustainable Development Goals. In pursuing the mandate of CBD, parties have implemented PA systems around the world. Nowadays, 12.7% of coastal and marine areas and 14.8% of terrestrial areas are legally declared at the global scale (Fig. 1) (UNEP-WCMC and IUCN, 2016).

Fig. 1: Protected areas of the world (Source: UNEP-WCMC and IUCN, 2016)

While considerable efforts have been made over the last few decades by countries to manage PAs, the evaluation of management effectiveness shows that enhanced measures are needed to ensure the global conservation of biodiversity (CBD, 2019). The evidence behind this need is supported by the global assessment developed by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) which states that biodiversity loss

continues at an unprecedented rate (IPBES, 2019). In practical terms, this means that the CBD agreements have not been translated effectively into the national action plans, and thus, the International Biodiversity 2020 target will not be accomplished. In response to this concern, the international community strongly encourages governments to make new commitments in PAs to foster the full and effective implementation of the CBD in future decades (COP 10, 2010). The academic world is simultaneously urged to develop scientific knowledge that helps governments to achieve this goal. Specifically, three top research priorities have been identified: (1) feedback between social and ecological systems, (2) effectiveness of governance systems, and (3) the influence of institutions on the social distribution of ecosystem services (Mastrangelo et al., 2019).

As a guide in addressing this collective challenge, the CBD is developing the post-2020 global biodiversity strategy in which PAs, again, play a leading part in ensuring the preservation of global biodiversity and the sustainable use of ecosystems on a planetary scale (CBD website, 2019). This latter strategy is built upon the global assumption that the active involvement of local communities in its elaboration and implementation is pivotal to promote societies living in harmony with nature and achieving better conservation outcomes through a balance among economic, social, and environmental goals. The concern to strike a more significant social commitment to Earth's biodiversity led the Secretariat of the UN CBD to launch the Sharm El-Sheikh for Kunming Action Agenda for Nature and People (COP 14). This agenda aims to catalyze cooperative initiatives from all sectors and stakeholders in support of global biodiversity goals by 2030. Here, PAs serve as the most direct instrument to enhance the participation of civil society at different levels of decision-making and translate biodiversity conservation into action on the ground.

2.1.2. European scale

In Europe, the European Union (EU) has adopted different legislative instruments to translate its commitments within the CBD into regional policies. Among these instruments, two stand out. First, the legal establishment of an effective PAs network along Europe: the Natura 2000 Network. Currently, Nature 2000 covers over 18% of land and almost 6 % of the marine territory, and is considered the largest coordinated network of PAs in the world. Second, the development of the EU Biodiversity Strategy that focuses on halting the loss of biodiversity and ecosystem services and contributing to stopping global biodiversity loss by 2020.

In 2015, the assessment of progress in biodiversity conservation in EU showed that (1) the effective management of all European PAs had not been completed, and (2) EU Biodiversity target had not been accomplished (EU, 2015). The results also highlight the need for much higher effort on establishing mechanisms that contribute to the more efficient management of PAs and better implementation of biodiversity conservation targets by the EU Member States. In response to the commitments taken by the EU within the CBD, a post-2020 EU Biodiversity Strategy is under development. In the new strategy, the full participation of society on PAs management is recognized as a cornerstone for universal action on biodiversity to ensure effective implementation.

2.2. PAs Governance

2.2.1. Governance systems in PAs

Governance systems implemented in PAs are pivotal in determining the effectiveness of their management and ensure that society is well embedded to achieve better conservation outcomes (Borrini-Feyerabend et al., 2013). Governance in PAs can be defined as interactions among structures, processes, and traditions that determine how conservation decisions are taken within a specific context of PA (Borrini-Feyerabend et al., 2013). These interactions may occur between different types of stakeholders (i.e., both governmental and non-governmental actors with a stake in the PA) (Arnauts et al., 2012).

Borrini-Feyerabend et al. (2013) identify four types of governance systems for PAs based on who formally holds the authority and responsibility to make conservation decisions:

- *Governance systems led by governments*, referring to federal or national/sub-national ministries/agencies or government-delegated management (e.g., to NGO) that hold authority, responsibility, and accountability for managing the PA;
- *Governance systems led by private actors*, when non-profit organizations (NGOs, universities, cooperatives) or for-profit organizations (individuals or corporate) owning land or water hold the authority over management decision-making;
- *Governance systems led by indigenous people and local communities*, when a community of people, settled or mobile, govern and manage resources collectively through institutional arrangements, rules, and sanctions;
- *Systems of shared governance,* referring to different actors sharing authority, responsibility, and accountability for management by mutually recognizing each other's legitimacy. Examples of shared governance are: collaborative management (various degrees of influence), joint management (pluralist management board), and transboundary management (different levels across international borders).

In any of these governance systems, it is well-recognized that, apart from the entity who holds the authority and responsibility formally to make decisions in PAs, other stakeholders can participate directly or indirectly in such decisions through the so-called "governance arrangements." Understanding how such arrangements are built within a specific context of PA is crucial to knowing how decisions are really made (Borrini-Feyerabend et al., 2013), so that the effectiveness of the PA governance system in terms of stakeholder's involvement can be improved (Fortier et al., 2013).

2.2.2. Governance arrangements

A governance arrangement (hereafter GA) can be defined as a compromise that occurs between two or more identifiable stakeholders to achieve a specific goal with implications for governance (Arnauts et al., 2012). In PAs, GAs are usually established by entities who officially hold the authority and responsibility to make decisions with other stakeholders with the aim of engaging them in conservation initiatives and helping them to achieve better conservation goals (CBD, 1992).

There is a wide recognition that GAs can be established through formal mechanisms and informal routines (Borrini-Feyerabend et al., 2013; High et al., 2004). From a formal point of view, GAs can be created through instruments legally recognized within the governance structure such as management plans and advisory committees. Simultaneously, there are other GAs that can be built upon informal and unofficial interactions taking place within the invisible system of governance (e.g., workgroups and meetings) (High et al., 2004).

Understanding how GAs are established serves as a means to identify barriers and opportunities to widen participation and engagement with nature conservation across societies that support global biodiversity goals (Borrini-Feyerabend et al., 2013; Armitage et al., 2012). Although over the last decade there has been an increasing interest in GAs, the majority of literature tends to focus on GAs which are formally-based (e.g. Fortier et al., 2013), there have been few studies that look at how GAs are shaped through informal organisational structures (e.g. High et al., 2004). Specifically, research focused on how formal and informal GAs are developed and shape governance in National Parks is an understudied topic, particularly in Europe.

2.3. General goal of this report

This report corresponds to Deliverable 5.1 of the work-package (WP) 5 of the ENVISION project, a research project funded through the Belmont Forum and BiodivERsA under the BiodivScen ERA-Net COFUND programm, and the Spanish Research Agency. ENVISION aims to address inclusive conservation from a theoretical and practical perspective. Inclusive conservation here refers to a new approach where multiple visions of stakeholders are considered for promoting biodiversity conservation and human well-being in PAs (ENVISION, 2019).

Within the ENVISION project, WP5 aims to propose decision-support tools to help craft inclusive conservation into governance systems. The first step towards this endeavour is to understand GAs at both formal and informal levels within PAs. This report thus aims to shed light on this issue through a case study in a European PA: The Sierra de Guadarrama National Park (SGNP, Spain). The SGNP represents an interesting case study in terms of governance and GAs due to its inherent complexity: it is a relatively new PA that embraces different socio-political territories, a great variety of stakeholders and different levels of protection. As it is documented in what follows, we developed an inventory of the GAs in this site that included the processes and mechanisms that shaped GAs, the stakeholders involved, and the influence that each of them was able to exert in each arrangement. This provided empirical evidence for reflection on the strengths and gaps of the PA governance model in terms of stakeholders' involvement in decision-making and inclusive conservation.

3. Case study: the Sierra de Guadarrama National Park

3.1. Legal protection

The SGNP is situated within the homonymous mountains, in the central mountain system of the Iberian Peninsula (Fig. 2). It spans across 33,960 ha and ranges between 800 and the 2428 m.a.s.l. of Peñalara, its highest peak. The mountainous system is oriented southwest-northeast and spreads between the provinces of Madrid (Autonomous Community of Madrid, 21 714 ha) and Segovia (region of Castilla y León, 12 246 ha) (SGNP, 2019).

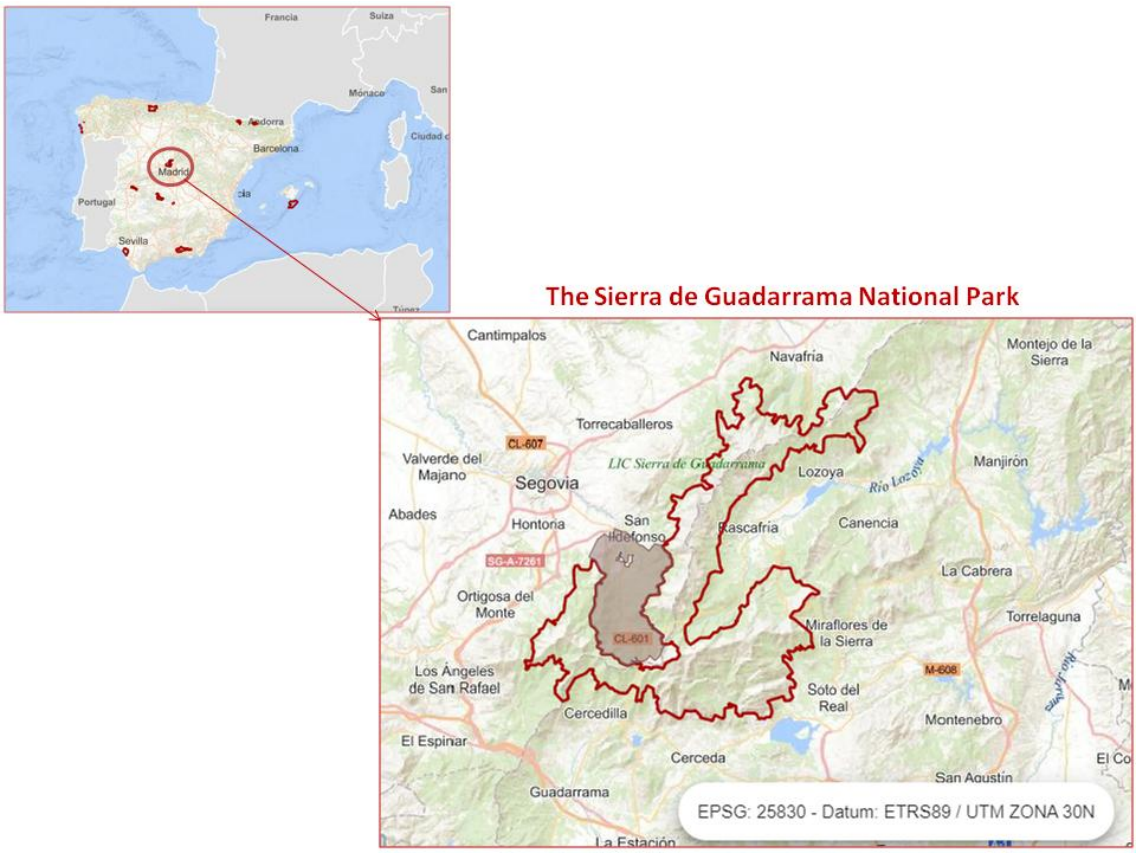

Fig. 2. Location of the Sierra de Guadarrama National Park (Spain) within the Spanish Network of National Parks (Source: Cartographic viewer of the National Parks Autonomous Agency -Spanish Environmental Ministry)

In 2013 the Spanish Parliament announced Sierra de Guadarrama as Spain's newest National Park (Law 7, 2013). This pronouncement elevated its protection status at the highest level allowed by the Spanish legal system. The SGNP includes 28 municipalities, 16 in the Community of Castilla y León and 12 in the Community of Madrid (Fig. 3). In addition to the core park, there is a "Peripheral Protection Area", that of the Montes Matas and the Valsain Pine Forest (7 011ha), which also holds a special institutional regime where uses and management are regulated (Fig. 3). Moreover, there is a "Peripheral Protection Zone" (Fig. 3) that covers 62 687 ha and holds a special institutional regime, similar to that of the National Park except for the permission of certain timber extraction activities and the hydroelectric exploitation. Beyond those areas, all the surface of the municipalities intersected by the SGNP is considered "Socio-economic Area of Influence", which covers 75 593 ha (SGNP, 2019).

