



FOREST RESTORATION IN EUROPE: STAKEHOLDER PERCEPTIONS, GOVERNANCE, AND CONFLICT

INSIGHTS FROM 12 DEMONSTRATION
AREAS AND THREE IN-DEPTH CASE
STUDIES



SUPERB
Upscaling Forest Restoration



This project has received
funding from the European
Union's Horizon 2020
research and innovation
programme under grant
agreement No 101036849.

Author(s)

O'Brien Lyla¹

Affiliation

¹European Forest Institute, Platz der Vereinten Nationen 7, 53113 Bonn, Germany

Cover photo credit: S. Jacobs

Recommended citations

O'Brien, L. 2025. Forest restoration in Europe: Stakeholder perceptions, governance, and conflict – Insights from 12 forest restoration demonstration areas and three in-depth case studies. European Forest Institute, Bonn, Germany. 21 pp.



Contents

EXECUTIVE SUMMARY	3
INTRODUCTION	4
METHODS	5
CASE STUDIES	5
SELECTION OF INTERVIEWEES, DATA COLLECTION, AND ANALYSIS	7
RESULTS	8
STAKEHOLDER UNDERSTANDINGS OF FOREST RESTORATION	8
FOREST RESTORATION GOVERNANCE CHALLENGES	10
CONFLICT MANAGEMENT STRATEGIES	12
<i>Forest restoration perspectives and local contexts</i>	12
<i>Tailored communication strategies</i>	13
<i>Dialogue platforms and conflict management workshops</i>	14
<i>Neutral mediators and science-based focus</i>	14
<i>Suitable settings for conflict resolution</i>	14
<i>Joint decision-making authority</i>	15
<i>Awareness of power dynamics</i>	15
<i>Careful zoning and spatial planning</i>	15
<i>Compensation and financial incentives for forest restoration</i>	16
KEY FINDINGS	17
RECOMMENDATIONS	19
REFERENCES	20



EXECUTIVE SUMMARY

Forest restoration is gaining momentum in Europe through major policies like the EU Nature Restoration Regulation. However, forest restoration is a complicated process involving diverse stakeholders across different scales and contexts. To manage this complexity, understanding how forest restoration is governed and addressing governance challenges is important for success. Through interviews with stakeholders, this study investigates governance challenges and solution strategies in 12 forest restoration demonstration areas across Europe and three in-depth case studies in Sweden, Germany, and the Netherlands. Special focus is given to identifying forest restoration conflicts, given the long history of forest conflicts across the continent.

Stakeholder conflicts were the most reported governance challenge in the 12 demonstration areas compared to challenges related to public administrations, policies and legislation, historical power imbalances between stakeholders, and decision-making. They were also the only challenges for which stakeholders were able to suggest broadly applicable solutions. Other governance challenges lacked clear strategies or had highly context-specific solutions, limiting their wider relevance. Consequently, this study highlights various conflict management approaches, which may also help to address other governance challenges such as power imbalances and policy incoherence.

The results show that forest restoration conflicts are shaped by the local context and occur when different stakeholder understandings of forest restoration clash with one another. Through our analysis, we identify broadly useful strategies to mitigate and manage forest restoration conflicts across different conflict types. These include understanding how stakeholders perceive forest restoration and the role of the local context, using tailored communication strategies and inclusive decision-making, addressing power imbalances, and using neutral facilitators. Tools such as dialogue platforms (especially Collaborative Learning), spatial planning, and financial incentives also show potential for conflict management. To increase social acceptance and reduce conflict, future forest restoration efforts should explore how stakeholders understand restoration and the role of the local context, and, in the case that conflict arises, embrace the opportunity to work together with stakeholders to find improvements.

INTRODUCTION

Forest restoration is a complex process involving diverse stakeholders, multiple spatial scales (e.g., local, regional, national), and socio-ecological contexts (Mansourian, 2016). To manage this complexity, understanding how forest restoration is governed and addressing governance challenges has been identified as a key factor for success (Guariguata and Brancalion, 2014; Mansourian, 2017). However, governance issues are often overlooked in forest restoration practice due to a lack of awareness or capacity (Wilson and Cagalan, 2016; Chazdon et al. 2021).

One of the most prominent governance challenges is the ambiguity of the term forest restoration, which stakeholders interpret in a way that best reflects the values of their sector and stakeholder group. These different interpretations can lead to stakeholder conflict, especially when they clash with one another (Emborg et al. 2012; Mansourian, 2018). Additional governance challenges may include navigating multiple forest and land-use policies at different scales and ensuring meaningful engagement of diverse stakeholders at multiple levels (Mansourian, 2017).

