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The contribution of private land conservation to 30x30 in Germany

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In line with Target 3 of the Kunming-Montreal Global Biodiversity Framework, the European Union (EU) aims to protect 30% of its land and sea by 2030 (known as 30x30). Germany has been a vocal supporter of this goal in the international arena but has yet to achieve sufficient protected area coverage domestically. We estimate that Germany needs to report an additional 4.65 million hectares of protected land to achieve 30x30. This article examines the potential of privately protected areas (PPAs) and other effective area-based conservation measures (OECMs) to contribute to this goal. We explore the German Federal Nature Conservation Act and identify the legal hurdles for the designation and recognition of PPAs. Furthermore, we argue that OECMs have the potential to contribute significantly to 30x30 in Germany. We estimate that close to one million hectares of land could be classified as OECMs and outline potentially qualifying sites. In conclusion, we discuss the prerequisites for upscaling private land conservation in Germany, focusing on required conditions for establishing OECMs and incentivising conservation easements and long-term conservation leases through national funding programmes.

KEYWORDS

privately protected areas, other effective area-based conservation measures, Germany, EU, conservation easements

1 Introduction

Protected areas can be an effective solution to address global biodiversity loss and mitigate climate change impacts (Lewis et al., 2023). However, worldwide protected area networks their current form have been insufficient to halt the loss of biodiversity (Secretariat of the Convention on Biological Diversity, 2020), partly due to a lack of ecological representation, connectivity and management effectiveness (Lewis et al., 2023). Therefore, the expansion and improved management of protected areas are key policy goals in nature conservation at the global and EU level (EC/European Commission, 2020; CBD/Convention on Biological Diversity, 2022). There is less clarity about how and where protected areas should be supplemented and upgraded (Kullberg et al., 2019; O'Connor

et al., 2021; Ranius et al., 2022). Opposition of landowners and land users against restrictions associated with protected area designation and management (Allendorf, 2022), particularly in the context of Natura 2000 (Blicharska et al., 2016), has shifted the focus to socio-economic aspects of protected area expansion (Yang et al., 2020; Jones et al., 2022). In this light, voluntary forms of area-based conservation appear as a politically attractive alternative to public protected area designation.

The importance of private land conservation for global and EU biodiversity targets is increasingly recognized politically and scientifically (e.g. Disselhoff, 2015; Kamal et al., 2015; Capano et al., 2019; Shumba et al., 2020), especially to fill gaps in public protected areas networks (e.g. Bargelt et al., 2020; Ivanova and Cook, 2020). Worldwide, public protected areas are, on average, disproportionately found at higher elevations, on steeper terrain, and on land of low economic value (Venter et al., 2018). As a result, important species and habitats are underrepresented in protected area networks, particularly in regions with high intensity of land use or high levels of private land ownership (Venter et al., 2018). Meanwhile, privately protected areas (PPAs) are twice as likely to be found in human-dominated landscapes as compared to public protected areas (Palfrey et al., 2022). Similarly, other area-based effective conservation measures (OECMs) can provide long-term biodiversity conservation benefits for hundreds of key biodiversity areas located outside protected areas (Donald et al., 2019). OECMs may also be more socially acceptable than public protected areas when conservation is not the sole or primary land use objective (Dudley et al., 2018), which can lead to improved connectivity of protected areas, for example in coastal and rural settings (Maxwell et al., 2020) and can offer a similar level of protection for vertebrates comparable to existing protected areas (Schuster et al., 2019). Despite mounting evidence that PPAs and OECMs are already helping to fill gaps in public protected area networks, data on PPA and OECM coverage remains incomplete, with only around 40 states reporting PPAs or OECMs to the World Database on Protected Areas (Bingham et al., 2021).

2 Policy and legal framework

Adopted in 2020, the EU Biodiversity Strategy aims to protect at least 30% of the EU's land and sea by 2030 (EC/European Commission, 2020). The same goal (30x30) was included as Target 3 in the Kunming-Montreal Global Biodiversity Framework (CBD/Convention on Biological Diversity, 2022). As a founding member of the "High Ambition Coalition for Nature and People", Germany has been a vocal supporter of 30x30 in international negotiations.

For the implementation of 30x30 in EU Member States, the European Commission (EC) has designed a "pledge and review" process, expecting EU member states to submit pledges of existing or planned protected areas contributing to 30x30. The EC has published guidance on the criteria used to review these pledges (EC/European Commission, 2022). This guidance indicates that private land conservation can contribute to protected area targets if the

land in question meets the same quality-related criteria as publicly protected areas.