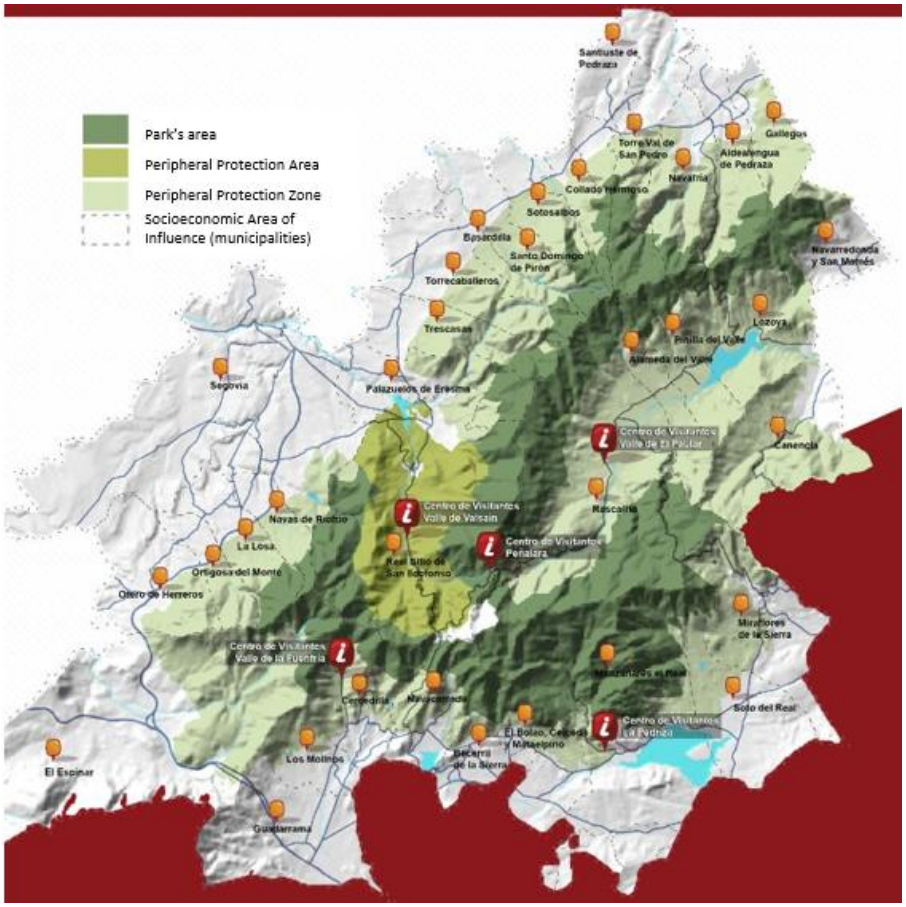

Fig.3. The territorial limits of the SGNP, the peripheral protection area and zone and its area of socio-economic Influence (Source: SGNP, 2019).

The SGNP features include glacial cirques and lakes and unique granite rock formations. Its mountainous areas serves as a refuge for biodiversity, providing habitats for rare and diverse plant life and animal species that deserve to be protected from the effects of global change generated by human impact. This is crucial for the SGNP to continue providing ecosystem services (e.g. water, food and cultural values) and hence ensuring the well-being of local communities.

The biological relevance of the SGNP area has been recognised under other figures regarding environmental protection long before the pronouncement of the SGNP (e.g., Natural Park of "Peñalara" and Biosphere Reserve "Cuenca Alta del Manzanares"). Nowadays, the different status of protection that overlap in this area are the following:

- Natural Park "Cuenca Alta del Manzanares".
- Natural Park "Sierra Norte de Guadarrama".
- UNESCO Man and Biosphere Reserve "Cuenca Alta del Manzanares".
- UNESCO Man and Biosphere Reserve "Real Sitio de San Ildefonso- El Espinar".
- Site of Community Importance (SCI) with 25 habitats of interest, four of which are of priority

- LIC/ZEC: ES3110002 Cuenca del río Lozoya y Sierra Norte, ES3110004 Cuenca del río
- Manzanares y ES3110005 Cuenca del río Guadarrama
- SPAB ES0000057 Alto Lozoya.
- SPAB ES0000010 Sierra de Guadarrama.
- Wetlands of the Macizo de Peñalara included in the Ramsar Convention.
- Natural Fluvial Reserve of the Manzanares River.
- Natural Fluvial Reserve of the Alto Eresma River.

3.2. Biophysical description

Geological diversity

The SGNP has a wide geological diversity, according to its soil composition and its origin. The range goes from 500 million years old rocks, as gneissic ones, to more recent sedimentary accumulations, for example the limes, sands, and gravels, or the Quaternary glaciers formations, which modelled the landscape on circuses, moraines and high mountain lakes (SGNP, 2019). The granite atholith from "La Pedriza" is a unique and singular formation in the Iberian Peninsula, and it is an icon of the SGNP (Fig. 4).

Fig.4. Granit landscapes of La Pedriza (Source: Fernando Román).

Because the SGNP covers the summits, particularly in the highest peak, the "Macizo de Peñalara", the glacial action during Pleistocene has resulted in colloviums, arches, nivation cirques, moraines and basins, currently occupied by peatlands and lagoons of high natural value. The "Cuerda Larga" and the "Pedriza" constitute uniquely modelled granitic massifs that raise between 20 and 30m above the general substrate of the mountain and which hold high geomorphological value (SGNP, 2019). The Madrilenian side is more rocky and abrupt than the Segovian and presents a small circus formed by the accumulation of snow by the effect of wind.

Rivers and wetlands

The SGNP has multiple tributaries which flow into 2 large rivers: the Tajo River south and the Duero River north. It is also the administrative borderline of the Madrid and Castilla y León Autonomous Communities. There is 337 km of fluvial courses (169 km at the southern slope and 168 km at the northern slope), of which 227 are permanent and 109 temporary (SGNP, 2019).

Flora

The SGNP vegetation is made up of distinct plant communities from the central mountain system of the Iberian Peninsula. Specifically, 40 species of interest have been catalogued, 4 are on the Red List of Spanish vascular flora, 35 are in the catalogue of protected flora of the region of Madrid, and 10 are in the catalogue of the region of Castilla y León. There are 83 endemic plants of the Iberian Peninsula, some of them exclusive to the Central System and others to the Sierra de Guadarrama (SGNP, 2019).

The most representative flora is the Scots pine or Valsaín pine *(Pinus sylvestris var. Iberian)* (Fig. 5), the high mountain thickets of broom and creeping juniper, and the xerophyte pastures living on the summits of the site. In the summits and slopes, complex mosaics are formed where wet grass, peat bogs, ponds and lakes, xerophyte pastures, cracks and rocks ledges vegetation communities alternate. A more detailed description of the vegetation of the Sierra de Guadarrama can be found in Franco et al. (1997).

Fig.5. Scots pine or Valsaín pine *(Pinus sylvestris var. Iberian) (Source: María D. López Rodríguez).*

Fauna

The SGNP is home to approximately 133 species of birds (some of the most relevant: the *Aegypius monachus*, the *Aquila adalberti*, the *Golden Eagle*, the *Red Kite*, or the *Peregrine Falcon*), 58 of mammals (of which six are Iberian endemism: the *Iberian hare,* the *Lusitanian pine vole,* the *Iberian shrew,* the *Iberian mole,* the *Pyrenean desman* and the *Cabrera's vole*), 15 of amphibians (of which 5 are endemic to the Iberian Peninsula), 23 of reptiles (with the presence of 3 Iberian endemism - the *Mediterranean worm lizard*, the *Iberian cylindrical skink*, the *Iberian emerald lizard*- and one Sierra de Guadarrama endemism, the *Cyren's rock lizard*), 17 of fish (of which 9 are also endemic to the Iberian Peninsula) (SGNP, 2019).

The invertebrate fauna is the group presenting the highest number of species in the SGNP, particularly of arthropods, headed by the insect class. There are also other interesting groups, such as molluscs and crustaceans, mainly in the wetlands.

3.3. Social description

Traditional uses and history

There are several drove roads that were used by the transhumant herds to migrate according to the season and pasture availability, looking for mountain fresh meadows or pastures at the tempered valleys. Historically, livestock farming has been among the main livelihoods in the area (Fig. 6). While merino sheep used to be the main species until the early XX century, nowadays, the cow cattle for meat production predominate. The majority of the sucker cows are from the autochthonous breed Negra Ibérica, but in some instances, they are cross-bred with Charolais and Limousine, in order to provide a higher meat production yield (SGNP, 2019).

Fig.6. Cattle in Manzanares el Real. (Source: Elisa Oteros Rozas).

The Sierra de Guadarrama pinewood forest logging has been one of the most important traditional uses, but currently, this practice is only developed at the Peripheral Protection Zone. Most of these forest extensions have played a key role in biodiversity conservation, land protection, hydrologic control, and recreation. The Pinewood of Valsaín should be mentioned as an emblematic example of sustainable use and nature preservation, which is evidenced through Sustainable Forest Certification.

In the last decades of the 19th century, a small group of scientists and intellectuals developed the first cartographic, geologic, botanic and fauna studies related to the Sierra de Guadarrama. That trend of scientific interest came together in 1876 with the emergence of a pedagogic renewal movement, impelling the Sierra knowledge and love and a learning method through contact with nature, "La Institución Libre de Enseñanza" (SGNP, 2019). This led to the first sport and hiker societies that emerged gradually in the early 20th century in the Sierra de Guadarrama.