In Europe, forest restoration is gaining importance given the emergence of several key policies and frameworks calling for large-scale forest restoration including the EU Biodiversity Strategy for 2030, the EU Forest Strategy for 2030, and the EU Nature Restoration Regulation. For the successful implementation of forest restoration in Europe, it will be essential to identify the full range of governance challenges that may hinder restoration. Among these, stakeholder conflicts may require particular attention given Europe's long history of forest-related conflicts (Nousiainen and Mola-Yudego, 2022), which often stem from differing values and beliefs of stakeholders (Winkel and Sotirov, 2014). In this context, understanding how stakeholders interpret forest restoration and how these interpretations shape conflict is essential for developing effective mitigation strategies, improving participation, and enhancing the social acceptability of restoration initiatives. However, research exploring this link is generally limited and is mainly derived from studies in tropical countries (César et al. 2020), and therefore may not always be applicable to Europe.

Drawing on 12 forest restoration demonstration areas across Europe and an additional three in-depth studies on stakeholder perceptions of forest restoration in Sweden, Germany, and the Netherlands, this study attempts to help fill this gap by pursuing four main objectives:

1. Explore what forest restoration means to stakeholders in a European context
2. Identify key governance challenges associated with forest restoration, with a particular focus on stakeholder conflict
3. Examine how stakeholder understandings of forest restoration are linked to governance challenges, especially conflict
4. Identify solution strategies for governance challenges

Most of the content in this SUPERB project deliverable has already been published in a scientific article (O'Brien et al. 2025a). For a detailed explanation of the methods and results, please refer to that publication. In addition, throughout this document we will refer to resources that have been produced for SUPERB's stakeholder targeted, online Forest Ecosystem Restoration Gateway. These resources are marked with an asterisk throughout the text.

METHODS

Case studies

Most of the data that underpins this study was collected during the "governance screening phase" of the SUPERB project. This phase was conducted in the project's 12 practical forest restoration demonstration areas (hereafter 'demo areas') in 12 European countries that implement and test concrete restoration actions. These demo areas were selected to cover typical examples of forest degradation in Europe, a fair variety of forest biogeographical regions, land-ownership types, ecological diversity and biodiversity, and socio-economic contexts (Table 1). Additional inputs on conflict mitigation and management strategies are drawn from other, separately published components of SUPERB's research on forest restoration governance. These include a workshop that was held on using the Collaborative Learning approach for management of forest restoration conflicts (O'Brien et al. 2025b*) as well as in-depth case studies on stakeholder perceptions of forest restoration in Sweden (O'Brien et al. 2025c*), the Netherlands (O'Brien and Blaauw, 2025*), and Germany (Jordão and O'Brien, 2025*). In total, 95 stakeholder interviews were conducted across these 15 cases (12 demo areas + 3 in-depth cases). However, as the results of the three in-depth case studies have been published separately and most of the results of this study are from the governance screening phase, the following methods section describes this phase in more detail. To read the full methods and results of the separate studies that also feed into this deliverable, please refer to the resources marked with an asterisk on the SUPERB Forest Ecosystem Restoration Gateway.

Table 1: Overview of SUPERB's 12 European forest restoration demonstration areas. From O'Brien et al. (2025a).

Case study	Forest degradation, ecological, and socio-economic characteristics	Ecosystem services at centre of the restoration approach
Italy, Po Valley	Densely populated region; intense agricultural land-use; historical mixed bottomland forest types nearly completely replaced due to agricultural expansion and urbanisation; remaining forests fragmented and poorly connected; forests are publicly owned	Heat island mitigation, water retention, pollution absorption, recreation
Netherlands, Limburg province	Densely populated region; intense agricultural land-use; former agricultural lands converted into Scotch pine and European oak plantations with acidic soils and low biodiversity; use of agricultural fertilisers has caused biodiversity loss; forests owned by the national forest service, the municipality, and private forest owners	Carbon storage, wood production, biodiversity conservation, water retention, water provision, recreation
Czech Republic, Vysocina and North Moravia	Agricultural and recreational region; historical forests dominated by European beech, silver fir, and Norway spruce converted into monocultures of spruce that are heavily impacted by bark beetle outbreaks and drought with negative impacts for biodiversity; forests owned by the state, private forest owners, and the military	Wood production, carbon storage, biodiversity conservation, soil protection, recreation, water provision
Germany, North Rhine Westphalia	Densely populated region; former coal and iron mining area; historical broadleaf forests replanted as monocultures of Norway spruce and Scots pine with low biodiversity; spruce monocultures heavily impacted by bark beetle outbreaks, drought, and windstorms with negative impacts for biodiversity; forests owned by the state, municipality, private forest owners, and the church	Wood production, carbon storage, biodiversity conservation, recreation, tourism, water provision, air purification
Sweden, Vindelälven-Juhtátahkka Biosphere Reserve	Remote area with rural depopulation; forests historically used by indigenous Sami people for reindeer husbandry; high proportion of intensively managed monocultures with low biodiversity; some intact high conservation-value forests remain; forests owned by the state, private forest owners, municipalities, the church, national authorities, and others	Wood production, carbon storage, cultural services, spiritual values, recreation and aesthetic values
Scotland, Queen Elizabeth Forest Park	Area with high recreational importance characterised by rural depopulation; area prone to flooding; diverse land types and land-uses including lakes, commercial and non-commercial forests, agricultural land, and sporting estates; large proportion of Sitka spruce monocultures with low biodiversity and resilience to climate change; forest owned by the state	Recreation, tourism, wood production, water retention, slope stabilisation, carbon storage, biodiversity conservation
Serbia and Croatia, Biosphere Reserve Bačko Podunavlje	Cross-border case study; rural area characterised by rural depopulation; intensive agricultural land-use; historical riparian forests cleared for agriculture and urban development and later converted into poplar monocultures with negative effects for biodiversity; forests owned by the state and private forest owners	Carbon storage, water retention, biodiversity conservation, cultural services, recreation
Romania, Făgăraş Mountains	Remote mountainous area; historical European beech and mixed forests transformed into monocultures of Norway spruce with low biodiversity; some fragmented, poorly connected patches of primary and old-growth forests with high biodiversity value remain; forests owned by a non-governmental environmental organisation	Carbon storage, biodiversity conservation, soil protection