EU member states were expected to submit the first pledges for their protected area targets to the EC in 2023. Germany was among the few countries to submit an (incomplete) pledge, which consisted of protected areas covering 17% of its land base. Although Germany has announced the submission of additional protected area pledges in the following months, it is improbable that these will amount to 30% of Germany's land base. In fact, we expect that Germany will face a sizeable gap between its ambition and the reality regarding protected areas. If the German government wants to honour its political commitments, it must come up with roughly 4.65 million hectares of additionally protected land (13% of Germany's land base). An undertaking of this magnitude will require looking beyond traditional protected area designation. In this light, private land conservation merits further scrutiny by German authorities.

3 Privately protected areas in Germany

In Germany there is a constitutional separation of powers between the federal government and the federal states i.e. Länder. The Federal Nature Conservation Act ("Bundesnaturschutzgesetz", BNatSchG) provides the framework for nature conservation in Germany, which is enacted through the individual state legislation (through the Länder Naturschutzgesetze). There is no national agreement among the federal state governments regarding how to enact the BNatSchG because political parties in the states represent different interests. The federal states are ultimately responsible for the designation of protected areas and for funding incentives to promote biodiversity management.

Currently, the German nature conservation law does not provide for management of protected areas by non-state entities - unlike other EU member states like Portugal, Belgium and Slovenia (Disselhoff, 2015). Section 22 of the Federal Nature Conservation Act stipulates that parts of nature and landscapes can be protected "by declaration" and that protected areas must be "registered and marked". It refers to German state law for the form and procedure of protected area "declaration" (i.e. designation). Most nature conservation acts of the German federal states foresee some public decree, law or statute as the standard legal procedure for protected area designation. A declaration by non-state entities is not mentioned in any of the laws. This makes it clear that the designation for protected areas is considered solely a sovereign competence. German law does not provide for the registration, public recognition or marking of land under private governance dedicated to conservation. On the contrary, most state nature conservation laws stipulate that a protected area designation may only be used for sites that have been protected by competent public authorities. Accordingly, there are high obstacles to extending the definition of protected areas under German law to areas under private governance. In particular, delegating the enforcement authority to third parties would require a clear legal framework that regulates the powers and duties of those entrusted with performing sovereign tasks. Such a construct is conceivable in principle and known from other areas of German law but is non-

existent in German nature conservation law. The complex administrative processes and lack of existing procedures in place to designate PPAs makes it extremely difficult for private land owners to get recognition for their sites unless they are well versed in German Law and well organised with established contacts to local government authorities. Nevertheless, due to the existing diversity of protected area management categories in German Law (i.e. Naturschutzgebiet (Nature Reserve), Nationalpark (National Park), Biosphärenreservat (Biosphere Reserve), Landschaftsschutzgebiet (Landscape Conservation Area), Nationale Naturmonumente (National Natural Monument), Naturpark (Nature Park), Natura 2000), the additional complexity of the individual federal state legislation, and the lack of formal recognition of private governance in this regard, it is more likely that areas potentially qualifying as PPAs would be designated and reported to the WDPA using one of the existing management categories rather than establishing a 'new' PPA category within the legal framework.

The instruments to formally/legally designate PPAs are therefore relatively superfluous in German nature conservation law as detailed above. However, as discussed by Bingham et al. (2017), there are other alternatives for recognising PPAs in Germany, for example by focussing on encouraging the reporting of potentially qualifying sites. Even if these have not been recognised according to German law, non-government sources can report sites to the WDPA, and these can be verified by WCPA and experts. This process can in turn encourage government recognition in the future. In comparison, there is more of a niche for the designation of OECMs as these are potential sites that would not qualify under an existing protected area management category according to the current legislative framework, however have the potential to add significant value to the connectivity and representativity of the German protected area network.