Social and environmental changes

As with other European sites, this area has changed through a bidirectional process of land intensification and rural abandonment over the past few decades (Kuemmerle et al., 2016; Schmitz et al., 2017). The current main land-uses are animal husbandry and recreation. Specifically, tourism based on the landscape and natural values and cultural heritage has become one of the main economic sectors in the area. The remains of traditional socioeconomic activities and trades, such as the ruins of shearing ranches or the brick chimneys of old sawmills, bring visitors closer to a world of traditions that influenced the local culture for centuries and helped shape the territory as it is.

The population in the villages has been increasing both in absolute terms and in peaks during the weekends and summer season, with inhabitants and visitors that have different degrees of connection to and/or dependence on the city of Madrid. The population increase in this area was 109% in the last decade of the XX century. This phenomenon is associated with different overlapping socio- demographic dynamics and is characterised by people from a relatively wealthy socio-economic level. The population moving to the Sierra ranges from young people who start agroecological projects, families looking for cheaper home rental prices, mountain-lovers who want to live closer for leisure reasons. Some are fully integrated into village life, but most frequently people live in the village but commute every day to work in Madrid. A critical factor in the decentralization process has been urban mobility, based on improvements to transportation infrastructure and metropolitan network connections (Hewitt and Hernández-Jiménez, 2010) that have made it possible to reach the city of Madrid in less than an hour from half of the park. Therefore, there does not exist a clear rural-urban divide but rather a growing urbanising pressure over the area, not only in terms of infrastructures and economy, but also in cultural terms.

The aforementioned natural and cultural values, as well as the park's proximity to the Madrid metropolitan area, tend to attract a large number of people. The SGNP has almost 3 million visitors per year, and although it is heavily used for recreation activities, at the same time, there are people developing traditional activities, such as extensive farming and people interested in preserving its natural features. The numerous uses of this National Park have led to increased social tensions, particularly concerning how the park should be governed. These tensions became explicitly visible in 2013 when the Sierra de Guadarrama was declared a National Park.

3.4. Conceptual framework

To develop the study, we adopted Ostrom's social-ecological systems (SES) framework (Fig. 7). Specifically, our research framework built upon the analysis of the four first-components enounced by Ostrom (2007, 2009, 2010) and McGinnis and Ostrom (2014):

- Governance System (governance processes and mechanisms through which decisions on the PA management are made and implemented),
- Actors (both public and private organised and non-organised entities and individuals with a stake in the PA governance that we regarded as stakeholders),

- Interactions (interactions among components that shape conservation decision-making), and
- Outcomes (results of the interactions among different components and their interrelations).

These four first-components served to set the conceptual basis for a further understanding of the processes and mechanisms behind GAs in the SGNP, the stakeholders involved, the patterns of interaction between them, and how the arrangements shape the governance outcomes.

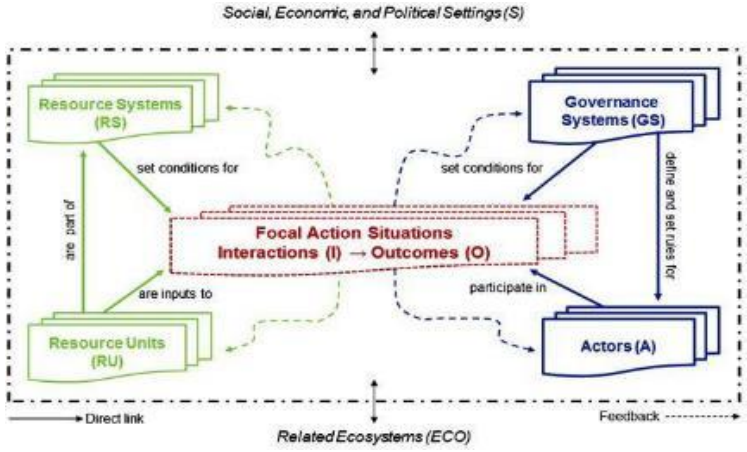

Fig. 7. Revised social-ecological system (SES) framework initially presented by Ostrom (2007, 2009, 2010) and McGinnis and Ostrom (2014).

In order to identify a set of variables to analyse the four first-components we firstly reviewed academic literature (April-May 2019) on equitable conservation governance (e.g. Boillat et al., 2017, Borrini-Feyerabend et al., 2013), community-based conservation governance (e.g. Delgado-Serrano and Ramos, 2015), environmental governance (e.g. Armitage et al., 2012), collaborative governance (Thomson et al., 2009), natural resource management (e.g. Reed et al., 2009), and social capital in protected areas governance network (e.g. Rastogi et al., 2010; Tsai, 1998). From the reviewed literature, we defined 15 selected second-tier and 12 third-tier variables to develop our research framework (Appendix A, Tables A1-4).

To further elaborate the inventory of GAs we selected the analytical model proposed by Arnauts et al. (2012) which was inspired by the Policy Arrangement Approach (Kooiman, 2003). The authors discuss the analysis of GAs based upon three dimensions: 1) mechanisms that shape GAs, 2) stakeholders that intervene and 3) their influence in the arrangements. Within the mechanisms dimension, we established the distinction between formal procedures and informal routines through which stakeholders interact to develop a GA. In the stakeholder dimension, we identified the different types of stakeholders involved in each GA and the corresponding division of responsibilities for its implementation. In so doing, we developed a practical classification of stakeholders based on three groups (i.e. public sector, civil society entities and socially recognized individuals). Each group included different typologies based on: the legal nature of the stakeholders (e.g. state administrations at different levels, non-profit organizations, and trade unions); and its main sector of activity (e.g. natural resources

management for conservation, environmental advocacy and agriculture and livestock). It is important to note that the purpose of this classification was to identify differences and similarities between stakeholders in order to facilitate further analysis of that information (Wyatt et al., 2013). Regarding the division of responsibilities among stakeholders, we determined if the responsibility was concentrated by specific stakeholders or, contrarily, it was shared between those involved in the arrangement. Finally, and regarding the influence dimension, we focused on the ability that all stakeholders involved in the GA have to achieve the desired arrangement (i.e. higher or lower ability), and the available assets they can use to leverage this ability. To illustrate the assets that could intervene to develop the GAs, we used the five capitals model developed by Forum for the Future (1990) (i.e. natural, manufactured, human, social and financial capital). Finally, we defined four typologies of GAs (i.e. prescriptive, informative, consultative and cooperative) according to two criteria: (1) the division of responsibilities between the stakeholders involved while developing the GAs, and (2) the ability of all stakeholders involved to achieve the desired GA (Fig. 8). Further information concerning analytical variables is detailed in section 6.3 "Governance Arrangements Inventory within the SGNP" (Table 2).

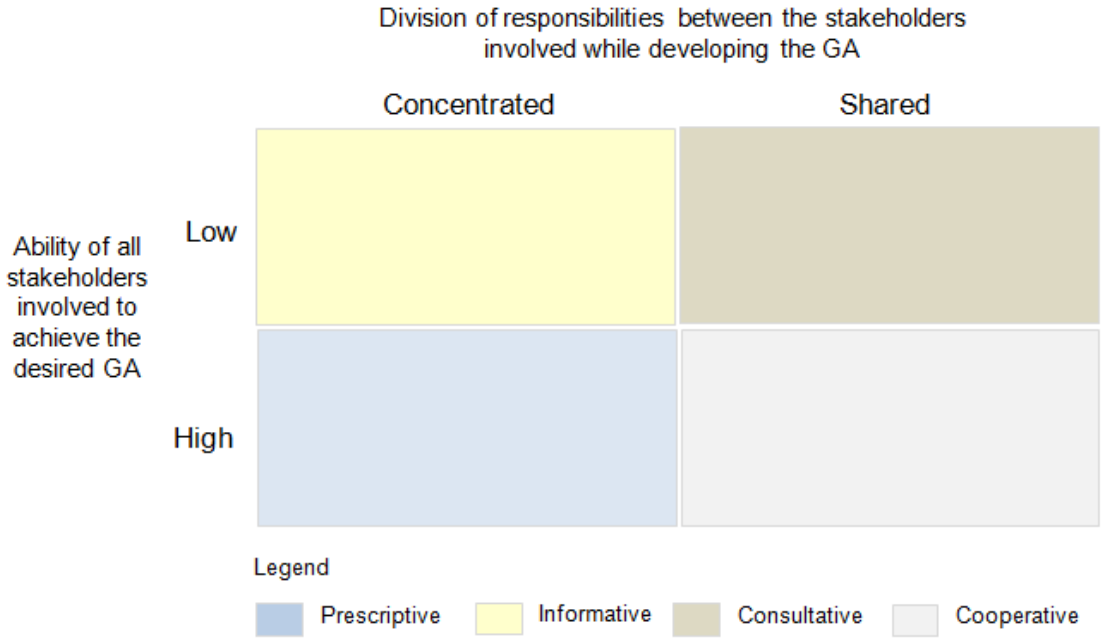

Fig. 8. Types of GAs according to stakeholders' responsibility and its influence (Source: Elaborated by the authors from the collected data through the study).

3.5. Methodological approach

3.5.1. Stakeholder map and interview instrument design

With the aim of developing a preliminary and tentative understanding of stakeholders, processes, and decisions that determine GAs in the SGNP, we conducted an analysis of SGNP-related news and digital social networks, a review of policy documents (e.g. legal norms,

participatory processes, planning and management actions), and in-depth semi-structured interviews (Ritchie and Lewis, 2003) with 9 key-informants in the SGNP (April – May 2019).

The document analysis and review allowed us to: (1) elaborate an open list of stakeholders that either can exert influence on the PA decision-making or can be influenced by the decisions that are taken in the National Park (Leventon et al. 2016); (2) identify how the decision-making is structured within the institutional setting; and, (3) design interview questions with an emphasis on getting the information on the variables previously defined in our research framework (Appendix A).

The interview questions were grouped into four sections including: (1) stake in the SGNP, (2) view on the governance model, (3) opinion on modes of adopting decisions, and (4) perception of stakeholder's influence in decision-making and dependence on such decisions (Appendix B). To guide the latter section of the interview, we used a sociogram (Alberich et al., 2009) that is recognized as a useful tool for a better understanding of stakeholders' perceptions on how conservation decisions are taken in PAs (Ruiz-Mallén et al., 2013). The "x" axis of the diagram indicated the ability of stakeholders to influence decision-making in the SGNP, while the "y" axis analysed their level of dependence of the management model implemented at the site (Appendix C). The participants were asked to place themselves and other stakeholders on the sociogram depending if they thought they had a higher or lower influence or dependence regarding the PA decision-making process. The open list of stakeholders was used as supporting material. A pilot test of the interview was conducted before the main fieldwork (Ritchie and Lewis, 2003) involving four representatives of different stakeholder groups (e.g. state administrations at the regional level, universities, and non-profit organizations dealing with environmental advocacy and outdoor sports). The pre-test allowed us to refine the interview questions and ensure easy-to-understand questions to different stakeholders.

