

Regional governance as a success factor in protected area management. Network analysis of the Lüneburg Heath Nature Park (Germany)

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Received: 18 July 2024 ■ Accepted: 27 November 2024 ■ Published online: 14 January 2025

Abstract

Protected areas are crucial for landscape-scale conservation, but striking a balance between centralised guidance (heteronomy) and local autonomy (self-determination) is essential. This balance is particularly important for parks that cross administrative boundaries or impose land-use restrictions, as these factors can impact local acceptance and actors' responsibilities. Analysing governance structures can unveil communication effectiveness, power distribution and collaboration levels within protected areas. This paper presents a network analysis intended to obtain empirical evidence of the above. To the best of our knowledge, this is the first such analysis to be conducted in a German conservation context. This approach reveals responsibility distributions and motives behind spatial interventions. In the pilot study of the Lüneburg Heath Nature Park, 34 actors were identified. In the core group, data was generated from 12 semi-structured expert

interviews. We identified existing communicative and collaborative structures between key actors, local rights holders and stakeholders facing implementation challenges. Leveraging structures like the 'Nature Conservation Coordination Group', which has the status of a higher-level assembly, can encourage an open communication culture and affirm each actor's value. We conclude that strengthening existing governance structures and implementing them on the ground, even on an informal basis, is essential for fostering a shared understanding and greater acceptance of landscape-scale conservation issues.

Keywords: Protected areas ■ Landscape-scale conservation ■ Lüneburg Heath ■ Nature park ■ Network analysis ■ Regional governance

Regionale Governance als Erfolgsfaktor im Großschutzgebiets-Management. Netzwerkanalyse im Naturpark Lüneburger Heide

Zusammenfassung

Großschutzgebiete sind für die Erhaltung von Landschaften von großer Bedeutung, aber es ist entscheidend, ein Gleichgewicht zwischen zentraler Führung (Fremdbestimmung) und lokaler Autonomie (Selbstbestimmung) zu finden. Dieses Gleichgewicht ist besonders wichtig für Parks, die Verwaltungsgrenzen überschreiten oder Landnutzungsbeschränkungen auferlegen, da diese Faktoren die lokale Akzeptanz und die Verantwortung der agierenden Akteure beeinflussen können. Die Analyse von Governance-Strukturen kann Aufschluss über die Effektivität der Kommunikation, die Machtverteilung und die Zusammenarbeit in Großschutzgebieten geben. Um dafür empirische Erkenntnisse zu gewinnen, wurde eine Netz-

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werkanalyse durchgeführt, die unseres Wissens so erstmals im deutschen Naturschutzkontext umgesetzt worden ist. Sie ermöglicht es, die Verteilung von Verantwortlichkeiten und die Motive für räumliche Interventionen zu erfassen. In unserer Pilotstudie zum Naturpark Lüneburger Heide wurden 34 Akteure identifiziert. Von der Kerngruppe dieser Akteure wurden Daten aus 12 halbstrukturierten Experteninterviews generiert. Wir identifizierten bestehende kommunikative und kooperative Strukturen zwischen Schlüsselakteuren und lokalen Interessenvertreterinnen und -vertretern, die vor Herausforderungen bei der Umsetzung von Landnutzungsinterventionen stehen. Die Nutzung etablierter Strukturen wie der „Koordinierungsgruppe NSG Lüneburger Heide“, die als gleichberechtigte Versammlung auf höherer Ebene fungiert, ist ein geeigneter Schritt für eine offene Kommunikationskultur und die Stärkung der Werte der einzelnen Akteure. Wir schlussfolgern daher, dass die Stärkung bestehender Governance-Strukturen und ihre Umsetzung vor Ort, selbst auf informeller Basis, für die Förderung eines gemeinsamen Verständnisses und einer größeren Akzeptanz von Fragen des Landschaftsschutzes von wesentlicher Bedeutung sind.

Schlüsselwörter: Großschutzgebiete ■ Landschaftspflege ■ Lüneburger Heide ■ Naturpark ■ Netzwerkanalyse ■ Regionale Governance

1 Introduction

Protected areas are subject to extensive public debates, particularly concerning perceived or actual land-use restrictions. Such conflicts have been pervasive since the establishment of the first protected areas (Pretty/Pimbert 1995; Stoll-Kleemann 2001: 369; Job/Bittlingmaier/Mayer et al. 2021: 1). The opposition to the designation and management of protected areas is deeply rooted in conflicting social values and different interests (Manfredo/Bruskotter/Teel et al. 2017: 772), often creating “wicked problems” with no easy solutions (Rittel/Webber 1973: 155; Balint/Stewart/Desai et al. 2011: 207). The narrative framing of protected areas also plays a crucial role in shaping public perceptions. Balancing regional development and nature conservation amidst conflicting landscape stereotypes is crucial. The diversity of existing conservation approaches, stemming from distinct historical and geographical contexts, necessitates the individual consideration of each protected area (Makowski 1997).

Given this context, regional governance within a protected area plays an important role in managing these complex environments by enabling an evaluation of internal interactions. Regional governance regimes aspire to foster collaborative regulation but often encounter challenges

stemming from local specificities (Pütz/Job 2016: 572). Improved acceptance of conservation management measures is necessary, yet significant challenges persist, necessitating the reconciliation of local and external perceptions. Governance, which is crucial where power in decision-making and implementation processes is contested, can both create and resolve conflicts (Mann/Plieninger 2017: 909). Therefore, the objective for governance in protected areas is to transcend administrative boundaries, promote regional economic benefits and provide compensation for land-use restrictions. Protected area governance requires respect, dialogue, fair information distribution, judicative bodies and the participation of relevant actors. Governance involves collaboration among national, public, private and societal actors in political and non-political decision-making processes (Böcher 2018: 56). In practice, informing actors is often the extent of governance efforts (Stoll-Kleemann/Job 2008: 86; Borrini-Feyerabend/Dudley/Jaeger et al. 2013).

Because a universal definition of governance is lacking, the approach in protected areas highlights region-specific interactions, active participation and coordination between public and private actors. This is crucial for garnering acceptance of conservation measures. The inadequate analysis of existing governance regimes in German protected areas underscores the necessity for research in institutional economics with a focus on the role of regional governance, as governance also varies depending on the number and institutional character of institutions (Brendle 2002: 116; Benz/Lütz/Schimank et al. 2007: 11; Hammer/Siegrist 2008: 153; Job/Pütz 2016: 573).