Denmark, Thy	Densely populated coastal area with high recreational importance; temperate forests with large areas of conifer forest plantations established to protect urban areas from sand-drift but have low biodiversity; high proportion of managed forests and little remaining old forests; forests owned by the state	Water retention, carbon storage, water provision, recreation, aesthetic value, biodiversity conservation
Spain, Castilla y Leon	Rural area characterised by rural depopulation; area of high agricultural importance and previously important for mining; abandonment of agricultural systems, causing increased shrublands, forest regeneration, and risk of forest fires; forests important for the endangered Cantabrian brown bear; forests owned by the local administration	Carbon storage, water retention, water provision, soil protection, biodiversity conservation
France, Aquitaine	Area located in wildland-urban interface; former agricultural region now afforested with monocultures of maritime pine that are intensively managed and have low biodiversity and low resilience to climate change; forests impacted by forest fires, windstorms, and bark beetles; some relics of poorly connected broadleaved hedgerows around plantations owned by the state, institutions, and private forest owners	Wood production, carbon storage, forest climate change adaptation, cultural services, recreation, aesthetic values, soil protection
Serbia, Kraljevo	Semi-rural area characterised by rural depopulation; historic coppice forests important for biodiversity, but are neglected and suffer from poor structure and composition, low biodiversity, and low resilience to climate change; forests owned by monasteries and private forest owners	Carbon storage, wood production, recreation, soil protection, biodiversity conservation, cultural services, aesthetic value

Selection of interviewees, data collection, and analysis

In the governance screening phase, we conducted two rounds of semi-structured interviews (46 in total) in 2022 and 2023. The first round of interviews was with each lead of the 12 SUPERB demo areas. These interviews focused on gaining an overview of the restoration in the demo area and the overall governance situation including decision-making processes, stakeholder engagement, forest restoration policies and policy instruments, and societal rules and norms. The second round of interviews was with 2-4 key restoration stakeholders in each demo area, and the focus was on stakeholders' interpretation of forest restoration and identification of governance challenges that influence the implementation of the restoration, with a particular focus on stakeholder conflicts. Interviewed stakeholders included representatives from (a) public forest and environmental administrations; (b) state forests; (c) private forests; (d) non-governmental environmental organisations; (d) financial institutions; (e) recreational and hunting associations; and (f) others. All interviews were conducted in English, fully transcribed, and subsequently coded independently in MAXQDA, a software for qualitative text analysis. The coding process for interviews used a deductive and inductive approach. To identify different stakeholder understandings of forest restoration and conflicts, the interviews were informed by the concept of natural resource paradigms (Brown and Harris, 1992, 2000) and a typology of forest landscape restoration conflicts (Emborg et al. 2012).

RESULTS

Stakeholder understandings of forest restoration

The analysis revealed three different understandings of forest restoration by stakeholders with multiple variations: (1) *ecological restoration*, with variations *natural forests* and *ecosystem functionality*; (2) *restoration for forest cover*; and (3) *socio-economic restoration* with variations *multifunctional forestry*, *active forest management*, and *economic profitability* (Table 2). The three understandings and their variations appeared to fall on a spectrum from more biodiversity and nature conservation oriented to more aligned with the development of a strong bioeconomy in Europe. Following a similar pattern, these three understandings also appeared to be associated with distinct stakeholder groups. The *ecosystem restoration* understanding was associated mostly with public environmental administrations and organisations, while the *socio-economic restoration* understanding was associated mostly with public forest administrations and organisations, and private forest owners, associations and workers.



Table 2: Stakeholder understandings of forest restoration. Adapted from O'Brien et al. (2025a).