3.5.2. Data collection and analysis

Sixty-seven semi-structured interviews were conducted with stakeholders, i.e. representatives of institutions, collectives and sectors and key individuals who were identified previously (63% of them in Madrid and 38% in Segovia) (July, September and October 2019). Free informed consent was obtained before each interview. To refine the list of stakeholders, we used the snowball technique in which each participant was invited to suggest other specific stakeholders in the site (Bernard et al., 2005). This helped us to map particular institutions or representatives of the involved entities, collectives and sectors that had not been directly visible in the previous phase. Those that were mentioned at least twice by the participants were included in the open list of stakeholders and invited for an interview. The final list of participants was determined by those stakeholders that accepted the invitation to participate in this research under considerations of time and resources. It should be noted that some of the requested interviews could not be conducted because the invitation was declined or it was not possible to reach any representative of the institutions, collectives or sectors (e.g. specific hunters groups, schools, and private land-owners).

During the interviews, we also developed fieldnotes (Walford, 2009) to supplement the qualitative data of each interview (Appendix D). The interviews were audio-recorded and summarized. The summaries and fieldnotes data were analyzed through a conventional

qualitative content analysis (Hsieh and Shannon 2005). These qualitative data were in turn triangulated with the written sources arising from the policy review conducted in the previous phase to develop the inventory of GAs.

To provide a better understanding of the inventory we used four main categories to group the GAs identified, according to their purpose [1]:

1. *GAs to establish the extension of the National Park*: established to settle legally the territory area to conserve;
2. *GAs to support the planning and management of the PA*: implemented to establish the PA vision, conservation goals, zoning system, principles, policies and management rules;
3. *GAs related to land uses and socio-economic activities:* focused on establishing sustainable exploitation of natural resources in appropriate economic and social conditions for conservation of the National Park;
4. *GAs focused on capacity-building and community engagement*: aiming at engaging stakeholders in the conservation of the National Park, and more generally to make it meaningful to society.

In addition, data collected through the sociogram were quantitatively analysed through a rising categorization on three levels for both axes of influence and dependence (High level: 3 points; Medium level: 2 points; Low level; 1 point). In this way, each stakeholder identified was scored in both axes by the respondents. Finally, the stakeholders were ranked according to their final scoring.

3.6. Results

3.6.1. Stakeholders within the SGNP governance network

We identified a total of 87 stakeholders within the governance network of the SGNP. They belong to the public sector (61), civil society entities (24), and socially recognised people (2) (Table 1). Table 1 shows the categories according to different typologies of stakeholders and the number of the identified stakeholders within each one. It is essential to highlight that this is not an exhaustive classification based on ideal types of stakeholders, but rather a practical typology.

[1] It should be noted that the aim of these categories was to facilitate the comprehension of the inventory of GAs (section 6.3, Table 2). Therefore, these should not be interpreted as absolute categories since a determined GA could be used simultaneously with different purposes and, thus, could be classified in more than one of these categories.

Table 1. Classification of stakeholder categories, different typologies of stakeholders and number of interviewees in each one.

Stakeholder categories	Typology of stakeholders		No.
Public sector	State administrations	International level	2
		National level	7
		Regional level	14
		Supra-municipal	2
		Municipal	28
		State-own enterprises/foundations	3
	Universities and education and research centres		5
Civil society entities	Non-profit organisations		16
	Federations		2
	Trade Unions		2
	Local Action Groups		2
	Private companies		2
Socially recognised individuals	Scientists /Naturalists		2
Total			**87**

The stakeholders of the public sector include numerous state administrations at international, national, regional, supra-municipal and municipal scale and state own-enterprises/foundations. Their sectors of activity are mainly related to public policy and general administration (49%), natural resources management (25%), infrastructure (5%), vigilance and control (5%), and defence (1%) (Appendix E, Table E1). In this category, we also found several universities and education and research centres focused on education and outreaching (8%) and research (7%). Regarding the categories of civil society entities (i.e. non-profit organisations, federations, trade unions, local actions groups and private companies), we identified that these are mainly dealing with outdoor activities and sports (30%), environmental advocacy (25%), agriculture and livestock (13%), rural development (8%), cultural heritage (8%), tourism (8%), and forest (4%) and private landowners (4%) (Appendix E, Table E1). Within the category of socially recognised individuals, we found scientists and naturalists related to environmental conservation (100%). Table E1 (Appendix E) shows the list of each identified stakeholder, its typology and primary sector of activity, and whether they are involved in the major decision-making bodies in the SGNP.

3.6.2. Major decision-making bodies in the SGNP

The review of policy documents revealed that the SGNP is recognized as a transboundary National Park in which governance is led by two state administrations at regional level (Madrid and Castilla y León). To facilitate an effective and coordinated management in this National Park, we identified that there are three legally-established major decision-making bodies of the PA, through which stakeholders can develop GAs within the institutional setting:

- *The Coordination Board (Comisión de Coordinación)*. This board ensures integrated management of the SGNP for the conservation goals according to the national guidelines established by the National Parks Autonomous Agency (OAPN) (Ministry for the Ecological Transition). It was conceived as the committee to coordinate decision-making adopted by the two regional state administrations (2 representatives of

each administration) and the national state administration (4 representatives of this administration) (Law 7, 2003).

- *The Management Board (Comisión de Gestión)*. This is the coordinated management board of the SGNP between the regional state administrations of Madrid and Castilla y León. These state administrations hold complete authority, responsibility and accountability for the National Park management decision-making and enforcement (Decree 28a-b, 2014). This board includes 6 representatives, 3 of them appointed by each regional state administration, one of them being the National Park co-director of each regional state administration.

- *The Advisory Board (Patronato)*. It is the official advisory board of the National Park. The aim of this board is to promote the participation and involvement of society in the management of the SGNP (Law 7, 2013). With this purpose, and when the park was created, both the management and coordination boards appointed key local stakeholders to be represented on this board, and it was done according to the guidelines established by the Spanish legislation about National Parks (Law 30, 2014). The advisory board membership include 72% of state administrations represented at different scales (from national to local), and 28% representatives of other stakeholders such as universities, civil society entities and socially recognized individuals.

Beyond these official decision-making bodies, we found that the two regional state administrations in charge of the SGNP have conventional institutional procedures through which currently involved stakeholders and the general public can, to a greater or lesser extent, interact and attempt to establish new GAs (e.g. public consultation on the park's management plans and mechanisms for registration of complaints or suggestions). These formal organizational forms can coexist with informal and personal relationships that can also support other arrangements for conservation. The next section presents a more detailed description of the formal procedures and informal routines used to establish GAs in the SGNP.

3.6.3. Governance Arrangements Inventory within the SGNP

We identified and assessed a total of 48[2] GAs in the SGNP, of which 75% (36) are established via formal procedures and 25% (12) through informal routines. Table 2 shows the identified GAs in the National Park and the description of the mechanisms that shaped them, their nature, type of stakeholders involved, the division of responsibilities between them while developing the GAs, their ability to achieve the desired arrangement, and the assets to leverage this ability. A detailed description of the conceptual basis of Table 2 is included in section 4.

On this basis, the comparative analysis between the GAs established through formal procedures and informal routines in the SGNP revealed the following typologies:

- Formal GAs: 44% are prescriptive, 28% cooperative, 22% consultative and 6% informative.

- Informal GAs: 92% are cooperative and 8% informative.

[2] This amount of GAs should not be interpreted as an exhaustive inventory of all GAs in the site. Our research was focused on identifying the variety of GAs on the site.

Table 2. Inventory of the GAs identified in the SGNP. GAs are characterized by the mechanisms shaping them, their nature (formal procedure/informal routine), type of stakeholders involved, division of responsibilities between them while developing the arrangement, their level of influence to achieve the desired arrangement, type of GA according to stakeholders' responsibility and influence, and the assets to leverage it.

GA categories	Mechanism shaping the GA	Identified GA	Formal/ Informal GA	Stakeholders involved	Stakeholders' responsibility	Stake-holders' influence	Type of GAs	Assets to leverage
1. Extension of the National Park	1.1. International, European and National legislation to protect the SGNP legally	International pronouncement, declaration and recognition as PA: pronouncement of the Sierra de Guadarrama National Park (Law 7, 2003; Law 30, 2014), declaration as a site of Community importance (SCI), as r ecognition as Biosphere Reserves by UNESCO (Cuenca Alta del Manzanares and Real Sitio de San Ildefonso- El Espinar)	Formal procedure	Public sector (state administra-tions)	Concentrated in the state administrations which hold the authority	Greater ability	Prescriptive	Social capital
	1.2. Treaties, protocols and memoranda of understanding to establish the entire territory of the SGNP	Protocol on cross-border cooperation between the Regional Autonomous Communities of Madrid and Castilla y León	Formal procedure	Public sector (state administra-tions)	Shared by stakeholders involved	Greater ability	Cooperative	Human, social and financial capital
	1.3. Agreements with public estate owners to establish land use	Declaration of the Peripheral Protection Zone, Peripheral Protection Zone and Socio-economic Area of Influence of the SGNP	Formal procedure	Public sector (state administra-tions)	Concentrated in the state administrations which hold the authority	Greater ability	Prescriptive	Human, social and financial capital
	1.4. Agreements with private estate owners to establish land use	Declaration of territorial enclave in private lands	Formal procedure	Public sector (state administra-tions)	Concentrated in the state administrations which hold the authority	Greater ability	Prescriptive	Social capital

Table 2. (Continued)

GA categories	Mechanism shaping the GA	Identified GA	Formal/ Informal GA	Stakeholders involved	Stakeholders' responsibility	Stake-holders' influence	Type of GAs	Assets to leverage
1. Extension of the National Park	1.5. Regional legislation to determine the territorial delimitation of the SGNP	The Natural Resources Ordination Plans of the Sierra de Guadarrama (PORNs): Decree 96, 2009 Madrid Community, and Decree 4, 2010 Castilla y León Community	Formal procedure	Public sector, civil society entities and socially recognised individuals	Shared by the stakeholders involved	Lower ability	Consultative	Human and social capital
		Minutes of the participative processes to develop the Natural Resources Ordination Plans	Formal procedure		Shared by the stakeholders involved	Lower ability	Consultative	Human and social capital
	1.6. Workgroups to reach consensus about the territorial limits of the SGNP	Studies regarding the ecological values of the Sierra de Guadarrama and the desired boundaries of the SGNP	Informal routine	Public sector, civil society entities and socially recognised individuals	Shared by the stakeholders involved	Greater ability	Cooperative	Human and social capital
	1.7. Meetings to gain support for the acceptance of the SGNP from stakeholders	Talks promoted by experts to inform about the declaration of the SGNP and potential benefits	Informal routine	Public sector, civil society entities and social recognised individuals	Shared by the stakeholders involved	Greater ability	Cooperative	Social capital
	1.8. Unofficial communications to support the legal declaration of the SGNP	Unofficial communications between stakeholders to establish a proposal of delimitation for the SGNP before its formal approval by policy-makers	Informal routine	Public sector, civil society entities and social recognised individuals	Shared by the stakeholders involved	Greater ability	Cooperative	Human and social capital

Table 2. (Continued)

