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Report Deliverable 1.1.3

Stakeholder Survey on Forest Regeneration

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SUMMARY

This report summarises a transnational stakeholder survey on forest regeneration and restoration in degraded areas (Deliverable 1.1.3) across eight Central European countries, comprising 815 responses. The analysis covers perceived drivers of forest degradation, applied management measures for key drivers (drought, fire, bark beetle, wind, ash dieback, and improperly managed riparian forests), impacts on forest resources, biodiversity and ecosystem services, perceived barriers to successful forest regeneration, stakeholder involvement, and regulatory constraints.

Under past and current climatic conditions, pests and diseases (e.g., bark beetle, ash dieback), and storms were most frequently rated as *"considerably"* or *"extremely"* important (65% and 50%, respectively) drivers of forest degradation, with drought (48%) and browsing (42%) also notable. Forest fires and improperly managed riparian forests were generally rated less relevant. When considering future climatic conditions, survey respondents anticipated an increase in the severity of all drivers, with drought identified as the primary future concern (77% *"considerably"* or *"extremely"* important), followed by pests (75%) and storms (68%), while the perceived importance of forest fires rose from 9% to 27%. Country-level patterns in respondents' perceptions vary considerably: in Hungary, participants reported markedly higher perceived severity across most drivers (e.g., drought 94%, pests and browsing 81%), whereas respondents from Italy indicated the lowest severity levels compared to other countries.

The survey showed that active management measures targeting drivers of forest degradation are already widely implemented, although these reflect respondents' individual experiences rather than a comprehensive regional assessment. For drought, 84% of respondents indicated that they apply or recommend changing tree species composition, while measures such as supporting microclimatic conditions through the retention of deadwood and harvest residues, thinning, and promoting structural diversity were each mentioned by more than half of the participants. In the case of wind damage, thinning and tree species change (66% each) were most frequently reported, with respondents from Germany highlighting a particularly high relevance of continuous-cover management (72%). Reported strategies to mitigate bark beetle outbreaks combine reactive measures such as sanitary or salvage logging with preventive actions including thinning, monitoring, and species diversification. UpSet plot analyses reveal frequent co-occurrence of multiple active measures to mitigate e.g., drought, storm, or bark beetle outbreaks. For countries where fire has been identified as a significant threat, maintaining forest road networks and adjusting species composition were most frequently cited, though many participants marked fire as *"not applicable in their area"*, indicating that its perceived importance is largely regional. Regarding ash dieback, survey responses emphasized change in species composition (52%) and promoting dieback-resistant ash trees (40%). Challenges related to improperly managed riparian forests were often considered not applicable (54%). Where relevant, respondents most frequently mentioned applying or recommending measures such as restoring near-natural hydrology (23%) and controlling invasive species (18%) to mitigate negative effects.

Timber production, soil quality and soil erosion control, and water provision were identified as the forest resources and ecosystem services most affected by forest degradation. Among barriers to successful regeneration, economic constraints were the most prominent – particularly high reforestation costs and financial risks related to climate disturbances – while ecological (pests, drought, browsing) and social barriers (lack of skilled workers, conflicting goals) were also emphasised. Open-text responses reinforced concerns about the high costs of nature-friendly management methods, imprecise legal regulations, and complex funding procedures.

Stakeholder participation was broadly regarded as important (58% of respondents considered it *"very"* or *"extremely"* important overall) for successful regeneration, with NGOs and urban forestry actors particularly emphatic in this regard. Regulatory challenges were identified at multiple governance levels: EU regulations were the most frequently cited (47%), followed by restrictions on planting material and

national forest laws. Qualitative comments highlighted inconsistencies in regional implementation and complex subsidy procedures.

While the survey provides a comprehensive overview of forest restoration challenges and perceptions across Central Europe, the results should be interpreted with caution. The number of responses varied considerably among countries and stakeholder groups, and findings reflect the perceptions and knowledge of respondents rather than objective measurements. Consequently, the reported patterns indicate expert and practitioner views on restoration practices, which may not fully represent all regions or stakeholder perspectives.

Table of content

1. Introduction

As part of **Activity 1.1, Review of past and existing forest restorations**, a stakeholder survey on forest regeneration in degraded areas was conducted in Central Europe (CE) to gather information on current practices for forest restoration and its challenges. The information and recommendations derived from the survey will be combined with the results of the transnational stakeholder workshop (Deliverable 1.1.2) to understand:

i) transnational best practices for the restoration of degraded forests,

ii) lessons learned (success and failure) from past restoration initiatives, and

iii) management recommendations for restoring degraded forest ecosystems by integrating principles of climate change adaptation and mitigation to forest landscape restoration.

2. Methods

To achieve the objectives of the stakeholder survey, the collaborative involvement of all RE-ENFORCE Project Partners (PPs) was essential. A collection of potential questions and predefined answers on various topics regarding forest degradation and restoration was created to gather information addressing the project requirements. Based on this compilation, the survey questions were identified and clustered into five sections:

- Participant information
- Disturbance factors
- Management of various forest degradation drivers
- Forest regeneration and restoration
- Participation of stakeholders and legal framework

For questions regarding management measures, literature research was conducted to identify the most common practices addressing different drivers of forest degradation. The drivers of interest were drought, forest fire, bark beetle outbreaks, storms, ash dieback, and improper management of riparian forests. The questionnaire was developed to be completed in approximately 15–20 minutes.

The survey included general questions on participant information, followed by 17 specific questions on forest degradation and restoration. In the survey, single-choice and multiple-choice questions, ranking questions, and open textboxes were used. For scaling questions, a Likert scale was used.

Furthermore, the stakeholders of interest were identified with joint discussions to cover all forest-related groups of stakeholders, including:

- Forest management
- Conservation management
- Urban forestry
- Non-governmental organizations (NGOs)
- National authorities
- Regional authorities
- Universities and research institutions

An “Other” option was provided in case a respondent did not belong to any of the previous groups.

After finalizing the questionnaire, the PPs conducted a preliminary validation to identify errors and perform a test analysis to ensure valid question structure and appropriate predefined answers to obtain the required information. The survey was then translated into the seven national languages of PPs: Croatian, Czech, German, Hungarian, Italian, Polish, and Slovenian. Following the translation process, a second test survey was conducted by the PPs to verify its functionality. Initially, the survey was created using Microsoft Forms, but it was later migrated to EUSurvey to ensure data security. The complete English version of the finalized questionnaire is provided in the Appendix **(Appendix 1)**.

The official launch of the survey was on June 6, 2025. All PPs shared the survey link with their identified national stakeholders (Deliverable 1.1.1) and additionally distributed it to other relevant groups and individual contacts. In addition, the link was promoted through social media channels such as LinkedIn **(Figure 1)**. The response collection which created the dataset used for this report ended on September 15, 2025.

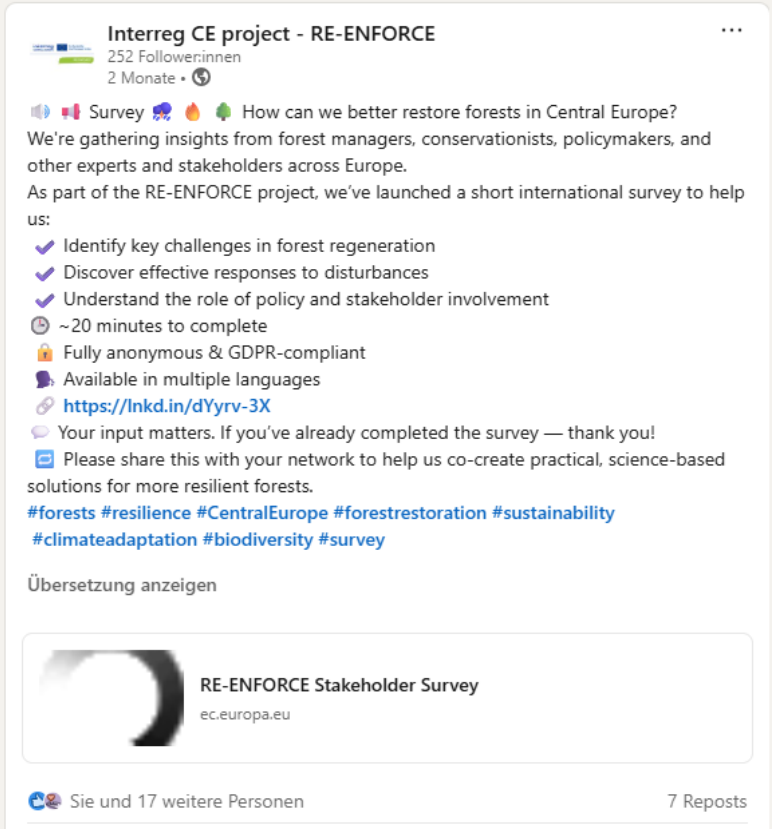


Figure 1: LinkedIn post to promote the RE-ENOFRCE Stakeholder Survey

After the survey deadline, the responses were verified for validity. Additionally, all responses given in the open textboxes were translated to English by the PPs. Responses were manually screened for inconsistencies between written comments and selected options. Minor corrections were only applied when the respondent’s intention was unambiguous. Cases where the intention remained unclear were left unmodified[1].

[1] During data cleaning, 427 open-text comments were reviewed. For example, one respondent answered *“Finora nessun incendio boschivo”* (“No forest fires so far”) to the question *“Which management practices are implemented in your area to mitigate the effects of fire on forests?”* without selecting *“Not applicable in my area”*. In such cases, responses were corrected to match the clear meaning of the comment. In total, 16 stakeholder classifications and 14 response entries were adjusted. No unclear responses were modified.

3. Stakeholder and National Representation

Within approximately 14 weeks, 815 participants from eight Central European countries and regions and eight stakeholder groups conducted the stakeholder survey **(Table 1)**.

Table 1: Overview of stakeholder survey participants.

	Austria	Croatia	Czech Republic	Germany	Hungary	Italy	Poland	Slovenia	Total
Forest management	320	5	39	119	9	7	71	28	598
Conservation management	1	2	3	1	5	5	1	2	20
Urban forestry	1	1	4	2	-	1	-	1	10
NGO	1	-	-	5	-	-	2	1	9
National authority	3	2	4	3	1	-	-	15	28
Regional authority	2	1	2	8	1	5	1	4	24
University or research institution	15	32	8	4	-	6	27	13	105
Other	10	1	3	-	-	3	4	-	21
Total	353	44	63	142	16	27	106	64	815

Austria accounted for the highest number of responses (353), followed by Germany (142), and Poland (106). Forest management (598 participants) and universities and research institutions (105 participants) were the most represented stakeholder groups. The “Other” category included respondents who could not be assigned to the predefined groups, such as citizens/tourists, representatives of the wood-processing industry or nursery production, journalists, and hunters.

Despite the broad transnational coverage and the total number of responses (815), several limitations should be acknowledged when interpreting the survey results.

First, the distribution of responses was uneven across countries and stakeholder groups, with some categories (e.g., forest managers or university and research institutions) being more strongly represented than others. This imbalance may influence the apparent prominence of certain drivers, barriers, or management measures in the aggregated data.

Second, the survey combined questions on both perception and knowledge of local practices. As such, responses reflect subjective assessments and professional experience rather than empirically verified data. The results therefore capture how experts and practitioners perceive current and future challenges in forest restoration, but they may not fully represent actual management activities or driver severity.

Finally, because respondents’ familiarity with specific restoration contexts may differ, some findings should be understood as indicative trends rather than statistically representative evidence. Nonetheless, the survey provides valuable insight into the diversity of perceptions, experiences, and governance challenges shaping forest restoration across Central Europe.

4. Drivers of Forest Degradation

This section refers to questions grouped under **Disturbance factors (Appendix 1)** within the survey. Under historical climate conditions, abiotic and biotic disturbance factors were reported as the most important

drivers of forest degradation in Central Europe **(Figure 2)**[2]. Pests and diseases (e.g., bark beetle, ash dieback) and storms were rated as *"considerably"* or *"extremely"* important by 65% and 50% of respondents, respectively. Drought (48%) and browsing (42%) were also frequently highlighted. In contrast, fire and improper management of riparian forests were perceived as less important drivers, with 79% and 77% of respondents rating them as *"not"* or *"slightly"* important. Anthropogenic factors such as financial challenges, legal restrictions, or tourism were consistently assessed as less important than most natural disturbances.

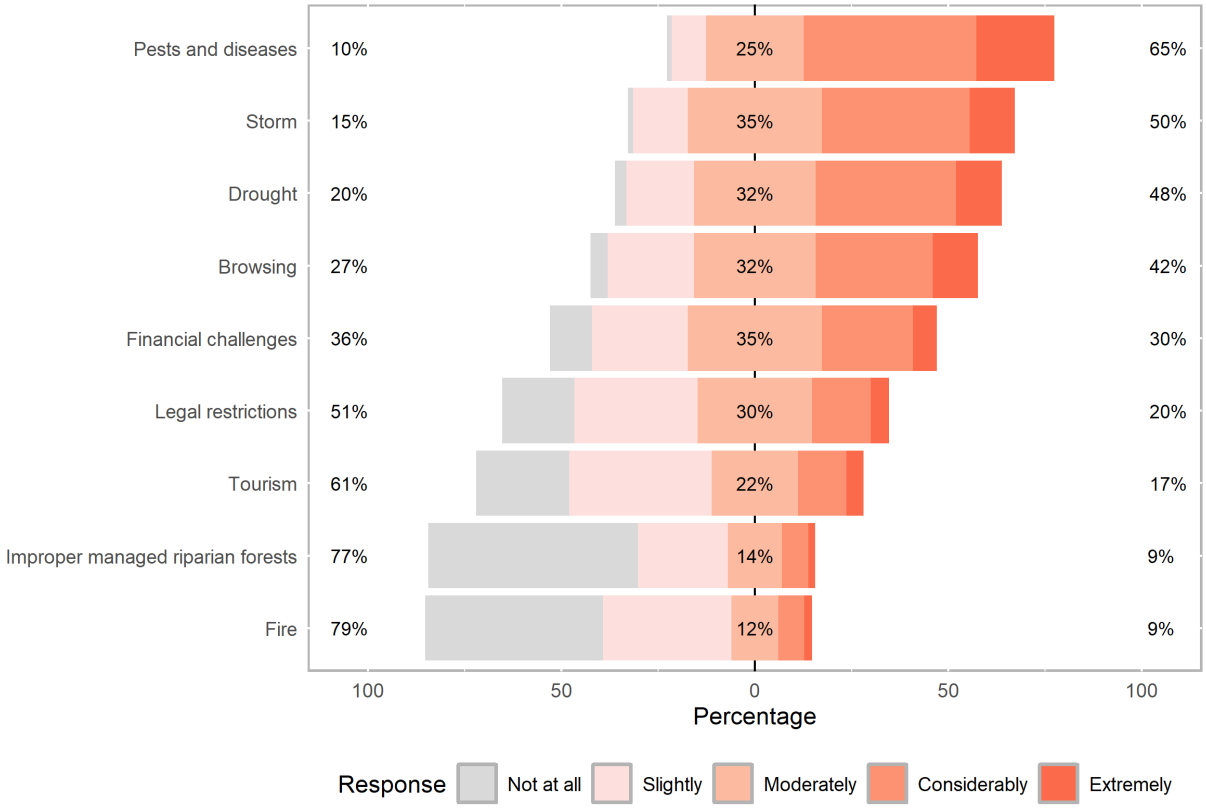


Figure 2: Survey responses from Central Europe on the extent to which different disturbance drivers have impacted forests over the past 30 years under past and current climatic conditions.

Under expected future climatic conditions, the perception of disturbance drivers among the survey participants shifted markedly **(Figure 3)**. All predefined drivers were expected to increase in severity. Drought was projected to become the most important factor, with 77% of respondents rating it as *"considerably"* or *"extremely"* important. Other abiotic and biotic drivers, including pests and diseases (75%) and storms (68%), remained among the top three concerns. Forest fire was also expected to gain significance, with the combined share of *"considerably"* or *"extremely"* important responses increasing from 9% to 27%. Browsing maintained a relatively high level of importance (40–42%). Improper management of riparian forests, by contrast, was consistently rated as of low importance under both current and future conditions (77% and 69% *"not"* or *"slightly"* important).

[2] Note: Each bar represents the proportional distribution of responses for the respective driver. Percentages on the left indicate the share of respondents rating the driver as "not at all" or "slightly relevant", the middle section represents those selecting "moderately relevant", and the right side shows the share rating the driver as "considerably" or "extremely relevant". The same structure applies to all Likert-scale figures throughout this report.

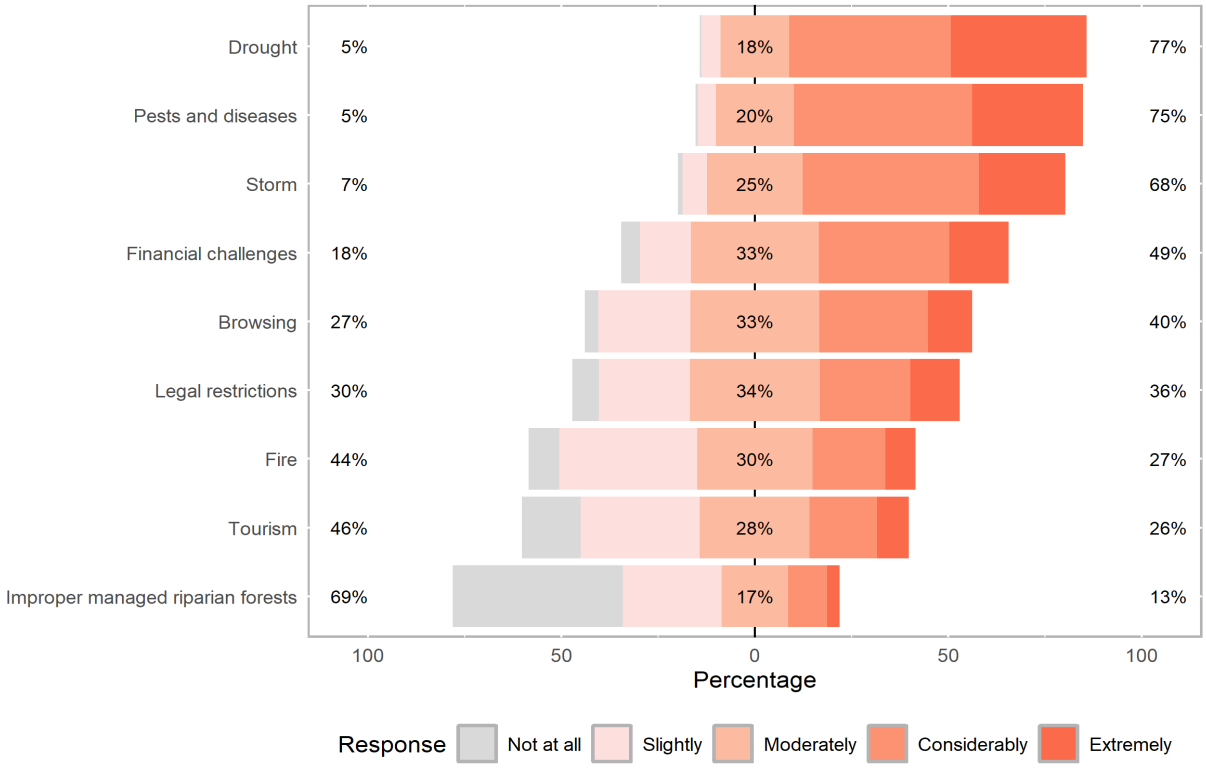


Figure 3: Survey responses from Central Europe on the extent to which different disturbance drivers are expected to impact forests under future climatic conditions by 2100.

4.1. National perspectives

Respondents from countries within the CE region showed differences in their assessments **(Appendices 2-9)**. Austria, Croatia, the Czech Republic, Germany, Poland, and Slovenia showed similar response patterns to the overall Central European results, with some national variations. Respondents from Croatia reported higher impacts of forest fires (52% of respondents rated this driver as *"considerably"* or *"extremely"* important), while financial challenges were a stronger issue in Germany (45%) and Hungary (50%).

Across Central Europe, pests and diseases (65%), storms (50%), and drought (48%) were the three most frequently rated as *"considerably"* or *"extremely"* important drivers. In comparison, Hungarian respondents reported substantially higher importance for two of these drivers, with 81% for pests and diseases and 94% for drought. In contrast, storms were considered *"considerably"* or *"extremely"* important by only 12% of Hungarian respondents. The overall expected severity of drivers was lowest in Italy and Austria, where maximum values reached 56% and 60%. In Austria, drought was rated less important (33%) than in most other countries, while browsing and financial challenges were assessed as relatively more important compared to the CE average. Browsing was also frequently highlighted in the Czech Republic (46%), Germany (48%), Slovenia (50%), and Hungary (81%). Improper management of riparian forests reached their highest importance in Croatia (25%) and Italy (26%).

Compared to historical climatic conditions, respondents' expectations of forest degradation driver severity increased under future climate conditions across all countries **(Appendices 10-17)**. As revealed by the survey responses from Italy and Austria, the importance of the top drivers increased from 60% to 79% (pests and diseases) and from 56% to 70% (storm), respectively. Respondents from Croatia (95%) and Hungary (100%) reported extremely high importance of drought under future conditions. Respondents from the Czech Republic, Germany, and Poland also expected drought to become the most severe driver, while respondents from Slovenia ranked pests and diseases (92%) and storms (89%) above drought (86%). These results were

consistent with assessments of the general evolvement of challenges for forests **(Figure 4)**: At the country level, respondents from Hungary (100%) and Croatia (96%) expected challenges to intensify, whereas respondents from Italy (70%) and Czech Republic (79%) expressed comparatively lower – but still high – concerns.

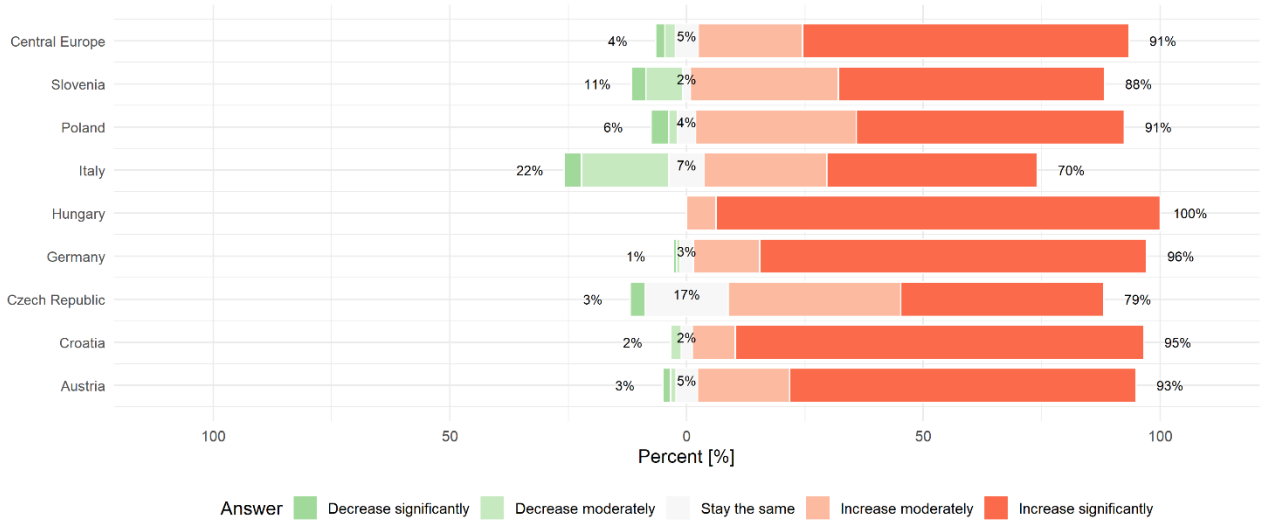


Figure 4: Respondents' expectations by countries of how the challenges of forest management will develop over the next decades.

4.2. Stakeholder perspectives

Since forest managers made up the largest share of respondents, their perspectives strongly shaped the overall results. Nevertheless, pests and diseases were consistently rated as the most important driver across all stakeholder groups **(Appendices 18–25)**. Differences appeared in other areas: respondents from universities and research institutions expected a stronger influence of forest fires (30%), similar to respondents from urban forestry (40%). Urban forestry also emphasized the negative influence of tourism, with 40% rating it as *"considerably"* or *"extremely"* important.

NGOs expressed the most pessimistic concerns, with the highest share of extremely important ratings for future climate conditions **(Appendices 26–33)**. This trend was also reflected in their views on future forest management challenges **(Figure 5)**: all NGO respondents expected challenges to increase significantly. Overall, 91% of all respondents expected management challenges to increase moderately or significantly, while only 4% expected them to decrease **(Figure 4)**.

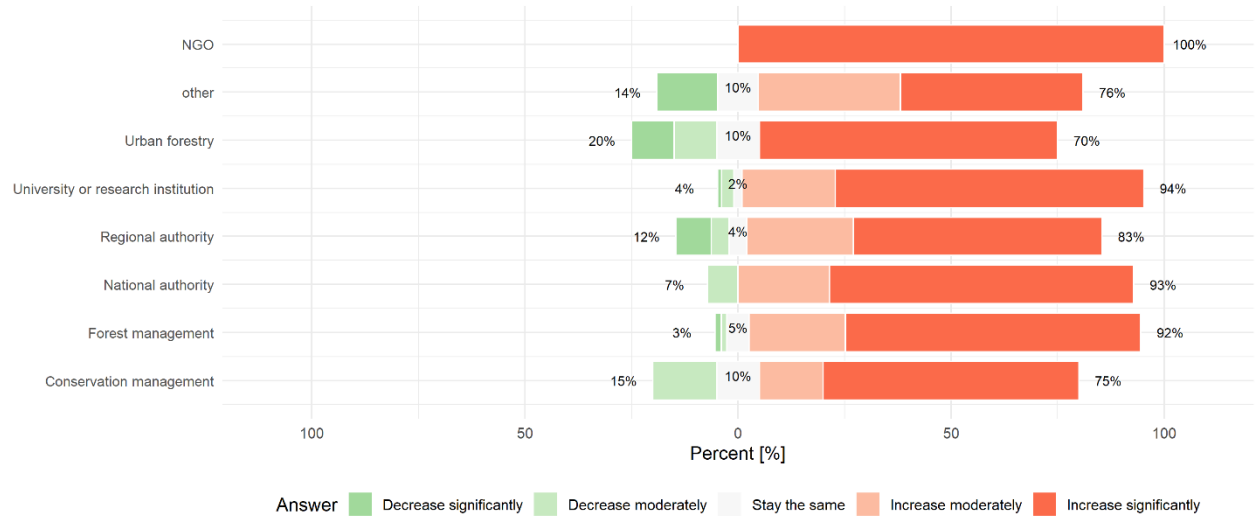


Figure 5: Respondents' expectations by stakeholder of how the challenges of forest management will develop over the next decades.

4.3. Impact on forest resources and ecosystem services

In addition, the survey also examined the impacts of disturbance drivers on forest resources and ecosystem services. Timber production was reported as the most affected forest resource, ranked as such by 31% of respondents **(Table 2)**. Soil quality and erosion control, as well as water provision, were also among the most impacted functions, while recreational services and protection against natural hazards were generally rated as less affected **(Figure 6, Appendix 34)**.

Table 2: Share of respondents who ranked each forest resource or ecosystem service as the most affected by past forest degradation drivers in Central Europe.

Forest resource or ecosystem service	Top rank [%]
Timber production	30,7
Water provision	20,9
Soil quality and erosion control	15,7
Biodiversity conservation	12,6
Protection against natural hazards	8,7
Recreational services	7,4
Carbon sequestration	4,0

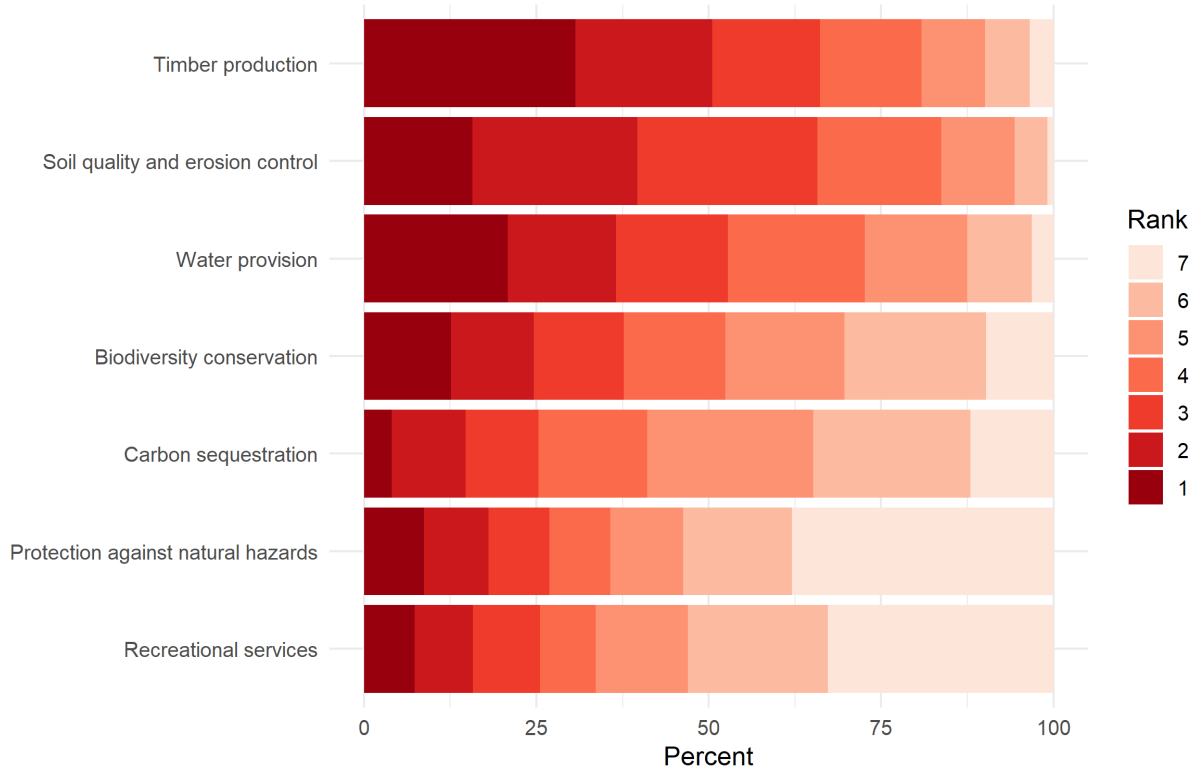


Figure 6: Percentage distribution of respondent rankings (1 = most affected) for forest resources and ecosystem services impacted by past forest degradation drivers in Central Europe.

Country-level results largely mirrored the CE trend **(Appendices 35–42)**. Considering the average ranking of ecosystem services, timber production, soil quality and erosion control, and water provision were consistently among the most affected across Austria, the Czech Republic, Germany, and Poland. In addition to the average rankings, the top-ranked selections reveal national differences. In Italy and Croatia, biodiversity conservation was most frequently ranked first (30% and 36%), even though soil quality and erosion control showed the highest average impact overall. In Hungary, biodiversity conservation was also most frequently ranked first (38%), while timber production received comparatively fewer top-rank votes (13%). In Poland, water provision was clearly prioritized, ranked first by 53% of respondents. In Slovenia, protection against natural hazards was ranked first by 19% of respondents, resulting in the third-highest average rank overall.

Stakeholder groups showed distinct perspectives as well **(Appendices 43–50)**. While timber production was most frequently ranked first overall, NGOs emphasized carbon sequestration (40% top-rank), and respondents from conservation management and urban forestry prioritized biodiversity conservation (40% each). Urban forestry was also the only group to highlight recreational services, ranking them first in 30% of cases.

5. Practices for Managing Forest Degradation Drivers

This section refers to survey questions from section **Driver Management (Appendix 1)**, examining how different drivers of forest degradation are addressed through specific practices reported by respondents.

Overall, respondents in Central Europe expressed mixed views about the adequacy of current management practices to address future challenges **(Figure 7)**. A share of 36% considered existing practices *"very"* or *"completely"* sufficient, whereas 17% regarded them as *"insufficient"* or only *"slightly"* sufficient, and 5%

were uncertain. The largest group (42%) judged current measures as only *"moderately"* sufficient to cope with future challenges.