Forest restoration understanding	Variations (if any)	Problem	Solution (restoration meaning)	Case study countries	Main stakeholder groups
Ecological restoration	Natural forests	Human intervention has degraded forests. Most natural forests have disappeared and now monocultures of non-native species are widespread. Forests that have persisted have been considerably altered in their species compositions, structures, and natural processes. These degraded forests have low forest biodiversity and ecosystem services and poor ecosystem functioning.	Restoration aims to return forests to a more natural state, i.e., the state before they were degraded by humans. This includes returning to the original tree species compositions and forest structures, as well as the return of natural processes. This also increases the provisioning of ecosystem services, including increased forest biodiversity, habitat connectivity, carbon sequestration, and cultural value.	Denmark, Romania, Scotland, Sweden, Serbia	Public environmental administrations & organisations
	Ecosystem functionality	Climate change and the continuous management of forests for centuries have irreversibly altered forests. It is no longer possible or desired to restore forests to how they were prior to human intervention. Forests are susceptible to climate change and need to be adapted to withstand future disturbances.	Restoration aims to restore ecosystem functionality without considering a particular baseline. It considers future climate change and the cultural value of the existing forest through careful species selection and introduction of traditional management practices.	Denmark, France, Scotland	Diverse
Restoration for forest cover	N/A	Agricultural expansion has decreased forest cover. In some areas, agricultural lands are now abandoned and have low biodiversity and cultural value. Remaining forests in the agricultural landscape are fragmented and poorly connected.	Restoration aims to transform former agricultural lands into forests (again), and as a result, create green spaces for society, address climate change, improve habitat connectivity, soil conditions, and biodiversity.	Italy, Serbia	Diverse
Socio-economic restoration	Multifunctional forestry	Forest management has historically prioritised timber production over other ecosystem services. This has decreased forest resilience to climate change and disturbances and negatively impacted biodiversity and ecosystem services, especially cultural services.	Restoration aims to transition to more sustainable forest management for multiple ecosystem services, including timber production, carbon sequestration, recreation, and forest biodiversity. Timber production is still a central objective of forest management but is no longer prioritised over other ecosystem services.	Croatia, Czech Republic, Germany, Netherlands, Scotland, Sweden	Public forest administrations; private forest owners, associations, & workers
	Active forest management	Due to rural depopulation and changing socio-economic factors, former agricultural lands were abandoned, resulting in natural forest regrowth. Without proper management, these new forests, as well as abandoned old forests, are vulnerable to forest fires and have little economic value.	Restoration aims to return forests to active management and therefore reduce risk of forest degradation by wildfires, as well as increase the economic and environmental value of the rural area.	Spain	Diverse
	Economic profitability	Climate change and disturbances such as bark beetle outbreaks have degraded forests which has decreased their economic profitability and negatively impacted forest owners.	Restoration aims to increase forest resilience to climate change, decrease the risk of degradation by future disturbances, and increase the profitability of the forest again by increasing the potential for long-term timber production. This has some secondary benefits to the primary goal of timber production, including increased forest biodiversity and hunting opportunities.	Germany, Czech Republic	Public forest administrations; private forest owners associations, & workers

Forest restoration governance challenges

The analysis revealed four types of governance challenges: (1) Public administration challenge; (2) Policies and legislation challenge; (3) Stakeholder challenge; and (4) Decision-making challenge (Table 3). When compared to the other three types of governance challenges, conflicts between stakeholder groups were far more numerous and ubiquitous across all forest restoration demo areas and were the only type of governance challenge that could explicitly be connected to stakeholder understandings of forest restoration. Therefore, we describe the four types of stakeholder conflicts related to forest restoration that we identified in the demo areas in more detail below. This is followed by an analysis of their relationship to stakeholder understandings of forest restoration (Table 4). When we refer to conflict, we mean active disagreements that stakeholders identified as impairing or complicating decision-making processes in the demo areas.

Table 3: Common governance challenges associated with forest restoration. Adapted from O'Brien et al. (2025c).

Governance challenge	Description
1. Public administration challenge	Ambiguous and conflicting administrative competencies impairs coordination between administrations
	Top-down decision-making is misaligned with local interest
2. Policies and legislation challenge	Horizontal and vertical incoherences in forest policy
3. Stakeholder challenge	Conflicts between stakeholder groups rooted in differences in interests and values
	Historical power imbalances between stakeholders
4. Decision-making challenge	N/A; Case study specific

(1) *Biodiversity conservation vs. timber production and harvesting*: This conflict was associated with all three understandings of forest restoration. Public environmental stakeholders aligning with the understanding *natural forests* clashed with forest stakeholders and rural communities, whom they perceived to favour economic and subsistence use of forests over biodiversity conservation. Public and private forest stakeholders aligning with the understanding *restoration for economic profitability* perceived the opposite, i.e., that public environmental stakeholders value naturalness and biodiversity of forest ecosystems over their economic profitability. A common manifestation of this conflict was disagreements over tree species selection. Public environmental stakeholders favoured diverse native tree species and conflicted with forest stakeholders who were perceived to have preference for economically profitable non-native species.

(2) *Forest restoration vs. hunting culture and traditions*: This conflict was reported by stakeholders aligning with the *ecological restoration* and *socio-economic restoration* understandings of forest restoration. Diverse stakeholders perceived that an overpopulation of deer and other browsing ungulates is impeding forest restoration efforts. They believed

that this overpopulation is denied by traditional hunting associations to maintain traditional hunting values.