In Germany, the term “Protected Area” covers multiple types of conservation areas according to §20 BNatSchG (Federal Nature Conservation Act),¹ including nature conservation areas, biosphere reserves, or landscape protection areas. Our research focuses on the nature park category, as nature parks are of large-scale character and consist predominantly of landscape conservation areas or nature conservation areas, portraying diverging management structures. Hereby, nature conservation areas are characterised by higher conflict potential due to their strict legal regulation in alignment with §23 BNatSchG.

Consequently, this paper focuses on the following two research questions on social interactions in our study area, Lüneburg Heath Nature Park (LHNP):

¹ Federal Nature Conservation Act (BNatSchG) in the version promulgated on 29 July 2009 (Federal Law Gazette BGBl. I, page 2542), last amended by Article 48 of the Act of 23 October 2024 (BGBl. 2024 I No. 323).

- What forms of governance and network structures exist within the Lüneburg Heath Nature Park, and how do they function to ensure proper nature conservation?
- How are nature conservation, socio-economic and municipal interests addressed within the Lüneburg Heath Nature Park, and how do the existing governance processes help ensure local acceptance of conservation measures?

The choice of our study area, Lüneburg Heath Nature Park, results from its long- and well-established existence and its significance for the nature conservation and protected area movement in Germany. It consequently portrays how actor structures best present themselves in protected areas. The complexity of balancing emotional regional attachment, regional development and nature conservation is well portrayed in the Lüneburg Heath Nature Park, as multiple entities manage overlapping territories (Burandt/Finger/Frenz et al. 2004: 105). The Lüneburg Heath Nature Park consists of a large-scale conservation area surrounded by areas with lower levels of protection or with none at all, making functional governance structures indispensable. Choosing this study area also enabled us to adopt a long-term perspective towards regional governance structures and evaluate the potential for change.

The objective was to determine preconditions for developing synergistic interactions between actors and for facilitating successful governance processes in protected areas. The study therefore portrays the role of regional governance structures and their significance in proactively advancing landscape-scale conservation in the study area. This involves the execution of a network analysis, with a specific focus on existing forms of communication. Hence, the discussion begins by defining the theoretical approach, followed by consideration of methodological issues and presentation of the main results. Subsequently, we discuss these findings within the context of governance in protected areas. Finally, further actions are recommended for the successful implementation of landscape-scale conservation.

2 Research framework and theoretical approach

Understanding institutional perspectives in protected areas is crucial, given persistent governance and acceptance issues. Previous mistakes, as evidenced by discussions surrounding parks (von Ruschkowski/Nienaber 2016: 526), emphasise the need for a role model approach. Baumgartner/Kuntner/Melchert et al.'s (2023: 5) governance analysis provides a notable example. Our focus is German nature parks, which are understudied in terms of regional governance (Job 2018: 873). Despite the historical prioritisation

of recreational objectives, a noticeable shift in the last two decades has led to an increased emphasis on conservation and sustainable development in the 104 nature parks, which cover over 27 % of Germany's landmass. Given somewhat strengthened European conservation legislations, such as the European Green Deal² and the newly agreed European Commission Nature Restoration Law³ as a key element of the EU Biodiversity Strategy, and intensified awareness of individual environments, the full scope for action within protected areas is yet to be discovered, particularly in light of their stability in times of uncertainty for nature conservation (Pflug 2013: 17; Majewski/Engelbauer/Job 2019: 423; BfN 2023).

This network analysis of a protected area is a pioneering project in Germany. It uniquely integrates social and institutional-economic factors into discussions about landscape-scale conservation. It explores deeper motives for participatory decision-making in protected areas. Our theoretical approach builds on Lundvall's theory of a "learning economy" (Lundvall 1996: 2), where cooperation and interaction between different actors within one system are necessary to initiate development through learning-by-interacting. Incorporating the factor of spatial position interdependencies, where geographical distances influence social linkages and events within a "regional innovation system" (Asheim/Gertler 2005: 299), our analysis consequently focuses on interdependencies within our study area, building on the spatially embedded "learning region theory" (Lundvall 1996), where a learning economy in a spatial environment automatically realises a regional innovation system with learning by interacting (Asheim/Gertler 2005: 292).

Institutional and functional relationships are hierarchically embedded into the institutional network, opening new paradigms on possibilities for innovation and for knowledge enrichment (Capello 2019: 240). To enable development within a learning region, the necessity for cooperation and interaction between different actors within the same region is underlined. Geographical closeness and distances are hereby at least as important as subtle institutional similarities, values and personal connections (Asheim/Gertler 2005: 292). These so-called social assets are of non-negotiable value when regional development is aspired to within a regional network of actors in protected areas. With our study, we examine how these interdependencies are addressed by different subjective institutions with diverse foci (e.g. conservation, tourism, forestry, agriculture) to identify

² https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en (25.11.2024).

³ https://environment.ec.europa.eu/topics/nature-and-biodiversity/nature-restoration-law_en (25.11.2024).

the role of a “learning region” in protected areas (Capello 2019: 247).⁴

The study aims to identify key actors, emphasising the existing regional governance and communication structures in the Lüneburg Heath Nature Park. We differentiate here between rightsholders and stakeholders to better understand their actual involvement within the study area. Lüneburg Heath Nature Park is split quite uniquely into different fields of responsibilities, thus illustrating the differences between the protected area categories. Rightsholders hereby have legal or customary rights, while stakeholders have interests without legal or social recognition (Borrini-Feyerabend/Hill 2015: 180). Identifying relevant rightsholders and stakeholders is often neglected in regional governance research in protected areas but is of utmost importance as different agendas influence conservation effectiveness massively (Pütz 2004). This step is a vital instrument for strategising and decision-making, and enables meticulous examination, prioritisation and evaluation, laying the groundwork for actionable strategies. It facilitates the systematic categorisation and ranking of interest groups and responsibility entities, aiding in the determination of existing synergies (Heslinga/Groote/Vanclay 2019: 773). However, regular updates are necessary due to the dynamic nature of actors, requiring ongoing monitoring and adaptation. Moreover, governance by both private and public actors strongly supports innovative developments in a region, contributing to landscape-scale conservation (Asheim/Gertler 2005: 299).