GA categories	Mechanism shaping the GA	Identified GA	Formal/ Informal GA	Stakeholders involved	Stakeholders' responsibility	Stake-holders' influence	Type of GAs	Assets to leverage
2. Support for planning and manage-ment	2.1. Coordination mechanisms between PA authorities	Coordination Board between General State Administration and the Autonomous Communities of Madrid and Castilla y León (Law 7, 2003)	Formal procedure	Public sector (state administra-tions)	Shared by the stakeholders involved	Greater ability	Cooperative	Social and financial capital
		Management Board between the Autonomous Communities of Madrid and Castilla y León (Decree 28a-b, 2014)	Formal procedure	Public sector (state administra-tions)	Shared by the stakeholders involved	Greater ability	Cooperative	Social and financial capital
	2.2. Board for the participation of stakeholders in the SGNP	Advisory board to promote the cooperation and involvement of stakeholders and sectors in management actions (Decree 28a-b, 2014): meetings and approval of annual activity reports	Formal procedure	Public sector, civil society entities and social recognised individuals	Shared by the stakeholders involved	Lower ability	Consultative	Human, social and financial capital
	2.3. Regional legislation to determine the use and management of the SGNP	The Plans for Use and Management of the SGNP(Decree 16, 2019 Castilla y León Community[1]) [1] The Plan has not been yet approved legally in the Community of Madrid	Formal procedure	Public sector, civil society entities and social recognised individuals	Shared by the stakeholders involved	Lower ability	Consultative	Human, social and financial capital
		The expert report resulting from consulting and participation to develop the Plans for Use and Management of the SGNP	Formal procedure	Public sector and social recognised individuals	Shared by the stakeholders involved	Lower ability	Consultative	Human and social capital
		Minutes of the participative process implemented to develop the Plans for Use and Management of the SGNP	Formal procedure	Public sector, civil society entities and social recognised individual	Shared by the stakeholders involved	Lower ability	Consultative	Human and social capital

Table 2. (Continued)

GA categories	Mechanism shaping the GA	Identified GA	Formal/ Informal GA	Stakeholders involved	Stakeholders' responsibility	Stake-holders' influence	Type of GAs	Assets to leverage
2. Support for planning and manage-ment	2.3. Regional legislation to determine the use and management of the SGNP	Legal allegations to modify the Plans for Use and Management of the SGNP	Formal procedure	Public sector, civil society entities and social recognised individual	Concentrated in specific stakeholders	Lower ability	Informative	Human, social and financial capital
	2.4. Public/private contracts and tenders to develop the PRUGs and activities programs	Management entrustment with public/private companies for technical assistance	Formal procedure	Public sector (state administrations and state-own companies/ foundations)	Concentrated in the state administrations which hold the authority	Lower ability	Prescriptive	Social and financial capital
	2.5. Collaborative agreements between public administrations	Public agreements to monitor and sanction natural resources use and actions according to PA regulations at the national and regional scale	Formal procedure	Public sector (state administrations)	Shared by the stakeholders involved	Greater capacity	Cooperative	Social and financial capital
	2.6. Workgroups to reach a consensus on regulating activities in the SGNP	Technical instructions for regulating outdoor activities in the SGNP	Informal routine	Public sector, civil society entities and social recognised individuals	Shared by the stakeholders involved	Greater capacity	Cooperative	Human and social capital

Table 2. (Continued)

GA categories	Mechanism shaping the GA	Identified GA	Formal/ Informal GA	Stakeholders involved	Stakeholders' responsibility	Stake-holders' influence	Type of GAs	Assets to leverage
2. Support for planning and manage-ment	2.7. Discussion groups to analyse management issues from different perspectives (face-to-face and/or via digital social networks)	Collaborative efforts to address unplanned management issues in the SGNP	Informal routine	Public sector, civil society entities and social recognised individuals	Shared by the stakeholders involved	Greater capacity	Cooperative	Human capital
	2.8. Bilateral or sectorial meetings to address particular issues in the SGNP	Specific conservation decisions built upon bilateral/sectorial meetings	Informal routine	Public sector and civil society entities	Shared by the stakeholders involved	Greater capacity	Cooperative	Human, social and financial capital
		Alignment of interests between specific stakeholder to agree positions concerning certain decisions within the Advisory Board	Informal routine	Public sector (state administra-tions at the municipal level)	Shared by the stakeholders involved	Greater capacity	Cooperative	Human capital
	2.9. Unofficial communications to deal with urgent matters related to the SGNP	Oral agreements to address urgent issues related to day-to-day management	Informal routine	Public sector and civil society entities	Shared by the stakeholders involved	Greater capacity	Cooperative	Human, social and financial capital

Table 2. (Continued)

GA categories	Mechanism shaping the GA	Identified GA	Formal/ Informal GA	Stakeholders involved	Stakeholders' responsibility	Stake-holders' influence	Type of GAs	Assets to leverage
3. Land uses and socio-economic activities	3.1. Management plans to use natural resources	Pasture use plans and forest management plans	Formal procedure	Public sector and civil society entities groups	Concentrated in the state administrations which hold the authority	Lower ability	Prescriptive	Social and financial capital
	3.2. Coordination mechanisms to manage natural resources in the SGNP	Public agreements to establish technical criteria in the pasture and forest management plans used as the basis for awarding compatible activities	Formal procedure	Public sector (state administrations)	Concentrated in the state administrations which hold the authority	Lower capacity	Prescriptive	Human and social capital
	3.3. Concessions to maintain traditional socio-economic activities in the SGNP	Concession for wood exploitation with commercial purposes by the National Parks Autonomous Agency public in Peripheral Protection Zone	Formal procedure	Public sector (state administrations)	Concentrated in the state administrations which hold the authority	Lower capacity	Prescriptive	Social and financial capital
		Concessions for extensive pasture farming	Formal procedure	Public sector and civil society entities groups	Concentrated in the state administrations which hold the authority	Lower capacity	Prescriptive	Social and financial capital
		Concession for developing traditional firewood practices in specific municipalities	Formal procedure	Public sector (state administrations)	Concentrated in the state administrations which hold the authority	Lower capacity	Prescriptive	Social capital
		Extraordinary concession for developing mountain races	Formal procedure	Public sector and civil society entities groups	Concentrated in the state administrations which hold the authority	Lower capacity	Prescriptive	Social and financial capital

Table 2. (Continued)

GA categories	Mechanism shaping the GA	Identified GA	Formal/ Informal GA	Stakeholders involved	Stakeholders' responsibility	Stake-holders' influence	Type of GAs	Assets to leverage
3. Land uses and socio-economic activities	3.4. Collaborative agreements to promote sustainable development	Economic agreements to promote sustainable development	Formal procedure	Public sector (state administrations)	Shared by the stakeholders involved	Greater ability	Cooperative	Human, social and financial capital
	3.5. Authorizations and requirements to develop socio-economic activities compatibles with the goal of the SGNP	Authorizations to conduct eco-tourism activities	Formal procedure	Public sector and civil society entities groups	Concentrated in the state administrations which hold the authority	Lower ability	Prescriptive	Social and financial capital
		Requirements of professional credentials to work in the SGNP	Formal procedure	Public sector and civil society entities groups	Concentrated in the state administrations which hold the authority	Lower ability	Prescriptive	Human, social and financial capital
	3.6. Concessions to promote sustainable socio-economic activities	Public agreements to encourage sustainable operations in the SGNP (e.g. research activities, resorts for Nordic skiing)	Formal procedure	Public sector and civil society entities groups	Shared by the stakeholders involved	Greater ability	Cooperative	Human, social and financial capital
	3.7. Informal meetings to approximate positions about conflicts related to land use	Conflict resolution about specific issues derived from the different land uses in the SGNP	Informal routine	Public sector and civil society entities groups	Shared by the stakeholders involved	Greater ability	Cooperative	Human capital
	3.8. Unofficial communications to develop socio-economic activities in the SGNP	Oral requirements to authorize specific socio-economic activities (for those case in which the authorizations had been requested previously via the formal procedure but none official resolution had been received before developing the activity)	Informal routine	Public sector and civil society entities groups	Concentrated in specific stakeholders	Lower ability	Informative	Human and social capital

Table 2. (Continued)

GA categories	Mechanism shaping the GA	Identified GA	Formal/ Informal GA	Stakeholders involved	Stakeholders' responsibility	Stake-holders' influence	Type of GAs	Assets to leverage
4. Capacity-building and community enga-gement	4.1. Public/private contracts/agreements to provide information and education programmes	Management entrustment with public/private company for the management of visitors' centres and training activities programmes	Formal procedure	Public sector (state administrations and state-own companies/ foundations)	Concentrated in the state administrations which hold the authority	Lower ability	Prescriptive	Social and financial capital
		Collaborative work to put into practice the environmental program "Nature's train" ("Tren de la Naturaleza")	Formal procedure	Public sector (state administrations and state-own companies/ foundations)	Shared by the stakeholders involved	Greater capacity	Cooperative	Social and financial capital
		Public/private agreements to outreach the ecological values of the SGNP (e.g. experts seminars, photographic exhibitions and film events, guided tours)	Formal procedure	Public sector, civil society entities groups and socially recognised individuals	Shared by the stakeholders involved	Greater ability	Cooperative	Human, social and financial capital
		Development of a webpage to provide information about the SGNP	Formal procedure	Public sector (state administrations)	Concentrated in the state administrations which hold the authority	Lower ability	Informative	Social and financial capital
		Creation of management and scientific blogs to increase environmental awareness	Formal procedure	Public sector, civil society entities groups and socially recognised individuals	Shared by the stakeholders involved	Greater ability	Cooperative	Human and social capital

Table 2. (Continued)

GA categories	Mechanism shaping the GA	Identified GA	Formal/ Informal GA	Stakeholders involved	Stakeholders' responsibility	Stake-holders' influence	Type of GAs	Assets to leverage
4. Capacity-building and community enga-gement	4.2. Tools for exchanging or collecting information about the SGNP	Feedbacks on day-to-day management through emails and digital social media	Formal procedure	Public sector, civil society entities groups and socially recognised individuals	Shared by the stakeholders involved	Lower ability	Consultative	Human and social capital
		Satisfaction surveys of visitor's opinion about the SGNP	Formal procedure	Public sector, civil society entities groups and socially recognised individuals	Shared by the stakeholders involved	Lower ability	Consultative	Human and social capital
	4.3. Incentive schemes for community engagement in biodiversity conservation	Public grants to the municipalities with land inside of the NP to develop conservation initiatives	Formal procedure	Public sector (state administrations and state-own companies/ foundations)	Concentrated in the state administrations which hold the authority	Lower ability	Prescriptive	Human, social and financial capital
		Mutual support for developing activities relevant to the conservation of the SGNP	Formal procedure	Public administrations	Shared by the stakeholders involved	Greater ability	Cooperative	Human and social and financial capital
		Recognition of people/institutions engaged in the conservation of the SGNP as representatives of the Advisory Board (e.g. socially recognised individuals and non-profit organizations)	Formal procedure	Public sector and civil society entities groups	Concentrated in the state administrations which hold the authority	Lower ability	Prescriptive	Human and social capital

Table 2. (Continued)