4 Other effective area-based conservation measures in Germany

The 14th Conference of the Parties to the Convention on Biological Diversity defined OECMs as “a geographically defined area other than a Protected Area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the *in-situ* conservation of biodiversity, with associated ecosystem functions and services and where applicable, cultural, spiritual, socio-economic, and other locally relevant values” (CBD/Convention on Biological Diversity, 2018). The IUCN distinguishes between OECMs that have conservation as a primary objective (primary conservation), those where conservation is a secondary objective (secondary conservation), and those where conservation is not a primary management objective but *in situ* conservation of species and habitats is achieved as a by-product of management activities (incidental conservation; IUCN/International Union for Conservation of

Nature, 2019). OECMs with a primary conservation objective qualify as protected areas but are not formally designated as such. Thus, although they are obvious candidates for new protected area designations, the responsible governance authority (including landowners, indigenous peoples and local communities) may not wish to officially report these sites as protected areas.

There are quite a few sites in Germany that meet the above definition of OECMs. Following the IUCN's distinction of OECMs according to their objectives, the following categories of sites merit further investigation.

4.1 Primary conservation: areas owned or managed by foundations and associations

Many sites in Germany that are permanently dedicated to nature conservation are located outside existing protected areas. This concerns primarily properties owned by foundations and associations with nature conservation as their statutory objective. The most famous example, the National Natural Heritage (“Nationales Naturerbe”, NNE), consists of more than 180,000 ha in former Federal ownership that has been donated to various charitable recipients and dedicated to nature conservation in perpetuity. Ackermann et al. (2021) conclude that about half of the NNE areas > 300 ha still need to be protected as nature reserves and that many more have only been partially protected. Although these sites are prime candidates for protected area designation, many German nature conservation authorities currently do not have the capacity to designate new protected areas, even if the landowner agrees to the designation. Although non-state entities (in this case foundations and associations) could self-report these sites as PPAs to the WDPA, this would not guarantee their legal recognition. Alternatively, these sites could qualify as privately governed OECMs, existing outside the protected area management categories in German Law.

Other properties owned by nature conservation foundations and associations can also be considered OECMs. Dozens of German associations and foundations each own thousands of hectares of such land (Scherfose, 2017). Unpublished data suggests that these institutions combined own more than 250,000 ha in Germany. There is no data on what percentage of this land is located within protected areas, but it can be assumed that at least some of it is not legally protected.

Besides land ownership, German nature conservation associations or foundations use other means to gain permanent access to properties of conservation interest, e.g. through leases (Pachtverträge), land swaps (Tauschvertrag), licensing agreements (Lizenzvertrag), and conservation easements (Dienstbarkeit). These sites could potentially qualify as OECMs (depending on a case-by-case evaluation). While contracts and agreements may be of limited duration or terminable, conservation easements have the advantage of placing perpetual restrictions on a property irrespective of the ownership. Although there is no legal obstacle to using easements for conservation purposes under German law (Račinska and

Vahtrus, 2018), the instrument is not yet widely used in Germany (Račinska et al., 2021).

4.2 Secondary conservation: privately owned land with conservation-friendly land uses

More than half of Germany's land is used for agriculture, while forests comprise another 31% (Federal Statistics Office Germany, 2022). Samples of the ownership structure of agricultural land in Germany suggest that around 80% of the land is owned by natural persons (Tietz et al., 2021). In forests, the proportion is around 48% (BMEL/Bundesministerium für Ernährung und Landwirtschaft, 2014). Many private landowners do not use their properties themselves but lease them to third parties. Such absentee landowners may want to restrict the use of their property to activities compatible with the conservation of its natural values. The Nature and Biodiversity Conservation Union ("Naturschutzbund", NABU), the largest conservation NGO in Germany, has developed information material and provides advisory services to landowners on including conservation stipulations in agricultural lease contracts. Since the terms of agricultural leases are freely negotiable under German law, and contracts can last up to 30 years, respective properties used in line with conservation purposes in the long term could be classified as OECMs if a third-party monitors compliance. However, there are ongoing discussions to clarify the definition of 'long-term conservation' and whether 30 years is sufficient. For forest land on the other hand, conservation easements (Disselhoff, 2013) seem to be the more appropriate tool because of the longer management periods required for the preservation and development of conservation values in forest ecosystems. If forested properties in private ownership are (partially) dedicated to nature conservation for a meaningful period, they could also be classified as OECMs.