3 Study area and methods

We examined the Lüneburg Heath Nature Park located in the federal state of Lower Saxony, one of the oldest and best-known protected areas in Germany. The study area’s distinctive heathlands result from historical agricultural land-use practices, making it a human-influenced traditional cultural landscape that is also part of the Natura 2000 network (Keienburg/Prüter 2006: 30; Disselhoff/Kopsieker 2024: 12). The study area’s proximity to the metropolitan areas of Hamburg, Bremen and Hannover positions it as a significant tourist destination, particularly for day trippers. In the touristic season of 2022/2023, in total 9,929,000 visitor days were registered with an average day visitor share of 78.8%. The tourism-related expenditure through all visitor days generated a value added of 204 million

euros within the nature park as a destination (Job/Frieser/Woltering 2024: 1, 60–62). While the nature park is managed by a regional entity at county level, ownership within the park boundaries is highly heterogeneous and somewhat scattered. However, a few large significant landowners exist, with the Verein Naturschutzpark Lüneburger Heide e. V. (VNP) being of particular interest as a long-established major rightsholder. This non-profit organisation holds almost 10,000 hectares within the eponymous Lüneburg Heath Nature Conservation Area (NCA) through either ownership or lease.⁵

Figure 1 illustrates the history of today’s Lüneburg Heath Nature Park depicted on thematic maps, beginning in the 1860s with the first land purchases by the Monastic Chamber Hannover and the state-based forest owner (1). Starting from 1909, the involvement of Verein Naturschutzpark Lüneburger Heide (VNP) through land purchases and commitment to the preservation of the traditional cultural landscape for recreation becomes evident (2). The designation of the Lüneburg Heath Nature Conservation Area (NCA) occurred in 1921, primarily due to the VNP’s conservation activities (3). Subsequently, in 1956, the exact same area was proclaimed as Germany’s first nature park (4), with the Verein Naturschutzpark Lüneburger Heide once again playing a central role in driving this initiative. Following the end of the Cold War, the Verein Naturschutzpark Lüneburger Heide embarked on nature restoration efforts on the ex-military heath landscapes called ‘red areas’ by the British army. The association was the sole managing entity of the nature conservation and comprehensive nature park until the late 20th century, gaining growing support first from the regional authorities with finance and then also from the Nature Conservation Academy (NNA). The ‘red areas’ (5) largely occupied land owned by the Verein Naturschutzpark Lüneburger Heide that was not within the Lüneburg Heath Nature Conservation Area borders, which changed with the implementation of a new ordinance,⁶ expanding the Lüneburg Heath Nature Conservation Area to the size of today (Cordes/Kaiser 2013: 29–32; von Roeder 2013: 44). In 2002, efforts commenced to expand the existing nature park, aiming to quintuple its size as of the year 1956, ultimately leading to the establishment of a new Nature Park Management Association (NPMA) in 2007 (6). Neither the

⁴ https://www.orghandbuch.de/OHB/DE/OrganisationshandbuchNEU/4_MethodenUndTechniken/Methoden_A_bis_Z/Stakeholderanalyse/Stakeholderanalyse_node.html (25.11.2024).

⁵ <https://www.verein-naturschutzpark.de/geschichte/> (25.11.2024).

⁶ The NCA borders displayed were put in place only in 1993 when the NCA ordinance entered into force, stipulating the final boundaries (Cordes/Kaiser 2013: 33; von Roeder 2013: 44) (see Figures 5 and 6), Figures 1–4 display the same perimeters for the NCA in Figure 5 as an estimation as the geographical data is not available. The NCA borders in Figures 1–4 are therefore smaller in the original presentation (von Roeder 1997: 317–321; Cordes/Kaiser 2013: 33).