GA categories	Mechanism shaping the GA	Identified GA	Formal/ Informal GA	Stakeholders involved	Stakeholders' responsibility	Stake-holders' influence	Type of GAs	Assets to leverage
4. Capacity-building and community enga-gement	4.4. Collaborative agreements with public administrations to develop programmes for voluntary work	Public contract to support the programmes for voluntary work in the SGNP	Formal procedure	Public sector (state administrations and state-own companies/ foundations)	Concentrated in the state administrations who holds the authority	Lower ability	Prescriptive	Human, social and financial capital
	4.6. Unofficial communications to support specific conservation initiatives in the SGNP	Oral agreements to support conservation initiatives developed by stakeholders such as programmes for voluntary work, reforestation activities, etc.	Informal routine	Public sector and civil society entities groups	Shared by the stakeholders involved	Greater ability	Cooperative	Human and social and financial capital
	4.7. Involvement in conservation initiatives promoted by stakeholders in the SGNP	Seminars, courses and guide tours developed to increase environmental awareness	Informal routine	Public sector and civil society entities groups	Shared by the stakeholders involved	Greater ability	Cooperative	Human and social and financial capital

3.6.4. Perception of the power-laden and dependence context within the SGNP governance network

The analysis of the sociograms showed that those stakeholders perceived as having the most significant ability to influence decision-making in the SGNP are of two types. On the one hand, the state administrations at national and regional levels, particularly those who are members of the official Coordination and Management Boards. On the other hand, a non-profit organization, mainly focused on environmental advocacy, which is member of the Advisory Board of the SGPN. This influence is attributed mostly to the legal capacity that the state administrations have to make decisions and the non-profit organization availability of financial and human resources to enforce legislation on conservation. On the contrary, participants perceive that other state administrations at the national and regional level, the state-own companies, and other non-profit organizations dealing with environmental advocacy and forest management have the lowest capacity to influence decision-making in the SGNP. Their limited capacity to shape decisions is mainly related to their lack of representation within the Advisory Board of the SGNP and to insufficient resources to make their voices heard.

Regarding the perception about the dependence of the SGNP decision-making and management, the most dependent stakeholders are also the members of the Coordination and Management Boards, and other non-profit organizations related to outdoor sports and advocacy (a member of the Advisory Board). By contrast, the stakeholders perceived as the least dependant included other state administrations at the national and regional levels, state-own companies, universities and education and research centres. The argument for the higher or lower level of dependency was based on whether the effective development of the daily activities conducted by the stakeholders was more or less linked to the SNGP management and decision-making.

4. Final remarks

Within institutional settings such as PAs, it is widely recognized that formal organizational procedures through which stakeholders can establish GAs are entangled with informal routines and personal relationships that also support arrangements for conservation (Borrini-Feyerabend et al., 2013; High et al., 2004). Although much of the literature on governance is focused on understanding formal organizational arrangements, there is increasing recognition about the need to conduct more research on the important role that the informal routines can play in decision-making (High et al., 2004). Such informal forms could be interpreted as inherent parts of governance systems that might offer opportunities to facilitate an organizational change towards a more active stakeholders' engagement in official decision-making process (Armitage et al., 2012; High et al., 2004). However, it could also be the case that deeply based informal routines managed by few local people end up being turned into a sort of control mechanisms that avoid others' voices to be heard, which can hinder stakeholders' active involvement in PAs governance. This report represents a first step of the ENVISION project efforts to contribute to these debates in the context of PAs. Our study in the SGNP reveals that both formal procedures and informal routines are usually utilized by a wide sort of stakeholders to shape GAs in this Spanish PA. We have identified 48 GAs (36 formal and 12 informal) and classified them according to varying degrees of responsibility and

influence of the stakeholders involved. These findings provide an empirical basis to further reflect on who and how participates in the SGNP making, the features of the mechanisms that shape both formal and informal arrangements and their implications in terms of stakeholders' engagement and inclusive conservation.

Regarding the formal governance network, we have identified a diversity of mechanisms shaping GAs, namely prescriptive, informative, consultative and cooperative. Specifically, the results reveal that 44% of GAs developed through formal mechanisms had a prescriptive character. This means that such arrangements that are shaped through mechanisms led by the state administrations, at national and regional levels, holding the authority *de jure* in the National Park, leave little space for interaction with other stakeholders. These mechanisms correspond with hierarchical organizational forms to make decisions under the legal competences of governments such as the pronouncement of the SGNP and the creation of its Management Board. We have also found 6% of the formally-based GAs to be of an informative nature. These referred to formal organizational forms that allow stakeholders to take responsibility for the implementation of the arrangement but to a limited extent due to the concentration of decisions in the hands of particular stakeholders, which are usually members of the major decision-making bodies (section 6.2). An example of informative GAs is the legal allegations developed by non-profit organizations to modify the management plans in the National Park.

Our findings also suggest that the efforts made within the institutional setting for promoting a deeper stakeholder involvement become evident through the identified 22% of the formally-based GA shaped through mechanisms based on a consultative character (e.g. the Advisory Board and the plans for use and management of the SGNP). Although these mechanisms seem to be more permeable in terms of stakeholders' involvement than the previous ones, our analysis reveals three symptoms of abnormal functioning in terms of engagement. First, consultation mechanisms in the SGNP have predefined structures by law that favor the inclusion of the representatives of the major stakeholder groups (e.g., state administrations at the local scale) in detriment of those of minority and marginal sectors such as the educational, cultural and the local communities in general. Second, these minority groups of stakeholders share a perceived sense of exclusion from being involved in these mechanisms by the representatives of the Advisory Board because they rather promote information exchange. Third, these consultation mechanisms are largely inspired by unidirectional and indirect models of communication. Through such mechanisms the state administrations holding the authority in the SGNP usually inform stakeholders and inquire about their views via management documents in both written and verbal forms. Although this type of communication is key to reach stakeholders, it is not necessarily effective in promoting their actual involvement in decision-making (Arnstein 2010). The reason behind this consideration is that the nature of these mechanisms cannot generate trust and understanding to facilitate collaborative arrangements in terms of a win-win situation.

In addition to prescriptive, informative and consultation GAs, we have found that 28% of GAs established through formal mechanisms build upon a cooperative basis. Such mechanisms are characterized by facilitating a culture of shared responsibility to develop GAs and foster stakeholders' equal ability to achieve the desired arrangements. In other words, these formal mechanisms are oriented to develop win-win strategies among stakeholders in conservation. Examples of such strategies or formal GAs are the public agreements to support surveillance

and control activities between state administrations at national and regional levels, and other public/private agreements focused on building capacity on the ecological values of the SGNP (e.g. experts' seminars, photographic exhibitions and film events). The importance and generative quality of these mechanisms in terms of inclusive governance lie in their collaborative nature. At this point, it should be emphasised the concept of collaboration stated by Thomson et al. (2009) "Collaboration is a process in which autonomous or semiautonomous actors interact through formal and informal, jointly creating rules and structures governing their relationships and way to act or decide on the issues that brought them together. It is a process involving shared norms and mutually beneficial interactions". On this conceptual basis, mechanisms that shape cooperative GAs in terms of mutual benefits can be pivotal to creating social learning conditions through the integration of different types of knowledge and perspectives, as well as to facilitate that stakeholders can collaborate in arrangements for conservation despite their interests potentially being fundamentally different (Armitage et al., 2012).

Contrarily to the variability of GAs found in the formal governance network, we have identified that more than 90% of GAs established through informal routines have a cooperative character. Two examples of informal GAs are the conflict resolution mechanism related to land uses in the SGNP, and oral agreements to support conservation initiatives developed by stakeholders such as programs for voluntary work and reforestation activities. These informal mechanisms referred to temporal spaces for enhancing communication and exchange of information and visions that are created outside the formal governance network by interested stakeholders. This led to gradually generate proximity, trustworthy relationships and understanding between stakeholders, which facilitates the development of GAs in terms of mutual interest. This result is in accordance with previous studies that argue that beyond considering these informal mechanisms as sources of negative or irrelevant outcomes that derive from the invisible system of any institutional setting, these represent a window of opportunity for stakeholders to establish beneficial arrangements for conservation (High et al., 2004). Despite of the benefits of such informal mechanisms regarding stakeholders' engagement in conservation, we also found that these routines were usually established through sectoral or bilateral interactions. This could lead to jeorpardizing the trust between stakeholder groups and creating social exclusion, sectoral lobbies, and conflicts. Whatever the case may be, and given that informal arrangements seem to play a relevant role in the governance of the SGNP, further discussion on the governance of PAs in Spain can address the question on whether Spanish National Parks should share the same formal governance system or rather this can be adapted to each social-ecological context.

These results provide an empirical basis to identify future locally-based proposals to foster a transition towards a more inclusive governance system for conservation. On this basis, and as part of ENVISION, and particularly in relation to the next research activities under WP5, we will:

- Understand how these formal and informal GAs could help strengthening horizontal and vertical linkages amongst scientists, decision-makers, natural resource users, and the general public. In addition, we will theorize about advantages and disadvantages of undertaking a formalization of informal arrangements, and how it could be accomplished in the context of SGNP.

- Deeply examine stakeholders' power relationships in the PA management and decision-making processes through social network analysis, which may guide conservation and development policies on addressing equity and social justice concerns;
- Collaboratively identify with the PA stakeholders potential leverage points to shape the institutional setting towards more inclusive conservation.
- In sum, the research presented in this report provides a useful analytical framework for scholars and decision-makers to analyse governance settings and arrangements in National Parks and other PAs through the lenses of inclusive conservation, to identify their strengths and weaknesses and to reflect on how to improve stakeholders' engagement in the management of PAs.

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6. Appendices

Appendix A. Set of variables assessed in the study

The set of second-tier and third-tier variables of the 4 first-components assessed in the study is described below according to definitions proposed from diverse authors (Details of the review protocol are included in section 4 "Conceptual framework"). Please note that the second-tier variables associated with the SES's framework are identified according to the codification established originally by Ostrom's framework:

Governance System (GS)

The analysis of the first-tier component will be focused on exploring the governance processes and mechanisms through which decisions on the SGNP management are made and implemented. The suggested set of variables analyzed is included in Table A1.

Table A1. Variables selected for the Governance System.

Variables	Description
GS3. Network structure	Social network configuration at local level and their interactions (Delgado-Serrano and Ramos, 2015)
GS4. Property-rights systems [1]	Local property-rights systems and their relation to resource management (Delgado-Serrano and Ramos, 2015)
GS5. Operational rules [1]	Local rules for defining who, how, where, when, and why have access to local natural resources (Delgado-Serrano and Ramos, 2015)
GS7. Constitutional rules [1]	Legal framework defined by regional and national governments (Delgado-Serrano and Ramos, 2015)
GS8. Monitoring and sanctioning processes [1]	Locally adapted processes to monitor and sanction natural resource use and management strategies (Delgado-Serrano and Ramos, 2015)

[1] Type of Governance Arrangement

Actors (A)

The first-component includes actors (both organisations and non-organised individuals) with a stake in SGNP governance. The analysis of this component was focused on analyzing the variables included in Table A2.