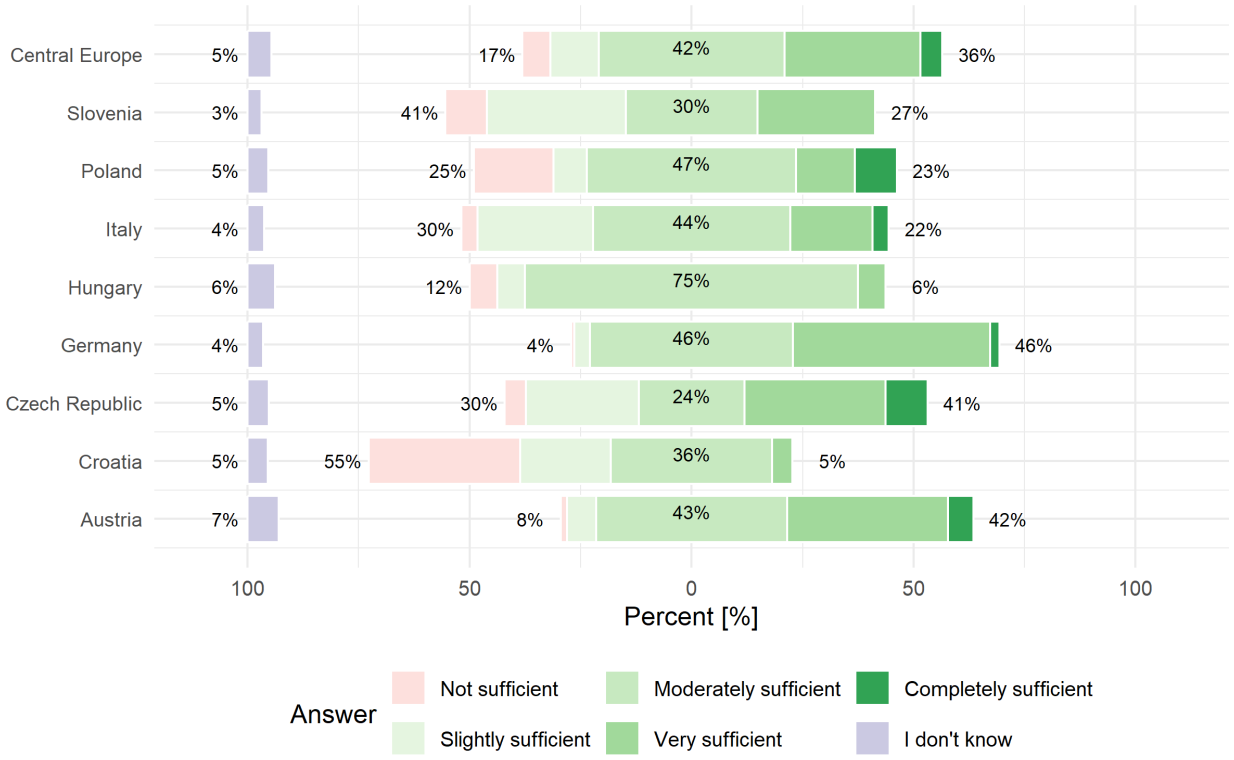


Figure 7: Respondent evaluation of the adequacy of current forest management practices for future challenges, shown for Central Europe and individual countries.

At the country level, opinions varied considerably **(Figure 7)**. Respondents from Austria, the Czech Republic, and Germany rated current measures relatively positively, with more than 40% considering them *"very"* or *"completely"* sufficient. In contrast, Hungarian participants expressed more moderate views, with 75% assessing current practices as only *"moderately"* sufficient. Respondents from Croatia and Slovenia were the most critical: 55% in Croatia and 41% in Slovenia rated current practices as *"not"* or only *"slightly"* sufficient to meet future challenges.

Furthermore, stakeholder perceptions diverged considerably **(Appendix 51)**. Representatives from urban forestry were the most uncertain, with 30% indicating that they *"did not know"* whether current management practices are sufficient. The most optimistic groups were respondents from forest management, regional authorities, and the "Other" stakeholder category, with 40% or more rating practices as *"very"* or *"completely"* sufficient. Interestingly, 29% of respondents in the "Other" category also considered current practices as *"not"* or only *"slightly"* sufficient to meet future challenges. Representatives from universities and research institutions reported major concerns, with 40% rating practices as *"not"* or *"slightly"* sufficient.

5.1. Drought

In the Central European region, changing tree species composition is the most commonly applied strategy to mitigate the effects of drought on forests, reported by 84% of respondents **(Figure 8)**. Other widely implemented measures include supporting microclimatic conditions through the retention of deadwood and harvesting residues, as well as thinning and establishing structural diversity, each confirmed by over 50% of respondents. Only a small proportion of participants (3%) indicated that drought is not a forest degradation

driver in their area, and 6% reported not implementing any management interventions to address drought effects. An open-text section also allowed respondents to mention additional drought management strategies not covered by the predefined options. Several participants highlighted adapted planting approaches, such as autumn planting or direct sowing, as well as local measures to enhance water retention.

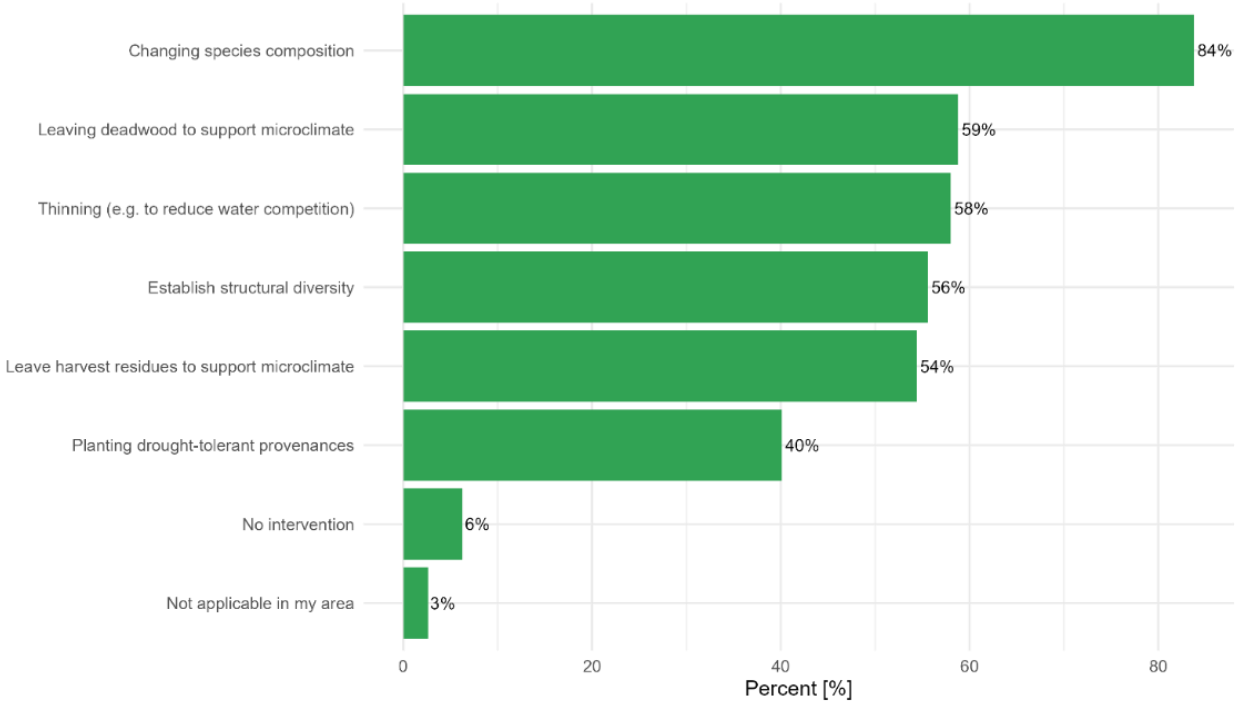


Figure 8: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of drought on forests in Central Europe.

An UpSet plot analysis further illustrates the combinations of drought management measures applied by respondents **(Figure 9)**. The most frequent combination, reported by 92 participants, included all measures, followed by 81 participants omitting "*Planting drought-tolerant provenances*" and 41 participants omitting both "*Planting drought-tolerant provenances*" and "*Thinning*". This highlights that active, multi-faceted management strategies are widely implemented across the region.

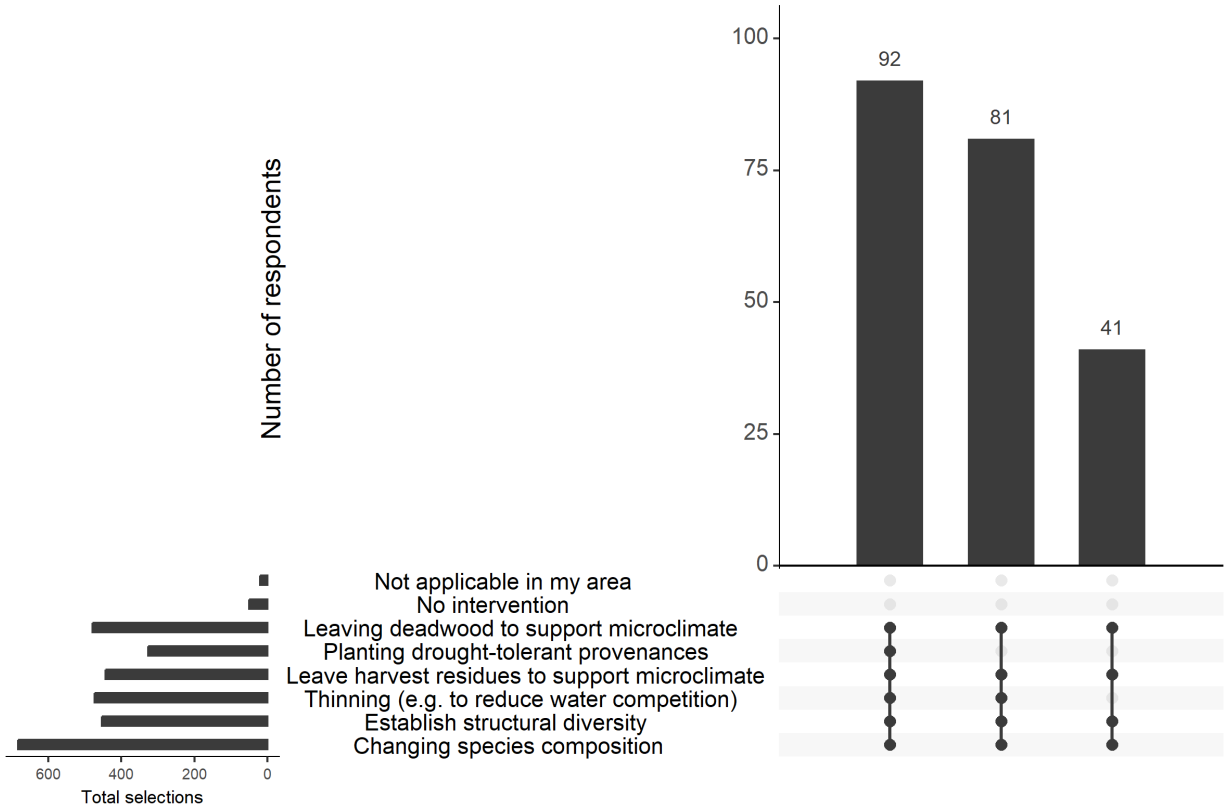


Figure 9: Combinations of management measures applied to mitigate the effects of drought on forests in Central Europe. The plot shows the number of respondents implementing each possible combination of measures, highlighting the most frequently applied strategies and their co-occurrence.

While changes in species composition are dominant overall, significant differences exist among countries **(Appendices 52-59)**. In Italy, thinning was reported as the most frequent management practice (41%), with only 26% implementing a change in species composition. Passive management – where no active management measure is applied – is relatively common in Croatia, where 34% of respondents indicated that *"No intervention"* is applied. Participants from Austria, the Czech Republic, Germany, Hungary, and Poland consistently recognize drought as a major degradation driver: only 0–3% considered it *"Not applicable in their area"*, and 83–94% reported changing species composition as a commonly applied approach. Nevertheless, 13% of respondents in Hungary indicated that no management interventions are implemented to mitigate drought effects.

This combination of CE-wide trends and country-specific differences provides the context for examining how drought management practices vary among stakeholder groups **(Appendices 60-67)**. Representatives from conservation management reported that establishing structural diversity and retaining deadwood to support microclimatic conditions are the most commonly applied measures. Nonetheless, 30% indicated that no intervention is implemented to mitigate drought effects. Similarly, 18% of respondents from universities and research institutions reported no management interventions for drought-related forest degradation. Participants from urban forestry frequently apply measures to support microclimatic conditions, with 70% confirming the retention of deadwood and harvesting residues. NGOs and national authorities generally considered drought a significant degradation driver and support active management measures in their areas. In both stakeholder groups, none of the respondents chose the option *"Not applicable in my area"* or *"No intervention"*, indicating that all participants recognize drought as a problem and implement at least one mitigation measure.

5.2. Bark beetle

In Central Europe, bark beetle outbreaks are perceived as one of the most critical degradation drivers, and active management is widely implemented **(Figure 10)**. The most common management strategies include sanitary and salvage logging and changing species composition, each reported by more than 70% of respondents. A further group of measures – such as thinning, monitoring, and establishing structural diversity – was applied by around half of all participants (46–58%). More specialized interventions, including trap trees, biological control, and bark removal, were less frequently mentioned, typically by 25–40% of respondents. The use of insecticides or reducing rotation periods was reported only by a minority (<20%). In contrast to other drivers such as fire, hardly any respondents considered bark beetles as not present in their area *"Not applicable in my area"*, and only 2% indicated *"No intervention"*, underscoring the widespread relevance and urgency of this driver across the CE region.

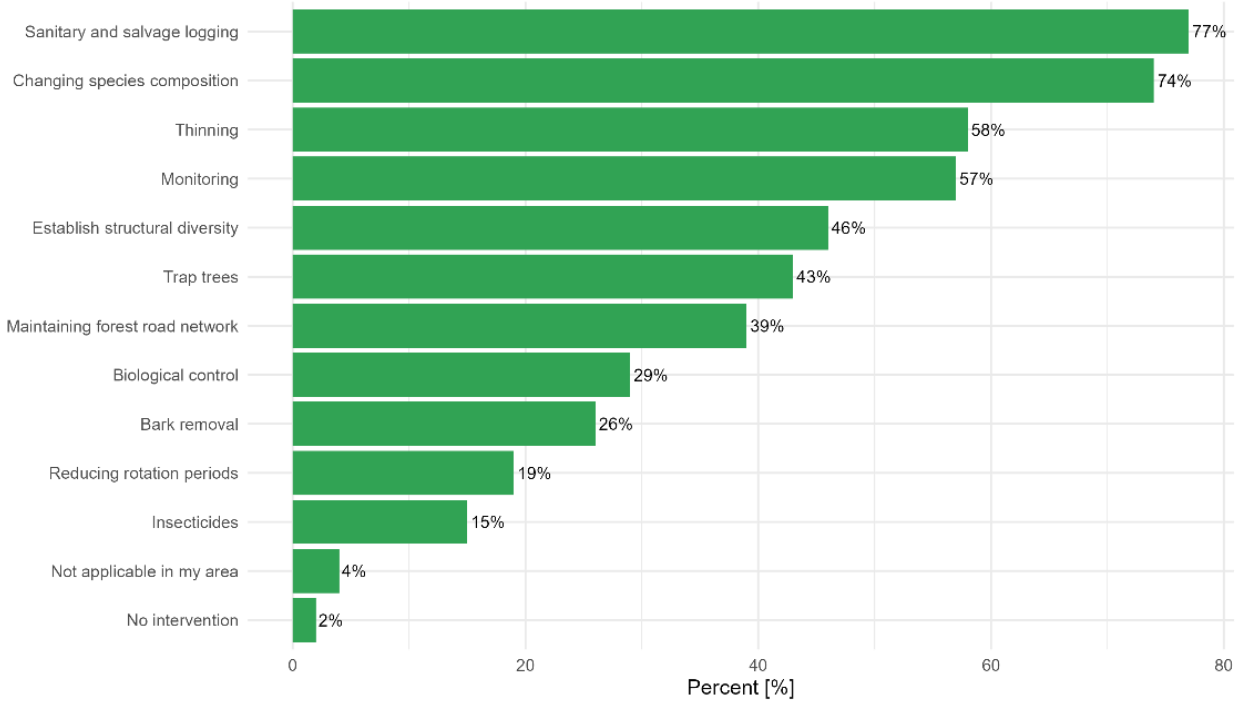


Figure 10: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of bark beetle infestations on forests in Central Europe.

The analysis of bark beetle management practices illustrated the wide range of strategies applied across Central Europe. With 13 available options, responses were highly diverse, and the most frequent individual combinations were relatively small in number (23 respondents reporting *"Not applicable in my area"*, 19 selecting only *"Sanitary and salvage logging"*, and 16 applying a combination of *"Sanitary and salvage logging"*, *"Changing species composition"*, and *"Thinning"*) **(Figure 11)**.

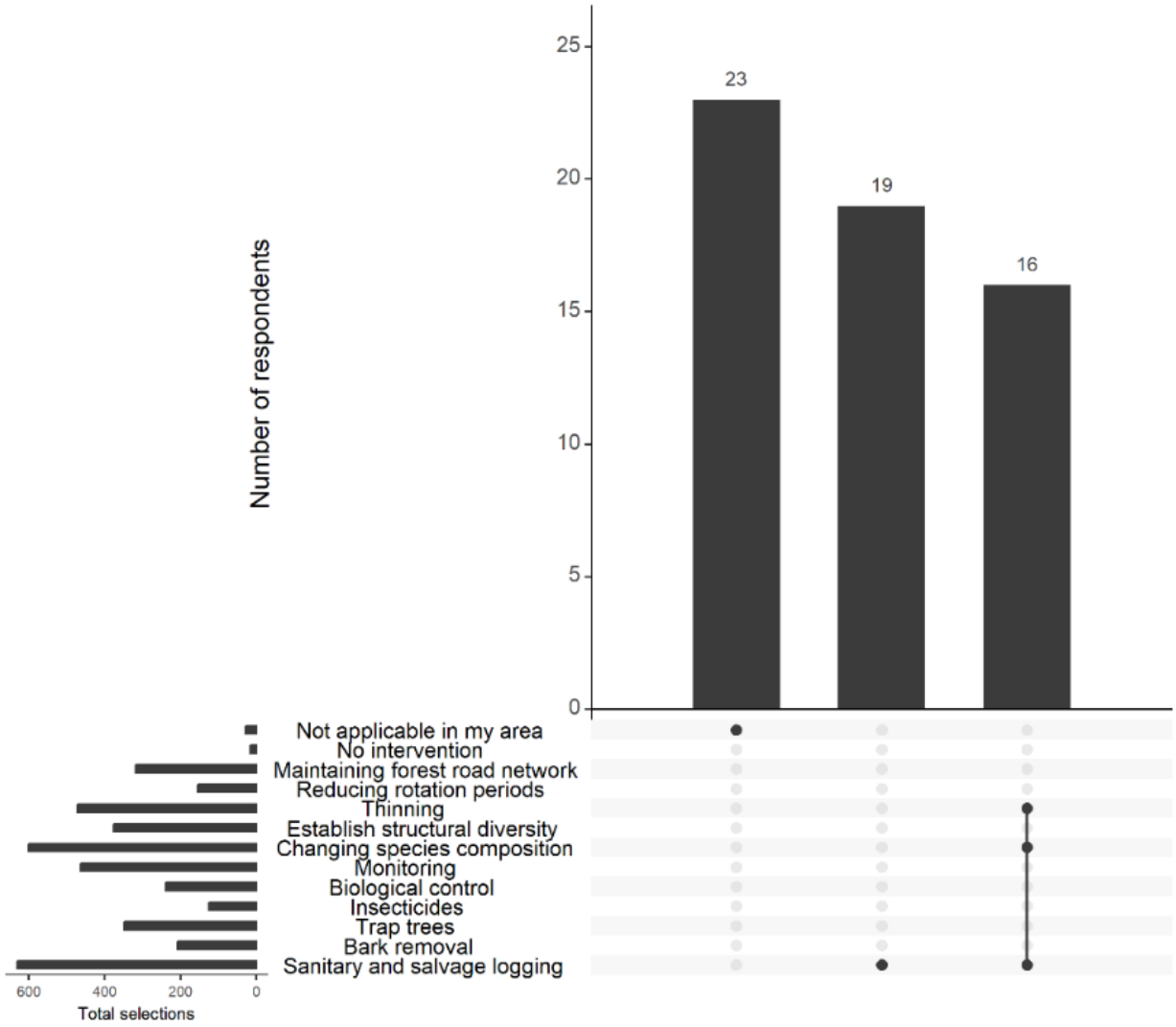


Figure 11: Combinations of management measures applied to mitigate the effects of bark beetle infestations on forests in Central Europe. The plot shows the number of respondents implementing each possible combination of measures, highlighting the most frequently applied strategies and their co-occurrence.

To better highlight the most relevant patterns within this diversity, we focused on the five most frequently reported measures. This analysis revealed that the majority of respondents (167) indicated implementing all five measures together (*"Establishing structural diversity"*, *"Monitoring"*, *"Thinning"*, *"Changing species composition"*, and *"Sanitary and salvage logging"*). The next most frequent combinations involved omitting one of these practices, either *"Monitoring"* (74 respondents) or *"Thinning"* (59 respondents) **(Figure 12)**.

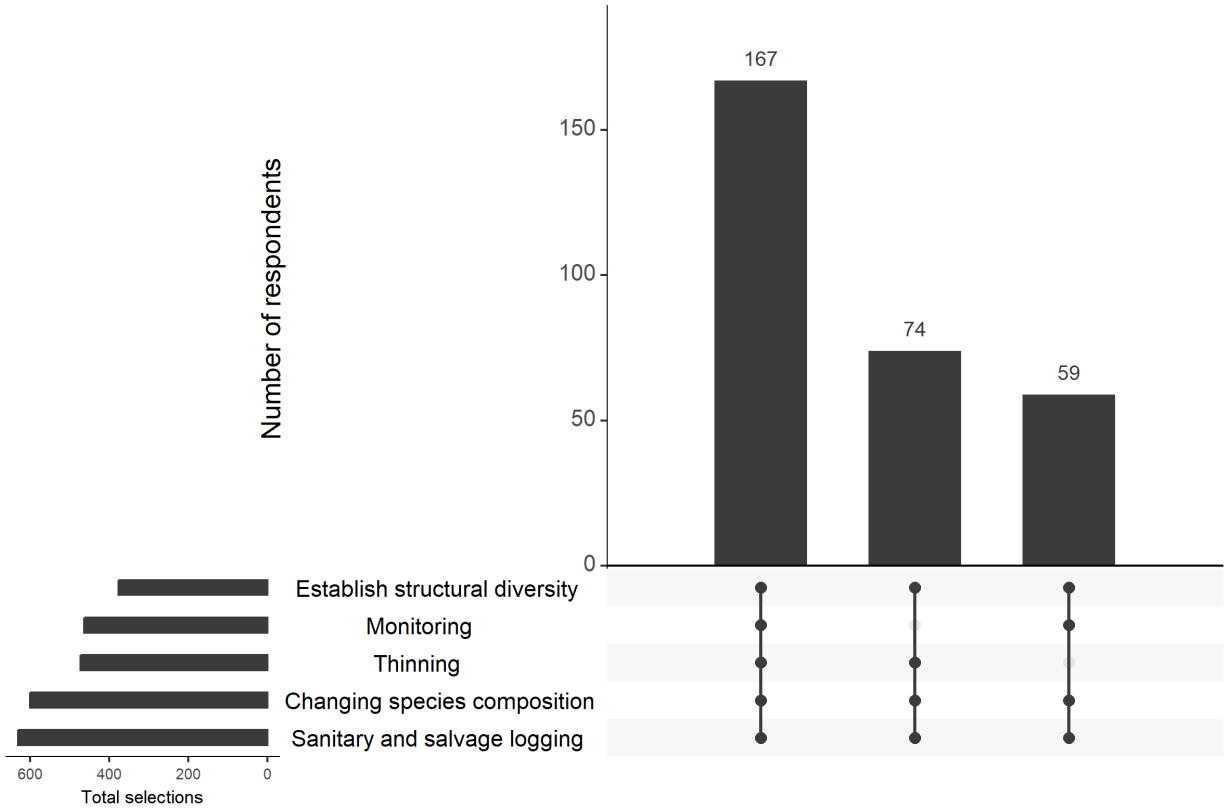


Figure 12: Combinations of management measures applied to mitigate the effects of bark beetle infestations on forests in Central Europe. The plot shows the number of respondents implementing each possible combination of the five most reported measures, highlighting the most frequently applied strategies and their co-occurrence.

Together, the two analyses demonstrate both the high diversity of management responses and the core set of active measures most commonly used to mitigate bark beetle outbreaks. These findings highlight that bark beetles are typically addressed through integrated management strategies rather than single, isolated interventions.

At the country level, bark beetle infestations were reported as a major concern across most participating Central European states **(Appendices 68-75)**. Only 0–7% of respondents from Austria, Croatia, the Czech Republic, Germany, Poland, and Slovenia reported either *"No intervention"* or bark beetle being absent in their area. Trap trees are a relatively common strategy in Poland (63%) and Slovenia (66%), while thinning is widely applied in Austria and the Czech Republic, each with response rates of around 70%. In contrast, Hungary appears to be the least affected among all participating Central European states. Here, sanitary and salvage logging was the most frequently reported management strategy, but only by 50% of respondents, while 38% indicated that bark beetle infestations are not relevant in their area of operation. Italy also shows comparatively lower levels of impact, with both *"No intervention"* and *"Not applicable in my area"* reported by 15% of respondents each.

Stakeholder perspectives also diverged **(Appendices 76-83)**. Across all groups, sanitary and salvage logging was consistently ranked as the most or second most applied management measure to mitigate bark beetle impacts, underscoring the importance of reactive strategies. At the same time, monitoring, changing species composition, thinning, and maintaining the forest road network frequently appeared among the top three measures, reflecting the role of preventive approaches in bark beetle management. *"Not applicable in my area"* was more frequently reported by representatives from conservation management (10%), the "Other" stakeholder group (19%), and urban forestry (20%), whereas all other groups reported only 0–5% for this option.

5.3. Storm

In Central Europe, forest management measures addressing wind damage focus primarily on adaptive silvicultural strategies **(Figure 13)**. Changing species composition and thinning were the most frequently reported measures, each mentioned by 66% of respondents. Salvage logging (49%) and continuous cover management (47%) were also commonly reported, reflecting both reactive and preventive approaches, while more intensive interventions such as shortening rotation periods were less frequent (14%). Only a small share of participants considered storms not applicable in their area (3%) or indicated that no interventions are implemented (9%), highlighting wind as a relevant driver of forest degradation in the whole region. Open-text responses further emphasized the establishment of structural diversity, including adapted thinning regimes, creating a second understory layer, or establishing storm-mitigating forest edges, as one participant summarized: *"obnovní postupy s ohledem na převládající směr bořivých větrů …"* ("reforestation practices considering the prevailing direction of destructive winds …").

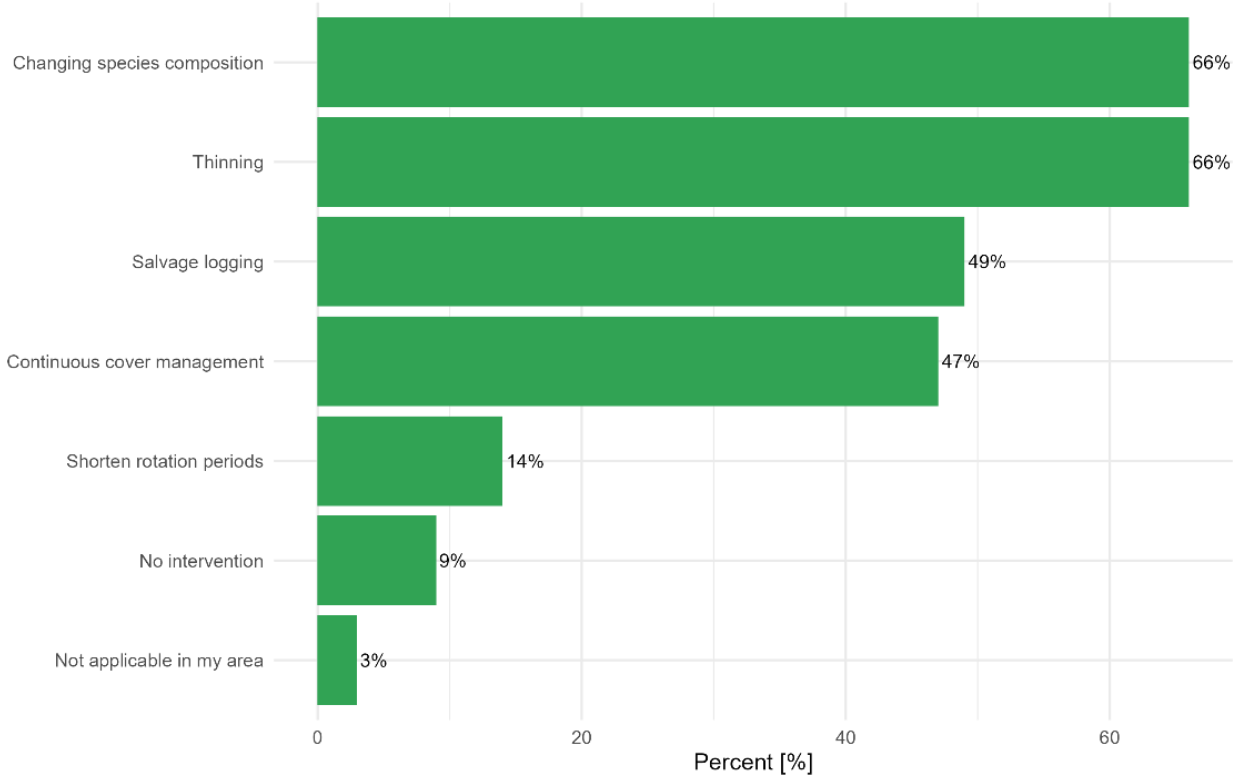


Figure 13: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of storms on forests in Central Europe.

Co-occurrence of key wind management measures was evidenced by our data **(Figure 14)**.The most common combination, selected by 113 respondents, included *"Salvage logging"*, *"Changing species composition"*, *"Thinning"*, and *"Continuous cover management"*. A slightly less frequent combination, chosen by 78 participants, contained the same measures but without *"Salvage logging"*, indicating a substantial share of respondents emphasizing preventive strategies over reactive ones. The third most frequent combination, reported by 76 participants, consisted of *"Salvage logging"*, *"Changing species composition"*, and *"Thinning"*, emphasizing the central role of these measures in managing wind damage areas across Central Europe.

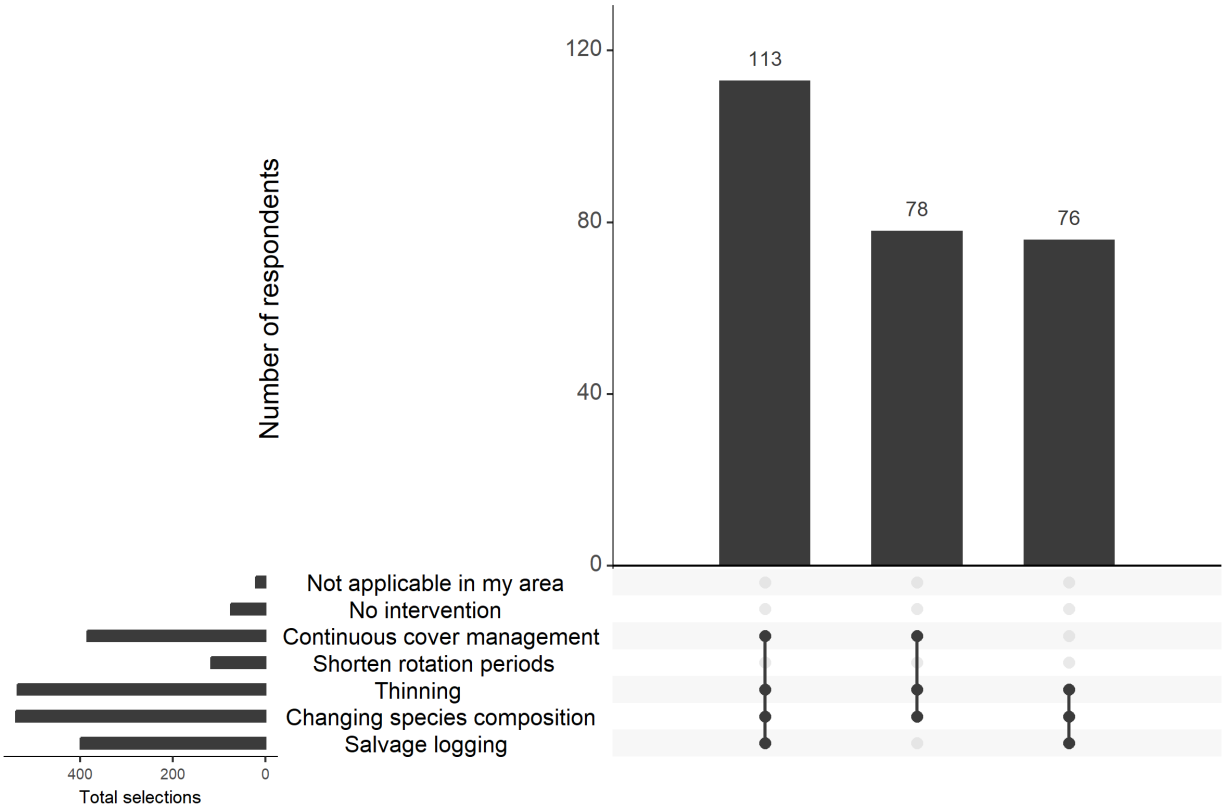


Figure 14: Combinations of management measures applied to mitigate the effects of storms on forests in Central Europe. The plot shows the number of respondents implementing each possible combination of measures, highlighting the most frequently applied strategies and their co-occurrence.

Across countries, preventive measures such as thinning and changing species composition generally dominate, while reactive strategies like salvage logging are less frequently applied **(Appendices 84-91)**. Croatia, Italy, and Hungary rely more on salvage logging, and a relatively high share of respondents also indicated no interventions, suggesting that reactive management remains important in these regions. Italy additionally showed comparatively strong use of thinning. In contrast, preventive measures dominate in Austria, the Czech Republic, Germany, Poland, and Slovenia, with thinning and changing species composition were consistently reported more frequently than salvage logging. Germany stands out with the highest reported use of continuous cover management (72%), highlighting a particular focus on maintaining structural diversity to reduce vulnerability to wind disturbances. These patterns illustrate both regional differences and a CE-wide trend toward prioritizing preventive silvicultural strategies, while reactive approaches remain relevant in specific national contexts.