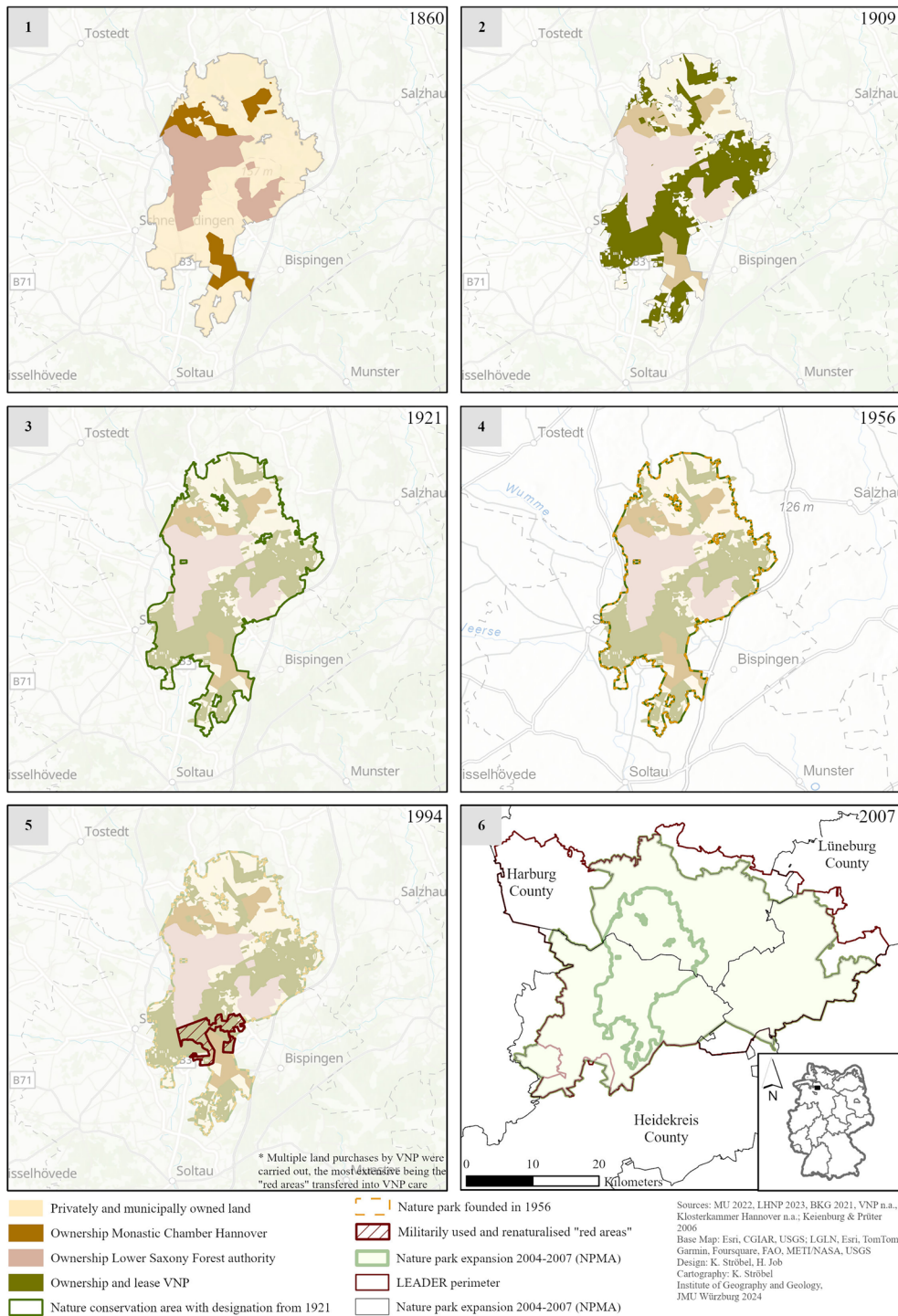


Figure 1 Historical involvement of key actors within the protected area perimeter of the Lüneburg Heath Nature Park

Table 1 Institutions of interviewed experts and identification of their involvement as rightsholders or stakeholders

No	Institution	Form of inter- view	Rightsholder	Stakeholder
1	Nature Park Management Association (NPMA)	On-site	X	
2	Mayor of a regional municipality, county of Heidekreis	Online		X
3	Lower Saxony Water Management, Coastal and Nature Protection Agency (NLWKN), Regional Office Lüneburg	Online		X
4	Mayor of a regional municipality, county of Harburg	Online		X
5	Klosterkammer Hannover (Hannover Monastic Chamber)	Online	X	
6	Alfred Toepfer Academy for Nature Conservation (NNA)	Online		X
7	The Toepfer Foundation F.V.S., Hamburg	Online		X
8	Former head of Department of Nature Protection of the Government of Brunswick (involved in the creation process of the NNA)	On-site		X
9	Niedersächsische Landesforsten (Lower Saxony Forest Authority)	On-site	X	
10	Leuphana University of Lueneburg, Institute of Ecology	Online		X
11	Former deputy of the Alfred Toepfer Academy for Nature Conservation (NNA)	Online		X
12	Verein Naturschutzpark Lüneburger Heide e.V. (VNP)	On-site and online	X	

administrative boundaries of the three counties affected nor the LEADER⁷ region are congruent with the new nature park perimeter (Burandt/Finger/Frenz 2004: 115; Schreiner 2015: 393).

To gain an understanding of local rightsholder and stakeholder interactions, governance and communication structures, we conducted a network analysis. This involved combining desk research with semi-structured expert interviews to create a detailed biography of the nature park's direct and indirect management structures. We followed a systematic four-step process: actors' identification, relational visualisation, interpretation and the subsequent derivation of strategies and plans for informed decision-making and action.⁸ The network illustrates the quantity of relationships and their linkages in a limited group of key actors as either rightsholders or stakeholders (Serdült 2002: 127).

The semi-structured expert interviews were designed to discern the ideological perspectives, objectives, ideas and perceived threats influencing institutional roles within the study area. Following a snowballing approach and cross-

checking with the experts, we conducted a total of 12 expert interviews. These interviews involved ten local figures and two external experts in the field of protected areas management and institutional development (see Table 1). They were conducted between 3 April 2023 and 14 June 2023, with a mean duration of one hour in an online format. Additionally, four interviews, which averaged one hour and 25 minutes in duration, were held onsite.

4 Results

The Lüneburg Heath network analysis reveals the geographical and structural complexity of the study area. To understand the self-perceptions and behavioural dynamics of the 34 actors involved in the Lüneburg Heath Nature Park, identified through desk research and interviews, a thorough exploration of the study area's historical development is essential. This involves consideration of the actors' collaborations, historical involvement, land ownership and legal management hierarchy. Expert interviews conducted with actively involved, locally based key actors emphasise the importance of viewing the area not only through the lens of managing entities like the VNP and the NPMA but also from the perspectives of forest, tourism and agricultural players. These actors all influence regional coordination and landscape-scale conservation efforts.

The network analysis reveals that most identified actors are public-law entities, with only three that are independent private business interests (see Figure 2). This qualitative portrayal of key actors shows a fundamental distinction between the Lüneburg Heath Nature Park and the NCA, il-

⁷ The LEADER approach was introduced by the EU as an experiment in response to the failure of traditional, top-down policies in addressing the problems faced by many of Europe's rural areas. The central aim is to subsidise regional development initiatives to unlock the energy and resources of local people and organisations from across the public, private and civil sectors by enabling them to build partnerships in the form of Local Action Groups (LAGs).

⁸ https://www.organdbuch.de/OHB/DE/OrganisationshandbuchNEU/4_MethodenUndTechniken/Methoden_A_bis_Z/Stakeholderanalyse/Stakeholderanalyse_node.html (25.11.2024).