(3) *Forest restoration vs. recreation and forest cultural value*: This conflict was associated with all three understandings of forest restoration. Stakeholders perceived that forest restoration induced changes to forest accessibility, recreation, safety, and aesthetics creates conflict with local communities, recreationists, and hunters, especially when forest restoration blocks access to certain recreational paths or hunting areas either through fencing or changes to the water management. Public environmental administrations that perceive forest restoration as *natural forests* conflicted with recreationists over protection measures, as the approach was seen to increase the risk to recreationists due to the number of aging trees that could fall. Changes to forest aesthetics by altering tree species, water regimes, and forest structure were most prone to conflict because they were thought to damage local communities' emotional connection to the forest and negatively impact forest cultural value.

(4) *Forest restoration vs. other land-use types*: This conflict was unique to stakeholders aligning with *restoration for forest cover*. Stakeholders from diverse groups perceived conflicts with the agricultural and development sectors which were perceived to value agricultural expansion and infrastructure development over the environment and forest protection. According to stakeholders, this competition for land-use is especially prominent in urban areas. In most cases, stakeholders thought this conflict posed a challenge for expanding forest restoration because there is currently a lack of available incentives to convince farmers or private landowners in the surrounding areas to engage in forest restoration.

Table 4: Relationship between stakeholder understandings of forest restoration and conflicts. From O'Brien et al. (2025a).

Main stakeholder group & associated forest restoration paradigm		Perceived conflict with	Stakeholder conflict
Public environmental administrations & organisations	Ecological restoration	Public forest administrations & organisations; forest industry; private forest owners, enterprises & workers; rural communities	Biodiversity conservation vs. timber production & harvesting
		Traditional hunting associations & hunters	Forest restoration vs. hunting culture & traditions
		Recreationists	Forest restoration vs. recreation & forest cultural value
Diverse	Restoration for forest cover	Farmers and agricultural sector; development sector	Forest restoration vs. other land-use types
		Recreationists	Forest restoration vs. recreation & forest cultural value
		Public forest administrations & organisations; forest industry; private forest	Biodiversity conservation vs. timber production & harvesting



		owners, enterprises & workers; rural communities	
Public forest administrations, private forest owners, associations & workers	Socioecological restoration	Public environmental administrations & Organisations	Biodiversity conservation vs. timber production & harvesting
		Recreationists	Forest restoration vs. recreation & forest cultural value
		Traditional hunting associations & hunters	Forest restoration vs. hunting culture & traditions

Conflict management strategies

Stakeholder conflicts were the most frequently discussed governance challenge and the only challenge for which stakeholders proposed relatively concrete solutions. This likely stems from the nature of the other governance challenges, which were either very broad (e.g., unclear administrative roles or policy incoherence) or highly site-specific (e.g., unique decision-making processes in certain areas). As a result, stakeholders were largely unable to suggest solution strategies beyond stating that the issues should be addressed, or their proposed solutions were very specific to the local context and were not applicable to other cases. In contrast, the four identified types of stakeholder conflicts were more defined, and the solutions proposed by stakeholders were broad enough to be adapted across conflict types. Therefore, this section focuses on conflict management strategies for stakeholder conflicts, which may also help address other governance issues such as top-down decision-making, power imbalances, and, to some extent, policy incoherence when integrated into policymaking.

This section presents solutions based on proposals from stakeholders interviewed in the governance screening phase and the three in-depth case studies in Sweden (O'Brien et al., 2025c*), Germany (Jordão and O'Brien, 2025*), and the Netherlands (O'Brien and Blaauw, 2025*) as well as the author's own analysis. Although stakeholders made these suggestions considering specific forest restoration conflicts, all were framed broadly enough to offer guidance in conflict management for each of the four conflict types identified. However, the strategies, particularly zoning and spatial planning as well as compensation and financial incentives, may vary in relevance and effectiveness depending on the context where the restoration takes place. Therefore, readers should approach these strategies with caution.

Forest restoration perspectives and local contexts

Our study suggests that different stakeholders understand forest restoration in different ways, based on what they see as problems for forests and how they think those problems should be addressed. These views appear to be shaped by both the local environmental and social context, as well as the deeper values and beliefs held by each stakeholder group. Their

perspectives seem to reflect ongoing or historical challenges in forest management and may be linked to broader worldviews—such as seeing forests primarily for nature conservation versus economic use (O’Brien et al. 2025a). For example, stakeholders with the most pro-biodiversity understanding identified in this study – *natural forests* – are concerned with intensive forest management and monocultures. Some of the demo areas where this understanding was found represent some of the places where forest management in Europe is typically highest, such as Northern and Central Eastern countries. Their view echoes scientific concerns about how intensive logging threatens biodiversity and leads to the loss of old-growth forests. As a response, they advocate for greater emphasis on natural processes and more diverse forest structures. In contrast, stakeholders that aligned with the most pro-bioeconomy understanding – *economic profitability* – see climate change and increasing forest disturbances as major problems because they are perceived to threaten timber production and forest income. This view reflects broader concerns in science about how disturbances are affecting forests and the timber industry in Europe. In response, these stakeholders call for making forests more economically resilient by planting more climate-adapted, often non-native tree species, and harvesting trees at younger ages to reduce risks.