Stakeholder responses reveal notable differences across groups **(Appendices 92-99)**. Representatives from conservation management, NGOs, and urban forestry tended to favor continuous cover management, although a substantial share also reported *"No intervention"*. In contrast, forest management, national authorities, and regional authorities consistently prioritized active silvicultural measures and salvage logging, with very low proportions reporting no intervention or that wind damage was not applicable in their area, highlighting a strong preference for proactive management. Respondents representing universities occupied an intermediate position, generally supporting active measures while still reporting a comparatively high share of no interventions (24%). These patterns underscore how stakeholder background shapes priorities and implementation approaches for wind damage mitigation across Central Europe.

5.4. Fire

To mitigate the effects of forest fires, respondents from Central Europe most frequently highlighted the importance of a well-maintained and functional forest road network (56%) **(Figure 15)**. Similar to drought, bark beetle, and storm management, changing species composition was also reported as a commonly applied strategy (43%). In addition, monitoring, salvage logging, and the establishment of fire breaks were identified by 32–39% of participants as relevant measures. By contrast, prescribed burning, post-fire erosion control, and fuel load management were mentioned less frequently. Notably, 19% of respondents indicated that forest fires are not a relevant issue in their area, and 15% reported applying no interventions at all – suggesting that, compared to other drivers, fire is perceived as a less important cause of forest degradation in Central Europe. In the open-text responses, several participants also emphasized the creation of firefighting ponds in strategic areas as an additional preventive measure.

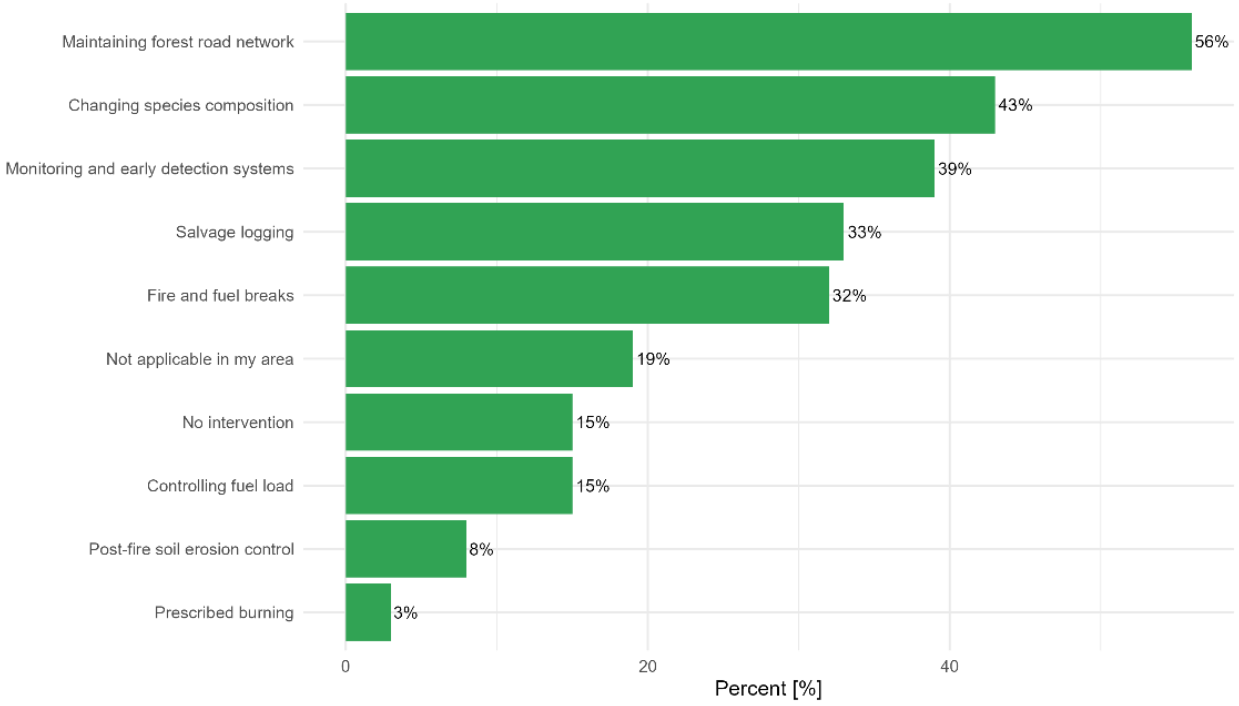


Figure 15: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of fire on forests in Central Europe.

For fire management measures, *"Not applicable in my area"* and *"No intervention"* were the most frequent responses, selected by 120 and 92 participants, respectively **(Figure 16)**. This underlines that forest fires are generally perceived as a less common disturbance driver in Central Europe compared to drought or other degradation factors. Among the active measures, the most frequent combination, reported by 36 respondents, was *"Maintaining a functional forest road network"*, *"Changing species composition"*, and *"Salvage logging"*.

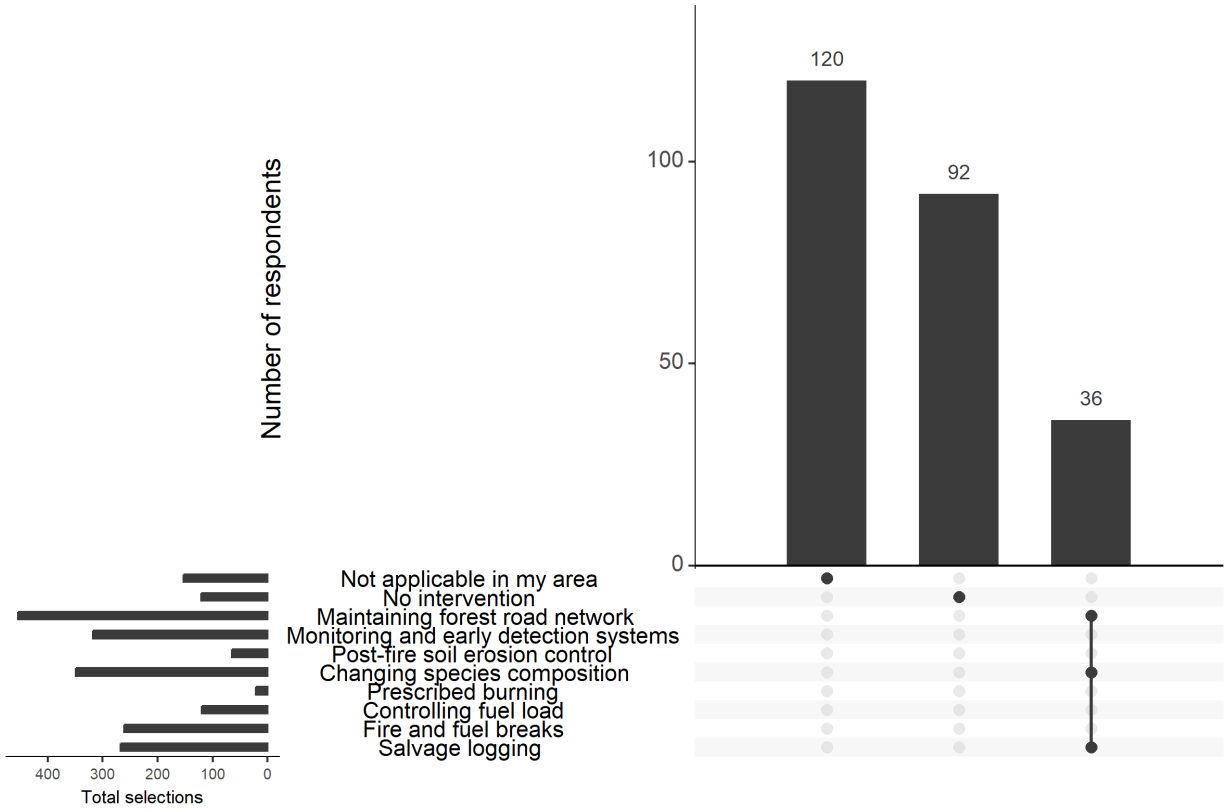


Figure 16: Combinations of management measures applied to mitigate the effects of forest fires in Central Europe. The plot shows the number of respondents implementing each possible combination of measures, highlighting the most frequently applied strategies and their co-occurrence.

Even though forest fires are reported by survey participants as overall less common in Central Europe compared to other disturbance drivers, they represent a severe threat in certain member states **(Appendices 100-107)**. In Poland, experience with this driver appears particularly pronounced: over 86% of respondents reported applying monitoring measures and maintaining a functional forest road network, while only 3% indicated no intervention. Croatia and Germany also reported relatively high shares of active management. In Croatia, functional forest networks, fire breaks, and monitoring were the most frequently implemented measures, whereas German respondents highlighted changing species composition as an additional key practice. By contrast, in Austria, the Czech Republic, and Slovenia, forest fires seem to play a less significant role, with 19–28% of respondents indicating *"Not applicable"* for this driver.

Stakeholder groups also differed in their perceptions of forest fire management **(Appendices 108-116)**. Representatives from universities and research institutions, as well as from national authorities, reported the highest adoption rates of active management measures to mitigate fire risks. In contrast, conservation management stood out with a relatively high share of *"No intervention"* responses (40%). Still, maintaining a functional forest road network was consistently rated as the most important measure across nearly all stakeholder groups. The exception was NGOs, who prioritized monitoring and early detection systems as their preferred strategy against forest fires.

5.5. Ash dieback *(Hymenoscyphus fraxineus)*

In Central Europe, management responses to ash dieback *(Hymenoscyphus fraxineus)* revealed a balance between adaptive replacement and conservation-oriented strategies **(Figure 17)**. Changing species composition was the most frequently reported measure, applied by 52% of respondents, indicating a widespread shift toward more resilient species in response to ash dieback. At the same time, 40%

emphasized the promotion of long-term survival of resistant ash trees, reflecting a strong conservation interest in maintaining ash as part of future forest ecosystems. A considerable share of respondents (19%) reported no intervention, and 17% indicated that ash dieback is not relevant in their area, highlighting the spatially uneven significance of this driver across the region. Active measures such as planting tolerant ash seedlings (14%) or promoting ash on drier sites (6%) were less frequently mentioned, suggesting that experimental or site-specific approaches currently play a minor role. Additional strategies mentioned in the open-text responses included ongoing research on ash dieback and the establishment of seed orchards with clones of resistant ash trees, underlining the importance of conservation of genetic resources and supporting long-term adaptation efforts.

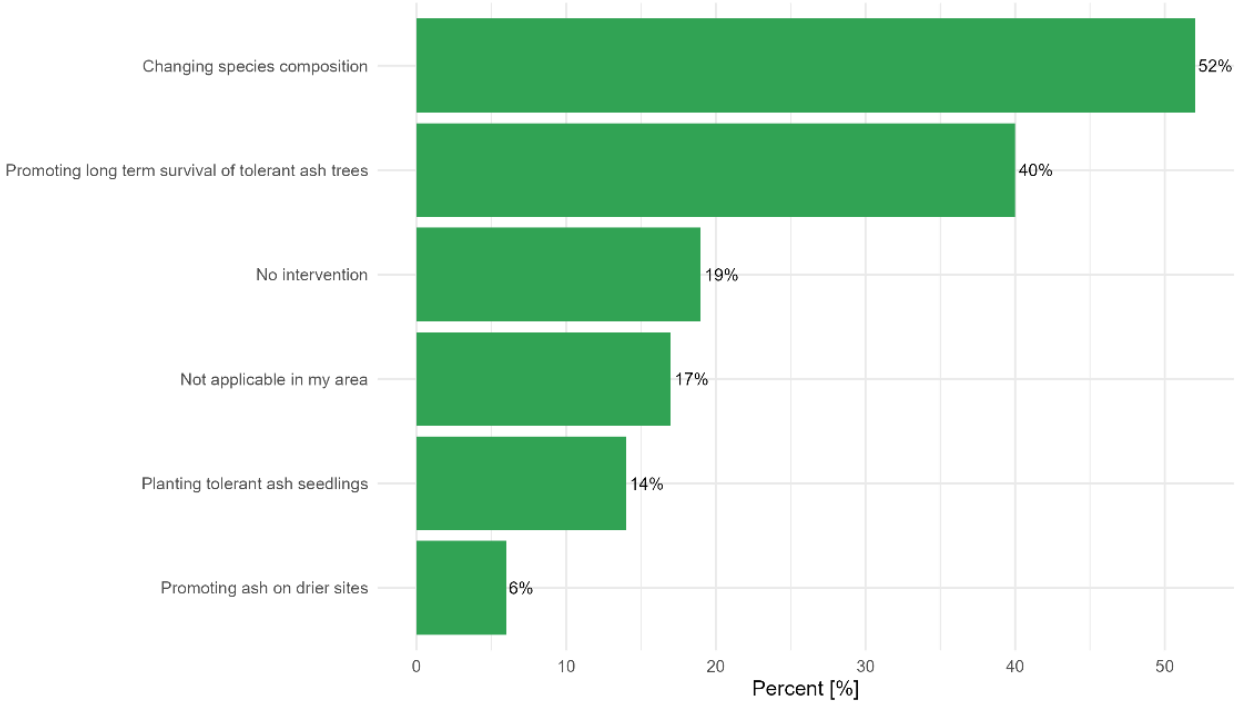


Figure 17: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of ash dieback on forests in Central Europe.

In our survey, the most frequent response, reported by 168 participants, was *"Changing species composition"* alone, highlighting the central role of this adaptive replacement strategy. However, combinations of management measures applied to address ash dieback in Central Europe were also evidenced. The most frequent combination, indicated by 154 participants, was *"Changing species composition"* together with *"Promoting long-term survival of tolerant ash trees"*, pointing to a dual approach that balances replacement with conservation. In contrast, 138 respondents reported *"No intervention"* as their most common strategy, showing that a substantial share of stakeholders either lack active measures or deliberately adopt a passive approach when facing ash dieback **(Figure 18)**.

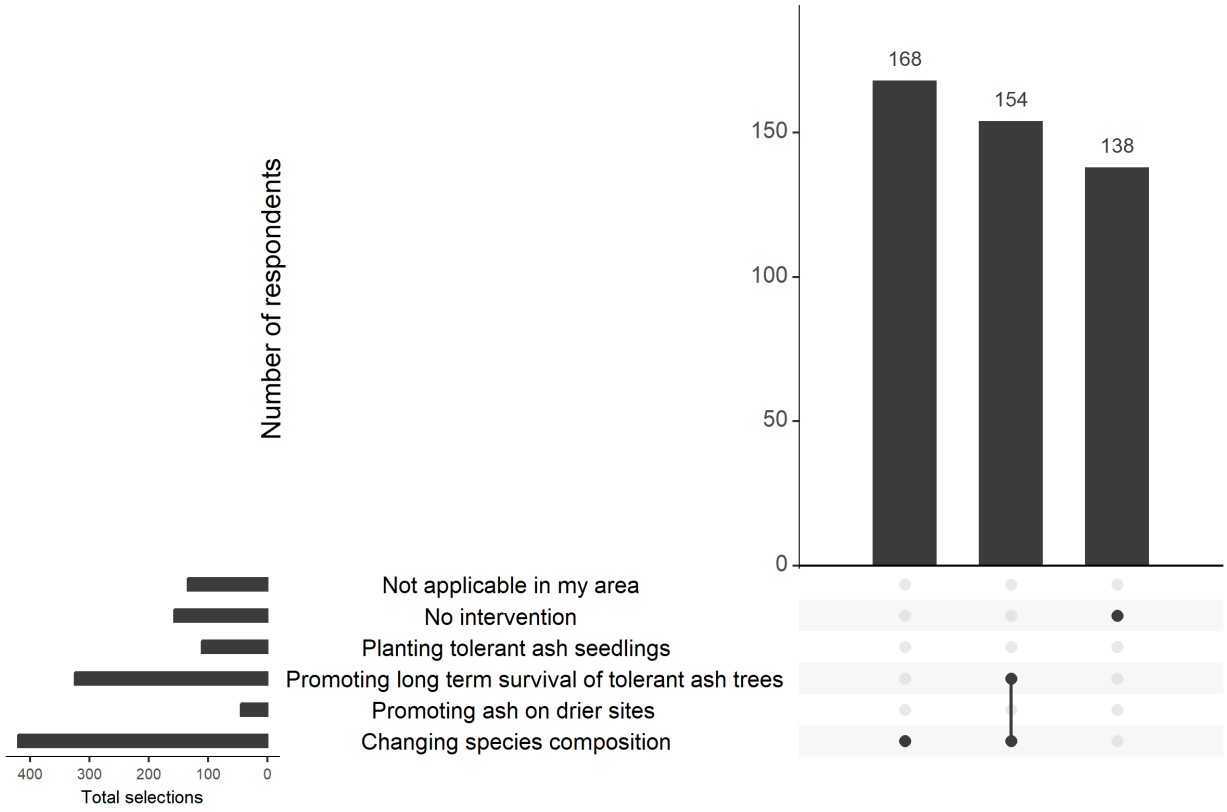


Figure 18: Combinations of management measures applied to mitigate the effects of ash dieback on forests in Central Europe. The plot shows the number of respondents implementing each possible combination of measures, highlighting the most frequently applied strategies and their co-occurrence.

At the country level, responses reveal considerable variation in how ash dieback is addressed across Central Europe **(Appendices 116-123)**. In Germany and Slovenia, both changing species composition (61% and 58% respectively) and promoting the survival of tolerant ash trees (58% and 53% respectively) were reported at high levels, emphasizing a combined focus on replacement and conservation strategies. Hungary also showed a strong emphasis on changing species composition (75%), although fewer respondents prioritized promoting tolerant individuals (19%). In contrast, Croatia exhibited a more balanced pattern, with both changing species composition and promoting tolerant ash trees each reported by 48%, and relatively high support for planting tolerant ash seedlings (32%), suggesting a more experimental approach. Austria and the Czech Republic reflected the overall CE trend, with changing species composition most common (50% and 60% respectively), alongside moderate levels of promoting tolerant trees (37% and 33% respectively) but also noticeable shares of no intervention (25% and 11% respectively). By contrast, Italy and Poland reported markedly higher rates of no interventions (41% and 22% respectively) and *"Not applicable in their area"* (52% and 30% respectively), indicating that ash dieback is either perceived as less relevant or active responses are less established in these countries. These results underline the strong contrasts between countries where ash dieback is a pressing management concern and those where it is less prominent or addressed more passively.

Stakeholder perspectives on ash dieback also differed considerably **(Appendices 124-131)**. National authorities stand out with the highest levels of active intervention, reporting both changing species composition (71%) and promoting the survival of tolerant ash trees (82%) at exceptionally high rates, while none indicated no intervention. A similarly proactive orientation was observed among forest managers, regional authorities, and universities and research institutions, which emphasized changing species composition (45–54%) and promoting tolerant individuals (33–40%), although moderate shares of *"No intervention"* responses were still present (17–22%). In contrast, more passive responses were reported by

conservation management and NGOs, where *"Not applicable in my area"* (30% and 33%) and *"No intervention"* (25% and 22%) reached relatively high levels, suggesting that ash dieback is either less directly relevant or less actively managed within these groups. Urban forestry representatives showed a distinctive pattern, with comparatively high support for promoting tolerant trees (50%) and planting tolerant seedlings (30%), reflecting an emphasis on targeted, long-term strategies. These findings indicate that the prioritization of interventions is closely linked to stakeholder roles, with authorities and management-oriented groups favoring active and preventive strategies, while conservation and NGO representatives tend to perceive the issue as less directly actionable.

5.6. Improper management of riparian forests

In Central Europe, responses on management practices to address the effects of improperly managed riparian forests were more heterogeneous compared to other drivers, with a majority of participants (54%) indicating that this issue is not applicable in their area **(Figure 20)**. This pattern may partly reflect the limited occurrence of riparian forests across the region, similar to what was observed for ash dieback. Among those reporting active measures, the most common strategies were the restoration or maintenance of a near-natural water regime (23%), changing species composition (18%), and the control of invasive species (18%). Establishing structural diversity (16%) and thinning (10%) were also mentioned, albeit less frequently. A smaller share of respondents (12%) reported that no interventions are undertaken. These results highlight that riparian forest management is a more locally driven concern within Central Europe, with interventions typically focused on hydrological restoration and biodiversity-oriented measures. In addition, several open-text responses emphasized the importance of strictly protecting riparian areas or excluding them from forest production altogether, underscoring the role of conservation-oriented strategies in conserving these ecosystems.

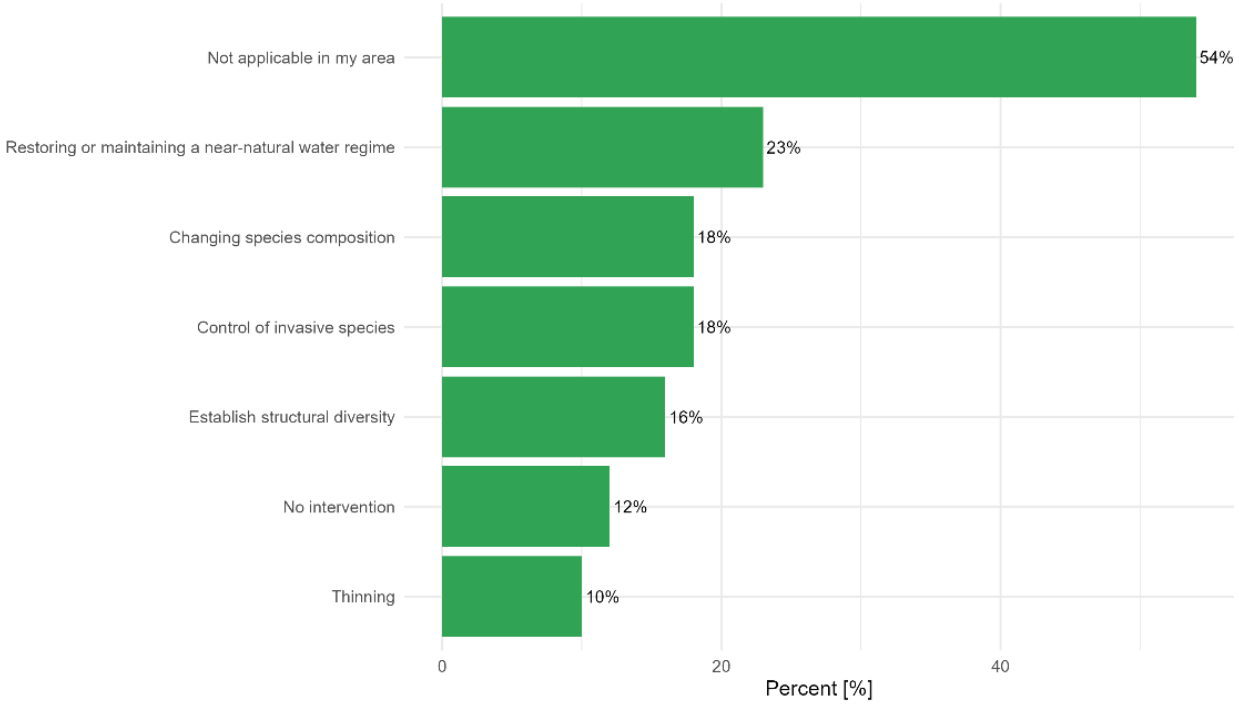


Figure 19: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of improper management on riparian forests in Central Europe.

Unlike for other degradation drivers, no relevant co-occurrence of measures was observed, as respondents predominantly reported only single strategies, suggesting the rather marginal role of this topic across Central Europe. The majority of participants (431) indicated that this issue is not applicable in their area,

while 84 respondents stated that no interventions are implemented. Among the active practices, the restoration or maintenance of a near-natural water regime was the most frequently reported option (40 responses) **(Figure 20)**, underlining that where riparian forest management is relevant, it tends to be addressed through hydrological interventions rather than a combination of silvicultural measures.

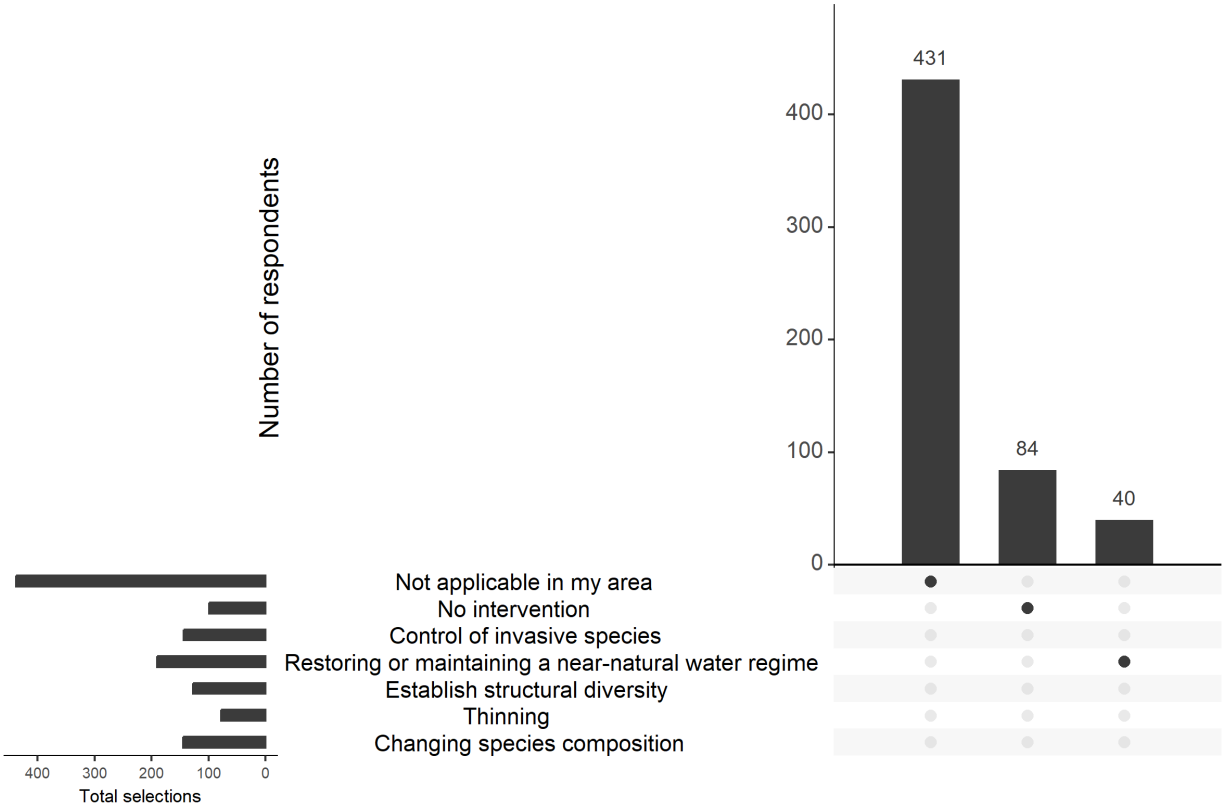


Figure 20: Combinations of management measures applied to mitigate the effects of improper management on riparian forests in Central Europe. The plot shows the number of respondents implementing each possible combination of measures, highlighting the most frequently applied strategies and their co-occurrence.

Country-level responses reveal substantial variation in the perceived relevance of improperly managed riparian forests and the associated management practices across Central Europe **(Appendices 132-139)**. In Austria, the majority of respondents (70%) indicated that this driver is not applicable in their area, with only small shares implementing active measures such as changing species composition, control of invasive species, or restoring a near-natural water regime (9–12%). Similar patterns of low applicability were observed in the Czech Republic (75%) and Germany (61%). In contrast, countries such as Croatia, Hungary, Poland, and Slovenia reported a higher relevance of this driver, reflected in greater shares of respondents implementing active management measures. In Croatia, control of invasive species (41%) and restoring near-natural water regimes (32%) were the most frequently applied interventions. Hungary also reported substantial application of measures including establishing structural diversity, restoring water regimes, and controlling invasive species (all 31%), while no respondents indicated *"No intervention"*. Poland highlighted restoring near-natural water regimes as the dominant measure (66%), alongside active silvicultural interventions, whereas Slovenia emphasized control of invasive species (50%) and establishing structural diversity (33%). Italy presented a mixed picture, with 41% of respondents considering the driver not applicable, while thinning (22%) and restoring near-natural water regimes (22%) were the most frequently applied management measures. These patterns indicate that riparian forest management depends strongly on local conditions, with applicability and preferred interventions varying markedly between countries.

Stakeholder responses reveal notable differences in perceptions and management priorities regarding improperly managed riparian forests **(Appendices 140-147)**. Representatives from conservation

management and universities or research institutions reported the highest shares for restoring or maintaining near-natural water regimes (35% and 47%, respectively), while also emphasizing structural diversity and control of invasive species. Forest management, regional authorities, and urban forestry generally indicated lower shares of active interventions, often reporting *"Not applicable in my area"* as the most frequent response (46–63%), highlighting that this driver is perceived as less relevant in their operational areas. NGOs and the "Other" stakeholder group reported mixed patterns, with substantial proportions indicating either *"No intervention"* or *"Not applicable in my area"* (around 30–43%), reflecting both low applicability and uncertainty in management priorities. National authorities stand out with comparatively high shares for control of invasive species (46%), establishing structural diversity (36%), and changing species composition (39%), demonstrating a strong focus on proactive management measures. Overall, these results suggest that stakeholder background strongly influences the perceived relevance of riparian forest degradation and the choice of management practices, complementing the country-level variation observed across Central Europe.

6. Barriers to Forest Recovery

In addition to identifying drivers of forest degradation and possible management responses, the survey also explored barriers that may hinder the successful restoration of degraded forests. These barriers have been assessed to three categories – ecological, social, and economic – in order to capture both environmental conditions and human-related constraints. Respondents were asked to evaluate the relative importance of different predefined factors, while open text responses provided additional insights. The following subsections present the results by barrier type and highlight regional and stakeholder-specific perspectives.

6.1. Ecological barriers

In Central Europe, survey participants identified several ecological barriers to the regeneration of degraded forests, with marked differences in their perceived importance **(Figure 21)**. Biotic impacts were rated particularly high: pests and diseases emerged as the most pressing challenge, with 58% of respondents describing them as a *"considerable"* or *"extreme"* barrier. Browsing pressure was also reported as a major concern, with 47% of participants highlighting its strong impact, underlining the persistent role of game populations in hindering natural tree regeneration. Water availability ranked similarly high, with 57% rating it as a major barrier, reflecting the growing influence of drought and hydrological stress on forest recovery.

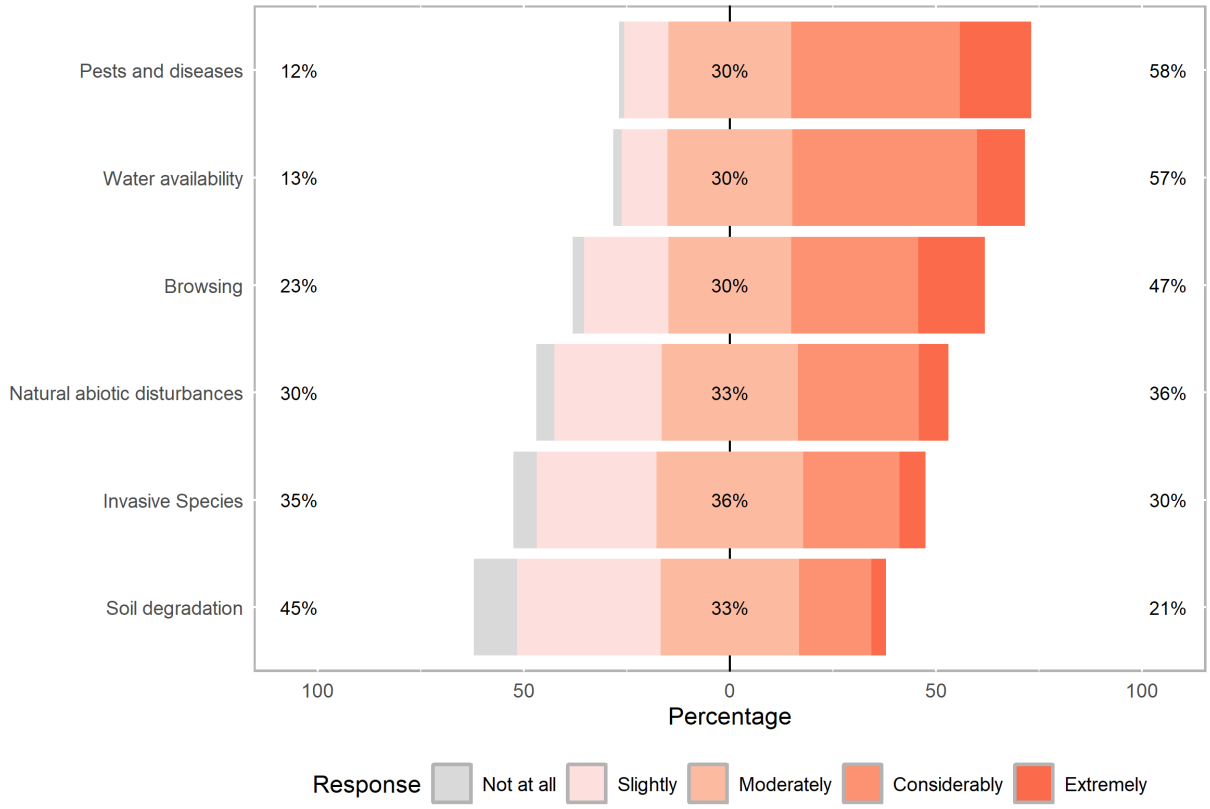


Figure 21: Survey responses from Central Europe on the perceived importance of ecological barriers to successful forest regeneration.