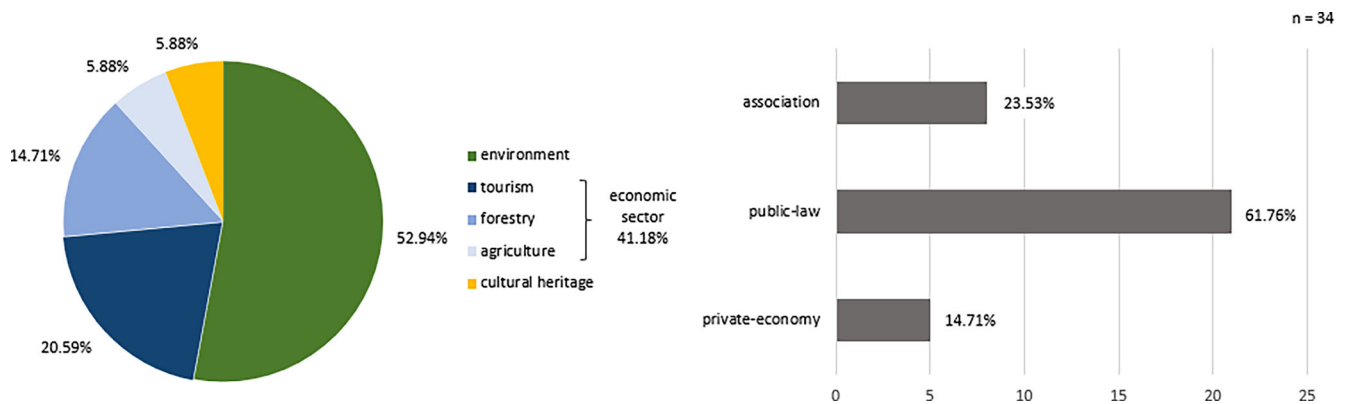


Figure 2 Sectoral and institutional distribution of all 34 actors

illustrating the different tasks of the managing bodies. The VNP, a significant rightsholder since 1909, played a crucial role in shaping regional development in the 20th century. Initially, there was considerable reserve in the public perceptions of the nature park due to stringent land-use regulations. Operating with financial autonomy and EU support, the VNP holds responsibility for heathland management and NCA preservation. Post-2007, the NPMA, as a new public entity, took over responsibility for regional development, while the VNP and the county nature conservation authorities formally retained nature conservation responsibilities. This shift highlights the evolving roles and responsibilities within the intricate structures of key actors. Altogether, from among the 34 actors, 14 relevant key actors were identified who were involved with the study area either through historical collaborations, land ownership, legal responsibilities or management. Within the sectoral differentiation, six of the key actors who were interviewed are associated with the local economy (three in forestry and three in tourism), while four are in the environmental sector. The majority of actors (21) are institutions under public law.

In both the Lüneburg Heath Nature Park and the NCA, important landowners include the Hannover Monastic Chamber and Lower Saxony Forest Authority. The former, a public-law institution, has held a stake in the economy for over two centuries, particularly in forest ownership and logging. Similarly, the Lower Saxony Forest Authority actively manages state-owned forests for the timber industry. To make a distinction between rightsholders and stakeholders, all NCA stakeholders are also rightsholders, which includes municipal lower-level nature conservation authorities managing freshwater usage. Only the state governmental agency NLWKN (Lower Saxony Water Management, Coastal and Nature Protection Agency), identified as a stakeholder, lacks legal and customary rights in decision-making processes (see Table 1).

In our case, limited availability and reservations posed challenges, making it hard to conduct such a network analysis. The designed network primarily serves visualisation, with the qualitative expert interviews covering specific relationships among rightsholders and stakeholders. Examining Figure 3, it becomes evident that both the VNP and NPMA are the two central actors in the protected area network. However, their roles differ significantly: while the VNP operates as an elder rightsholder with substantial land ownership, NPMA functions as a younger stakeholder without such ownership rights. The relationships among the other key actors are determined using several factors, including the frequency of mention in interviews, involvement in common projects, participation in formal or informal governing bodies and engagement in regulated procedures where contact is obligatory. An example of the latter is the need to obtain authorisations from lower-level nature conservation authorities for activities within the NCA. These criteria collectively determine the importance of these relationships (see Figure 3). To better evaluate the differences between relationships we grouped them into three categories reflecting the status quo as of 2023:

- “Low intensity”, indicating a lack or low level of interaction. The connection between the NLWKN as the consulting conservation authority and the lower-level county nature conservation authorities serves as an example, as regional government responsibilities shifted post-2005 following an administrative reform on the level of the federal state when the lower-level conservation authorities obtained more acting power and the NLWKN was founded. The NLWKN is only regionally active if the lower-level nature conservation authorities contact them for advice. Furthermore, another example of a lack