From our interviews with stakeholders, it appears that when these underlying values and beliefs that shape what stakeholders consider as a problem for forests and the solution (which form their understanding of forest restoration) clash with one another in a certain socio-ecological context, it can cause stakeholder conflicts. As a strategy for conflict management, it is therefore essential to explore and understand the diverse ways stakeholders perceive forest restoration and the local context where for restoration takes place. Doing so can inform more context-specific restoration planning and support conflict resolution.

Tailored communication strategies

Using a one-size-fits all approach to communication about forest restoration may lead to mistrust or lack of engagement, as stakeholders often have differing perspectives, priorities, and informational needs. For example, in the Danish demo area, stakeholders highlighted the importance of communicating how recreational use can impact forest biodiversity. Stakeholders believed that many forest users in Denmark are nature enthusiasts who, if made aware of the long-term benefits of restoration measures such as closing certain paths to allow the forest to recover, may be more willing to accept them. In the Romanian demo area, effective communication was found to rely on trusted local authorities, who serve as the primary source of information for local communities. In the Italian demo area, sharing information about the economic benefits of restoration on agricultural land was seen as key to preventing resistance from farmers. Meanwhile, the in-depth case study on land-use and forest restoration in the Netherlands revealed that while all stakeholder groups wanted more communication about land-use change, their specific needs and objectives varied and therefore they requested information for different purposes (O’Brien and Blaauw, 2025*). These examples highlight the importance of identifying stakeholder-specific concerns and objectives early in the restoration process to develop targeted, context-sensitive communication strategies that can help reduce conflict.

Dialogue platforms and conflict management workshops

Developing a dialogue platform so that all stakeholders can share their perspectives was widely seen by stakeholders as essential for both conflict mitigation and management. Several stakeholders pointed out that some conflicts may even dissolve in such settings because it turns out that it was just a misunderstanding. For example, in the Romanian demo area, local communities initially opposed forest restoration because they believed it would include strict protection measures that would limit their access to the forest, although this was not planned. By contrast, the Dutch in-depth case study highlighted the consequences of not providing such platforms. Here, local communities felt excluded from previous discussions on recreational developments in the area, leading to a loss of trust of local authorities. Ultimately, even though these changes were not related to forest restoration efforts, the local community became disengaged from forest restoration because they felt they had no say in the future of their forest and thought it had been destroyed past the point of return (O'Brien and Blaauw, 2025*).

While dialogue platforms may be useful to mitigate and solve minor conflicts, a deeper approach may be needed to tackle more complex forest restoration conflicts. In the German in-depth case study on conflicts related to climate-adapted forest restoration (Jordão and O'Brien, 2025*), we organised a separate workshop to discuss conflicts more in-depth using the approach of **Collaborative Learning** – a method to address complex environmental conflicts by fostering discussions among stakeholders to support progress rather than immediate solutions (Daniels and Walker, 2001). The workshop brought together diverse stakeholders involved in the conflict and was successful in developing a shared understanding of the conflict among participants and fostering some consensus on potential conflict improvements (O'Brien et al., 2025b*). However along with other dialogue platforms, these events should be held regularly, as a single event is unlikely to lead to any real change in the long-term.

Neutral mediators and science-based focus

When conflict arises, stakeholders pointed to the importance of using a neutral mediator that is not involved in the restoration conflict or in the restoration itself. Most stakeholders considered scientists to be the ideal neutral mediator because they were perceived as trustworthy to most stakeholders, especially the general public. In addition, neutral informants may be useful to inform stakeholders about forest restoration. For example, in the Swedish in-depth case study, it was suggested that using neutral information brokers to inform forest owners about the diversity of forest management strategies that are available may lead to more people implementing forest restoration in their private forest (O'Brien et al. 2025c*)

Suitable settings for conflict resolution

Across forest restoration demo areas, stakeholders emphasised the importance of informal, in-person meetings for conflict management and recommended holding discussions in the forest or other outdoor settings instead of meeting indoors, or worse, communicating over email. In the German in-depth case study, stakeholders stressed that informal exchange

should occur early – before the restoration planning phase – to develop a mutual understanding and prevent conflicts from developing (Jordão and O’Brien, 2025*). In the Swedish in-depth case study, engaging with forest owners in their own forest was seen as crucial to build trust, foster openness, and avoid conflict related to forest management (O’Brien et al. 2025c*).