In contrast, invasive species (30%) and abiotic disturbances such as fire or storms (36%) were each considered strong barriers by about one third of respondents. At the same time, 30–35% rated them as *"not at all"* or only *"slightly"* important, suggesting that their relevance varies strongly by region and local context or the subjective perception of stakeholders. Soil degradation was ranked lowest, with only 22% of participants identifying it as a *"considerable"* or *"extreme"* barrier. Nevertheless, soil-related aspects were frequently emphasized elsewhere in the survey as highly affected by forest degradation drivers **(see Section 4.3)**, particularly in relation to soil quality and erosion control. This contrast indicates that, while soil degradation has a major impact on forest resources and ecosystem services, it currently plays a less prominent role as a direct barrier to regeneration.

Open-text responses provided additional insights into ecological barriers. Browsing and related hunting factors, such as game population levels, hunting regulations, and observed damage to forests, were repeatedly mentioned, despite already being included in structured questions, highlighting participants' concern about game impacts on regeneration and the resulting reduction in forest resilience. Steep terrain was also cited as a limiting factor, reflecting physical constraints on successful reforestation and management interventions.

At the country level, the perceived importance of ecological barriers to forest regeneration varies, but there are also similarities across Central Europe **(Appendices 148-155)**. Croatia, the Czech Republic, Germany, Hungary, and Poland reported the highest relevance of water availability, with 60–100% of respondents rating it as a *"considerable"* or *"extreme"* barrier, highlighting the strong impact of hydrological stress and drought on regeneration. Pests and diseases were consistently perceived as major obstacles in Austria, Croatia, the Czech Republic, Germany, Hungary, and Slovenia with 49–75% of respondents considering them a strong barrier. Browsing pressure was rated especially high in Austria, the Czech Republic, Germany, Hungary, and Slovenia, reflecting concerns about game impacts on natural regeneration. In contrast, Croatia and Italy reported lower relevance of browsing, with 41–48% of participants indicating *"no"* or only *"slight"*

importance. Hungarian respondents reported the highest perceived severity levels across most ecological drivers, indicating strong ecological pressure on forest regeneration. Natural abiotic disturbances highly impact regeneration in Croatia, Italy and Slovenia (44–75% *"considerable"* or *"extreme"* influence). Overall, these patterns underscore both regional differences in ecological conditions and the variable influence of specific biotic and abiotic factors on forest recovery across Central Europe.

Stakeholder perceptions revealed notable variation between different stakeholder groups **(Appendices 156-163)**. Water availability and pests were widely identified as major barriers. Urban forestry representatives rated pests and diseases relatively low (30% *"considerable"* or *"extreme"*), while water availability was considered the most critical obstacle (90%). Browsing was perceived differently: it posed a moderate barrier for urban forestry (70% *"moderate"*, 20% *"considerable"* or *"extreme"*), whereas national and regional authorities regarded it as a major threat (48–75% *"considerable"* or *"extreme"*). NGOs were the only stakeholder group assigning high importance to soil degradation (78%), whereas other groups rated it much lower. Overall, these patterns indicate that biotic and hydrological constraints are widely recognized as major barriers, while perceptions of browsing vary strongly, and invasive species, natural abiotic disturbances, and soil degradation are generally considered less critical compared to other threats.

6.2. Social barriers

In Central Europe, survey participants identified several social barriers that hinder successful restoration of degraded forests, with varying degrees of perceived importance **(Figure 22)**. A lack of skilled workers emerged as the most frequently reported constraint, with 45% of respondents rating it as a *"considerable"* or *"extreme"* barrier, highlighting workforce limitations as a key challenge for forest restoration. Conflicting goals, such as balancing timber production with nature conservation, were also perceived as highly relevant, with 45% of participants assigning them a strong impact. Legal challenges and perceived gaps in forest managers' knowledge were considered moderately important overall, with 33% and 31% of respondents rating these factors as *"considerable"* or *"extreme"* barriers, respectively. These results suggest that human capacity, institutional constraints, and contradictory management objectives all contribute to the social complexity of forest regeneration, with workforce shortages and goal conflicts being particularly significant obstacles in the Central European context.

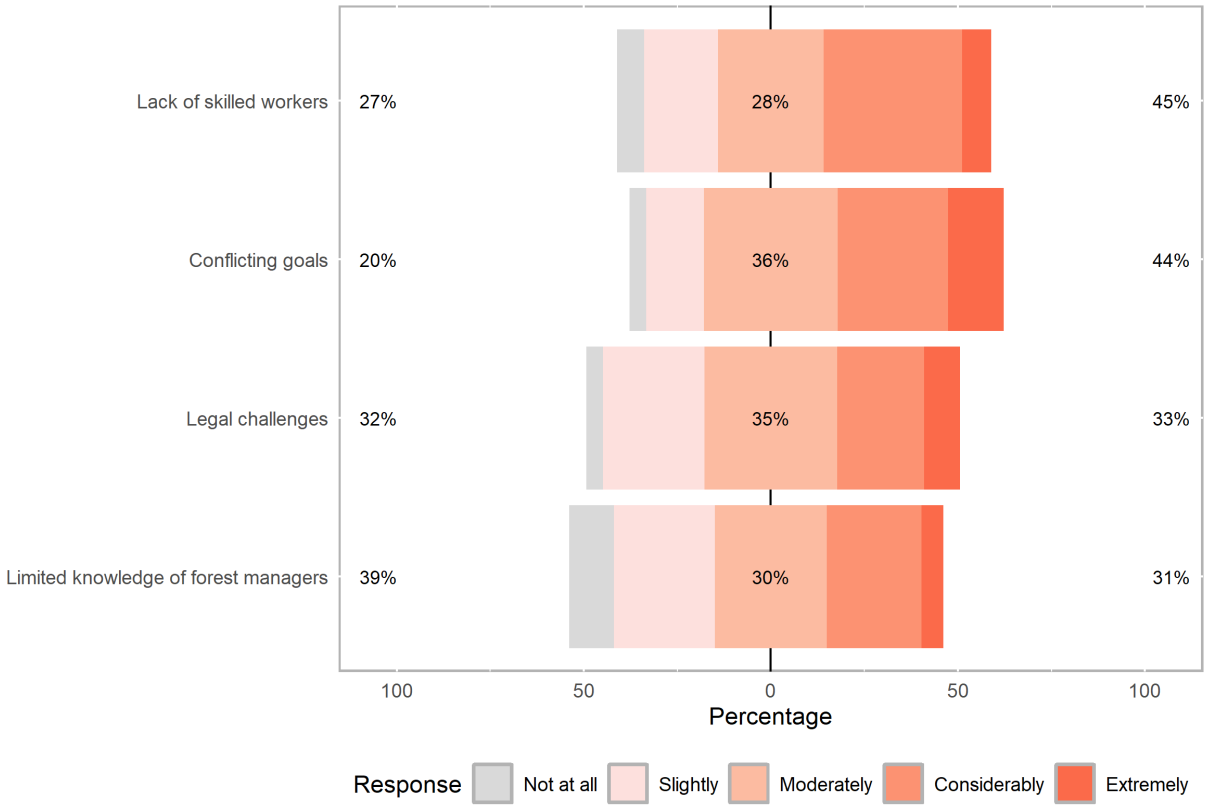


Figure 22: Survey responses from Central Europe on the perceived importance of social barriers to successful forest regeneration.

In the open-text responses, participants frequently elaborated on predefined answers and highlighted additional social barriers that extend beyond the structured survey questions. A recurring theme in the open responses concerned ownership-related challenges, such as low motivation among private forest owners, fragmented and small-scale forest holdings, and generational change. Several respondents mentioned that many forest owners have limited knowledge of, or connection to, their forests – often because they live far from their properties or have inherited them without active management experience. Together, these factors were seen as limiting engagement in active regeneration and sustainable forest management. Nursery-related issues, such as limited availability, fluctuating quality, and insufficient forest reproductive material, were also frequently mentioned as practical constraints. Legal and policy barriers were highlighted repeatedly, particularly rigid regulations in protected areas, bureaucratic hurdles, and inconsistent legislation across governance levels, which often impede adaptive measures such as assisted migration or selection of climate-resilient tree species. In the context of nature conservation, many participants emphasized that forests cannot be managed as if climatic conditions were stable. Current legal and nature conservation frameworks, focused on preserving historical forest structures or single species, often restrict necessary adaptation to changing environmental conditions. Conflicting goals and social pressures further exacerbate challenges: human interference, intensive tourism and recreational activities, hunting interests, and the trade-offs between nature conservation and forest management goals can limit the implementation of appropriate silvicultural measures. Additionally, respondents highlighted gaps in long-term forestry policy, insufficient recognition of forests role in climate resilience, and the absence of clear definitions for forest degradation and restoration, which complicates decision-making and planning. Overall, these responses reveal that social barriers to forest regeneration are complex and multifaceted, combining ownership limitations, regulatory rigidity, conflicting societal interests, and a lack of long-term strategic vision, all of which interact to constrain effective restoration under changing environmental conditions.

At the country level, perceptions of social barriers to forest regeneration were broadly similar across Central Europe, but with some notable local differences **(Appendices 164-171)**. Lack of skilled workers was consistently reported as a major barrier in most countries, with around 44–68% of respondents rating it as *"considerable"* or *"extreme"*, while Poland represented a clear exception with only 21%. Limited knowledge of forest managers was generally considered a minor constraint, although Austria reported higher concern (43%). Legal challenges were a widely highlighted issue, with numerous open-text responses pointing to regulatory constraints, bureaucracy, conflicting EU and national legislation, and static nature protection approaches that limit adaptive forest management. However, in the structured survey questions, legal challenges were rated mostly moderate and only relatively high in Croatia and Poland (50% of respondents), which does not fully reflect the high concern expressed in the open-text responses. Conflicting goals, including trade-offs between timber production and nature conservation as well as broader social pressures, were particularly emphasized in Croatia, Germany, Hungary, and Poland, with more than 50% of participants identifying these as significant barriers. Overall, these findings highlight that while workforce limitations are a widely shared concern, the influence of conflicting objectives and regulatory complexities varies locally, underscoring the need for context-specific strategies to support effective forest restoration.

Across Central Europe, stakeholder perceptions of social barriers to forest regeneration show both commonalities and notable individual differences **(Appendices 172-179)**. Lack of skilled workers was considered a significant barrier across most stakeholder groups, with ratings above 40% for *"considerable"* or *"extreme"*, only regional authorities reported slightly lower concern with 29%. Conflicting goals were widely recognized as a major challenge (43–67%), whereas urban forestry (30%) and conservation management (35%) perceived them as less pressing. Legal challenges were generally rated moderate across stakeholder groups, with the notable exception of NGOs, where concern was considerably higher (56%). Limited knowledge of forest management was perceived as a moderate barrier by most groups, but urban forestry (50%) and "Other" stakeholders (48%) indicated higher concern. Conversely, the highest confidence in forest management expertise was reported by conservation and forest management, researchers, and national authorities, with 38–57% of respondents rating knowledge as *"not at all"* or *"slightly"* limited. Overall, these patterns underscore that skills gaps and conflicting objectives are widely acknowledged as critical social barriers, whereas perceptions of legal and governance challenges and knowledge limitations vary strongly across stakeholder groups.

6.3. Economic barriers

Economic barriers emerged as a central concern for forest regeneration across Central Europe, with overall concern levels higher than other types of barriers **(Figure 23)**. The most critical challenges were linked to the direct costs and risks of reforestation: both high reforestation costs (60% *"considerable"* or *"extreme"*) and high financial risks due to climate-related disturbances (also 60%) stood out most prominently. The lack of economic incentives for forest ecosystem services and market-related uncertainties such as fluctuating timber prices were perceived as *"considerable"* or *"extreme"* barriers by approximately half of respondents (52% and 47%, respectively). This highlights persistent challenges in monetizing and rewarding multifunctional forest benefits on the one hand, while also underlining the exposure of forest enterprises to fluctuating timber markets and broader economic uncertainty on the other. Insufficient funding for reforestation projects was also considered as relevant, though somewhat less urgent, with 35% reporting considerable or extreme concern. Overall, these results suggest that while structural issues such as incentives and funding remain important, it is the immediate economic burden, as well as climatic and market-based uncertainties, that are perceived as the greatest obstacles to large-scale regeneration.

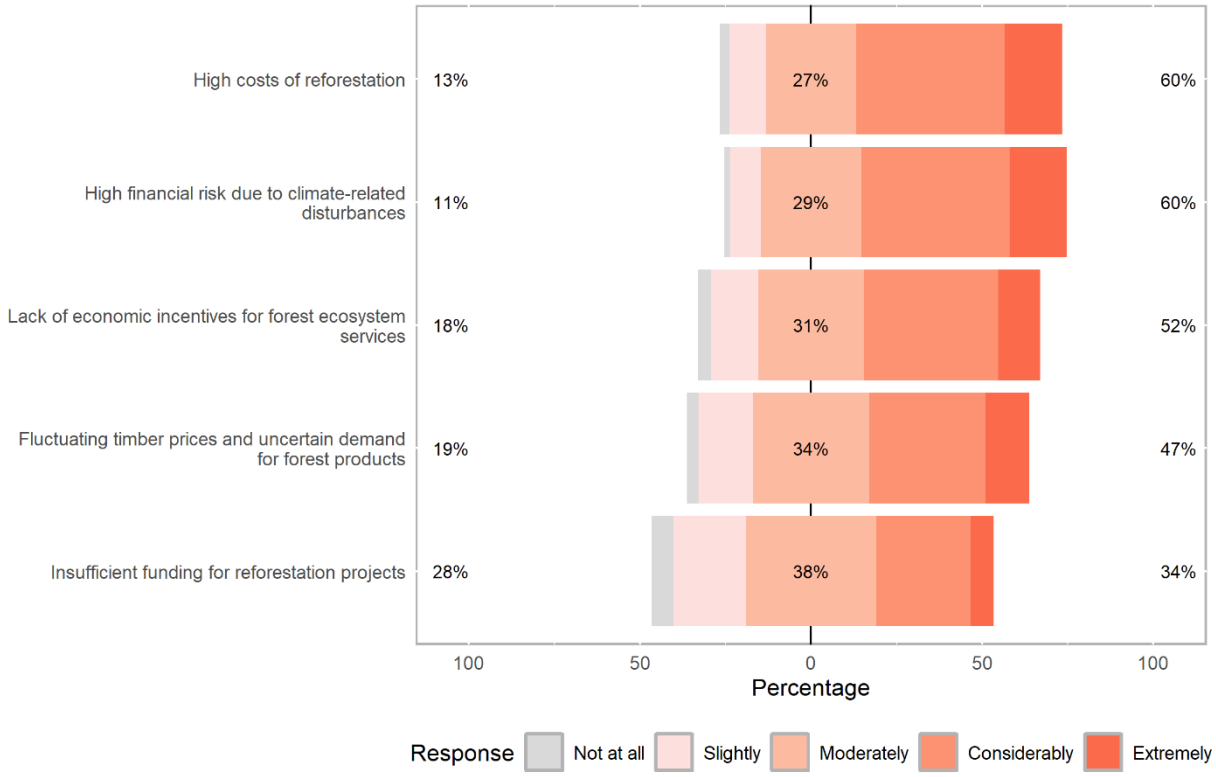


Figure 23: Survey responses from Central Europe on the perceived importance of economic barriers to successful forest regeneration.

In the open-text responses, participants repeatedly emphasized the imbalance between rising costs of forest services and persistently low or stagnant timber prices, which undermine the financial viability of sustainable management. A particularly striking theme was the economic pressure associated with environmentally friendlier harvesting and regeneration methods – such as cable cranes, draft horses, or wider skid trail spacing – which are often significantly more expensive than conventional practices and cannot be adequately refunded. Even though economic incentives for ecosystem services were already addressed in the structured survey, respondents highlighted again that, apart from timber, few alternative products can be marketed – resulting in limited income diversification for forest owners and an ongoing undervaluation of ecosystem services such as water provision or health benefits. Furthermore, complex and time-consuming funding procedures, insufficient support for site-specific management (e.g., in wet areas), and the high costs of maintaining and tending young reforestations were highlighted as further obstacles. Taken together, these statements underscore a structural imbalance: while society's ecological demands on forest management are increasing, the economic framework conditions often fail to support or even constrain the implementation of sustainable and ecologically sound practices.

Across countries, the perceived importance of economic barriers varies, yet clear patterns emerge **(Appendices 180-187)**. Austria, Croatia, Germany, and Hungary emerge as the most strongly affected by economic constraints. In these countries, concern is particularly high regarding both direct reforestation costs and financial risks from climate-related disturbances, with around 65–80% of respondents rating these barriers as *"considerable"* or *"extreme"*. Reforestation costs and climate risks therefore consistently stand out as the most pressing obstacles. By contrast, the Czech Republic, Italy, Poland, and Slovenia appear less affected overall. For this group, the lack of economic incentives for forest ecosystem services was still rated relatively high (42–51% *"considerable"* or *"extreme"*), except in the Czech Republic, where only 19% expressed such concern. Moreover, 46% of Czech respondents reported that insufficient funding is *"not at*

all" or only a *"slight"* barrier, suggesting a relatively well-developed funding landscape. In Italy, by contrast, insufficient funding for reforestation projects ranked as the second most important economic barrier, though at a relatively lower level (37% *"considerable"* or *"extreme"*) compared to other countries. Fluctuating timber prices were not perceived as particularly problematic in Germany, Italy, and Poland (25–33%), but were considered a significant barrier in Austria and Hungary (61% and 62%, respectively).

Across stakeholder groups, economic barriers were consistently perceived as highly relevant, with some notable differences in their assessment **(Appendices 188-195)**. High reforestation costs were recognized as the most critical obstacle by nearly all groups, with more than 60% rating these issues as *"considerable"* or *"extreme"* for successful forest regeneration. Only representatives from NGOs and national authorities appeared less affected (56% and 43%, respectively), yet these values still indicate substantial concern. The lack of economic incentives for forest ecosystem services emerged as a particularly pressing issue for NGOs, with 89% rating it as *"considerable"* or *"extreme"*, while urban forestry and "Other" stakeholders indicated lower concern (38–40%). Fluctuating timber prices and market uncertainties were highlighted mainly by forest management (51% *"considerable"* or *"extreme"*), whereas urban forestry and NGOs considered this a relatively minor issue (40% and 44% *"not at all"* or *"slightly"* important, respectively). Overall, these results underscore that while the immediate financial burden of reforestation is a shared concern, stakeholders differ in their perception of broader market-related risks and the economic valuation of multifunctional forest benefits, with NGOs particularly sensitive to ecosystem service incentives and forest management more affected by timber market volatility.

7. Stakeholder Involvement and Governance

In addition to barriers and drivers, the survey examined the role of governance and stakeholder involvement in forest restoration. Respondents were asked to indicate the importance of stakeholder participation for the success of restoration efforts, as well as to identify regulatory factors that may challenge the implementation of such practices. Both structured survey questions and open-text responses were used to capture these aspects, allowing for an understanding of how governance and collaboration are perceived across countries and stakeholder groups. The following subsections present the results with a focus on participation, regulatory challenges, and differences between countries and stakeholder perspectives.

7.1. Importance of Stakeholder Participation

Although the perceived importance of stakeholder involvement in forest reforestation in Central Europe is generally high, significant differences exist between countries **(Figure 24)**. Overall, 58% of survey participants rated stakeholder participation as *"very"* or *"extremely"* important, while only 7% considered it *"not"* important. In the southern part of Central Europe – Croatia, Hungary, Italy, and Slovenia – stakeholder participation was rated as *"very"* or *"extremely"* important by 77–87% of respondents. In contrast, countries in the northern and central part of the region – Austria, the Czech Republic, Germany, and Poland – showed lower perceived importance, with only 40–58% of respondents assigning *"very"* or *"extremely"* importance. Hungary displayed a somewhat ambivalent pattern: although 87% of respondents acknowledged the importance of stakeholder involvement, 12% considered it not important, representing the highest share of non-importance among all countries.

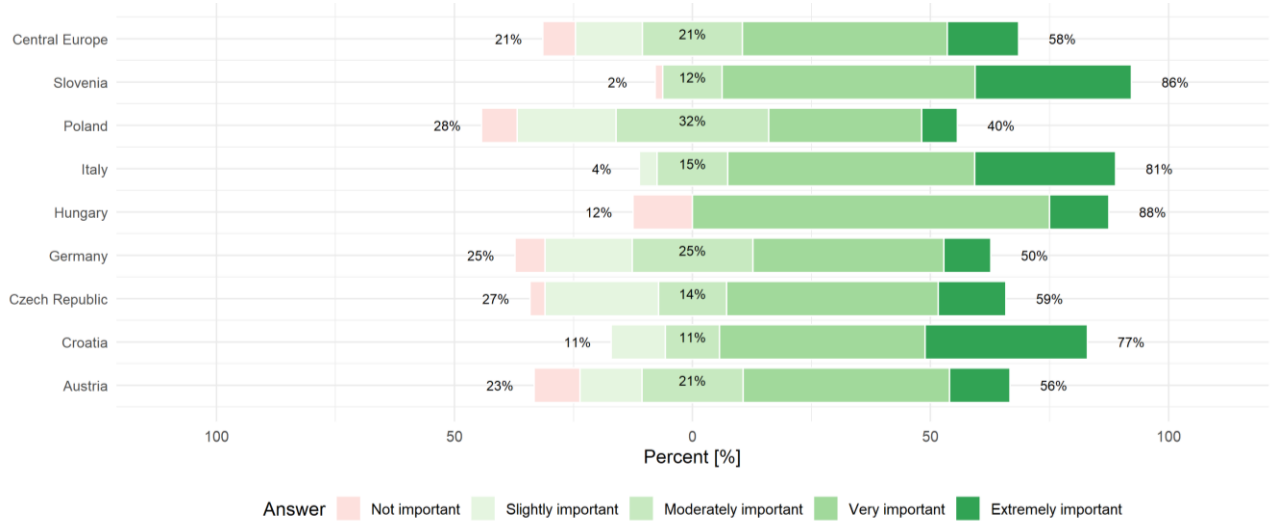


Figure 24: Perceived importance of stakeholder participation for successful forest restoration across countries.

Across stakeholder groups, the perceived importance of stakeholder participation in forest restoration is generally high, with some variation between groups **(Figure 25)**. NGOs and urban forestry representatives rated stakeholder involvement as particularly important, with 89% and 80% indicating it as *"very"* or *"extremely"* important. In contrast, "Other" stakeholders and forest management representatives reported lower levels of perceived importance, with 48% and 54% respectively rating it as *"very"* or *"extremely"* important. Forest management also showed the highest proportion of respondents indicating no importance (9%). These results suggest that, while most stakeholder groups acknowledge the relevance of participation in forest restoration, there are differences in emphasis among different types of stakeholders.

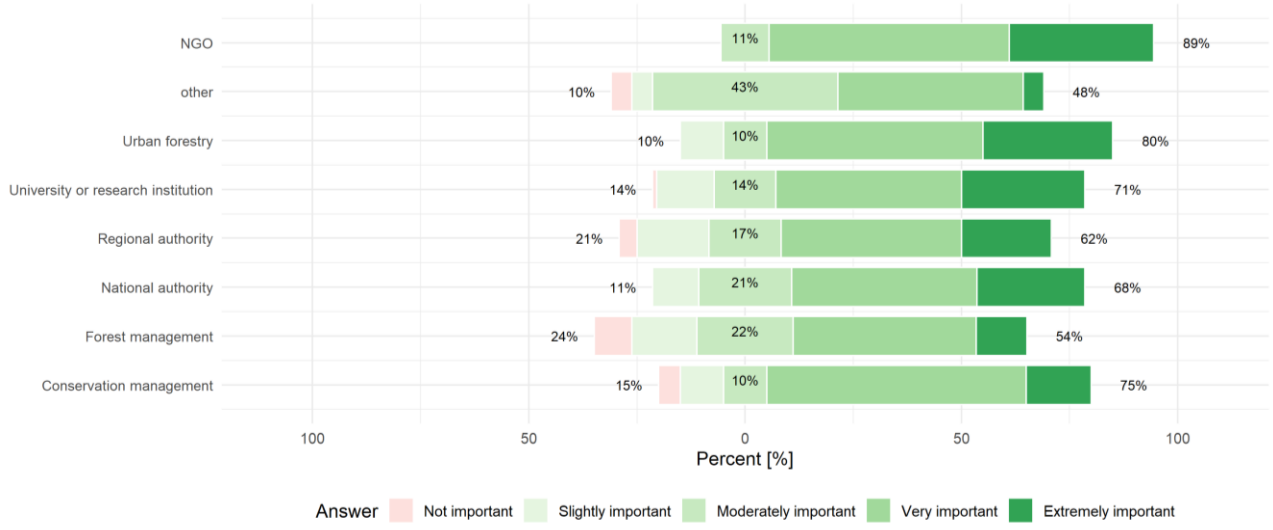


Figure 25: Perceived importance of stakeholder participation for successful forest restoration across stakeholders.

7.2. Regulatory and Legal Challenges

Survey respondents were asked to indicate which regulatory factors present challenges to their forest restoration practices **(Figure 26)**. Across Central Europe, EU regulations were most frequently mentioned, with 47% of participants considering them relevant. Restrictions on planting materials, national forest law

and biodiversity action plans, as well as forestry management standards were each selected by 26–30% of respondents. Around one-fifth of respondents indicated uncertainty by selecting *"I don't know"* (21%), and a similar share (19%) mentioned national land use policies. Overall, the results show that EU-level regulations are most often perceived as challenging, but national and sector-specific rules also play a notable role in shaping the regulatory framework for forest restoration.

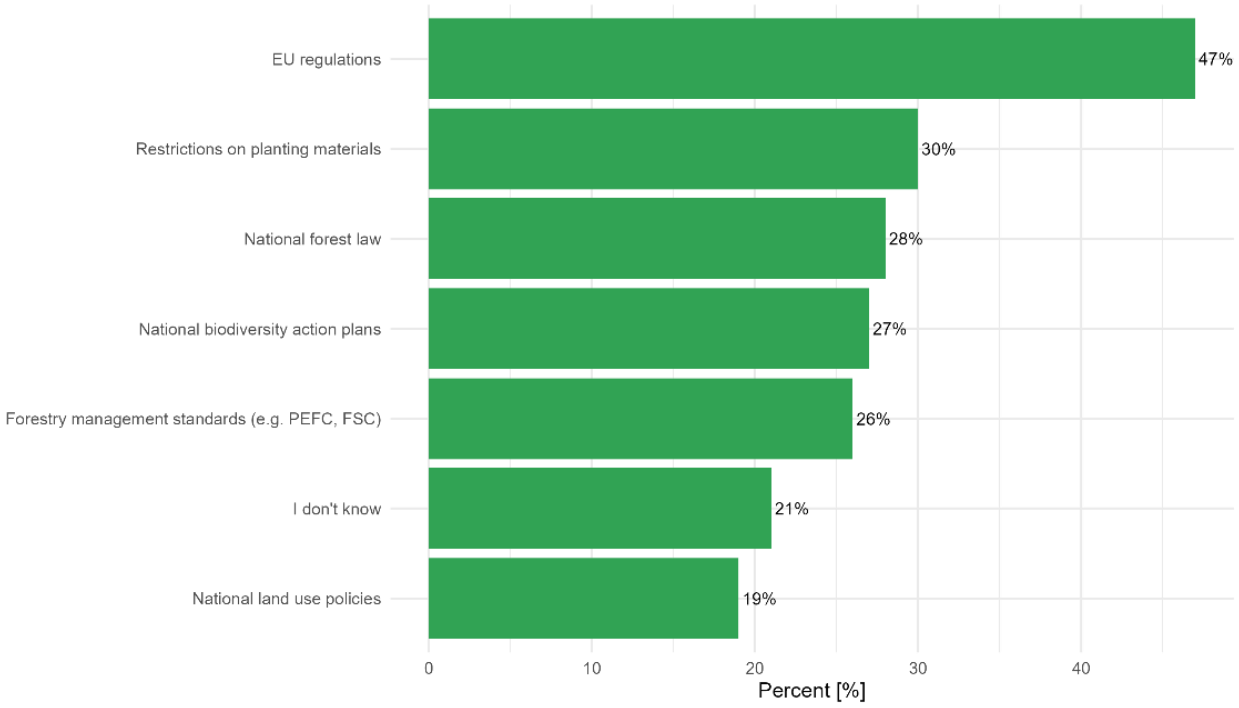


Figure 26: Share of survey participants in Central Europe reporting regulatory factors as challenges for restoration practices.

The open-text responses provided additional nuance to the structured survey results, highlighting regulatory and administrative obstacles that affect forest restoration practices. Several respondents pointed to inconsistencies between national and regional laws, noting that regional regulations often differ in interpretation or implementation, which can create uncertainty and administrative burden. Participants also mentioned sectoral fragmentation, with conflicting policies and limited cross-sectoral coordination – particularly between forestry, nature conservation, and hunting laws. In addition to legal inconsistencies, funding regulations were described as another source of difficulty. Respondents criticized complex and bureaucratic procedures, as well as subsidy systems that are perceived as effort-oriented rather than results-based. In some cases, strict requirements following disturbance events were seen as hindering flexible and site-adapted restoration measures. Overall, these remarks underline that the regulatory environment for forest restoration is shaped not only by overarching EU and national frameworks but also by administrative complexity and the practical implementation of funding and legal instruments.

Across Central Europe, the perceived relevance of regulatory challenges varies notably between countries **(Appendices 196-203)**. EU regulations were most frequently mentioned as constraining factors in Austria, Germany, and Poland (50–56%), whereas they played a less prominent role in Italy (26%), Hungary (25%) and Slovenia (19%). Restrictions on planting materials emerged as a major issue in Germany, Hungary, and Slovenia (46–50%), while they were largely unimportant in Italy (4%) and Poland (17%). National forest law was particularly emphasized in Hungary (56%) and the Czech Republic (46%), suggesting that domestic legal frameworks can be a stronger constraint than EU-level regulations in some contexts. Croatia stands out with high response rates across almost all categories, including national land-use policies (48%) and biodiversity action plans (41%), indicating a broad spectrum of perceived regulatory challenges. In contrast, Italy consistently reported the lowest levels of regulatory concern. Notably, Austria and the Czech Republic show

relatively high shares of respondents indicating *"I don't know"* (28% and 19%), which may reflect uncertainty or varying familiarity with regulatory frameworks among respondents.

Perceptions of regulatory challenges also varied notably among stakeholder groups **(Appendices 204-211)**. Forest management and regional authorities most frequently identified EU regulations as relevant constraints (51% and 50%, respectively), while NGOs and national authorities reported slightly lower shares (44% and 39%). Restrictions on planting materials were especially emphasized by national authorities (54%) and NGOs (44%), suggesting this issue resonates both with administrative and civil-society actors. National forest law and land use policies were most frequently mentioned by conservation management (35% each) and national authorities (32%), indicating the influence of domestic frameworks on restoration practices. In contrast, forestry management standards such as PEFC or FSC were of lower overall relevance across groups (11–33%). Notably, a higher share of respondents from universities and research institutions and urban forestry sectors selected *"I don't know"* (26% and 30%), possibly reflecting more indirect involvement in regulatory implementation. Overall, the results suggest that perceptions of governance-related barriers differ according to institutional responsibilities and proximity to policy enforcement.

8. Conclusion

The survey results provide a comprehensive overview of stakeholder perceptions regarding forest degradation, management responses, and governance challenges in Central Europe. Overall, the findings highlight a shared awareness of the increasing pressure on forest ecosystems, with climatic and biotic stressors – particularly drought, pests, and storms – emerging as dominant drivers both now and in the future. Differences among countries underline how local environmental conditions, forest types, and policy contexts shape the perceived severity of these challenges.