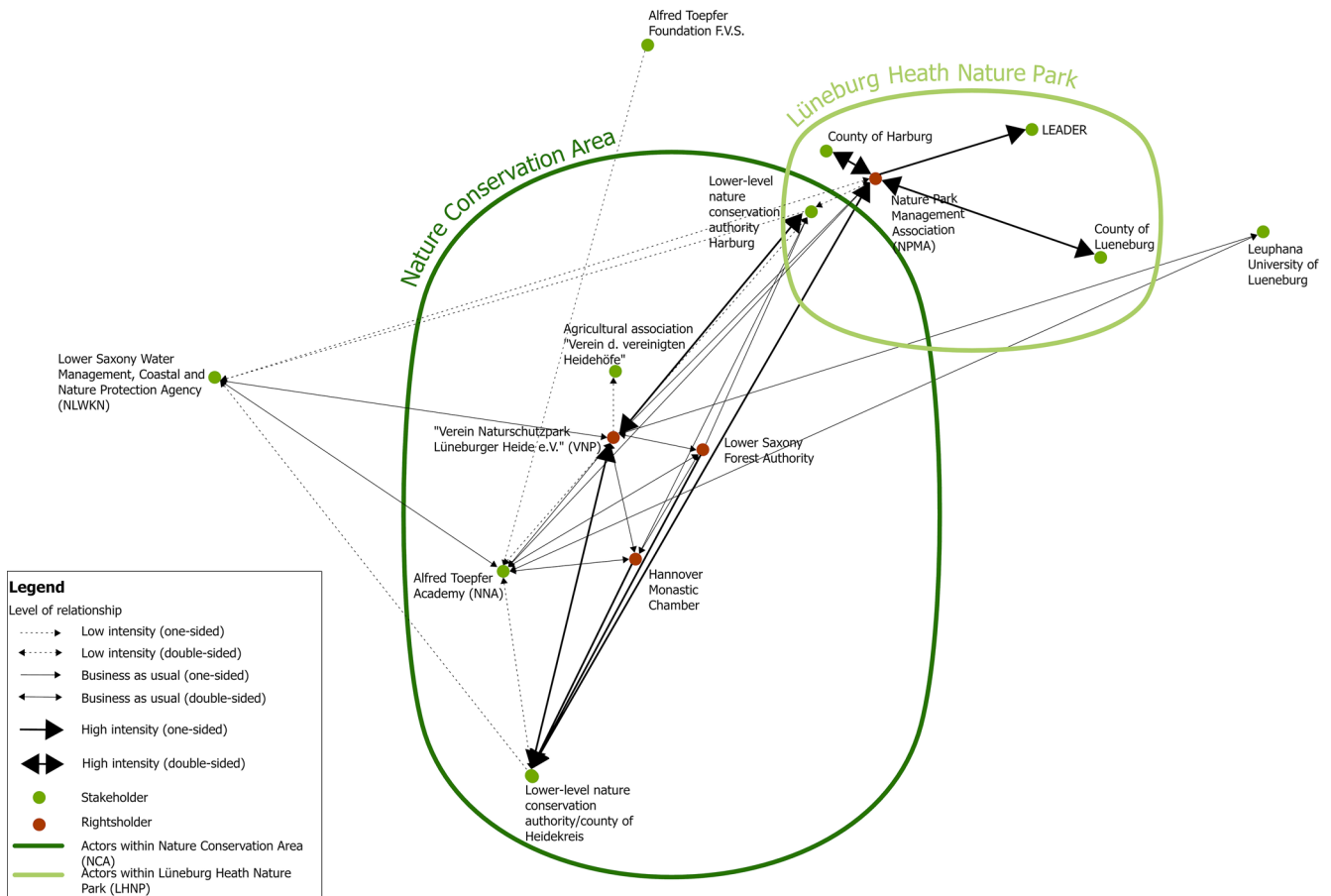


Figure 3 Identification of network relationships between key actors of the Lüneburg Heath Nature Conservation Area (NCA) and Lüneburg Heath Nature Park (LHNP)

the VNP occasionally tries to reach out to the association due to heath conservation aspects but overall there is no consensual interaction.

- “Business as usual”, representing normal and required interactions based to some extent on legal regulations. The interaction between the Hannover Monastic Chamber, the Lower Saxony Forest Authority and the VNP, which also represent partners of the Lüneburg Heath Coordination Group, might serve as an example. These institutions meet up on a regular basis to cooperate in this group (when necessary), to discuss developments and relevant topics within the NCA and to find solutions. This structure similarly improves coordination between the VNP with its responsibilities and public law entities. Another example is displayed by the roles of the VNP and NPMA; these organisations do not have significant interaction with each other as their individual areas of responsibility differ massively – the VNP focuses on heath conservation and the nature park on regional development. There is no overlap of tasks due to predefined responsibilities.

- “High intensity”, referring to a high level of formalised interaction and significant importance to actors’ scope of action. We find an example when looking at the interaction between the NPMA and the three counties as the nature park simultaneously serves the LEADER region that intersects with the county perimeters and that requires close interaction to enhance the purpose of regional development. Additionally, the board of the NPMA consists of representatives from the respective counties. Another example of “high intensity” can be found in the interactions between the VNP and lower-level nature conservation authorities, which is rather a highly formalised relationship, although the VNP depends intensively on the decisions and authorisations given by the lower-level nature conservation authorities to enable developments needed for heath conservation, such as e.g., wood pruning.

The arrowheads symbolise the point of initiation of contact, with “one-sided” indicating that only one actor initiates interaction due to either a lack of relationship (e.g. the VNP and agricultural association) or the need to obtain autho-

risation (e.g. Monastic Chamber Hannover and lower-level nature conservation authority Heidekreis). “Double-sided” identifies a balanced level of interaction between two actors. The input for this classification is based on qualitative expert interviews and on quantitative desk research that analysed public and scientific interactions. Even though this network clearly illustrates the strong linkages between actors within the NCA and Lüneburg Heath Nature Park, it is important to view the relationship identification critically. The expert interviews provided only somewhat one-sided and subjective perceptions of the individual levels of interaction that influenced the outcomes, making it difficult to project the analysis onto “the” overall governance in protected areas. Additionally, the unavailability of certain important actors may hinder a complete portrayal of the network. It also needs to be critically mentioned that this classification does not enable a quantitative count of the overall number of interactions, e.g. per year, as the ‘intensity’ focuses rather on the qualitative outcomes of each interaction.

One challenge for the study area arises from public misalignment regarding the historical impact of the VNP, with perceptions shifting only post-2007 when the NPMA was established. Before 2007, under the VNP’s management, domains like construction, education and regional development were not priority concerns; the focus was mainly on heath conservation and traditional German heath sheep husbandry. This led to debates and concerns among farmers about potential land losses and restrictions, making it more difficult to create acceptance for the establishment of landscape-scale conservation measures in addition to heath management for agricultural yields. Today, the roles of NPMA and VNP are more distinct, with the former focusing on tourism marketing and regional development, and the latter on heathland preservation, balancing landscape aesthetics, wildlife and habitat conservation. Nevertheless, the relationship between the NPMA and VNP is strongly discussed rather outside of the network, as elder generations (also within the network of protected areas) are likely to lack awareness of the role of the NPMA and still view the VNP as the main responsible stakeholder in the nature park due to the VNP’s historical involvement. There is hope that this false perception will change thanks to the younger generations who work within the protected area and are more open to collaborations in their respective fields of action.

The deep emotional connections of actors to the region, shaped by individual narratives and active involvement, underscore distinct perspectives on roles and responsibilities. Effective communicative structures are crucial for heath landscape protection and identity preservation, and are deemed essential by all key actors for successful regional management. A sense of neighbourliness characterises relationships among nearly all stakeholders, each

comprehending their respective domains of operation and specialisation as long as common agreements and open communication are pursued. Notably, constraints arise with local agricultural associations, stemming from past regulations. Ongoing issues between nature conservationists and agriculture persist, including the excess nitrogen loads and water management that affect both heath and agricultural space in a changing climate e.g., neighbouring agricultural yields on the fringe areas of the NCA massively influence the nitrogen input within the NCA, putting a high level of stress on the flora and fauna within the NCA. The NCA efforts to minimise nitrogen loads in these bordering agricultural yields are often neglected in the political sphere. The same is true of water management, a specific cooperating group for drinking-water protection was therefore established, involving a great variety of actors (including VNP, the lower county-level nature conservation authorities, the Hannover Monastic Chamber and others). The intensity and approach of agricultural practices in the area is not sufficiently questioned by this cooperating group in regard to heath protection. Furthermore, forest management stakeholders within the study area advocate for a relaxation of stringent regulations for forest succession areas to facilitate their integration with bordering heath landscapes, thus creating a more homogeneous landscape. Cooperation in this topic is expected from the VNP; this would enable more open-minded management, allowing further development on the heathland fringe areas.