Joint decision-making authority

Stakeholder engagement is widely recognised as a way to increase participation in forest restoration efforts. However, stakeholders emphasised that to truly address conflict, stakeholder engagement must go beyond communication and information sharing and should give stakeholders real decision-making power. For example, in the German demo area, potential conflict with hunters over restricted access was avoided by directly involving them in the planning and design of fenced restoration areas. Similarly, in the Danish demo area, engaging horse riders in identifying and designing an alternative riding path helped ease tensions when one route was proposed for closure due to restoration. In contrast, the Dutch in-depth case study revealed that when local communities, agricultural associations, and conservation groups felt excluded from land-use decisions, they became disinterested in restoration efforts and skeptical about their potential benefits (O’Brien and Blaauw, 2025*). Crucially, giving stakeholders real authority in decision-making also means accepting that, in some cases, the outcome may be to not proceed with forest restoration at all, or to implement it in a different location based on stakeholder feedback.

Awareness of power dynamics

Stakeholders highlighted that it is important to identify and address power imbalances between stakeholders that may influence decisions about forest restoration. For example, those with technical knowledge about forest restoration can unintentionally or deliberately influence those with less technical knowledge towards particular outcomes. To promote fair and inclusive decision-making, communication about forest restoration should therefore be clear, accessible, and non-technical, enabling all stakeholders to engage meaningfully. In the Swedish in-depth case study, various stakeholder groups expressed concern that the forest industry holds significant influence, partly due to its use of strong and often negatively framed narratives about nature conservation, which can shape public and stakeholder attitudes on forest restoration (O’Brien et al., 2025c*). Those facilitating or mediating engagement processes should remain aware of such dynamics, as they may reveal whose perspectives are being overlooked. Consulting with a neutral local expert who is familiar with the area but not directly involved in the restoration process can also help uncover power imbalances and ensure a more balanced representation of stakeholder interests.

Careful zoning and spatial planning

Conflicts related to forest restoration vs. hunting culture and traditions and forest restoration vs. recreation may be resolved through careful zoning. For example, in the Croatian side of the Croatian/Serbian demo area, some stakeholders perceived that hunters may accept restrictions in certain areas designated for forest restoration if they are granted access to alternative hunting grounds. In the Dutch in-depth case study, careful spatial planning of

forest restoration and different recreational activities was seen to prevent conflicts with forest users.

Compensation and financial incentives for forest restoration

In the case of implementing forest restoration on private land (forest, agricultural, or other) stakeholders emphasised that compensation and financial incentives may help to promote forest restoration and reduce conflict. This is especially important when landowners are concerned with loss of income due to implementing measures. In the Swedish in-depth case study, all stakeholder groups agreed that financial incentives are needed to promote the uptake of forest restoration and forest conservation measures in privately owned forests (O'Brien et al. 2025c*). Similarly, in the German in-depth case study, all interviewed stakeholder groups highlighted financial incentives as a key means of encouraging private forest owners to undertake restoration that aligns with Natura 2000 habitat type requirements. Specifically, three types of mechanisms were mentioned: (1) State-led adaptation of funding lines; (2) Incentives to make wood from habitat trees more marketable; and (3) Market-based financial compensation for ecosystem services (Jordão and O'Brien, 2025*).

KEY FINDINGS

Diverse understandings of forest restoration exist in Europe

In our interviews, we found that diverse understandings of forest restoration exist among stakeholders and in the different countries of the demo areas, including *ecological restoration*, *restoration for forest cover*, and *socio-economic restoration*. These understandings are shaped by what different stakeholder groups consider to be a problem for forests (e.g., loss of old-growth forests, loss of economic income due to disturbances, forest fires, etc), how they think it can be addressed (e.g., greater focus on natural processes, shorter rotation cycles, active forest management, etc.) which appear to be determined by the values and beliefs of the different stakeholder groups and the socio-ecological context where restoration takes place.



Stakeholder conflicts are common in Europe and are connected to perceptions of forest restoration

Our results found that governance challenges for forest restoration in Europe are related to public administrations, policies and legislation, stakeholders, and decision-making processes. Among these, stakeholder conflicts were the most common and include *biodiversity conservation vs. timber production and harvesting*, *forest restoration vs. hunting culture and traditions*, *forest restoration vs. recreation and forest cultural value*, and *forest restoration vs. other land-use types*. These conflicts are influenced by the local context and clashing stakeholder understandings of forest restoration, which are informed by the stakeholders' underlying values and beliefs.



Most conflict management strategies are versatile but local context matters

The analysis revealed several broadly applicable strategies for mitigating and managing stakeholder conflict – the only governance challenge for which stakeholders were able to propose concrete, transferable solutions. These include understanding the local context and how stakeholders perceive restoration, developing tailored communication strategies, ensuring shared decision-making, addressing power imbalances, and providing neutral facilitation. Tools such as dialogue platforms (especially the Collaborative Learning approach), zoning, and financial incentives also were seen by stakeholders as having a potential for mitigating and addressing conflict. These strategies may also be helpful for solving other governance challenges including top-down decision-making, historical power imbalances between stakeholders, and policy incoherences (if used during the policy-making process). Although the strategies are broadly applicable, their implementation should consider and adapt to the specific socio-ecological context in which restoration takes place.