Table A2. Variables selected for the Actors component.

Variables	Description
A1. Number of relevant actors	Stakeholders with influence on the protected area (Delgado-Serrano and Ramos, 2015)

Table A2. (Continued).

Variables	Description
A6. Norms/Social capital	Levels of social and institutional interactions among stakeholders, including aspects like reciprocity and trust (Delgado-Serrano and Ramos, 2015)
Collaboration	Process in which actors interact through formal and informal negotiation to provide mutual benefits (Thomson et al. 2009)
Motivation	Reasons for interacting with other stakeholders in the protected area
A7. Knowledge of SES/mental models	Level of knowledge among the stakeholders of the protected area conditions, the potential and real disturbance patterns and its possible effects (Delgado-Serrano and Ramos, 2015)
Policy knowledge	Level of knowledge about formal mechanisms to make decision (Rastogi et al. 2010)
A8. Importance of resources	Users dependence on resources for livelihood (Delgado-Serrano and Ramos, 2015)

Interactions (I)

The analysis of the interactions among components was focused on analyzing the set of variables described in Table A3.

Table A3. Variables selected for the Interactions component.

Variables	Description
I2. Information sharing	Methods for information sharing among stakeholders (Delgado-Serrano and Ramos, 2015)
I3. Deliberation process	Deliberative processes in which stakeholders are engaged (Delgado-Serrano and Ramos, 2015)
I4. Conflicts	Existing conflicts among stakeholders (Delgado-Serrano and Ramos, 2015)
I6. Lobbing activities	Internal and external influence capacity of the stakeholders (Delgado-Serrano and Ramos, 2015)
Influence	Stakeholders' capacity of influencing natural resource management decision-making within the protected area (Armitage et al. 2012, Rastogi et al. 2010)
Dependence	Level in which stakeholders can be affected by decisions/actions made in the protected area (Reed et al. 2009)
I8. Networking activities	Networking and partnership activities of the stakeholders within the community (Delgado-Serrano and Ramos, 2015)

Outcomes (O)

This first-component included variables focused on describing the results of the interactions among different components and their interrelations. The set of variables is shown in Table A4.

Table A4. Variables selected for the Outcomes component.

Variables	Description
O1. Socioeconomic performance measures (Oc1. Equity)	Evolution and impacts of the socio-economic concepts included (Delgado-Serrano and Ramos, 2015)
O1a. Efficiency	
Full participation in decision-making	Stakeholders satisfied with how decisions are taken in the protected area (Boillat et al. 2018)
Access to justice	Stakeholder resolve satisfactory disputes due to protected area establishment or/and management by existing mechanisms (Boillat et al. 2018)
O1c. Equity	
Benefits	Stakeholders groups receiving tangible benefits from management actions in a way that respects culturally accepted distributional principles (Boillat et al. 2018)
O1d. Accountability	Stakeholder groups knowing to whom to raise concerns for solving issues related to management actions (Boillat et al.2018)
O1e. Effects of deliberation processes:	
Knowledge diversity	Knowledge diversity included in the management of the protected area (Boillat et al. 2018)
Transparency	Stakeholders accessing information about management and planning (Boillat et al. 2018)
O1f.Empowerment	Stakeholders have legitimacy and their voices are heard to make decisions in the protected area (Borrini-Feyerabend et al. 2013)

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Appendix B. Interview questions

1. Stake in the SGNP

1.1. Could you explain how your institution/collective uses the SGNP?
1.2. What benefit(s) does your institution/collective receive from SGNP? (e.g., social, spiritual, economic, etc.)

2. Position view on the governance model

2.1 How would you define the management model developed by the state administrations which hold the authority in the SGNP to achieve conservation objectives? (e.g., permissive, excessive, consistent); Do you consider that the current management model contributes to achieving the conservation objectives of the SGNP?; What issues do you value positively of this model? Which do you evaluate negatively? Can you tell us what type of position does your institution/collective adopt regarding the management of the SGNP? (e.g., support, neutral, opponent).

2.2. Do you think that the conservation decisions implemented in the SGNP could benefit more to some institutions/collectives/sectors than to others? If so, which of them is the most benefited by such decisions, and which of them is the most harmed?.

2.3. How is the SGNP affecting to the local population (positively or negatively)?; Could you explain why?; Do you believe that the conservation decisions implemented in the SGNP can affect some areas of the protected area more than others?.

3. Opinion on modes of adopting decisions

3.1. Has your institution/collective participated (or does it participate) in any way in the planning/management of the SGNP? How does it do it (e.g., Advisory board, public participation process, meetings, informal meetings, etc.)?; Could you tell us why your institution/collective participates by this means?

3.2. If your institution/collective is a member of the Advisory Board of the SGNP, could you tell us how long you have been participating in this board; what is your central role and responsibility there; what decisions do you have to make regularly?

3.3. In general, are you satisfied with the results of participation in the SNGP; Could you tell us why?; Do you think that your opinions are taken into account by the state administrations which hold the authority in the SGNP? Is there some devolution or follow-up of the decisions that are taken in the SGNP to your institution/collective?

3.4. Does the state administrations which hold the authority in the SGNP share information related to management with stakeholders?; Does it know by what means, mechanisms, or procedures the authorities do so?; In general, do you consider the authorities are transparent?

3.5. Do you believe that the conservation decisions taken in the SGNP integrate different types of knowledge (e.g., local, scientific, and technical knowledge)?; Do you think that there is any of this knowledge is not sufficiently represented in such decisions?

3.6. Do you think that all institutions/collectives are equally able to participate in and give their opinion on the management of the SGNP?; Why?; Who is more likely to participate/give their opinions?

3.7. Do you know if there are any formal mechanisms to use to raise issues related to the management of the NGS? If so, what do you think of its functioning?

4. Perception of stakeholder's influence in decision-making and dependence on conservation decisions

4.1. Stakeholder identification.

In the following open list of stakeholders, you can find institutions/collectives that carries out some activity in the SGNP. Please, see the list.

Could you identify those institutions/collectives that you know?

Would you add an institution/collective or actor who is not represented on the list, and you think should be?

4.2. Influence/Dependence.

In the following Sociogram (Appendix B), you can see a diagram to classify institutions/collectives according to their ability to mobilize resources and exert influence on the management decisions in the SGNP (influence).

- Can you please identify those institutions/collectives/actors that have the most ability to influence?
- Can you tell us what type of resources that institution/collective has/may mobilize to influence on decision-making; and how does it use/mobilize them to exert that influence?
- And now, can you identify those that have less ability to influence?
- Can you tell us some of the barriers that can inhibit the influence of these institutions/collectives (e.g,, lack of resources)?

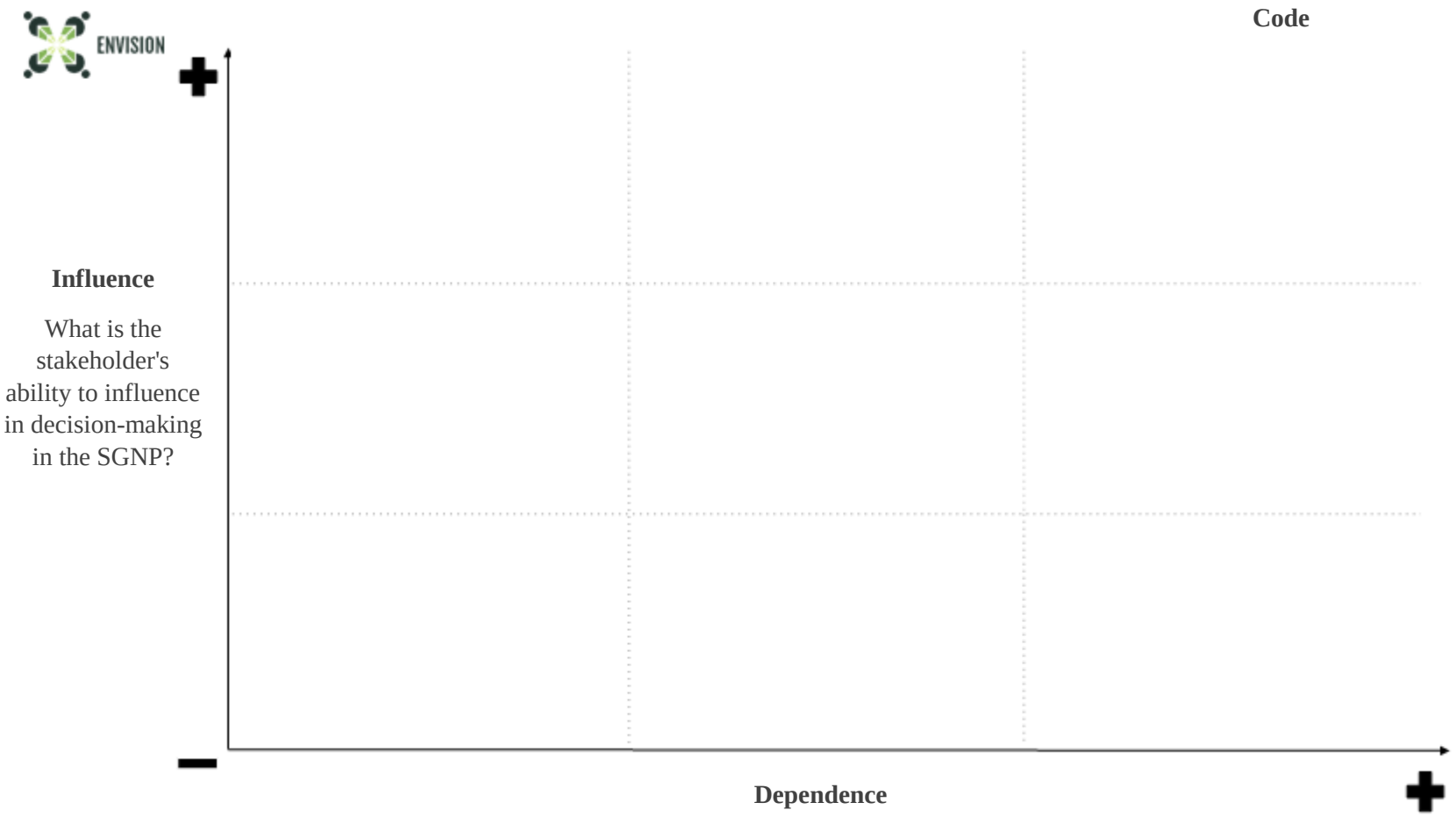
In the other axis of the diagram, you can see an axis to evaluate the degree of dependence of these institutions/collectives on the management of the SGNP (dependence).

- Using the marker, could you place the institutions/collectives mentioned on the axis of dependency?; Could you explain why you have placed them in that position?

Considering your institution/collective:

- Could you identify your institution/collective in the axes of influence and dependence?
- Could you explain to us why you have placed it in these positions?
- If you consider that your institution/collective has influence, can you tell us how your institution/collective uses/mobilizes its resources to exert that influence?