Despite challenges, a consensus prevails in the study area to address energy transformation, mobility, demographic change, water usage and climate change alongside nature conservation. Transparent coordination in education is sought to clarify representation and offer specific initiatives, considering various structures organised by the NNA, Lower Saxony Forest Management, VNP and NPMA. As a solution, a network of rangers (initially within the NCA) was expanded during the Covid-19 lockdowns, and proved highly effective even outside the VNP’s management perimeter in the wider nature park. Given the high volume of outdoor recreation use, especially by day-trippers and tourists during high season, there is an ongoing discussion regarding the reconciliation of nature protection measures with nature-based tourism strategies, with the aim of better alignment. The regionally focused tourism agency has highlighted the challenges posed by the constraints within the NCA, which hinder their implementation of marketing ideas. Nevertheless, visitor management initiatives, such as the trail management installation in the “Pietzmoor” bog landscape, especially in the vicinity of the NCA, have been widely welcomed to prevent large-scale tourism traffic from causing damage to the sensitive heathland (see Figure 4).

In addition, the NPMA has hosted a so-called carriage



Figure 4 Boardwalk serving as trail management installation in the “Pietzmoor” within the Lüneburg Heath Nature Conservation Area (NCA)

dialogue to coordinate the commercial use of trails for horse carriages within the NCA. There is demand for an improved and preferably IT-based trail guide structure too. Coordination of visitor management to prevent crowding and stop visitors leaving trails through pro-active communication is embodied in the NCA ordinance. This ordinance, dating back to 1993, delineates the purposes of conservation, the items to be conserved and the objectives to be developed within a formal and legal framework. It creates common ground for regulating individual responsibilities for landscape-scale conservation. Furthermore, it offers guidance in substantive discussions, fostering alignment among nature conservation authorities, user associations, administrations and educational institutions. All the experts interviewed emphasised the crucial role of this regulation for the NCA objectives, as it enables the management of economic investment within the region. The distinctive characteristic of this ordinance is the way in which it connects, frames and limits all stakeholder and rightsholder activities for the continued sustainable regional development of the wider area and the permanent protection of the NCA.

To address current management issues and improve coordination and decision-making between the different types of institutions, the “Nature Conservation Coordination Group” provides an essential basis for successful communication structures, stemming from a bigger multi-levelled coordination project. This group comprises the two affected county nature conservation authorities, the VNP, the two large forest management authorities and the NNA. The “Nature Conservation Coordination Group” serves as an informal governance body coordinating purposes so as to unify all actors who affect the safeguarding of successful nature conservation within the NCA. While it does not take on an official

management role, it is nevertheless of paramount importance in fostering multilateral agreements and regularly updating the NCA ordinance to align with today’s standards, ensuring successful conservation efforts (e.g., trail management). The inclusion of the NPMA despite the fact that it is only thematically relevant for activities within the NCA, illustrates the correlation of processes between the NCA and Lüneburg Heath Nature Park and therefore the importance of a mutual awareness of involvement. Furthermore, the significance of informal communication channels, including bilateral dialogues, is underscored, particularly in addressing the intricate relationship between agriculture and nature conservation. In the realm of nature conservation, it is crucial to emphasise the necessity of fostering collaboration and minimising bureaucratic impediments that may hinder landscape-scale conservation efforts. Such obstacles could potentially lead to emotional conflicts due to stress and the perception of being treated differently from other institutions if requests for projects and measures are denied.

Municipal aspirations for regional development, networking and interdisciplinary collaborations persist. Historically, fragmented municipal activities within the nature park’s borders hindered cross-border cooperation. To address financial challenges in realising supra-local projects and further regional development, a common LEADER region was established with its management located within the NPMA. Geographically distinct from the nature park to prevent municipal and financial fragmentation (as the nature parks borders are not the same as municipal borders), the establishment of the LEADER region enabled acceptance of the first demarcation of the Lüneburg Heath Nature Park as it provided access to new financial resources for the areas outside of the nature park but within the LEADER borders. Such areas had not been supported by nature park funding before. The LEADER perimeter therefore serves as a significant source of funding for participatory planning work, involving municipalities in planning processes and fostering cross-border collaboration for regional development with EU subsidies.

5 Discussion

Our study reveals ongoing acceptance issues, particularly between agriculture and nature conservation, revealing the importance of effective governance structures in protected areas. Successful outcomes hinge on bilateral communication, agreed-upon regulations and collaborative activities. Emphasising synergies in projects related to nature conservation, education, tourism and agriculture underscores the importance of a shared governance model (Borrini-Feyerabend/Hill 2015: 180). While primarily a pilot case study,

this analysis highlights the value of governance structures in landscape-scale conservation projects, addressing extensive or intensive land-use practices. The study area exemplifies the crucial need for synergies in nature-conservation-related projects within a coordinated governance context to safeguard the historical cultural landscape with its anthropogenically influenced individuality and uniqueness and to adapt it to modern developments at the same time (e.g. renewable energies, climate change adaptation) (Job/Knies 2001: 20). With the EU Nature Restoration Law including a stronger focus on restoring and protecting biodiversity, even beyond protected areas, and a stronger implementation of nature-based solutions to adapt to climate change, it is pivotal to align stakeholders and rightsholders for a common regional identity to avoid conflicts and to facilitate viable regional development in the long run. Such analyses aid in evaluating management structures for protected areas and can be further adapted for park-management-related and comparative studies, particularly in the multi-designated German parks (Job/Fließbach-Schendzielorz/Bittlingmaier et al. 2019: 141). In these cases, governance structures are even more complex, not least because international institutions like UNESCO often come into play, e.g., in Germany's large-scale Wadden Sea protected areas.