RECOMMENDATIONS

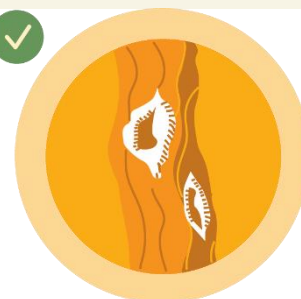
Investigate stakeholder understandings of forest restoration

Overall, the results of this study highlight the importance of investigating meanings of forest restoration according to stakeholders before implementing forest restoration in a certain case, and that these diverse perspectives are openly discussed in decision-making processes, especially in conflict resolution processes.



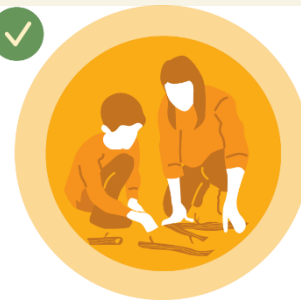
Future research needed on stakeholder understandings of forest restoration and conflicts

Future research is needed to determine if the different understandings of forest restoration found in this study are representative of the stakeholder groups and countries where they were found, and if further understandings and related conflicts can be found elsewhere in Europe. Similarly, additional research should be conducted to determine if there are additional governance challenges for forest restoration in Europe and how these challenges can best be addressed.



Embrace conflict and strive for stakeholder supported resolutions

Forest restoration conflicts are common. Therefore, when conflict arises in the planning or implementation phase of forest restoration, embrace the opportunity and implement broad, adaptable strategies such as dialogue platforms, shared decision-making, and neutral mediators. These tools and strategies are effective across a range of conflict types but should consider the socio-ecological context.



REFERENCES

- Daniels, S.E. and Walker, G.B., 2001. Working through environmental conflict: The collaborative learning approach. Praeger Publishers, Westport, CT. 299 pp.
- César, R.G., Belei, L., Badari, C.G., Viani, R.A., Gutierrez, V., Chazdon, R.L., Brancalion, P.H. and Morsello, C., 2020. Forest and landscape restoration: A review emphasizing principles, concepts, and practices. *Land*, 10(1), p.28.
- Chazdon, R.L., Wilson, S.J., Brondizio, E., Guariguata, M.R. and Herbohn, J., 2021. Key challenges for governing forest and landscape restoration across different contexts. *Land Use Policy*, 104, p.104854.
- Emborg, J., Walker, G. and Daniels, S., 2012. Forest landscape restoration decision-making and conflict management: applying discourse-based approaches. *Forest landscape restoration: integrating natural and social sciences*, pp.131-153.
- Guariguata, M.R. and Brancalion, P.H., 2014. Current challenges and perspectives for governing forest restoration. *Forests*, 5(12), pp.3022-3030.
- *Jordão, P. and O'Brien, L. 2025. Climate adapted forest restoration in Natura 2000 areas - Perceptions, conflicts, and improvement strategies in North Rhine-Westphalia, Germany. European Forest Institute, Bonn, Germany.
- Mansourian, S., 2016. Understanding the relationship between governance and forest landscape restoration. *Conservation and Society*, 14(3), pp.267-278.
- Mansourian, S., 2017. Governance and forest landscape restoration: A framework to support decision-making. *Journal for Nature Conservation*, 37, pp.21-30
- Mansourian, S., 2018. In the eye of the beholder: Reconciling interpretations of forest landscape restoration. *Land Degradation & Development*, 29(9), pp.2888-2898.
- Nousiainen, D. and Mola-Yudego, B., 2022. Characteristics and emerging patterns of forest conflicts in Europe-What can they tell us?. *Forest Policy and Economics*, 136, p.102671.
- *O'Brien, L. and Blaauw, S. 2025. Stakeholder perceptions of land-use change and forest restoration - A case study in Horst aan de Maas, the Netherlands. European Forest Insitute, Bonn, Germany.
- O'Brien, L., Konczal, A., Begemann, A., Lovric, M., Lovric, N., Fleckenstein, S., and Winkel, G., 2025a. Forest restoration paradigms and conflicts in Europe. *International Forestry Review*.



- *O'Brien, L., Haase, M., Jordão, P. 2025b. The Collaborative Learning approach: Guidelines for conflict management in forest restoration. European Forest Institute, Bonn, Germany.
- *O'Brien, L., Haase, M., Granberg, Å., Svennson, J. 2025c. Changes in forest ownership structure in Sweden – challenges and opportunities for forest management, conservation, and restoration. European Forest Institute, Bonn, Germany.
- Wilson, S.J. and Cagalan, D., 2016. Governing restoration: Strategies, adaptations and innovations for tomorrow's forest landscapes. *World Development Perspectives*, 4, pp.11-15
- Winkel, G. and Sotirov, M. 2014. Whose integration is this? European forest policy between the gospel of coordination, institutional competition, and a new spirit of integration. *Environment and Planning C: Government and Policy* 34 (3): 496-514.

* These references refer to resources that have been produced for SUPERB's stakeholder targeted, online Forest Ecosystem Restoration Gateway.