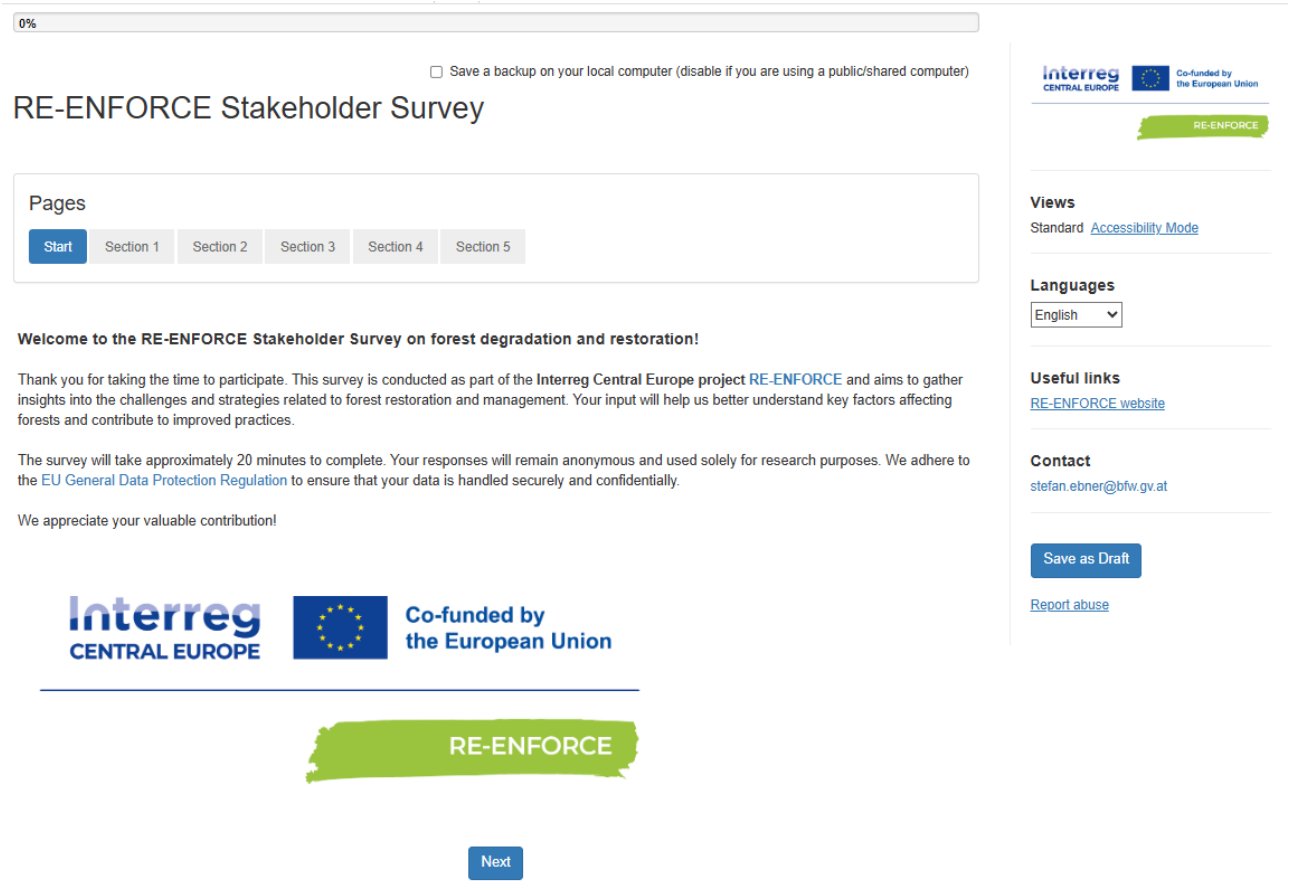
A broad range of adaptive and preventive management measures is already in use, suggesting that practitioners across Central Europe are actively responding to changing forest conditions. The frequent combination of multiple measures – such as species diversification, thinning, and deadwood retention – reflects a shift toward more integrative and resilience-oriented management strategies. However, economic and institutional barriers remain significant constraints to the implementation of such approaches.

The survey also indicates that forest degradation affects not only timber production but also critical ecosystem services such as soil stability and water provision, underscoring the multifunctional importance of Central European forests. At the same time, many respondents highlighted the lack of economic incentives for forest ecosystem services as an additional barrier, suggesting that the societal value of these functions is not yet sufficiently reflected in current funding and policy frameworks. While stakeholder participation is generally regarded as important, differences in perceived relevance between stakeholder groups suggest varying degrees of engagement and influence in restoration processes.

Finally, the regulatory environment emerges as a complex, multi-level challenge. EU regulations are perceived as the most prominent constraint, but national and regional rules, funding schemes, and procedural requirements also play a major role. These results underline the need for coherent, transparent, and flexible policy frameworks that support adaptive forest restoration under changing climatic and ecological conditions.

9. Appendix

Appendix 1: Survey Questions



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RE-ENFORCE Stakeholder Survey

Pages

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Welcome to the RE-ENFORCE Stakeholder Survey on forest degradation and restoration!

Thank you for taking the time to participate. This survey is conducted as part of the **Interreg Central Europe project** RE-ENFORCE and aims to gather insights into the challenges and strategies related to forest restoration and management. Your input will help us better understand key factors affecting forests and contribute to improved practices.

The survey will take approximately 20 minutes to complete. Your responses will remain anonymous and used solely for research purposes. We adhere to the EU General Data Protection Regulation to ensure that your data is handled securely and confidentially.

We appreciate your valuable contribution!

Interreg CENTRAL EUROPE — Co-funded by the European Union

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Participant details

* Which country do you work in?
(single choice)

- Austria
- Croatia
- Czech Republic
- Germany
- Hungary
- Italy
- Poland
- Slovakia
- Slovenia
- other

* Which group of stakeholders do you represent?
(single choice)

- Forest management (e.g. forest enterprises)
- Conservation management (e.g. national parks)
- Urban forestry
- NGO
- National authority
- Regional authority
- University or research institution
- other

Disturbance factors (drivers of forest degradation)

(1) To what extent have the following forest degradation drivers impacted the forests in your area over the past 30 years under past and current climatic conditions?
(Please rate each item on a scale from "Not at all" to "Extremely")

	Not at all	Slightly	Moderately	Considerably	Extremely
*Drought	○	○	○	○	○
*Storm	○	○	○	○	○
*Fire	○	○	○	○	○
*Pests and diseases (e.g. ash dieback, bark beetles...)	○	○	○	○	○
*Financial challenges	○	○	○	○	○
*Tourism (e.g. hiking, mountain biking, skiing...)	○	○	○	○	○
*Legal restrictions	○	○	○	○	○
*Browsing	○	○	○	○	○
*Improper management of riparian forests	○	○	○	○	○

(2) To what extent do you expect the following forest degradation drivers to impact the forests in your area under future climatic conditions by 2100?
(Please rate each item on a scale from "Not at all" to "Extremely")

	Not at all	Slightly	Moderately	Considerably	Extremely
*Drought	○	○	○	○	○
*Storm	○	○	○	○	○
*Fire	○	○	○	○	○
*Pests and diseases (e.g. ash dieback, bark beetles...)	○	○	○	○	○
*Financial challenges	○	○	○	○	○
*Tourism (e.g. hiking, mountain biking, skiing...)	○	○	○	○	○
*Legal restrictions	○	○	○	○	○
*Browsing	○	○	○	○	○
*Improper management of riparian forests	○	○	○	○	○

* (3) Please rank the following forest resources and ecosystem services based on how strongly they have been affected by forest degradation drivers in your area in the past. Rank the most affected resource first [1], followed by the less affected ones in descending order.
(ranking question – drag and drop)
Use drag&drop or the up/down buttons to change the order or accept the initial order.

- ⠿ ↑ ↓ Recreational services
- ⠿ ↑ ↓ Soil quality and erosion control
- ⠿ ↑ ↓ Timber production
- ⠿ ↑ ↓ Water provision
- ⠿ ↑ ↓ Carbon sequestration
- ⠿ ↑ ↓ Biodiversity conservation
- ⠿ ↑ ↓ Protection against natural hazards (e.g. avalanches, floods...)

* (4) How do you expect challenges in forest management to evolve over the next decades?
(single choice)

- ○ Decrease significantly
- ○ Decrease moderately
- ○ Stay the same
- ○ Increase moderately
- ○ Increase significantly

Driver management

* (5) Which management practices are implemented in your area to mitigate the effects of **drought** on forests?
(multiple choice)

- ☐ Changing species composition
- ☐ Establish structural diversity
- ☐ Thinning (e.g. to reduce water competition)
- ☐ Leave harvest residues to support microclimate
- ☐ Planting drought-tolerant provenances
- ☐ Leaving deadwood to support microclimate
- ☐ No intervention
- ☐ Not applicable in my area
- ☐ other

* (6) Which management practices are implemented in your area to mitigate the effects of **fire** on forests?
(multiple choice)

- ☐ Salvage logging
- ☐ Fire and fuel breaks
- ☐ Controlling fuel load (e.g shrub removal, thinning…)
- ☐ Prescribed burning
- ☐ Changing species composition
- ☐ Post-fire soil erosion control
- ☐ Monitoring and early detection systems
- ☐ Maintaining forest road network
- ☐ No intervention
- ☐ Not applicable in my area
- ☐ other

* (7) Which management practices are implemented in your area to mitigate the effects of **bark beetle infestations** on forests?
(multiple choice)

- ☐ Sanitary and salvage logging
- ☐ Bark removal (e.g. debarking, bark scratching…)
- ☐ Trap trees
- ☐ Insecticides
- ☐ Biological control (e.g. promoting natural enemies)
- ☐ Monitoring (e.g. pheromone traps, remote sensing…)
- ☐ Changing species composition
- ☐ Establish structural diversity
- ☐ Thinning (e.g. to improve tree vitality)
- ☐ Reducing rotation periods
- ☐ Maintaining forest road network
- ☐ No intervention
- ☐ Not applicable in my area
- ☐ other

* (8) Which management practices are implemented in your area to mitigate the effects of **storms** on forests?
(multiple choice)

- ☐ Salvage logging
- ☐ Changing species composition
- ☐ Thinning (e.g. to improve height/diameter ratio, canopy roughness…)
- ☐ Shorten rotation periods
- ☐ Continuous cover management
- ☐ No intervention
- ☐ Not applicable in my area
- ☐ other

* (9) Which management practices are implemented in your area to mitigate the effects of **ash dieback *(Hymenoscyphus fraxineus)*** on forests?
(multiple choice)

- [ ] Changing species composition
- [ ] Promoting ash on drier sites
- [ ] Promoting long term survival of tolerant or low-damaged ash trees
- [ ] Planting tolerant ash seedlings
- [ ] No intervention
- [ ] Not applicable in my area
- [ ] other

* (10) Which management practices are implemented in your area to adress the effects of **improperly managed riparian forests**?
(multiple choice)

- [ ] Changing species composition
- [ ] Thinning
- [ ] Establish structural diversity
- [ ] Restoring or maintaining a near-natural water regime
- [ ] Control of invasive species
- [ ] No intervention
- [ ] Not applicable in my area
- [ ] other

* (11) To what extent are current forest management practices in your area sufficient to address future challenges?
(single choice)

- ○ Not sufficient
- ○ Slightly sufficient
- ○ Moderately sufficient
- ○ Very sufficient
- ○ Completely sufficient
- ○ I don't know

Regeneration and restoration

(12) How important are the following **ecological barriers** to successful regeneration of degraded forests in your area?
(Please rate each item on a scale from "Not at all" to "Extremely")

	Not at all	Slightly	Moderately	Considerably	Extremely
*Soil degradation	○	○	○	○	○
*Water availability	○	○	○	○	○
*Invasive Species	○	○	○	○	○
*Browsing	○	○	○	○	○
*Pests and diseases (e.g. bark beetles, ash dieback...)	○	○	○	○	○
*Natural abiotic disturbances (e.g. fire, storm, floods...)	○	○	○	○	○

(13) How important are the following **social barriers** to successful regeneration of degraded forests in your area?
(Please rate each item on a scale from "Not at all" to "Extremely")

	Not at all	Slightly	Moderately	Considerably	Extremely
*Lack of skilled workers	○	○	○	○	○
*Limited knowledge of forest managers	○	○	○	○	○
*Legal challenges	○	○	○	○	○
*Conflicting goals (e.g. timber production and nature conservation)	○	○	○	○	○

(14) How important are the following **economic barriers** to successful regeneration of degraded forests in your area?
(Please rate each item on a scale from "Not at all" to "Extremely")

	Not at all	Slightly	Moderately	Considerably	Extremely
*Lack of economic incentives for forest ecosystem services	○	○	○	○	○
*Insufficient funding for reforestation projects	○	○	○	○	○
*Fluctuating timber prices and uncertain demand for forest products	○	○	○	○	○
*High costs of reforestation (e.g. site preparation, planting, maintenance...)	○	○	○	○	○
*High financial risk due to climate-related disturbances (e.g. drought, pests, storms...)	○	○	○	○	○

(15) Are there any **other barriers** to the successful regeneration of degraded forests in your area that were not mentioned above? Please specify them here.
(optional question – open text)
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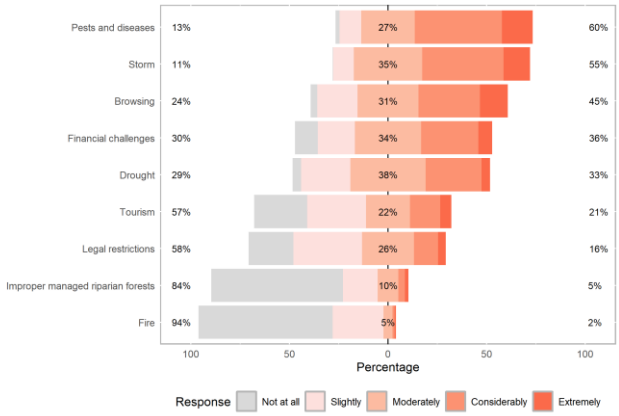
Participation of stakeholders and legal framework

* (16) How important do you consider stakeholder participation in the success of forest restoration?
(single choice)

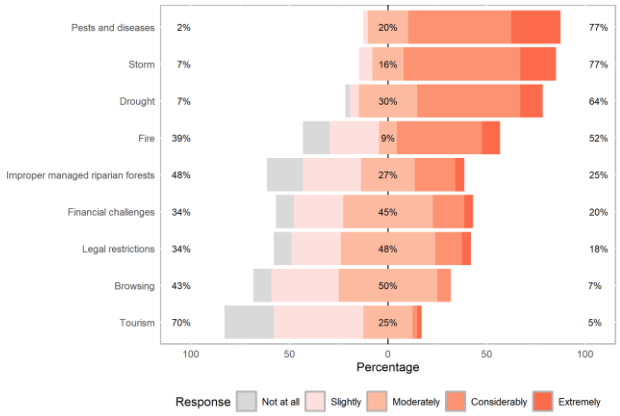
- ○ Not important
- ○ Slightly important
- ○ Moderately important
- ○ Very important
- ○ Extremely important

* (17) Which regulatory factors present challenges to your restoration practices?
(multiple choice)

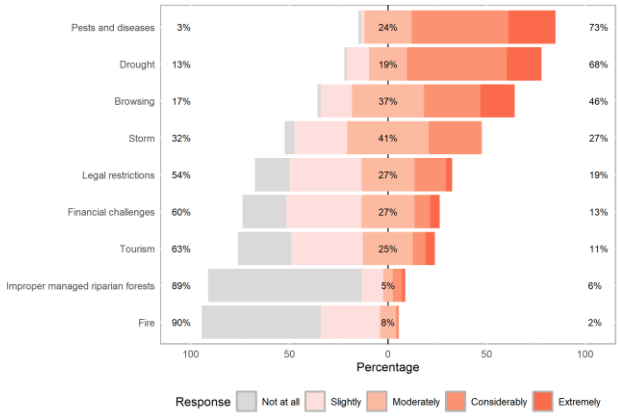
- ☐ Restrictions on planting materials
- ☐ EU regulations
- ☐ Forestry management standards (e.g. PEFC, FSC)
- ☐ National forest law
- ☐ National land use policies
- ☐ National biodiversity action plans
- ☐ I don't know
- ☐ other



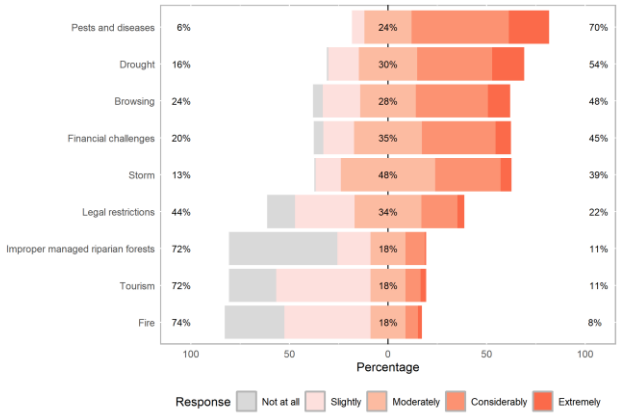
Appendix 2: Survey responses from **Austria** on the extent to which different disturbance drivers have impacted forests over the past 30 years under past and current climatic conditions.



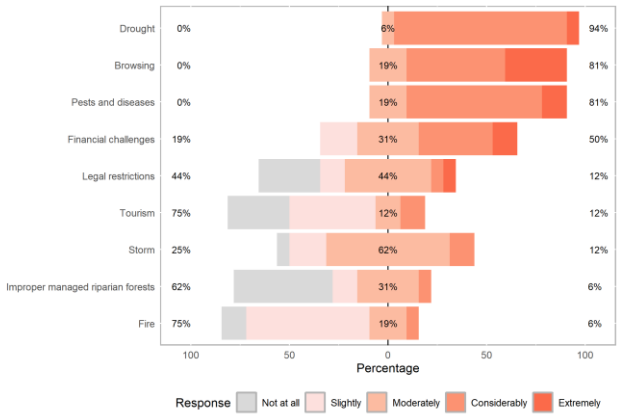
Appendix 3: Survey responses from **Croatia** on the extent to which different disturbance drivers have impacted forests over the past 30 years under past and current climatic conditions.



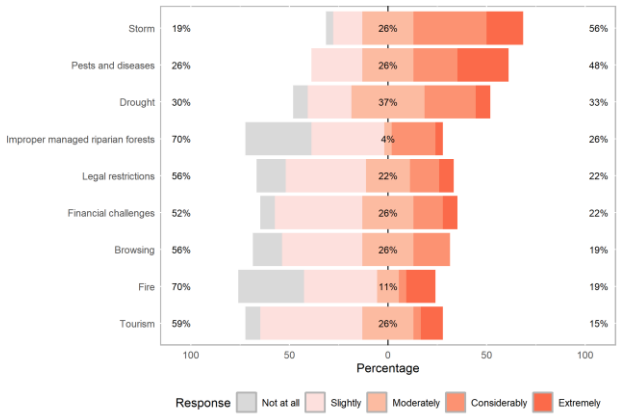
Appendix 4: Survey responses from **Czech Republic** on the extent to which different disturbance drivers have impacted forests over the past 30 years under past and current climatic conditions.



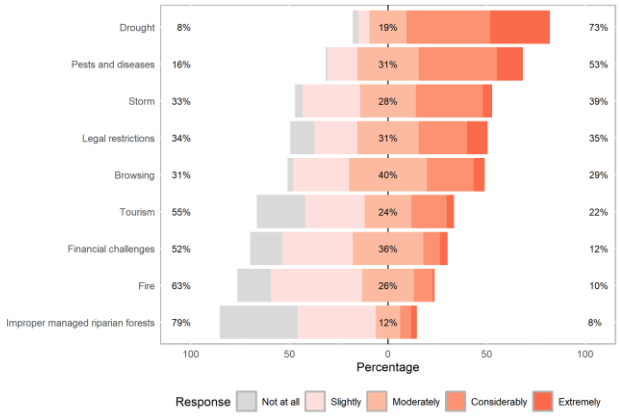
Appendix 5: Survey responses from **Germany** on the extent to which different disturbance drivers have impacted forests over the past 30 years under past and current climatic conditions.



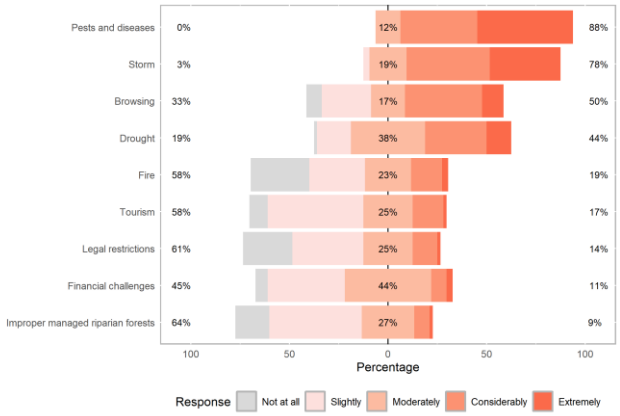
Appendix 6: Survey responses from **Hungary** on the extent to which different disturbance drivers have impacted forests over the past 30 years under past and current climatic conditions.



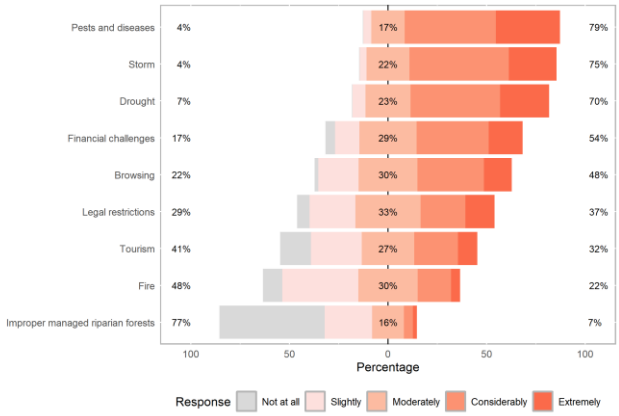
Appendix 7: Survey responses from **Italy** on the extent to which different disturbance drivers have impacted forests over the past 30 years under past and current climatic conditions.



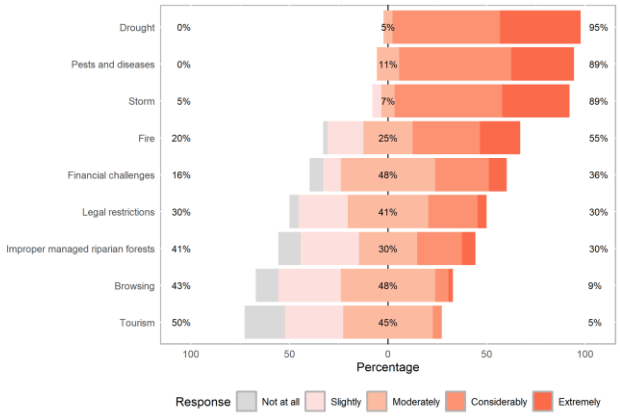
Appendix 8: Survey responses from **Poland** on the extent to which different disturbance drivers have impacted forests over the past 30 years under past and current climatic conditions.



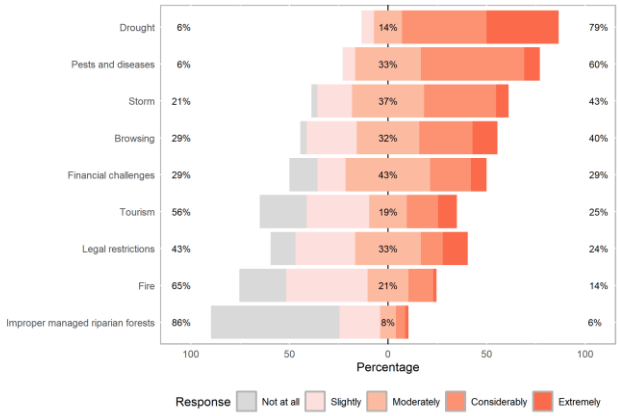
Appendix 9: Survey responses from **Slovenia** on the extent to which different disturbance drivers have impacted forests over the past 30 years under past and current climatic conditions.



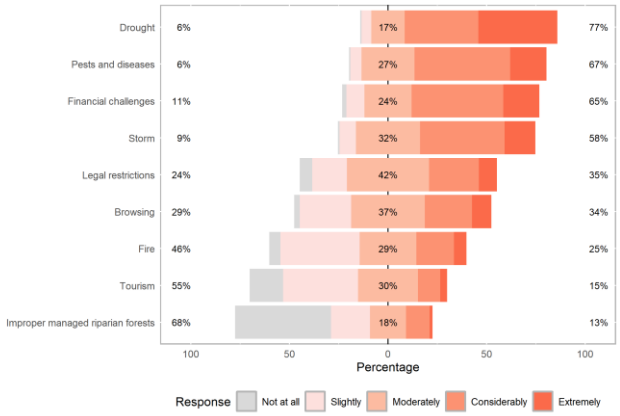
Appendix 10: Survey responses from **Austria** on the extent to which different disturbance drivers are expected to impact forests under future climatic conditions by 2100.



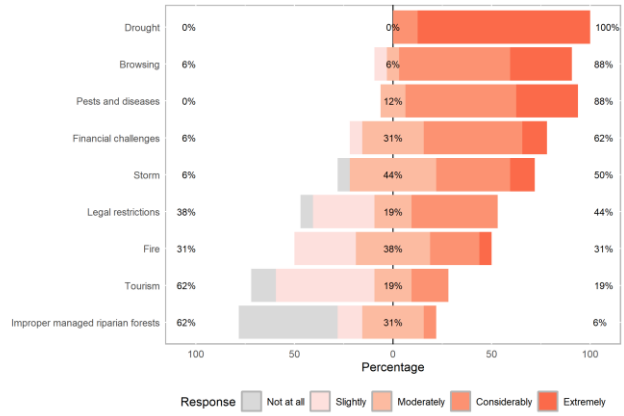
Appendix 11: Survey responses from **Croatia** on the extent to which different disturbance drivers are expected to impact forests under future climatic conditions by 2100.



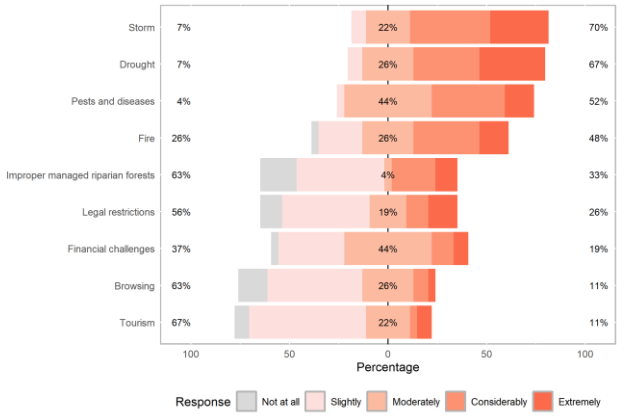
Appendix 12: Survey responses from **Czech Republic** on the extent to which different disturbance drivers are expected to impact forests under future climatic conditions by 2100.



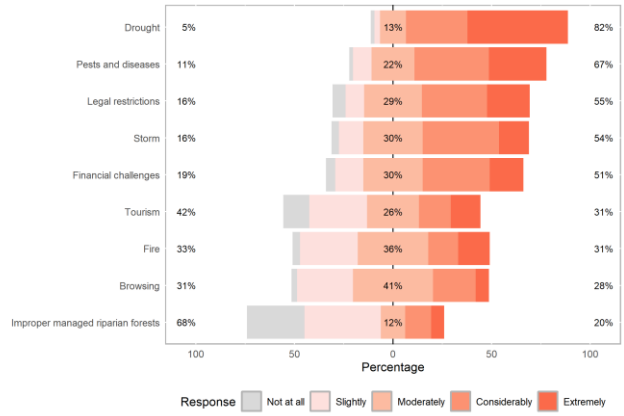
Appendix 13: Survey responses from **Germany** on the extent to which different disturbance drivers are expected to impact forests under future climatic conditions by 2100.



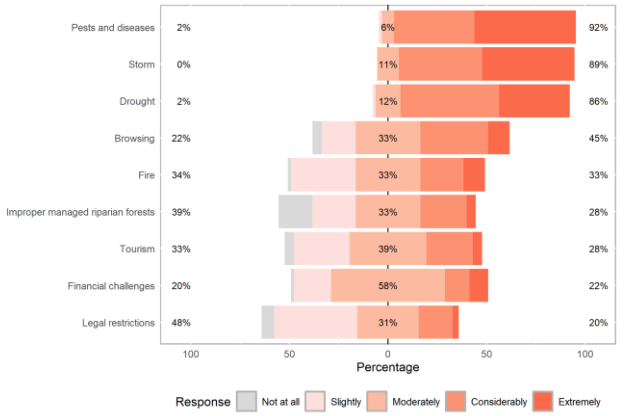
Appendix 14: Survey responses from **Hungary** on the extent to which different disturbance drivers are expected to impact forests under future climatic conditions by 2100.



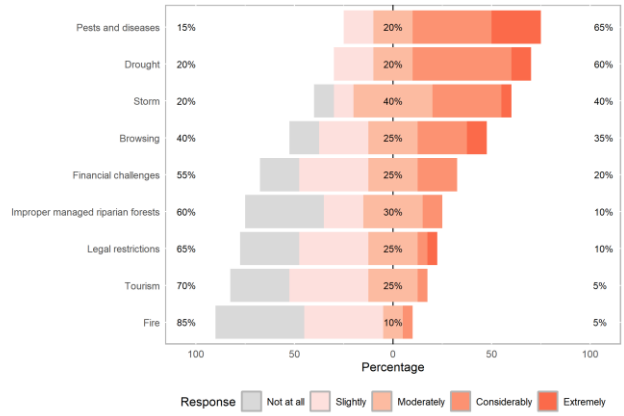
Appendix 15: Survey responses from **Italy** on the extent to which different disturbance drivers are expected to impact forests under future climatic conditions by 2100.



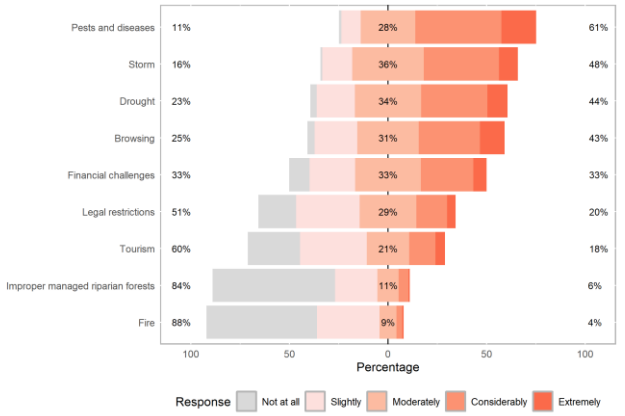
Appendix 16: Survey responses from **Poland** on the extent to which different disturbance drivers are expected to impact forests under future climatic conditions by 2100.



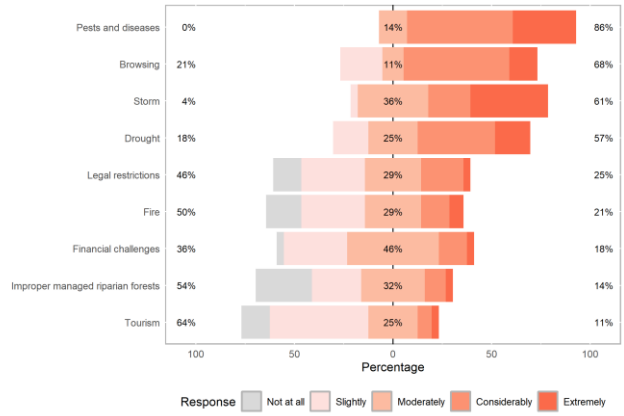
Appendix 17: Survey responses from **Slovenia** on the extent to which different disturbance drivers are expected to impact forests under future climatic conditions by 2100.



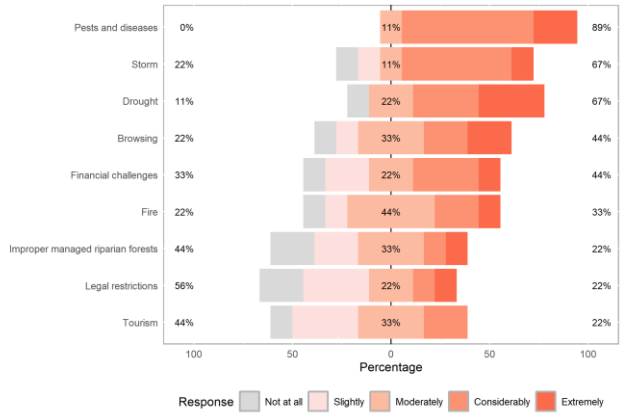
Appendix 18: Survey responses from **conservation managers** on the extent to which different disturbance drivers have impacted forests over the past 30 years under past and current climatic conditions.



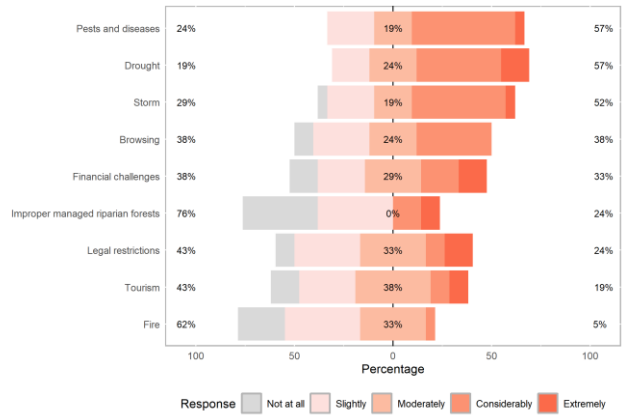
Appendix 19: Survey responses from **forest managers** on the extent to which different disturbance drivers have impacted forests over the past 30 years under past and current climatic conditions.



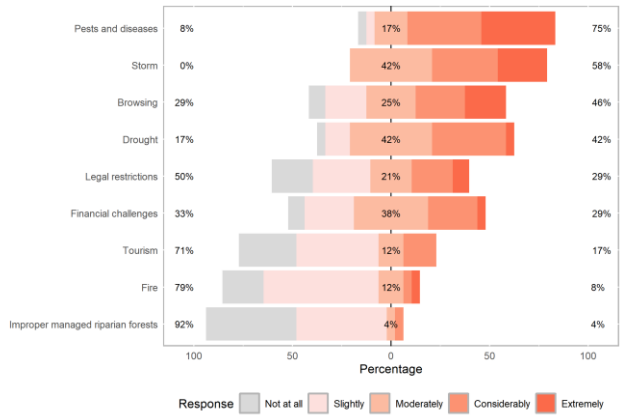
Appendix 20: Survey responses from **national authorities** on the extent to which different disturbance drivers have impacted forests over the past 30 years under past and current climatic conditions.