In the Lüneburg Heath collaboration, challenges persist regarding the interests of agriculture and nature conservation, impacting water usage, nitrogen management, land use and renewable energy installations. This necessitates compromise to ensure governance effectiveness. Tourism management is crucial, given crowding issues in peak seasons (Schamel/Job 2013: 27). Contrary to claims of a dearth of knowledge and governance, this study showcases the stakeholders' and rightsholders' profound knowledge and functional communication frame. However, the importance of a common understanding and the united vision of all stakeholders needs to be stressed for the nature park to reach its highest potential for sustainable regional development and to strengthen management efforts for landscape-scale conservation (Frieser/Bittlingmaier/Piana et al. 2023: 195).⁹ Leveraging existing structures, such as the innovative Nature Conservation Coordination Group, with stakeholder involvement, furthers an open communication culture and the reinforcing of each actor's value (Plüschke-Altof/Loewen/Müürripeal et al. 2023). This coordinating group enables multilateral agreements between multiple actors with differing interests, aiding the purpose of successful landscape-scale conservation. This informal yet highly functional governing body serves as a social model for insti-

tutional interaction within the protected area. By incorporating the NPMA and its connection to the county of Lüneburg, which is covered by the Lüneburg Heath Nature Park but not by the NCA legislation, the communication of conservation processes within the NCA to external parties is ensured. These interactions within the NCA coordinating group are part of the protected area's social assets and key in determining the developments within the study area and influencing inter-institutional collaborations and relationships between different stakeholders and rightsholders. Looking at the institutional network of our study area, it becomes clear that the protected area automatically presents itself as a learning region without trying to be one, also covering regional development and nature conservation issues and using the existing network in the most regionally beneficial way (Asheim/Gertler 2005: 292; Mose 2009: 11). This stresses the importance of the existence of protected areas with all their actors for establishing regional development whilst successfully maintaining nature conservation and innovatively using social connections to gain stakeholders' and rightsholders' acceptance within the protected area. Coordinating structures are an absolute must.

Policies emerge as key drivers of cooperation in protected areas, emphasising the necessity for active support in participatory planning processes. Therefore, our study suggests initiating a digital platform especially for inclusive and participative exchange in tourism and environmental-education-focused cooperation as well as regular communication between key actors in general (von Ruschkowski/Mayer 2011: 147). In view of the different perimetral distinctions (Lüneburg Heath Nature Conservation Area, Lüneburg Heath Nature Park and LEADER) that often result from complex and highly political processes in the demarcation of protected areas, the LEADER perimeter must serve as a potential area for the future expansion of the nature park, as an awareness for the Lüneburg Heath Nature Park already exists within intersecting communities. The congruency of the Lüneburg Heath Nature Park and LEADER area enables the further strengthening of regional development within the nature park communities (Majewski/Job 2019: 197). Furthermore, expanding the nature park within the LEADER perimeter might also help communicate aspects of nature conservation and fostering acceptance outside the park's borders (Job/Engelbauer/Engels 2019: 60).

Fostering and maintaining the regional learning network can be a valuable asset for landscape-scale conservation. By sharing institutionalised knowledge and experiences, stakeholders can collaboratively develop innovative solutions for current conservation challenges. The theoretical concept of a regional innovation system clearly indicated that geographical distance, or rather closeness, is not a key factor for

⁹ Cf. <https://naturpark-lueneburger-heide.de> (25.11.2024).

realising innovative regional conservation. Socio-economic research within protected areas can be significantly enriched by incorporating actor-centred institutionalism as a key factor in the design of protected areas' characteristics and potentials (Mose 2009: 10). This approach allows researchers to delve deeper into the diverse rights and interests of actors, providing a more nuanced understanding of the social and economic dynamics at play (Weber 2013: 110).

6 Conclusion

This case study reveals valuable insights for governance and communication in landscape-scale conservation. While existing nature park governance and communication structures have shown some success, further efforts are necessary to achieve truly effective conservation across the entire landscape of the Lüneburg Heath Nature Park. Further steps include fostering a shared understanding of the region as a traditional cultural landscape, as well as developing communication structures that, while functioning effectively, must consider existing institutional differences arising from emotional connections and identifications in conservation processes and decision-making. The ownership structure and task diversity of the Lüneburg Heath Nature Park demand a cohesive, collaborative approach for the long-term preservation of Germany's most famous heathland.

The existing governance of the case study is shaped by bilateral agreements and conversations, working groups, the Lüneburg Heath Nature Conservation Area's ordinance and, most notably, the informal but well-balanced Nature Conservation Coordination Group. These instruments are considered sufficient. Nonetheless, some minor gaps regarding mass tourism during the high season and a harmonisation of educational offers still need to be addressed. Therefore, the study area is characterised by a high level of collaboration even though it still struggles to unite all rightsholders and stakeholders under a common vision. Our recommendations are: (1) Avoid overestimating conflicts to prevent hindrance to collaborative landscape-scale conservation. It is crucial to raise awareness of common goals and to utilise existing synergies to ensure individual opinions are heard and considered. (2) Expand the nature park's borders within the LEADER perimeter as soon as possible. This would help communicate nature conservation aspects and foster acceptance outside the park's borders. A congruency between the Lüneburg Heath Nature Park and LEADER would also enable a further strengthening of regional development within the nature park communities, while at the same time minimising the costs for transactions. (3) Furthermore, even though this analysis did not enable us to view governance in protected areas from an overall perspective, we propose

that the network analysis methodology should be adapted to research actors' involvement and governance functionality within other types of protected areas on regional scales, as this method allows the further analysis of regional and local governance structures. This adaptation would facilitate a comprehensive analysis of governance in the context of park management in Germany in general. This procedure allows the identification of challenges faced by individual protected areas within near-natural landscapes and the possible differentiation of governance structures between different types of protected areas. By sharing successful governance solutions across protected areas, more effective and widely accepted conservation efforts can be promoted that extend beyond park boundaries.

Competing Interests The authors declare no competing interests.

Acknowledgements We would like to thank all interviewed experts and two anonymous reviewers for their helpful comments.

Funding This work received no external funding

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