As environmental awareness is positively correlated with income and education (Franzen and Vogl, 2013), we suggest that, on average, members and supporters of conservation NGOs are more likely to own land than non-members. Hence, a large pool of wealthy, educated people in Germany may be inclined to dedicate part of their real estate to conservation purposes. Today, NABU has over 900,000 members, i.e. more than 1% of the German population and other conservation NGOs, like WWF, Greenpeace, and Friends of the Earth also have hundreds of thousands of members or supporters. This demonstrates the potential of German nature conservation NGOs as beneficiaries of conservation leases, stewardship agreements or conservation easements - a relevant new field of activity. In principle, all instruments that ensure the permanent dedication of a piece of land to nature conservation with sufficient legal certainty and transparency can be suitable to qualify a site as OECM, regardless of whether ownership and land use are in one hand. If only 1% of privately-owned land in Germany was dedicated to nature conservation, this could theoretically result in around 300,000 ha of agricultural OECMs and around 170,000 ha of forest OECMs. However, a large number of small OECMs may lead to a significant monitoring challenge, alongside the difficulty of ensuring high conservation quality and effective governance at the site level.

The same logic applies to the Catholic and the Evangelical churches, which own about 820,000 ha of land in Germany (Ferk, 2001). There have been several initiatives to include nature conservation considerations in the lease contracts of church parishes (Bund Naturschutz in Bayern, 2010; Rothauwe et al., 2019). In 2023, the German Church Congress adopted (almost unanimously) a resolution titled "Preserving creation - leasing church land for the common good". If the church parishes, in line with this resolution, dedicated some of their land to nature conservation in the long term, the German churches could contribute considerably to 30x30.

4.3 Incidental conservation: land in public ownership with lasting conservation benefits

Lastly, there are substantial areas in public ownership outside protected areas where management is incidentally beneficial for nature. Military sites are particularly relevant in this context: Germany has about 680,000 ha of current and former military training areas. Approximately 60% of the active training areas are designated as Natura 2000 sites (Naturstiftung David, 2012), and some of the remainder are dedicated to nature conservation. The German Institute for Federal Real Estate ("Bundesanstalt für Immobilienaufgaben", BImA), together with other authorities, implements nature conservation measures (often in the context of offsetting projects) on federally owned forest land (300,000 ha), railway properties (34,000 km in length), inland waterways (7,300 km), and other properties (BMUB/Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit, 2016). Similar properties managed in compliance with nature conservation purposes are owned by the Federal states and municipalities. Recognizing these sites as OECMs, if site-level evaluations identify high conservation value and connectivity, could also contribute to 30x30, but an in-depth analysis of their suitability goes beyond the scope of this paper.

5 Conclusions

While private land conservation cannot and should not replace public protected area networks, it can complement them. Although PPAs are unlikely to receive legal recognition in Germany due to various hurdles, they could make an important contribution to Germany's 30x30 pledge and could be recorded in the WDPA by non-government entities. Nevertheless, their introduction as a protected area management category in German nature conservation law (both at the national and federal state level) would have to be preceded by an in-depth consideration of the preconditions that private landowners would have to fulfil to qualify for a transfer of powers in the context of the current German legal framework protected area governance and management. In contrast, OECMs have the potential to contribute to 30x30 in Germany in the near future. Together, foundations, nature conservation associations, conservation-minded private landowners, and the church own more than 1,000,000 ha of land, a sizeable share of which could qualify as

OECMs. A prerequisite would be that the responsible authorities agree on uniform criteria and procedures for how OECMs could be recognized, registered, monitored, and reported. While the organizational and structural necessities for OECMs in Germany cannot be discussed in detail here, their establishment would require additional capacity in public agencies. Testing the approach based on pilot sites would be a conceivable next step.

Meanwhile, the properties owned by foundations and conservation associations already represent “de facto OECMs”, and their contribution to nature conservation needs to be better recognized and supported. Networking of relevant organizations should be encouraged so that they can learn from one another. Finally, funding instruments must be developed or adapted to incentivize private landowners to engage in the voluntary nature protection of their properties. The new Federal Action Plan for Nature-based Solutions for Climate and Biodiversity (Aktionsprogramm Natürlicher Klimaschutz, ANK) will hopefully offer opportunities to expand private land conservation in Germany through funding instruments tailored to different target groups (e.g. by incentivizing long-term conservation leases and the use of conservation easements).

Data availability statement

The original contributions presented in the study are included in the article/supplementary material. Further inquiries can be directed to the corresponding author.

Author contributions

LK: Conceptualization, Project administration, Visualization, Writing – original draft, Writing – review & editing. TD: Conceptualization, Supervision, Writing – original draft, Writing – review & editing.

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