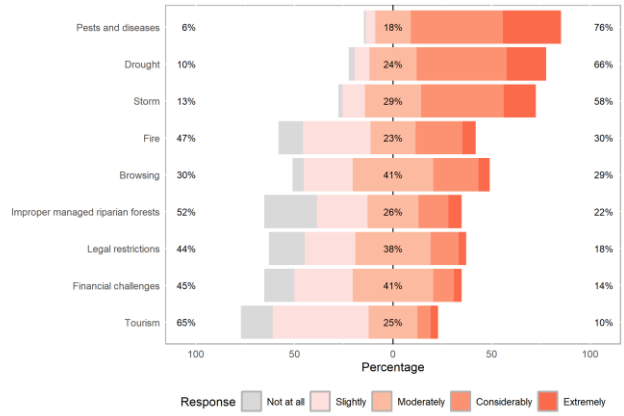
Appendix 21: Survey responses from **NGOs** on the extent to which different disturbance drivers have impacted forests over the past 30 years under past and current climatic conditions.



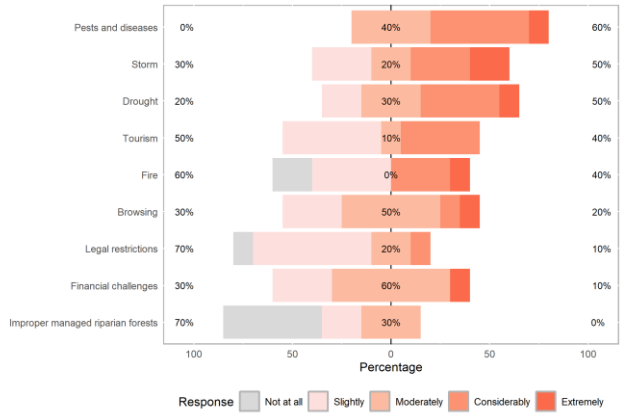
Appendix 22: Survey responses from **"other" stakeholders** on the extent to which different disturbance drivers have impacted forests over the past 30 years under past and current climatic conditions.



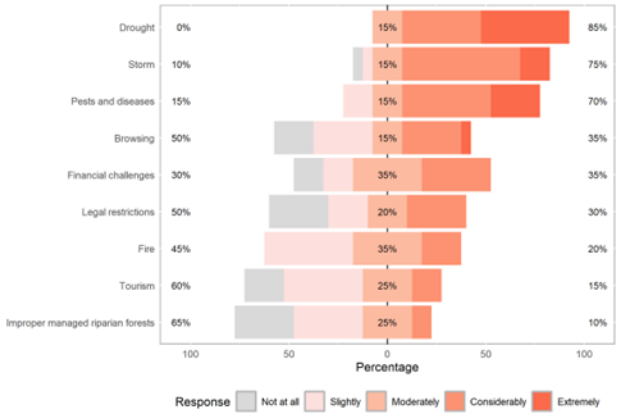
Appendix 23: Survey responses from **regional authorities** on the extent to which different disturbance drivers have impacted forests over the past 30 years under past and current climatic conditions.



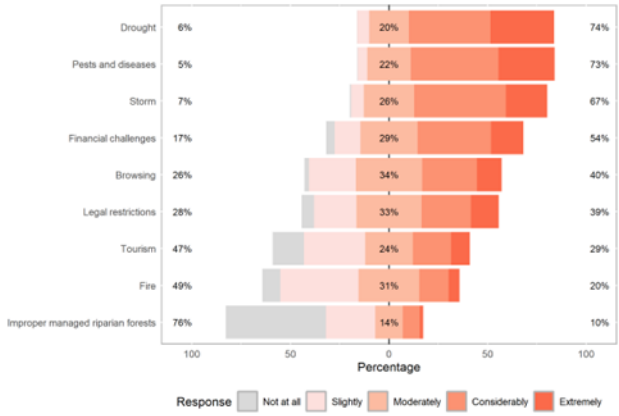
Appendix 24: Survey responses from **universities and research institutions** on the extent to which different disturbance drivers have impacted forests over the past 30 years under past and current climatic conditions.



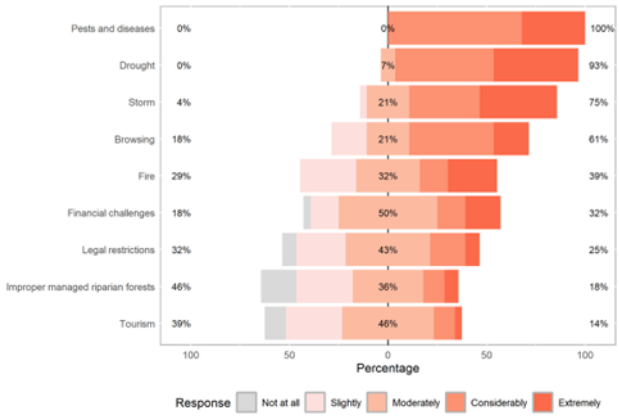
Appendix 25: Survey responses from **urban forestry** on the extent to which different disturbance drivers have impacted forests over the past 30 years under past and current climatic conditions.



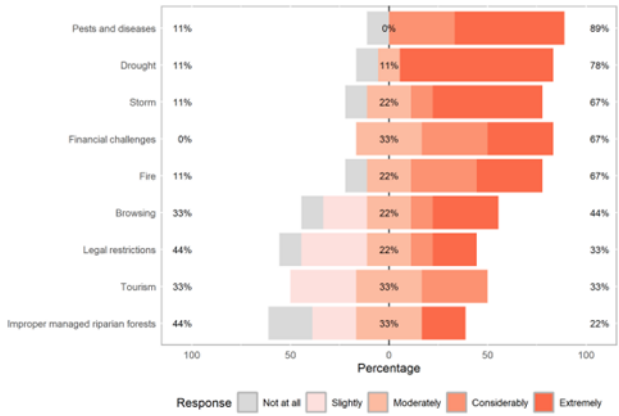
Appendix 26: Survey responses from **conservation managers** on the extent to which different disturbance drivers are expected to impact forests under future climatic conditions by 2100.



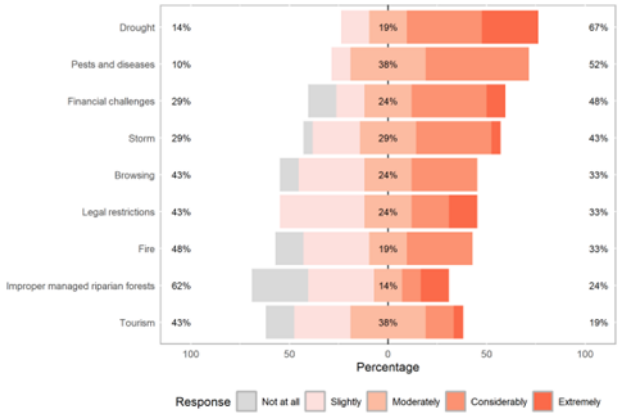
Appendix 27: Survey responses from **forest managers** on the extent to which different disturbance drivers are expected to impact forests under future climatic conditions by 2100.



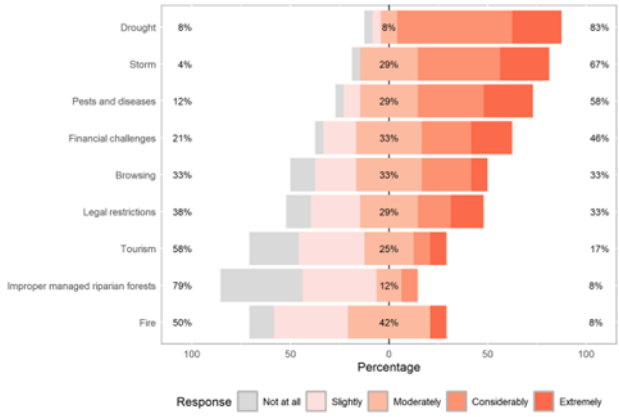
Appendix 28: Survey responses from **national authorities** on the extent to which different disturbance drivers are expected to impact forests under future climatic conditions by 2100.



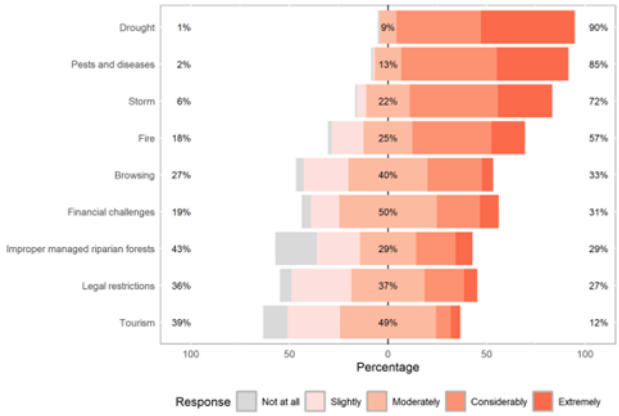
Appendix 29: Survey responses from **NGOs** on the extent to which different disturbance drivers are expected to impact forests under future climatic conditions by 2100.



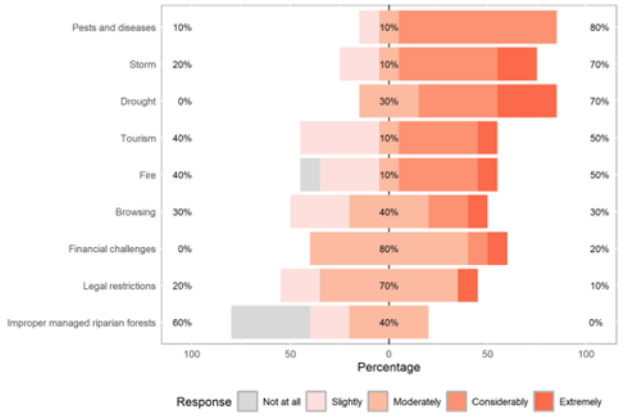
Appendix 30: Survey responses from **"other" stakeholders** on the extent to which different disturbance drivers are expected to impact forests under future climatic conditions by 2100.



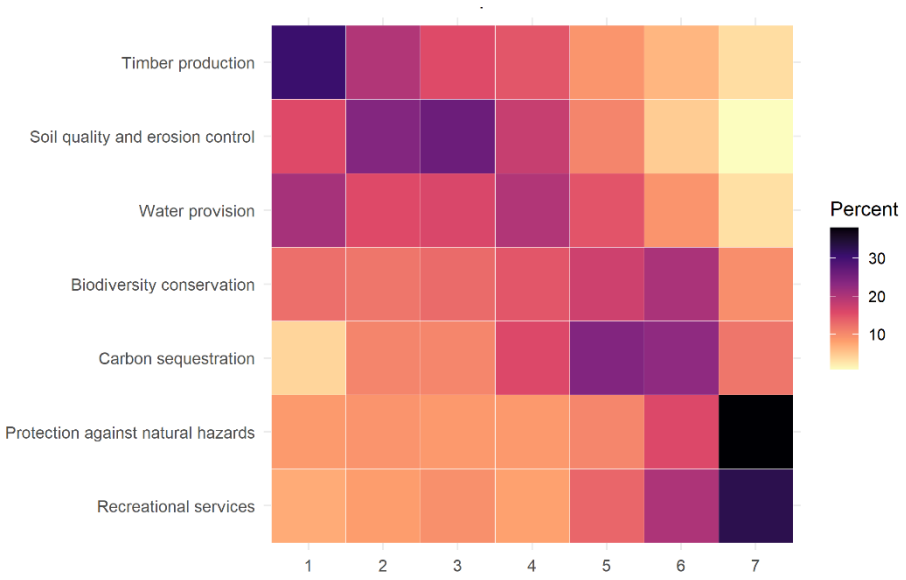
Appendix 31: Survey responses from **regional authorities** on the extent to which different disturbance drivers are expected to impact forests under future climatic conditions by 2100.



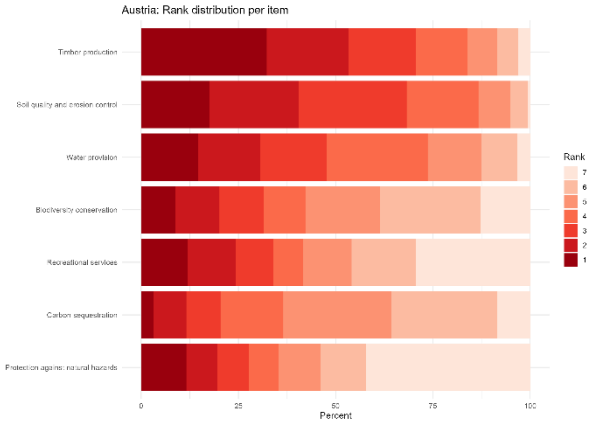
Appendix 32: Survey responses from **universities and research institutions** on the extent to which different disturbance drivers are expected to impact forests under future climatic conditions by 2100.



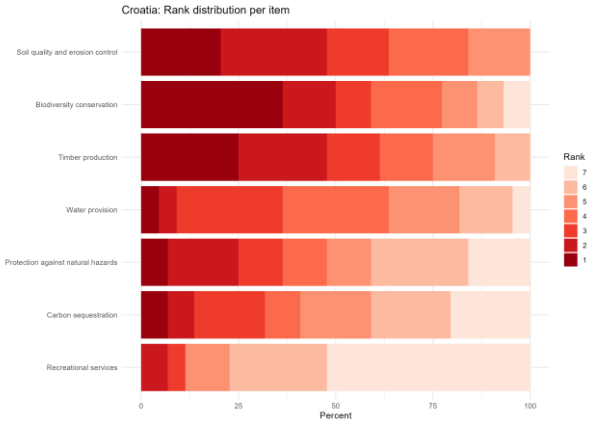
Appendix 33: Survey responses from **urban forestry** on the extent to which different disturbance drivers are expected to impact forests under future climatic conditions by 2100.



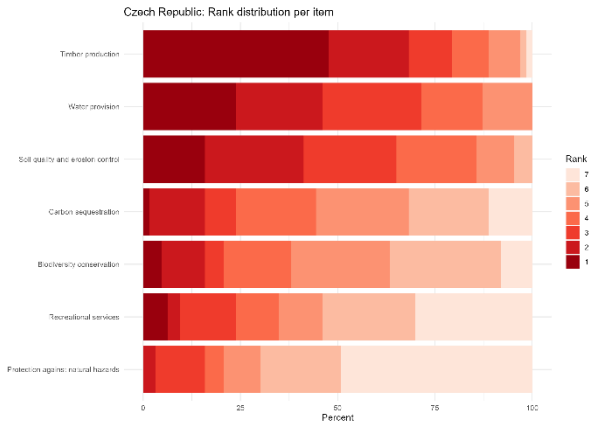
Appendix 34: Heatmap for visualizing the ranking of forest resources and ecosystem services affected by forest degradation drivers (most affected resource is ranked first [1], followed by the less affected ones in descending order).



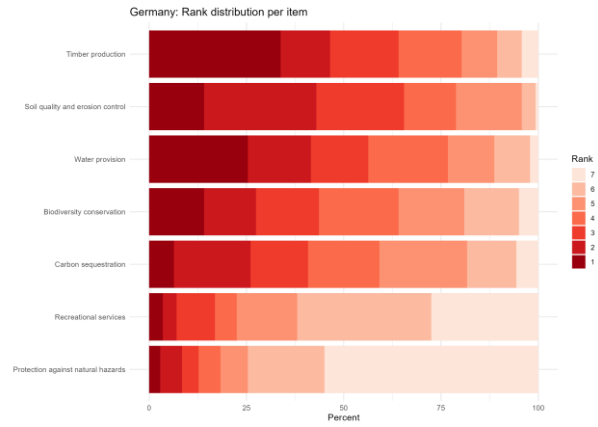
Appendix 35: Percentage distribution of respondent rankings (1 = most affected) for forest resources and ecosystem services impacted by past forest degradation drivers in **Austria**.



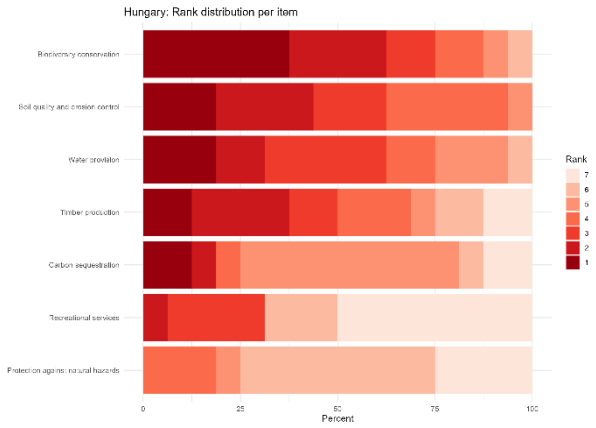
Appendix 36: Percentage distribution of respondent rankings (1 = most affected) for forest resources and ecosystem services impacted by past forest degradation drivers in **Croatia**.



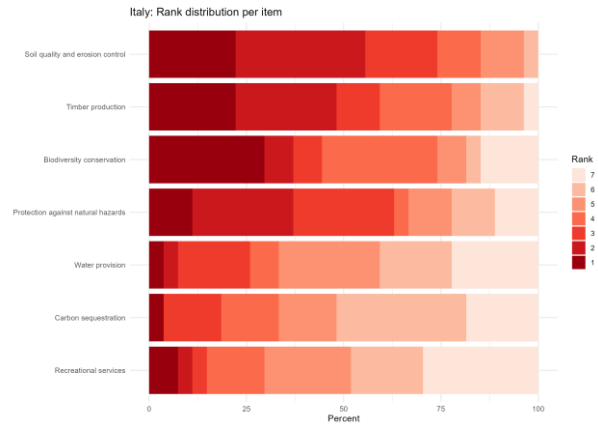
Appendix 37: Percentage distribution of respondent rankings (1 = most affected) for forest resources and ecosystem services impacted by past forest degradation drivers in **Czech Republic**.



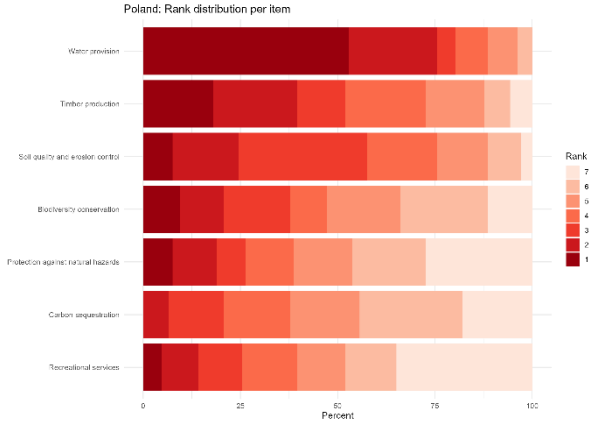
Appendix 38: Percentage distribution of respondent rankings (1 = most affected) for forest resources and ecosystem services impacted by past forest degradation drivers in **Germany**.



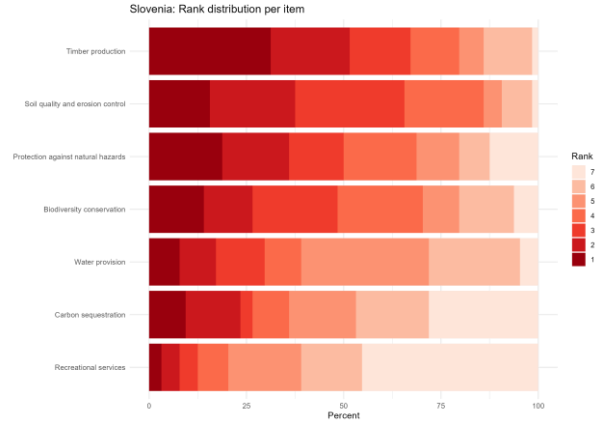
Appendix 39: Percentage distribution of respondent rankings (1 = most affected) for forest resources and ecosystem services impacted by past forest degradation drivers in **Hungary**.



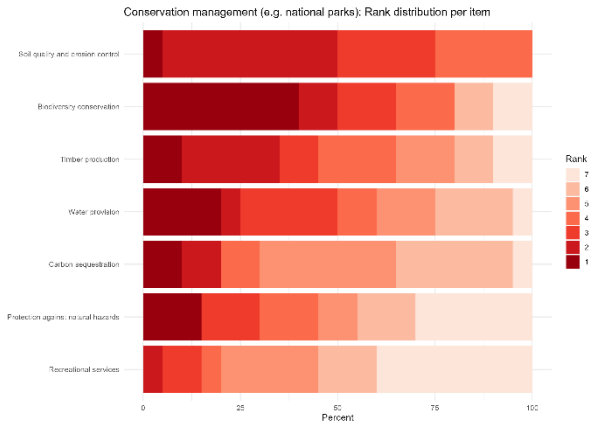
Appendix 40: Percentage distribution of respondent rankings (1 = most affected) for forest resources and ecosystem services impacted by past forest degradation drivers in **Italy**.



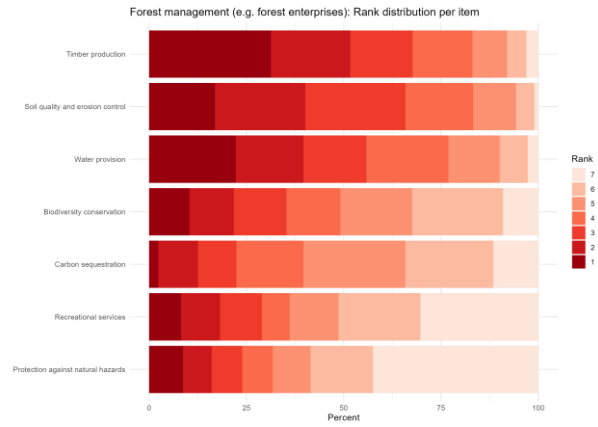
Appendix 41: Percentage distribution of respondent rankings (1 = most affected) for forest resources and ecosystem services impacted by past forest degradation drivers in **Poland**.



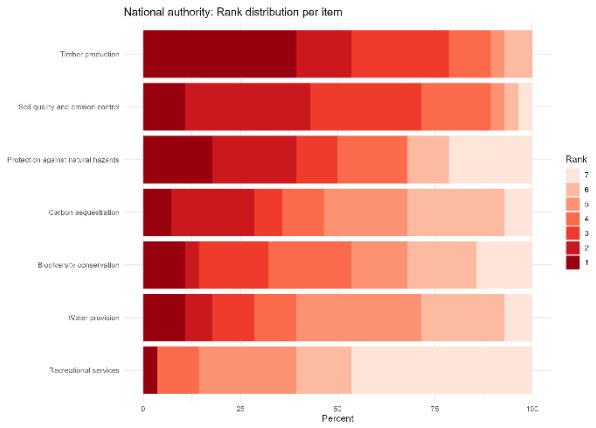
Appendix 42: Percentage distribution of respondent rankings (1 = most affected) for forest resources and ecosystem services impacted by past forest degradation drivers in **Slovenia**.



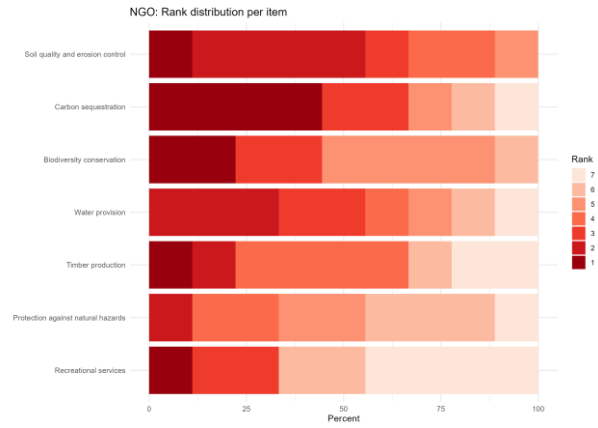
Appendix 43: Percentage distribution of respondent rankings (1 = most affected) for forest resources and ecosystem services impacted by past forest degradation drivers among **conservation managers.**



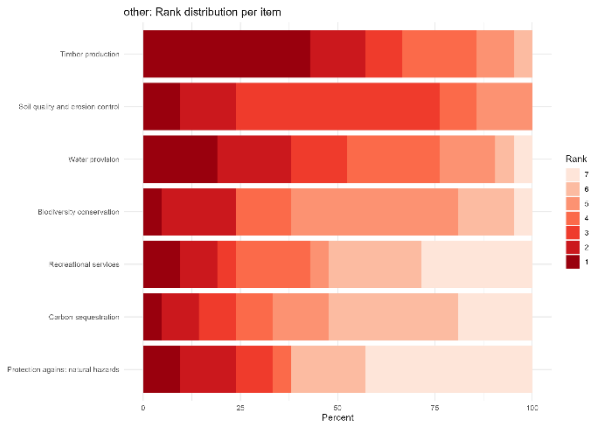
Appendix 44: Percentage distribution of respondent rankings (1 = most affected) for forest resources and ecosystem services impacted by past forest degradation drivers among **forest managers.**



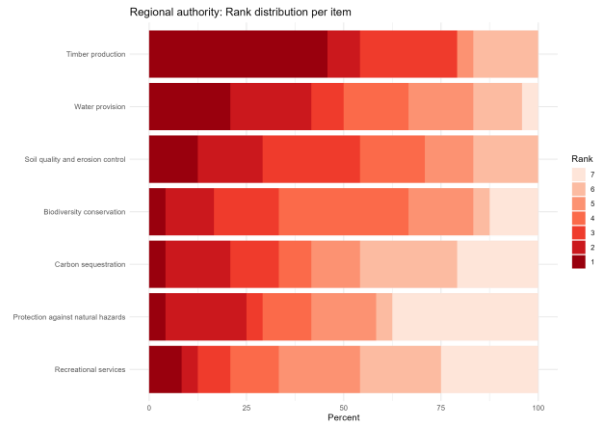
Appendix 45: Percentage distribution of respondent rankings (1 = most affected) for forest resources and ecosystem services impacted by past forest degradation drivers among **national authorities.**



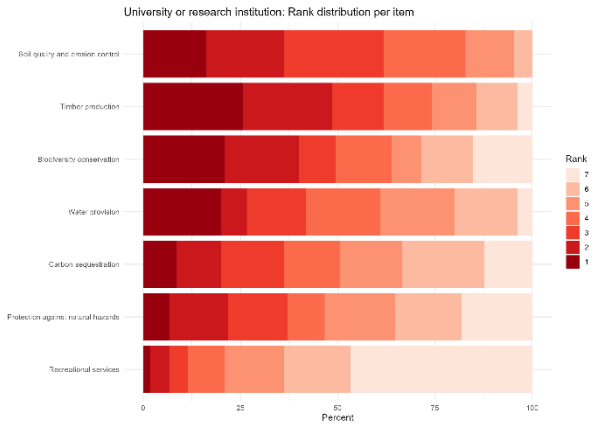
Appendix 46: Percentage distribution of respondent rankings (1 = most affected) for forest resources and ecosystem services impacted by past forest degradation drivers among **NGO representatives.**



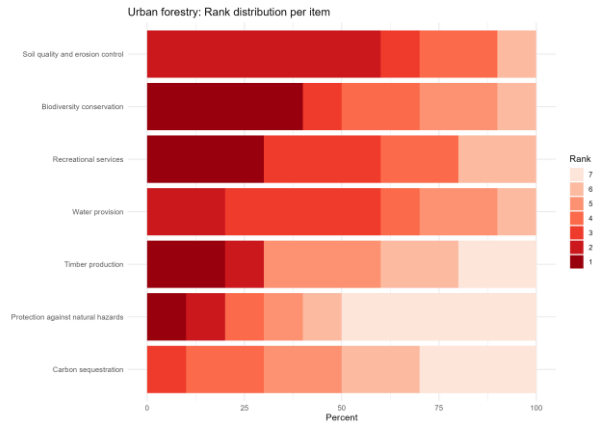
Appendix 47: Percentage distribution of respondent rankings (1 = most affected) for forest resources and ecosystem services impacted by past forest degradation drivers among **"other" stakeholders.**



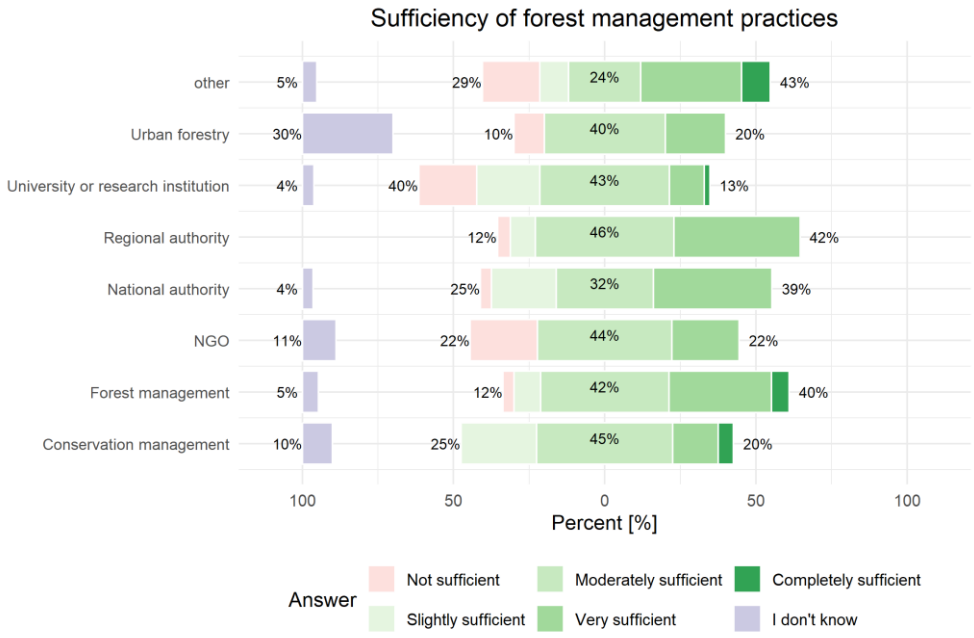
Appendix 48: Percentage distribution of respondent rankings (1 = most affected) for forest resources and ecosystem services impacted by past forest degradation drivers among **regional authorities.**



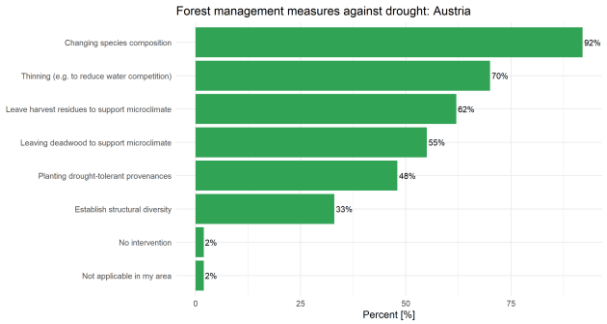
Appendix 49: Percentage distribution of respondent rankings (1 = most affected) for forest resources and ecosystem services impacted by past forest degradation drivers among **universities and research institutions representatives**.



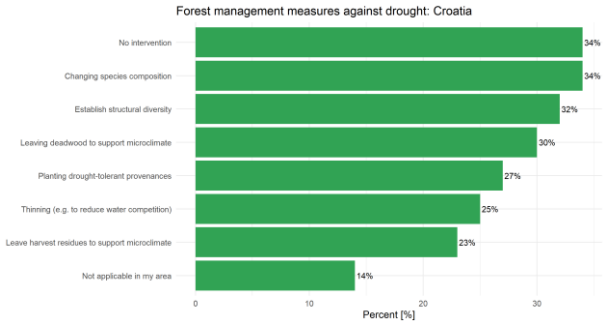
Appendix 50: Percentage distribution of respondent rankings (1 = most affected) for forest resources and ecosystem services impacted by past forest degradation drivers from **urban forestry**.



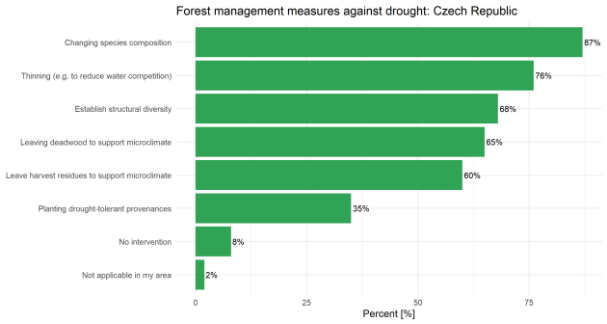
Appendix 51: Respondent evaluation of the sufficiency of current forest management practices for future challenges, shown for each stakeholder group.



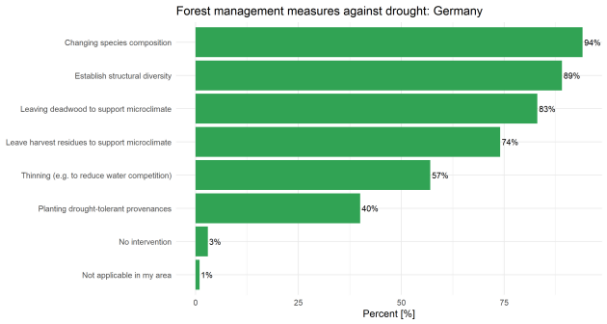
Appendix 52: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of drought on forests in **Austria**.



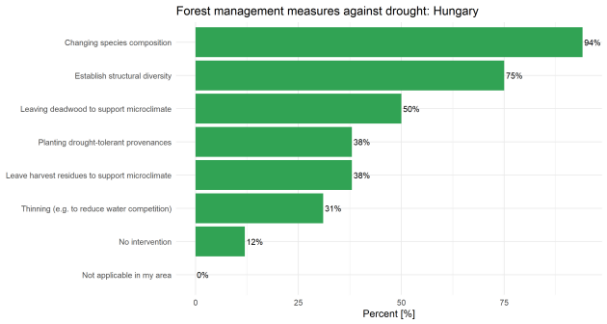
Appendix 53: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of drought on forests in **Croatia**.