Appendix C. Sociogram



Appendix D. Template for field notebook

1. Interviewer feeling about the result of the interview:

- General position on the SNSP
- Stakes in the SGNP
- Position for/against state administrations that led the SGNP
- Involvement in the management of the SGNP and mechanism(s) of participation
- Predisposition to be involved (passively or actively) in the management of the SGNP

2. Has the participant seemed to feel comfortable during the interview? And does he/she seemed to have expressed himself or herself freely?

3. Has he/she ever felt self-conscious or uncomfortable about any topic?

4. Has there been any contradiction in what he/she has said throughout the interview about the relationship with other stakeholders of the SGNP?

5. Have he/she criticized any institution/collective/individual of the SGNP / praised the work of any institution/collective/individual of the SGNP?

6. Have been there any incidents during the interview?

7. Did he/she mention any event or information relevant to the study? And did he/she say his/her opinion on the usefulness of the investigations we are doing?

8. Other observations made during the day of this interview:
- Informal conversations in which the topic of the SGNP has come up
- Visits to SGNP facilities and highlights, including talks with technical staff

Appendix E. Identified stakeholders within the governance network

Table E1. Identified stakeholders, their type and their main sector of activity. The stakeholders related to the major decision-making bodies in the SGNP are also identified with superscripts.

Stakeholder	Type of stakeholder	Main sector of activity
Directorate of the SGNP of the Autonomous Community of Madrid [1,2,3]	State administrations at regional level	Natural resources management
Directorate of the SGNP of the Autonomous Community of Castilla y León [1,2,3]	State administrations at regional level	Natural resources management
Valsaín Center and Sawmill Manager - (National Parks Autonomous Agency - Ministry for the Ecological Transition) [1,3]	State administrations at national level	Natural resources management
Regional Office of the Ministry for an Environmental Transition at the Autonomous Community of Madrid [1,2,3]	State administrations at regional level	Natural resources management
Regional at the Autonomous Community of Castilla y León [1,2,3]	State administrations at regional level	Natural resources management
Regional Government of the Autonomous Community Madrid [1,3]	State administrations at regional level	Public policy-making and general administration
Regional Government of the Autonomous Community of Castilla y León [1,3]	State administrations at regional level	Public- policy-making and general administration
National Parks Autonomous Agency (OAPN) - Ministry for the Ecological Transition [1,3]	State administrations at national level	Natural resources management
Community of patrimonial properties "Ciudad y tierra de Segovia" [3]	State administrations at supra municipal level	Natural resources management
Community of patrimonial properties "Villa y Tierra de Pedraza" [3]	State administrations at supra-municipal level	Natural resources management
City council of Aldealengua de Pedraza [3]	State administrations at local level	Public- policy-making and general administration
City council of Basardilla [3]	State administrations at local level	Public- policy-making and general administration
City council of Collado Hermoso [3]	State administrations at local level	Public- policy-making and general administration
City council of El Espinar [3]	State administrations at local level	Public- policy-making and general administration
City council of La Losa [3]	State administrations at local level	Public- policy-making and general administration
City council of Navafría [3]	State administrations at local level	Public- policy-making and general administration

[1] Stakeholder member of the Coordination Board (Comisión de Coordinación); [2] Stakeholder member of the Management Board (Comisión de Gestión); [3] Stakeholder member of the Advisory Board (Patronato).

Table E1. (Continued)

Stakeholder	Type of stakeholder	Main sector of activity
City council of Navas de Riofrío [3]	State administrations at local level	Public- policy-making and general administration
City council of Palazuelos de Eresma [3]	State administrations at local level	Public- policy-making and general administration
City council of Real Sitio de San Ildefonso [3]	State administrations at local level	Public- policy-making and general administration
City council of Santiuste de Pedraza [3]	State administrations at local level	Public- policy-making and general administration
City council of Santo Domingo de Pirón [3]	State administrations at local level	Public- policy-making and general administration
City council of Segovia [3]	State administrations at local level	Public- policy-making and general administration
City council of Sotosalbos [3]	State administrations at local level	Public- policy-making and general administration
City council of Torre Val de San Pedro [3]	State administrations at local level	Public- policy-making and general administration
City council of Torrecaballeros [3]	State administrations at local level	Public- policy-making and general administration
City council of Tres Casas [3]	State administrations at local level	Public- policy-making and general administration
City council of Alameda del Valle [3]	State administrations at local level	Public- policy-making and general administration
City council of Becerril de la Sierra [3]	State administrations at local level	Public- policy-making and general administration
City council of Cercedilla [3]	State administrations at local level	Public- policy-making and general administration
City council of El Boalo, Mataelpino-Cerceda [3]	State administrations at local level	Public- policy-making and general administration
City council of Lozoya [3]	State administrations at local level	Public- policy-making and general administration
City council of Manzanares el Real [3]	State administrations at local level	Public- policy-making and general administration
City council of Miraflores de la Sierra [3]	State administrations at local level	Public- policy-making and general administration
City council of Navacerrada [3]	State administrations at local level	Public- policy-making and general administration
City council of Navarredonda y San Mamés [3]	State administrations at local level	Public- policy-making and general administration
City council of Pinilla del Valle [3]	State administrations at local level	Public- policy-making and general administration
City Council of Rascafría [3]	State administrations at local level	Public- policy-making and general administration
City council of Soto del Real [3]	State administrations at local level	Public- policy-making and general administration
Association of Private Landowners' in Castilla y León [3]	Non-profit organisations	Private landowners

[1]Stakeholder member of the Coordination Board (Comisión de Coordinación); [2] Stakeholder member of the Management Board (Comisión de Gestión); [3] Stakeholder member of the Advisory Board (Patronato).

Table E1. (Continued)

Stakeholder	Type of stakeholder	Main sector of activity
Universities of the Autonomous Community of Madrid [3]	Universities and education and research centres	Research
Universities of the Autonomous Community of Castilla y León [3]	Universities and education and research centres	Research
National Museum of Natural Sciences (Spanish National Research Council) [3]	Universities and education and research centres	Research
Ecologistas en Acción of the Autonomous Community of Madrid [3]	Non-profit organisations	Environmental advocacy
Ecologistas en Acción of Segovia [3]	Non-profit organisations	Environmental advocacy
Agricultural Association of Young Farmers (ASAJA) of Madrid [3]	Trade unions	Agriculture and livestock
Agricultural Association of Young Farmers (ASAJA) of Castilla y León [3]	Trade unions	Agriculture and livestock
Madrid Mountaineering Federation[3]	Federations	Outdoor sports
Mountain Sports, Climbing and Hiking Federation of Castilla y León [3]	Federations	Outdoor sports
Mountaineering Royal Society "Peñalara" [3]	Non-profit organisations	Outdoor sports
Professionally-renowned people in Madrid [3]	Socially recognised individuals	Environmental conservation
Professionally-renowned people in Castilla y León [3]	Socially recognised individuals	Environmental conservation
Forest rangers of the Autonomous Community of Madrid	State administration at regional level	Vigilance and control
Forest rangers of the Autonomous Community of Castilla y León	State administration at regional level	Vigilance and control
Civilian guard "SEPRONA"	State administration at national level	Vigilance and control
Directorate of drove roads of the Autonomous Community of Madrid –	State administration at regional level	Infrastructure
Directorate of drove roads of the Autonomous Community of Castilla y León	State administration at regional level	Infrastructure
Tajo Hydrographic Confederation - Ministry for the Ecological Transition	State administration at national level	Natural resources management
Duero Hydrographic Confederation - Ministry for the Ecological Transition	State administrations at national level	Natural resources management
RENFE - Transport Ministry	State-own enterprises/foundations	Infrastructure

[1] Stakeholder member of the Coordination Board (Comisión de Coordinación); [2] Stakeholder member of the Management Board (Comisión de Gestión); [3] Stakeholder member of the Advisory Board (Patronato).

Table E1. (Continued)

Stakeholder	Type of stakeholder	Main sector of activity
Natural Park "Cuenca Alta del Manzanares"- Regional Ministry of Environmental of the Community of Madrid	State administrations at regional level	Natural resources management
Natural Park "Sierra Norte de Guadarrama" Regional Ministry of Environment of the Community of Castilla y León	State administrations at regional level	Natural resources management
UNESCO Biosphere Reserve "Cuenca Alta del Manzanares"	State administrations at international	Natural resources management
UNESCO Biosphere Reserve "Real Sitio San Ildefonso-El Espinar"	State administrations at international	Natural resources management
Visitors' Centres of the Autonomous Community of Madrid	State administrations at regional level	Education and outreaching
Visitors´ Centres of the Autonomous Community of Castilla y Léon	State administrations at regional level	Education and outreaching
National Environmental Education Centre "CENEAM" – Ministry for the Ecological Transition	State administration at national level	Education and outreaching
Research and Monitoring Centre of the SGNP - Regional Ministry of Environment of the Community of Madrid	Universities and education and research centres	Research
Military units –Ministry of Defence	State administrations at national level	Defence
Public Enterprise of the Ministry for the Ecological Transition "TRAGSA" - Ministry for the Ecological Transition	State-own enterprises/foundations	Natural resources management Education-outreaching
Natural Heritage Foundation of Castilla y León - Regional Ministry of Environment of the Community of Castilla y León	State-own enterprises/foundations	Natural resources management Education-outreaching
Association "Red Montañas"	Non-profit organisations	Environmental advocacy
Environmental association "Reforesta"	Non-profit organisations	Environmental advocacy
Spanish Society of Ornithology "SEO-BirdLife"	Non-profit organisations	Environmental advocacy
Environmental association "Amigos de la Tierra"	Non-profit organisations	Environmental advocacy
Rural development partnership "Sierra de Guadarrama" (ADESGAM)	Local Action Groups	Rural development
Rural development partnership "ADR Segovia Sur"	Local Action Groups	Rural development
Citizen Observatory for Conserving Cultural and Environmental Heritage of the Sierra de Guadarrama	Non-profit organisations	Cultural heritage
International Mountain Bicycling Association (IMBA)	Non-profit organisations	Outdoor sports
Spanish Association of Mountain Guides	Non-profit organisations	Outdoor sports

Table E1. (Continued)

Stakeholder	Type of stakeholder	Main sector of activity
Association for active tourism and ecotourism of the Community of Madrid	Non-profit organisations	Tourism
Association for active tourism and ecotourism of the Community of Castilla y León	Non-profit organisations	Tourism
Forest Owners Association "ASFOSE"	Non-profit organisations	Forest
Ski resorts (Navacerrada and Valdesquí)	Private companies	Outdoor sports
Resort for Nordic Skiing (Navafría)	Private companies	Outdoor sports
Association "Castellarnau"	Non-profit organisations	Cultural heritage
Association for the Meat of the Sierra de Guadarrama Protected Geographical Indication	Non-profit organisations	Agriculture and livestock
Secondary School "Soto del Real"	Universities and education and research centres	Education and outreaching

ENVISION is a 3-year research project that develops an inclusive approach to the management of protected areas with the aim of improving biodiversity and human well-being. We engage diverse groups of stakeholders of a protected area, such as recreational users, local residents, local businesses, land owners, agriculture, researchers or local governments and protected area managers.

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