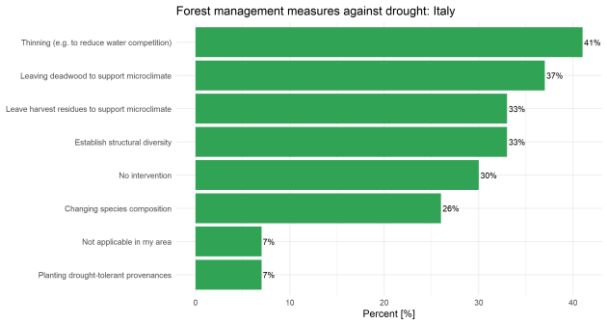
Appendix 54: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of drought on forests in **Czech Republic**.



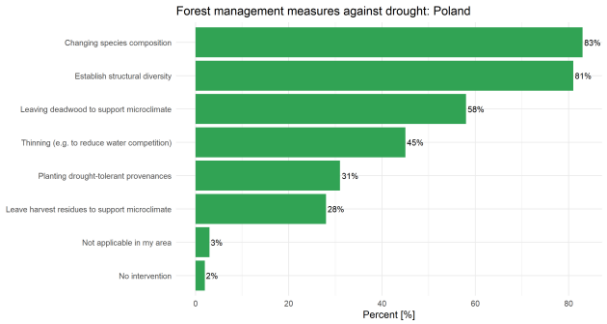
Appendix 55: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of drought on forests in **Germany**.



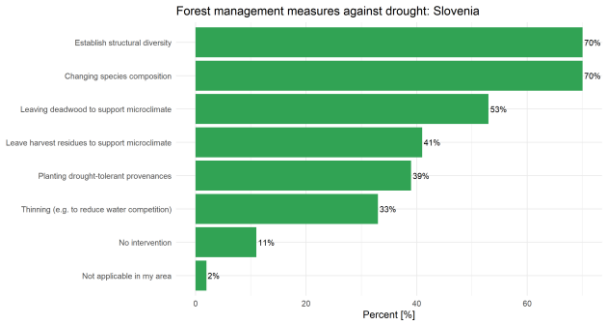
Appendix 56: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of drought on forests in **Hungary**.



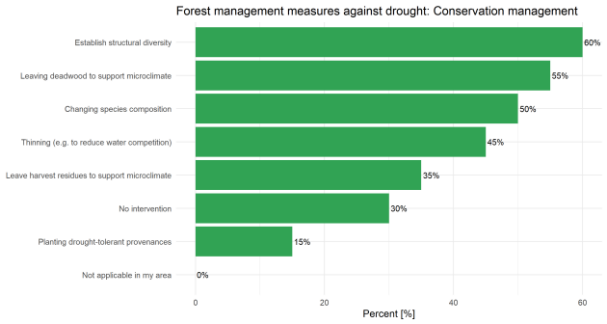
Appendix 57: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of drought on forests in **Italy**.



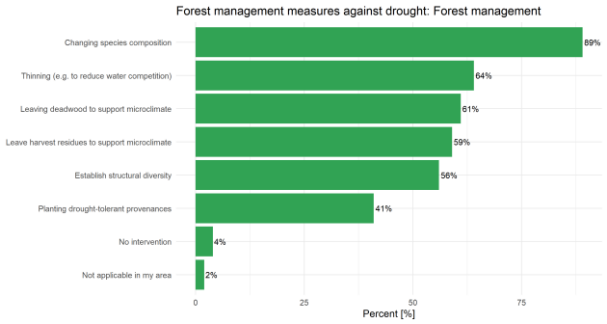
Appendix 58: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of drought on forests in **Poland**.



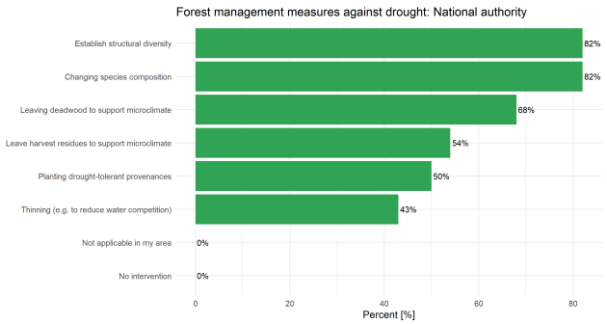
Appendix 59: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of drought on forests in **Slovenia**.



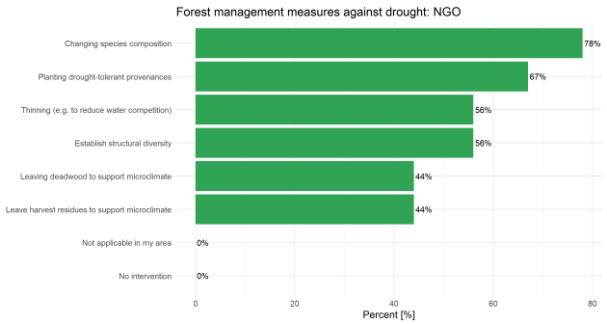
Appendix 60: Share of survey participants among **conservation managers** reporting the implementation of specific management measures to mitigate the effects of drought on forests.



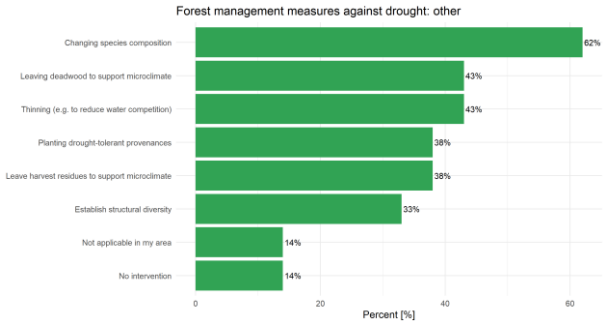
Appendix 61: Share of survey participants among **forest managers** reporting the implementation of specific management measures to mitigate the effects of drought on forests.



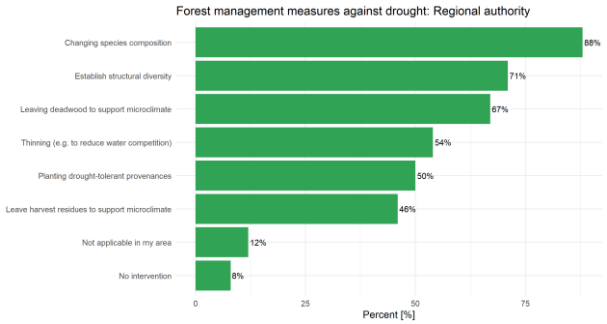
Appendix 62: Share of survey participants among representatives from **national authorities** reporting the implementation of specific management measures to mitigate the effects of drought on forests.



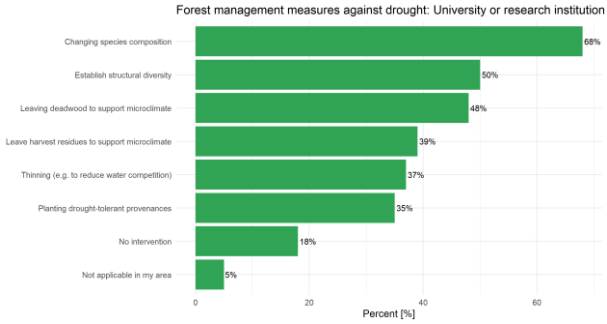
Appendix 63: Share of survey participants among representatives from **NGOs** reporting the implementation of specific management measures to mitigate the effects of drought on forests.



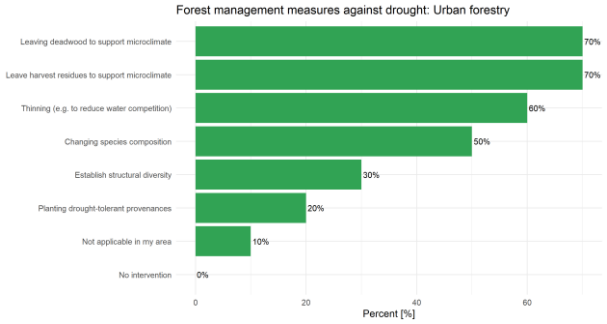
Appendix 64: Share of survey participants among representatives from **"Other" stakeholders** reporting the implementation of specific management measures to mitigate the effects of drought on forests.



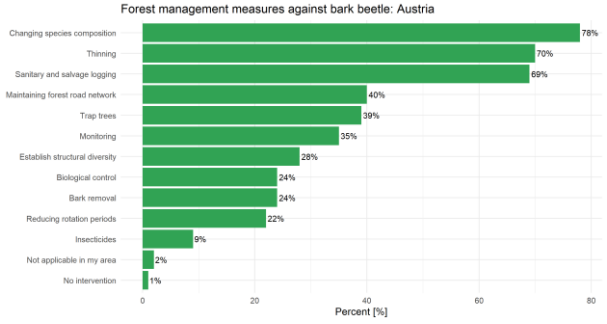
Appendix 65: Share of survey participants among representatives from **regional authorities** reporting the implementation of specific management measures to mitigate the effects of drought on forests.



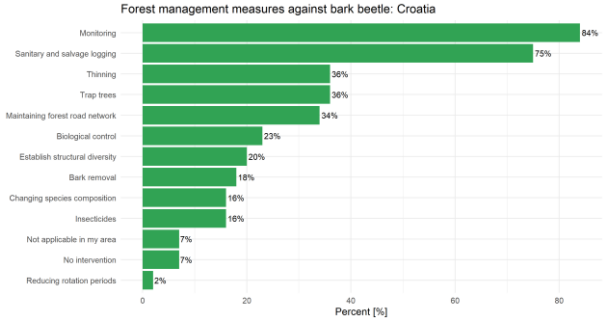
Appendix 66: Share of survey participants among representatives from **universities and research institutions** reporting the implementation of specific management measures to mitigate the effects of drought on forests.



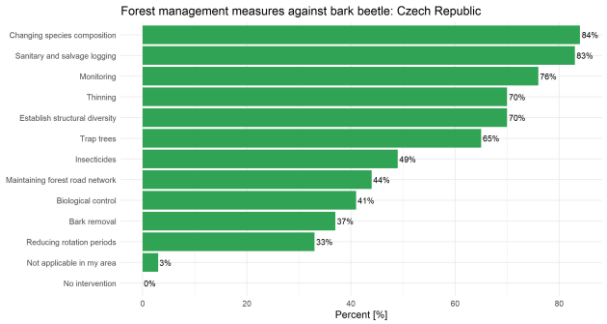
Appendix 67: Share of survey participants among representatives from **urban forestry** reporting the implementation of specific management measures to mitigate the effects of drought on forests.



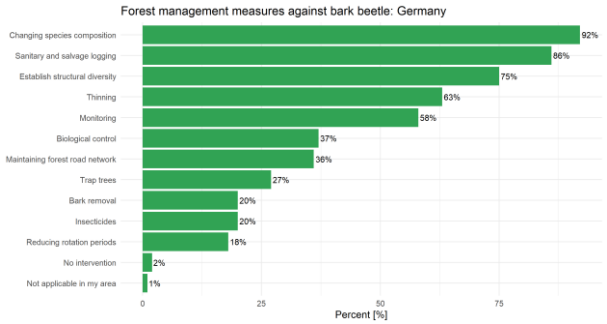
Appendix 68: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of bark beetle infestations on forests in **Austria**.



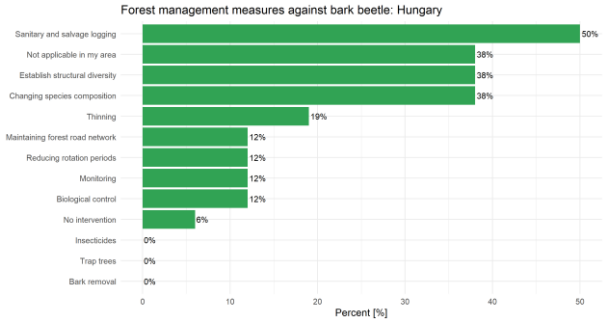
Appendix 69: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of bark beetle infestations on forests in **Croatia**.



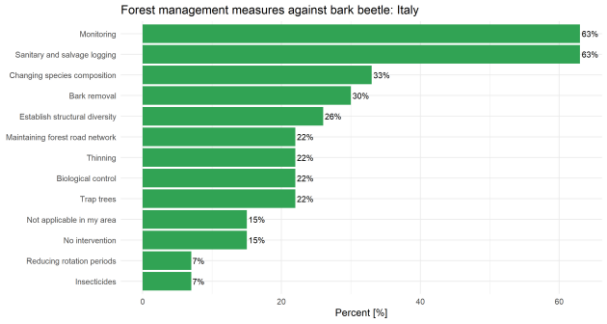
Appendix 70: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of bark beetle infestations on forests in **Czech Republic**.



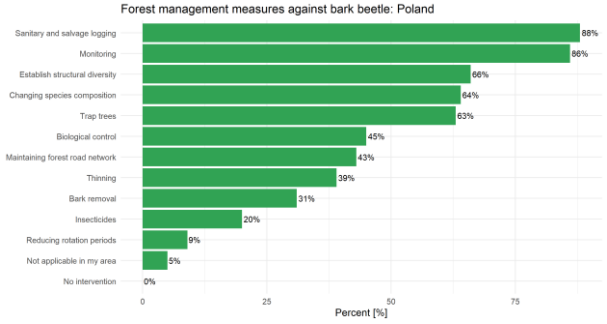
Appendix 71: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of bark beetle infestations on forests in **Germany**.



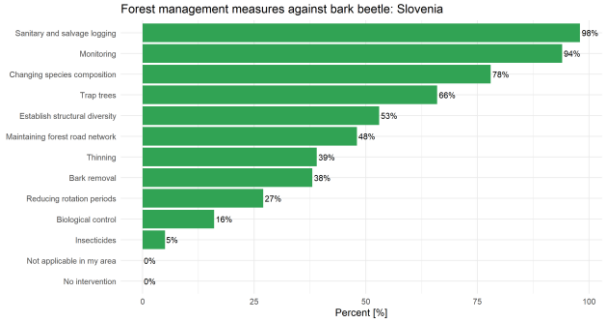
Appendix 72: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of bark beetle infestations on forests in **Hungary**.



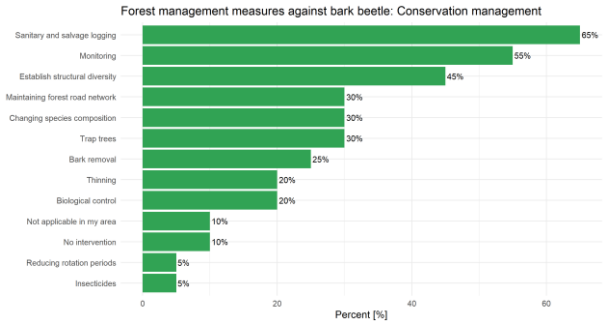
Appendix 73: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of bark beetle infestations on forests in **Italy**.



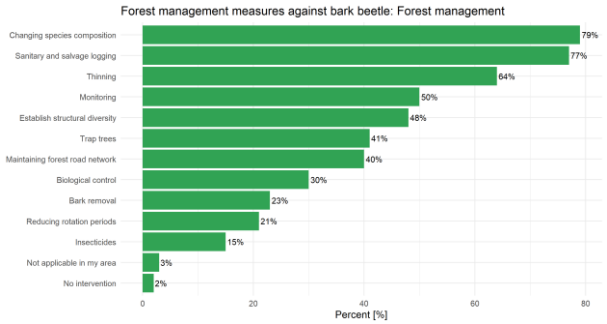
Appendix 74: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of bark beetle infestations on forests in **Poland**.



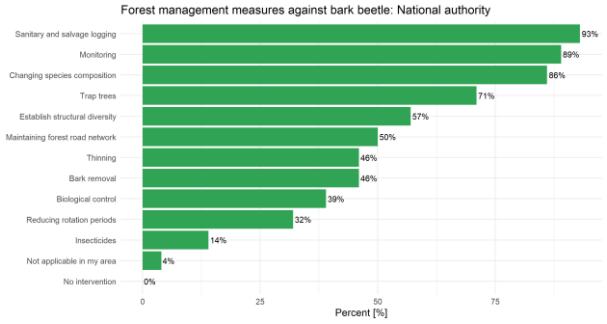
Appendix 75: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of bark beetle infestations on forests in **Slovenia**.



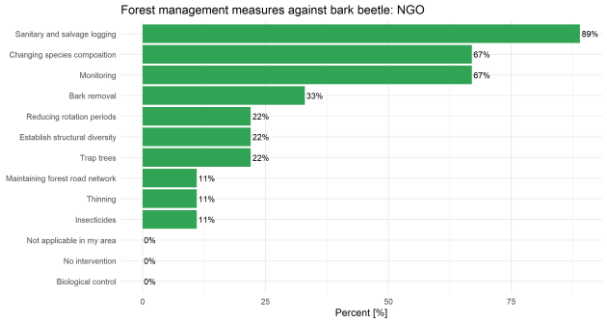
Appendix 76: Share of survey participants among **conservation managers** reporting the implementation of specific management measures to mitigate the effects of bark beetle infestations on forests.



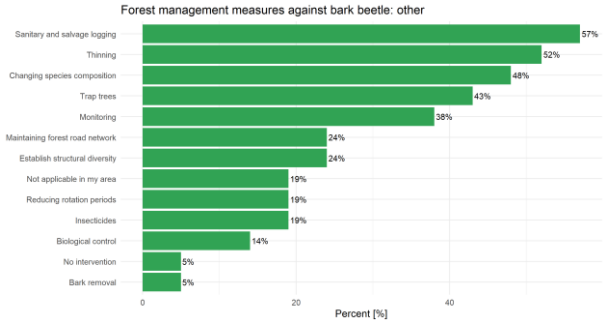
Appendix 77: Share of survey participants among **forest managers** reporting the implementation of specific management measures to mitigate the effects of bark beetle infestations on forests.



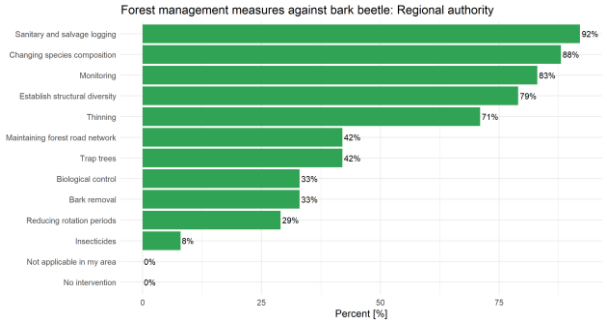
Appendix 78: Share of survey participants among representatives from **national authorities** reporting the implementation of specific management measures to mitigate the effects of bark beetle infestations on forests.



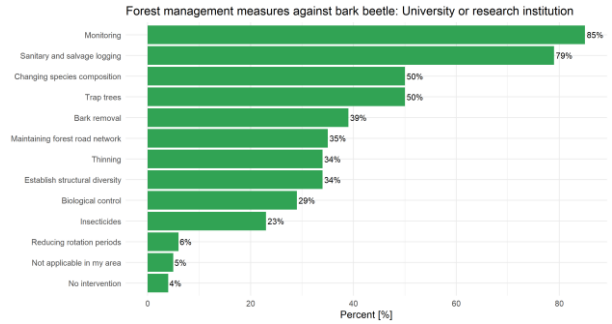
Appendix 79: Share of survey participants among representatives from **NGOs** reporting the implementation of specific management measures to mitigate the effects of bark beetle infestations on forests.



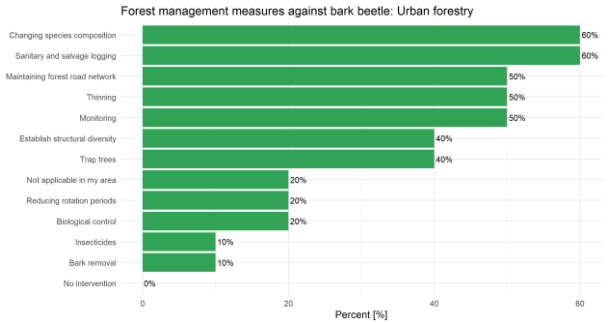
Appendix 80: Share of survey participants among representatives from **"Other" stakeholders** reporting the implementation of specific management measures to mitigate the effects of bark beetle infestations on forests.



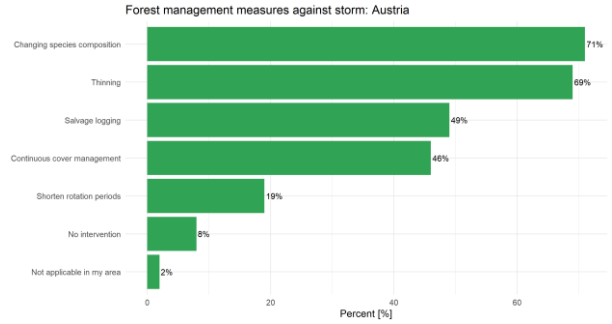
Appendix 81: Share of survey participants among representatives from **regional authorities** reporting the implementation of specific management measures to mitigate the effects of bark beetle infestations on forests.



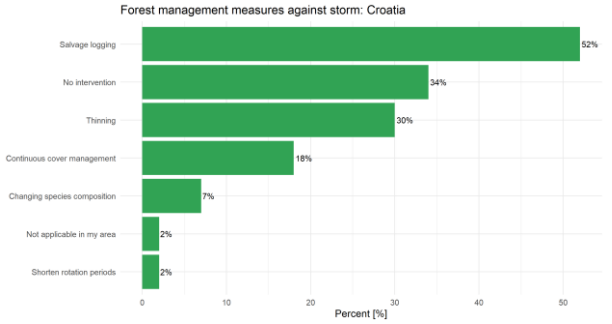
Appendix 82: Share of survey participants among representatives from **universities and research institutions** reporting the implementation of specific management measures to mitigate the effects of bark beetle infestations on forests.



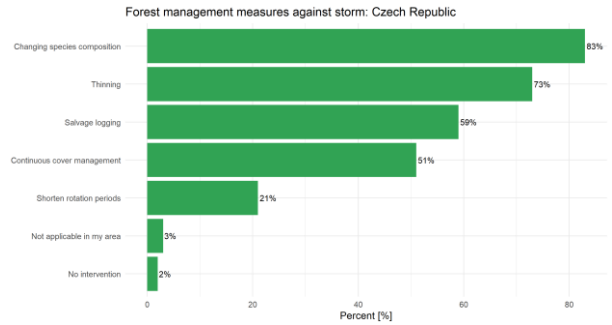
Appendix 83: Share of survey participants among representatives from **urban forestry** reporting the implementation of specific management measures to mitigate the effects of bark beetle infestations on forests.



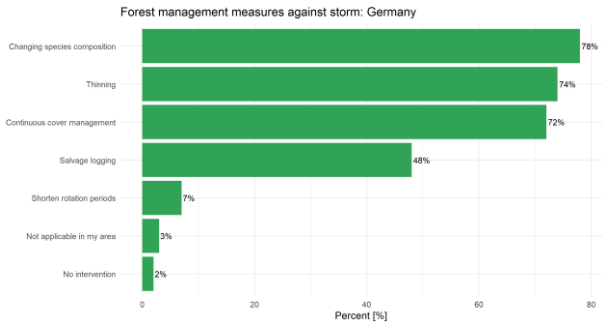
Appendix 84: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of storms on forests in **Austria**.



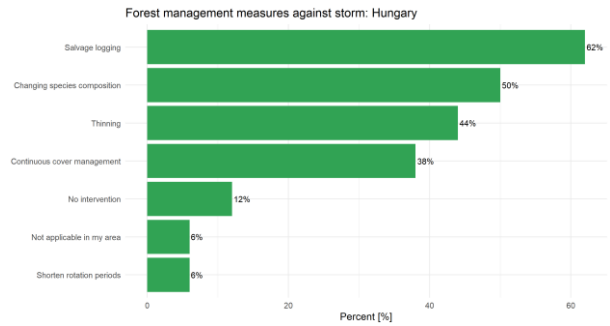
Appendix 85: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of storms on forests in **Croatia**.



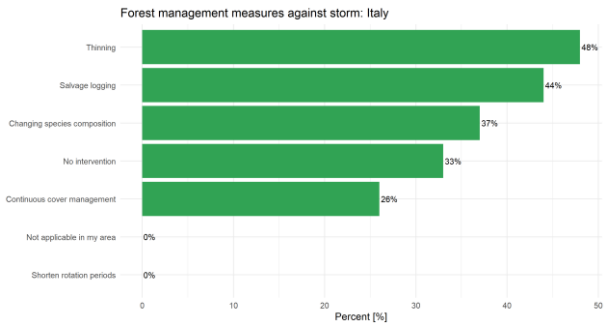
Appendix 86: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of storms on forests in **Czech Republic**.



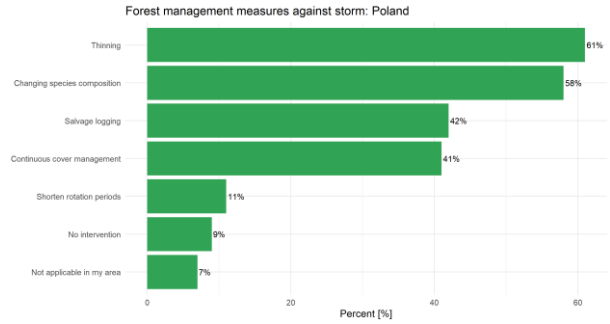
Appendix 87: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of storms on forests in **Germany**.



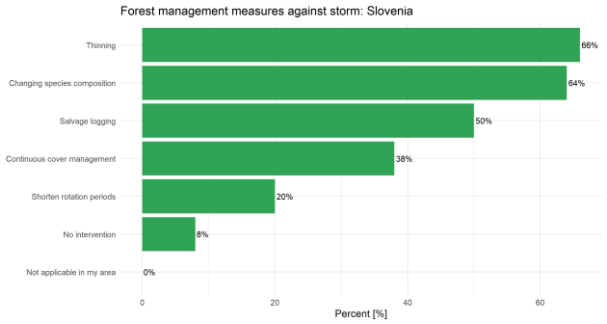
Appendix 88: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of storms on forests in **Hungary**.



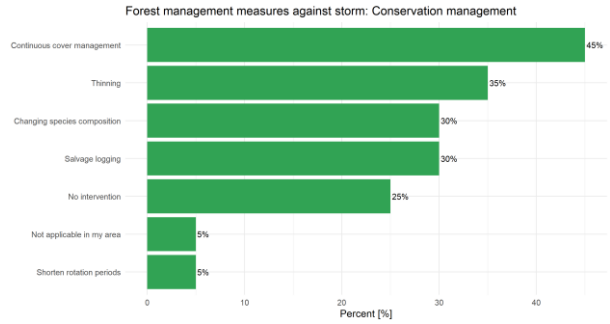
Appendix 89: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of storms on forests in **Italy**.



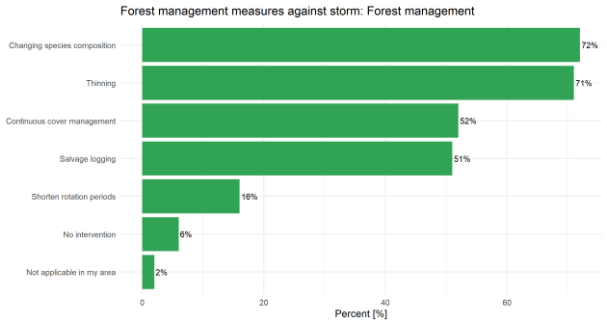
Appendix 90: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of storms on forests in **Poland**.



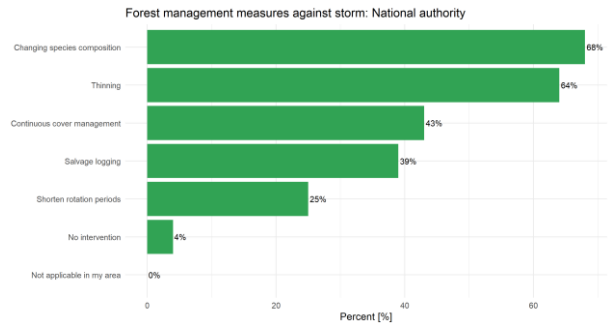
Appendix 91: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of storms on forests in **Slovenia**.



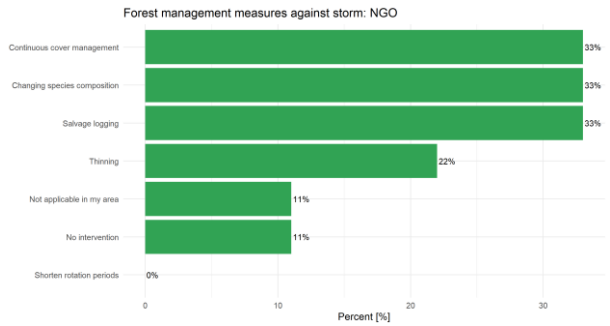
Appendix 92: Share of survey participants among **conservation managers** reporting the implementation of specific management measures to mitigate the effects of storms on forests.



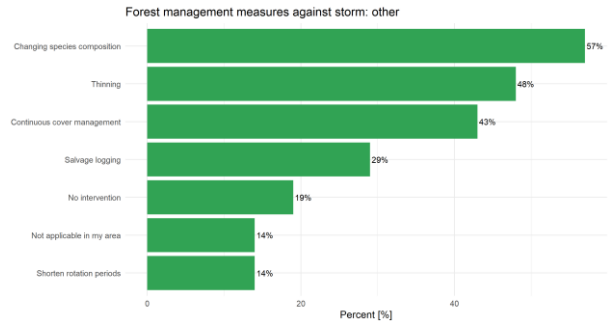
Appendix 93: Share of survey participants among **forest managers** reporting the implementation of specific management measures to mitigate the effects of storms on forests.



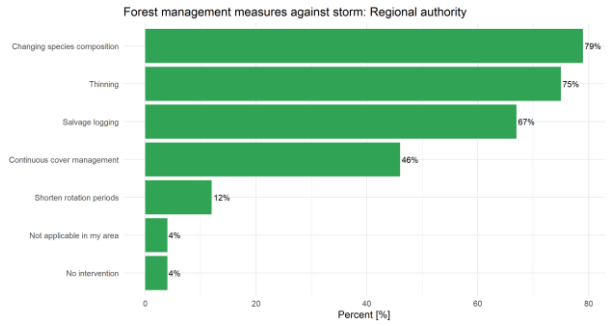
Appendix 94: Share of survey participants among representatives from **national authorities** reporting the implementation of specific management measures to mitigate the effects of storms on forests.



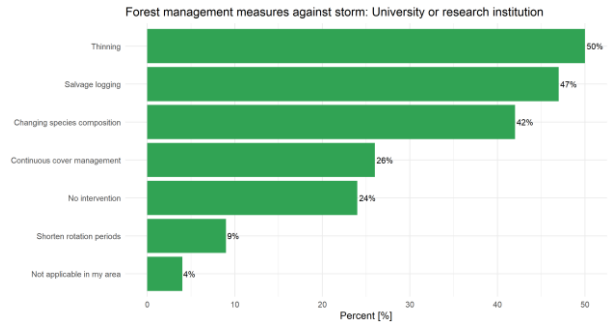
Appendix 95: Share of survey participants among representatives from **NGOs** reporting the implementation of specific management measures to mitigate the effects of storms on forests.



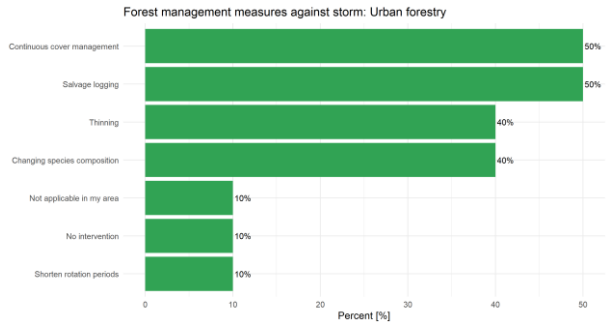
Appendix 96: Share of survey participants among representatives from **"Other" stakeholders** reporting the implementation of specific management measures to mitigate the effects of storms on forests.



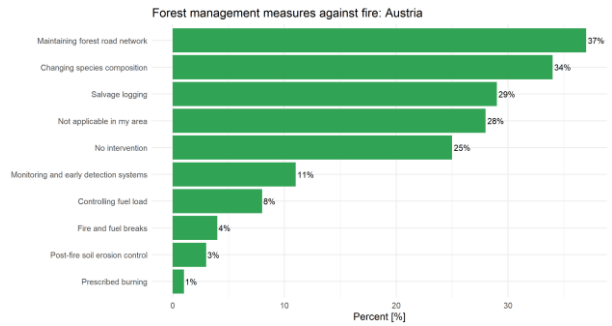
Appendix 97: Share of survey participants among representatives from **regional authorities** reporting the implementation of specific management measures to mitigate the effects of storms on forests.



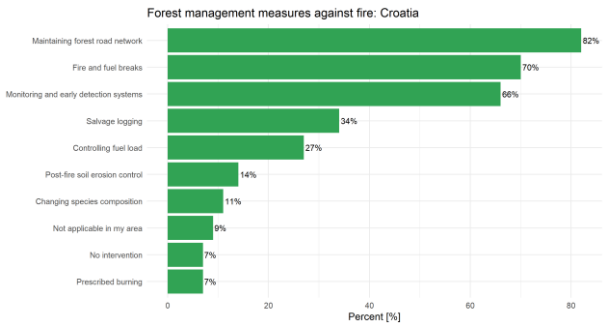
Appendix 98: Share of survey participants among representatives from **universities and research institutions** reporting the implementation of specific management measures to mitigate the effects of storms on forests.



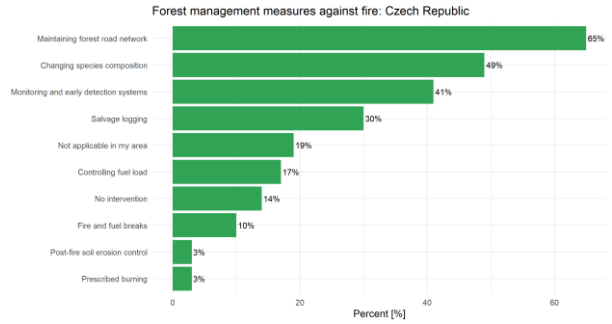
Appendix 99: Share of survey participants among representatives from **urban forestry** reporting the implementation of specific management measures to mitigate the effects of storms on forests.



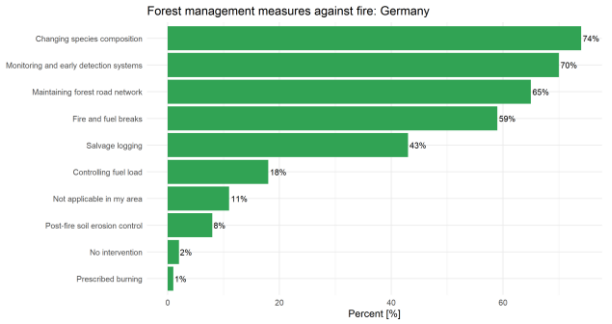
Appendix 100: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of fire on forests in **Austria**.



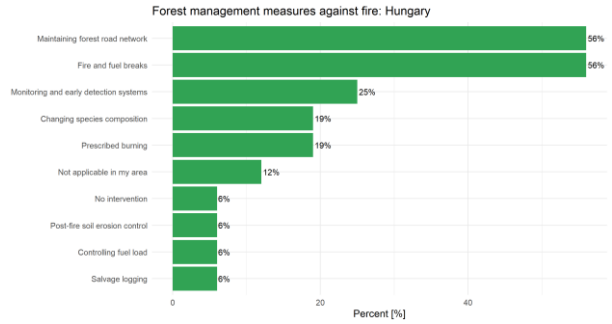
Appendix 101: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of fire on forests in **Croatia**.



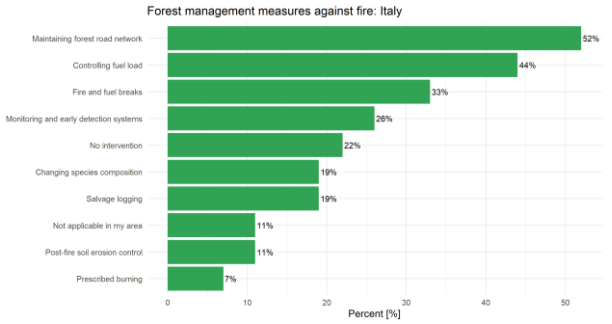
Appendix 102: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of fire on forests in **Czech Republic**.



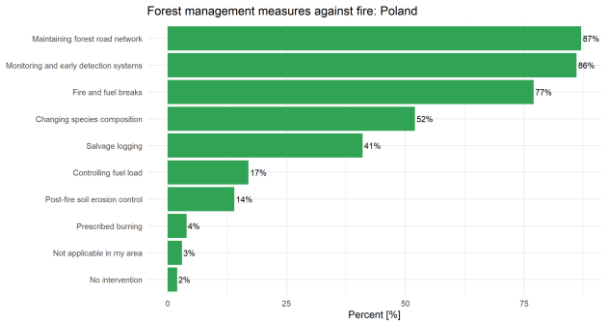
Appendix 103: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of fire on forests in **Germany**.



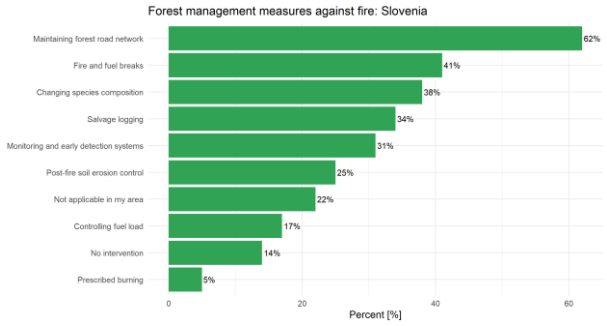
Appendix 104: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of fire on forests in **Hungary**.



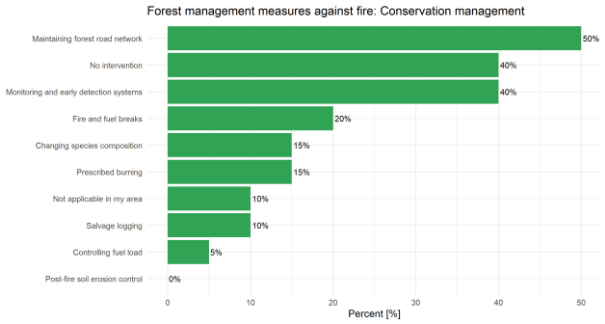
Appendix 105: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of fire on forests in **Italy**.



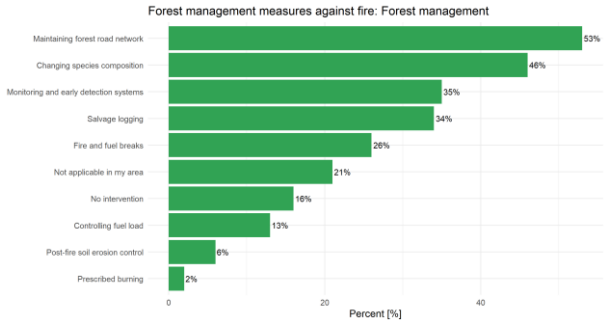
Appendix 106: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of fire on forests in **Poland**.



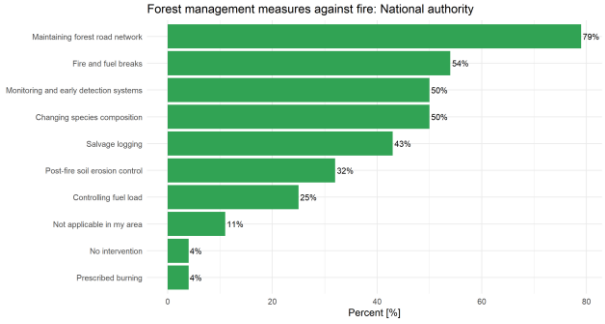
Appendix 107: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of fire on forests in **Slovenia**.



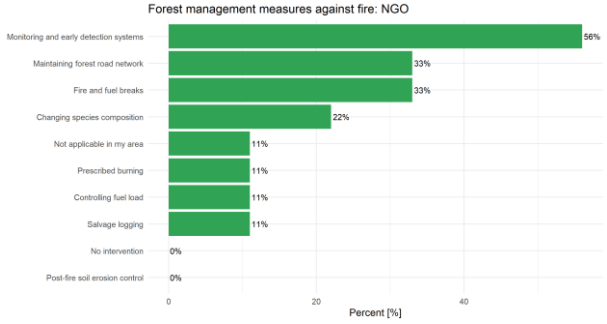
Appendix 108: Share of survey participants among **conservation managers** reporting the implementation of specific management measures to mitigate the effects of fire on forests.



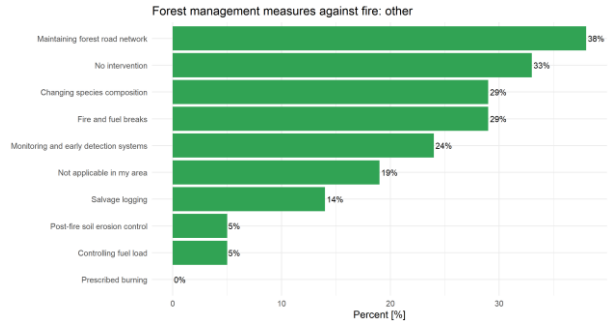
Appendix 109: Share of survey participants among **forest managers** reporting the implementation of specific management measures to mitigate the effects of fire on forests.



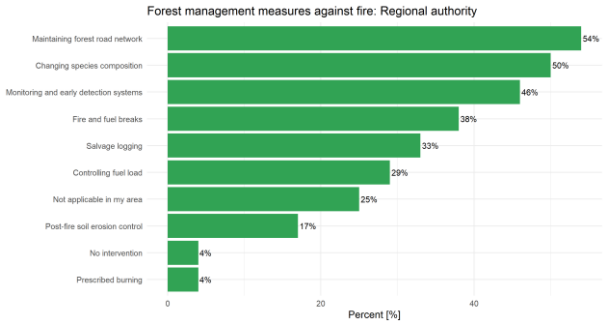
Appendix 110: Share of survey participants among representatives from **national authorities** reporting the implementation of specific management measures to mitigate the effects of fire on forests.



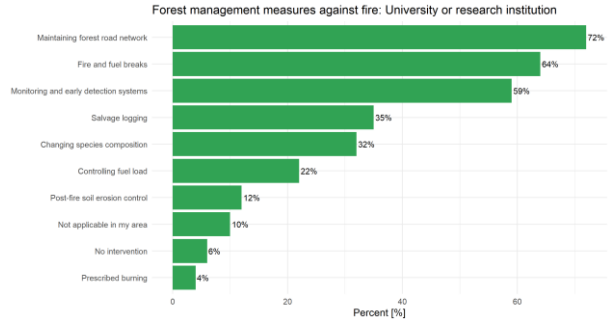
Appendix 111: Share of survey participants among representatives from **NGOs** reporting the implementation of specific management measures to mitigate the effects of fire on forests.



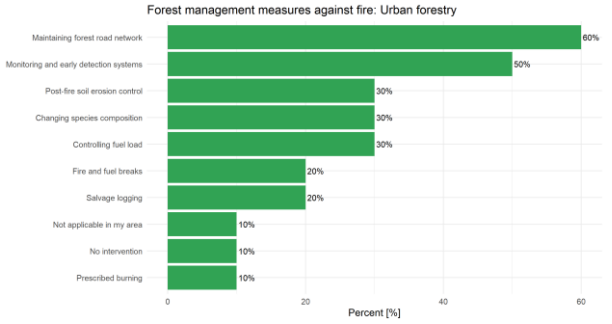
Appendix 112: Share of survey participants among representatives from **"Other" stakeholders** reporting the implementation of specific management measures to mitigate the effects of fire on forests.



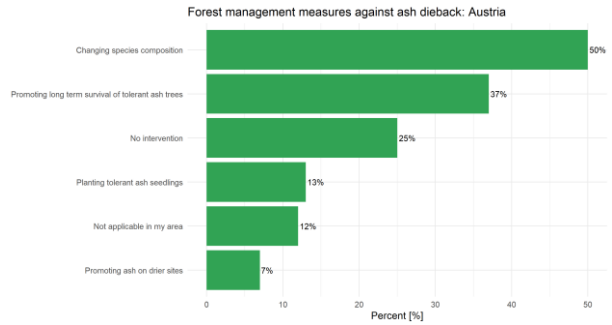
Appendix 113: Share of survey participants among representatives from **regional authorities** reporting the implementation of specific management measures to mitigate the effects of fire on forests.



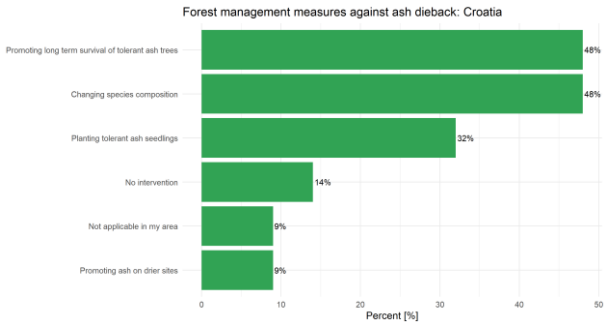
Appendix 114: Share of survey participants among representatives from **universities and research institutions** reporting the implementation of specific management measures to mitigate the effects of fire on forests.



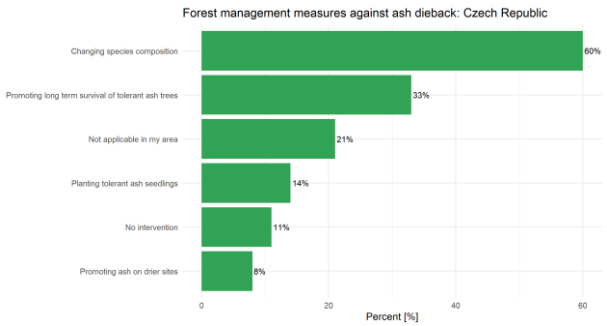
Appendix 115: Share of survey participants among representatives from **urban forestry** reporting the implementation of specific management measures to mitigate the effects of fire on forests.



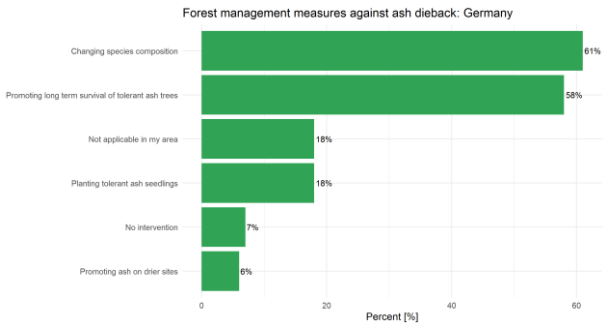
Appendix 116: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of ash dieback on forests in **Austria**.



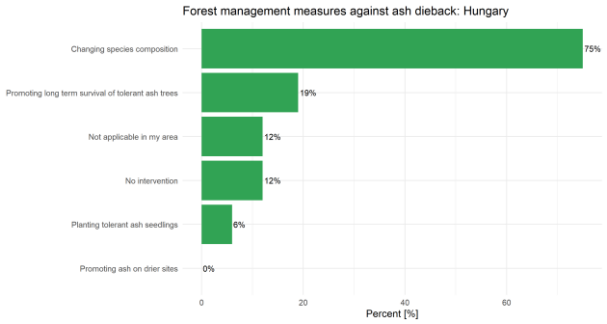
Appendix 117: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of ash dieback on forests in **Croatia**.



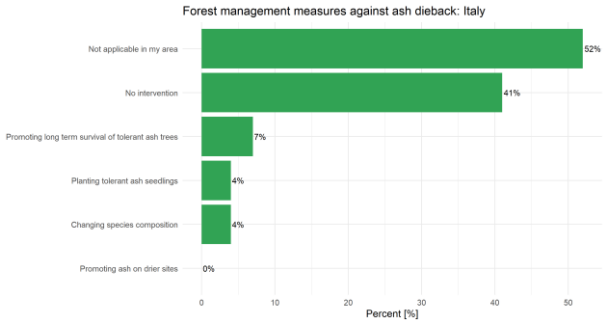
Appendix 118: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of ash dieback on forests in **Czech Republic**.



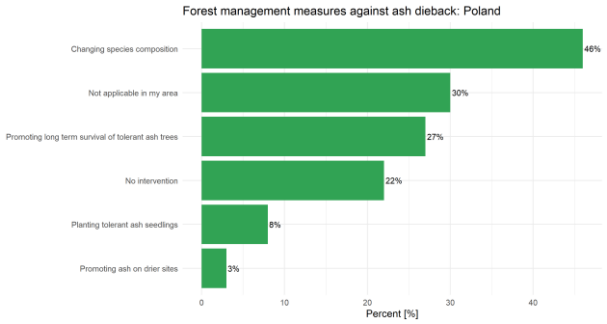
Appendix 119: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of ash dieback on forests in **Germany**.



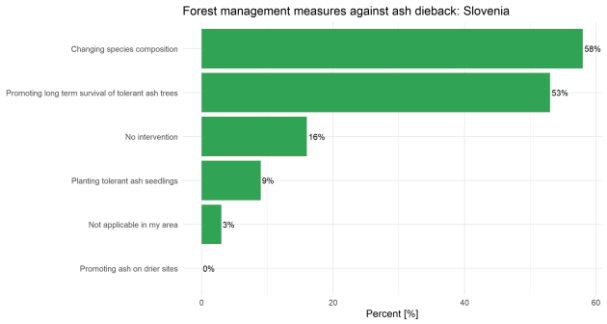
Appendix 120: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of ash dieback on forests in **Hungary**.



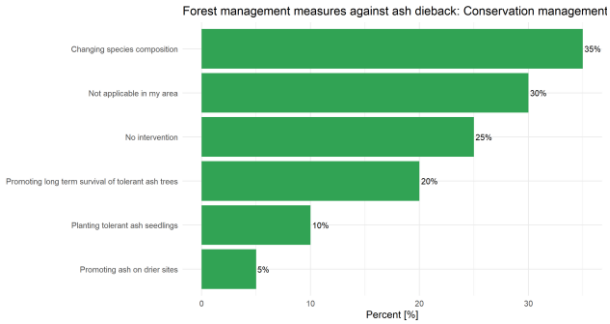
Appendix 121: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of ash dieback on forests in **Italy**.



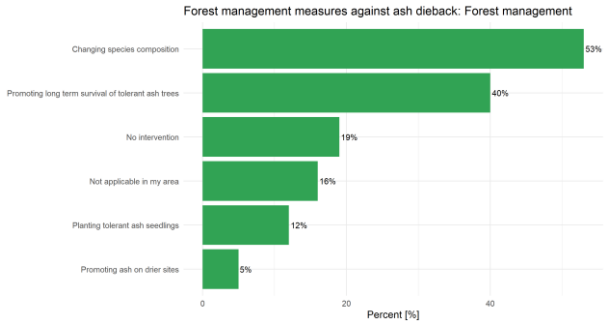
Appendix 122: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of ash dieback on forests in **Poland**.



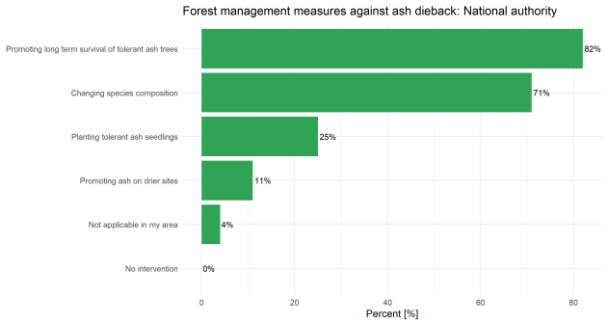
Appendix 123: Share of survey participants reporting the implementation of specific management measures to mitigate the effects of ash dieback on forests in **Slovenia**.



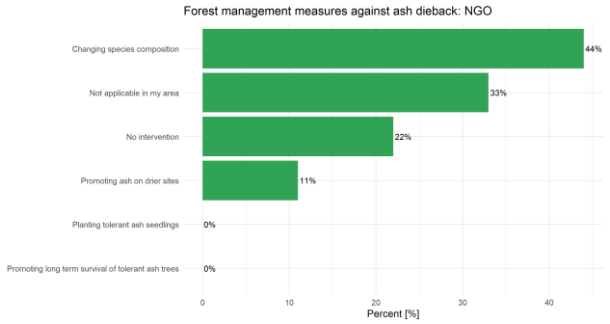
Appendix 124: Share of survey participants among **conservation managers** reporting the implementation of specific management measures to mitigate the effects of ash dieback on forests.



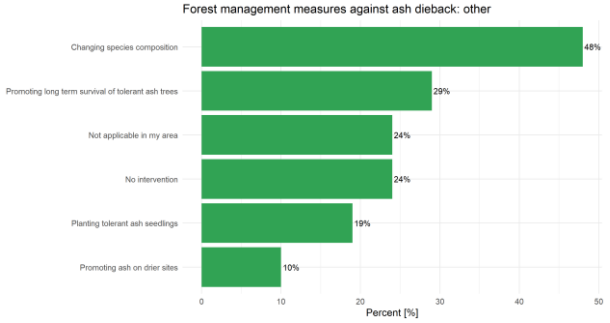
Appendix 125: Share of survey participants among **forest managers** reporting the implementation of specific management measures to mitigate the effects of ash dieback on forests.



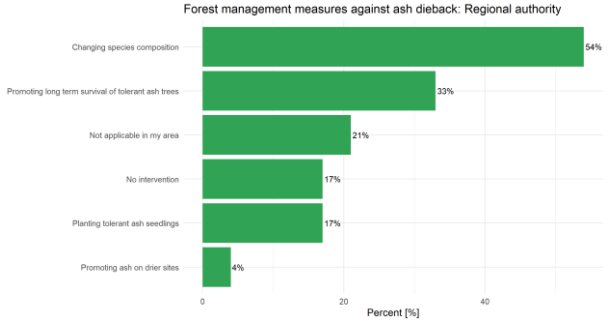
Appendix 126: Share of survey participants among representatives from **national authorities** reporting the implementation of specific management measures to mitigate the effects of ash dieback on forests.



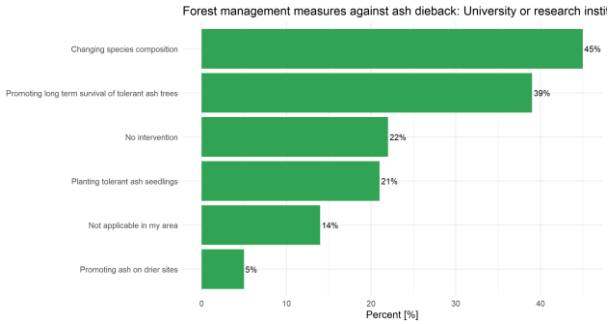
Appendix 127: Share of survey participants among representatives from **NGOs** reporting the implementation of specific management measures to mitigate the effects of ash dieback on forests.



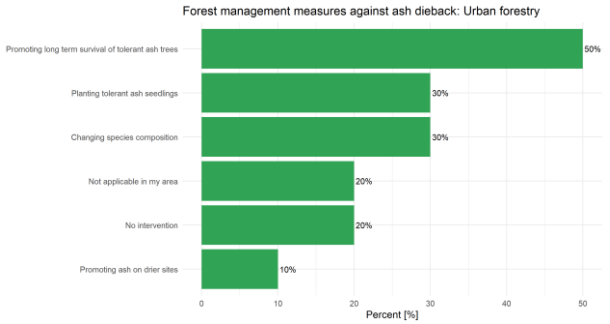
Appendix 128: Share of survey participants among representatives from **"Other" stakeholders** reporting the implementation of specific management measures to mitigate the effects of ash dieback on forests.



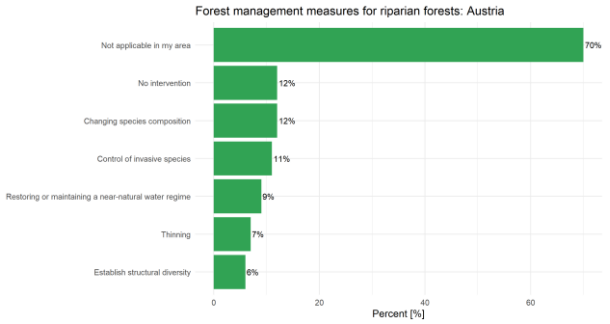
Appendix 129: Share of survey participants among representatives from **regional authorities** reporting the implementation of specific management measures to mitigate the effects of ash dieback on forests.



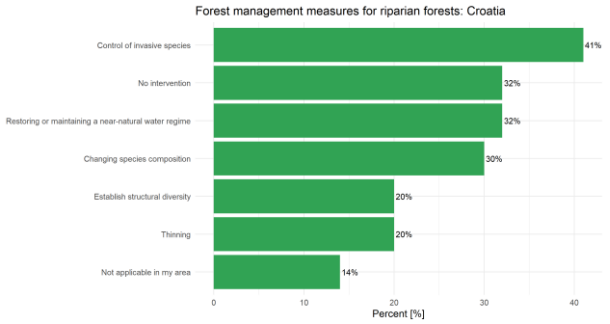
Appendix 130: Share of survey participants among representatives from **universities and research institutions** reporting the implementation of specific management measures to mitigate the effects of ash dieback on forests.



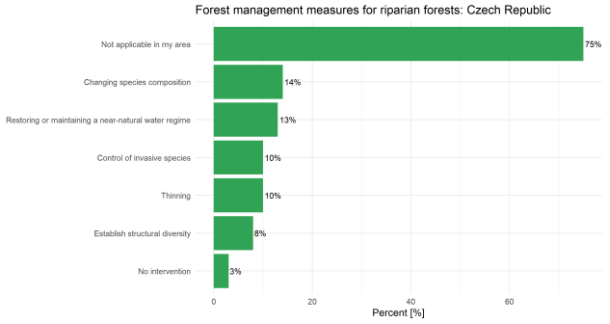
Appendix 131: Share of survey participants among representatives from **urban forestry** reporting the implementation of specific management measures to mitigate the effects of ash dieback on forests.



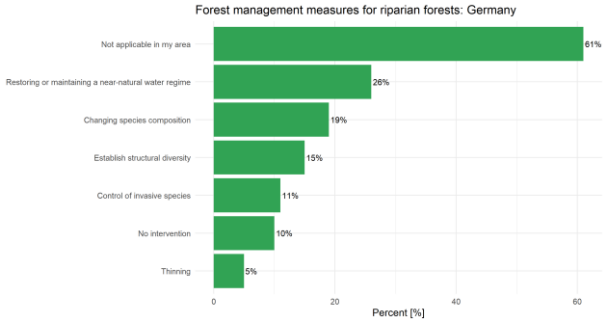
Appendix 132: Share of survey participants reporting the implementation of specific management measures to address the effects of improperly managed riparian forests in **Austria**.



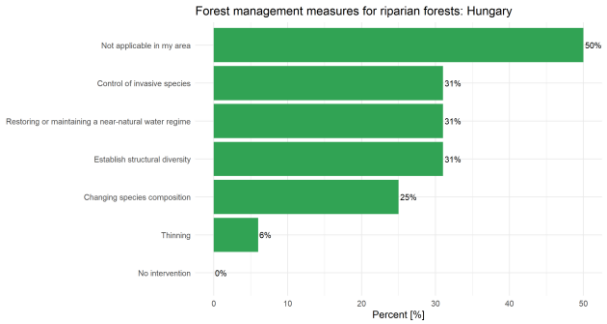
Appendix 133: Share of survey participants reporting the implementation of specific management measures to address the effects of improperly managed riparian forestsin **Croatia**.



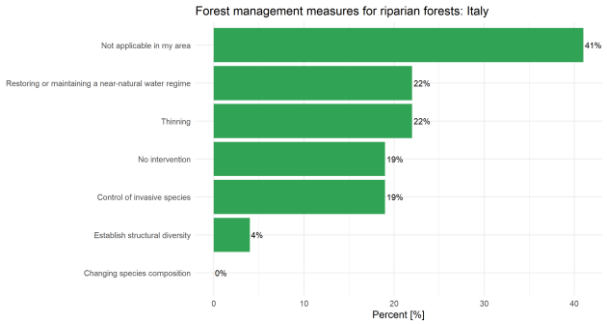
Appendix 134: Share of survey participants reporting the implementation of specific management measures to address the effects of improperly managed riparian forests in **Czech Republic**.



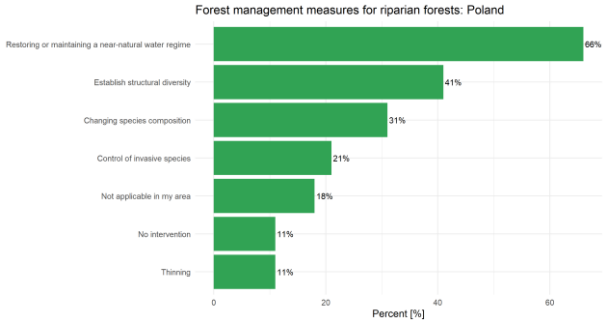
Appendix 135: Share of survey participants reporting the implementation of specific management measures to address the effects of improperly managed riparian forests in **Germany**.



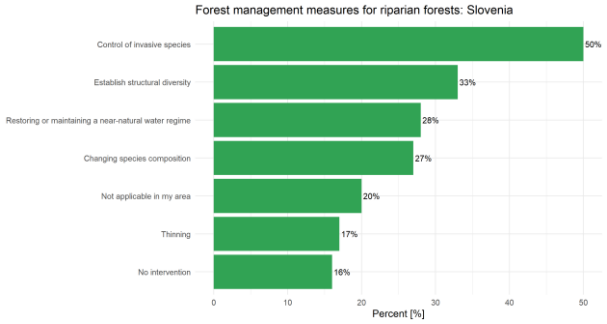
Appendix 136: Share of survey participants reporting the implementation of specific management measures to address the effects of improperly managed riparian forests in **Hungary**.



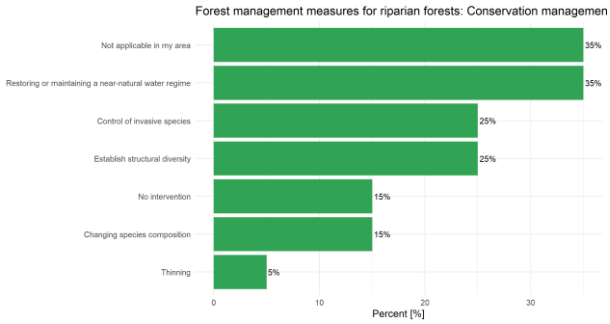
Appendix 137: Share of survey participants reporting the implementation of specific management measures to address the effects of improperly managed riparian forests in **Italy**.



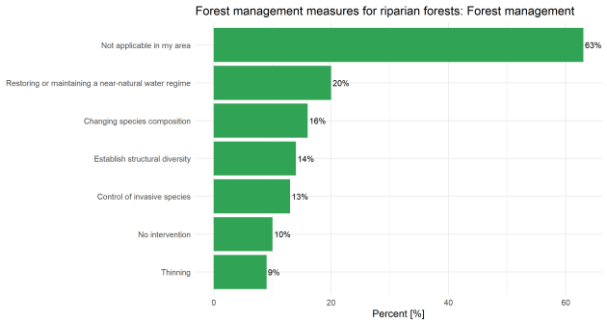
Appendix 138: Share of survey participants reporting the implementation of specific management measures to address the effects of improperly managed riparian forests in **Poland**.



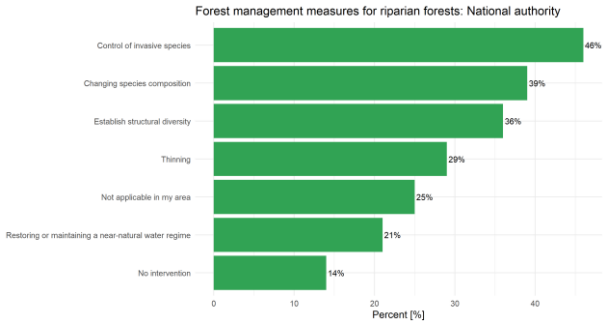
Appendix 139: Share of survey participants reporting the implementation of specific management measures to address the effects of improperly managed riparian forests in **Slovenia**.



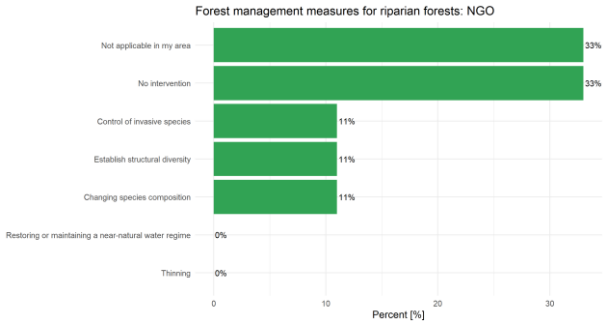
Appendix 140: Share of survey participants among **conservation managers** reporting the implementation of specific management measures to address the effects of improperly managed riparian forests.



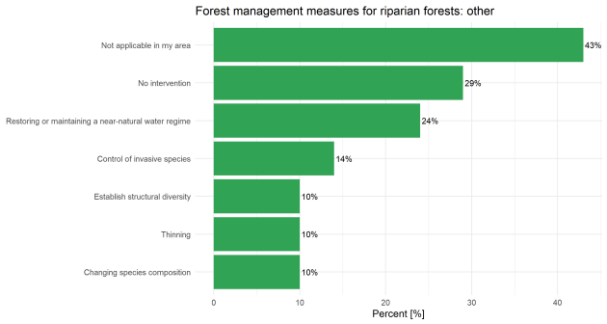
Appendix 141: Share of survey participants among **forest managers** reporting the implementation of specific management measures to address the effects of improperly managed riparian forests.



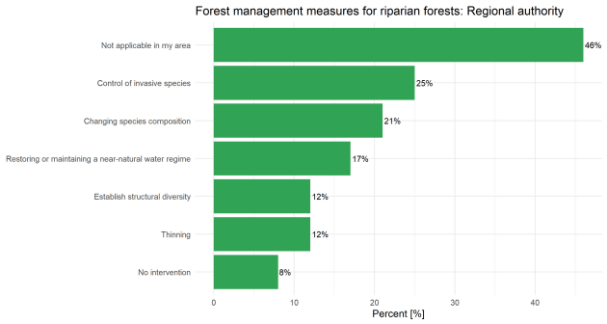
Appendix 142: Share of survey participants among representatives from **national authorities** reporting the implementation of specific management measures to address the effects of improperly managed riparian forests.



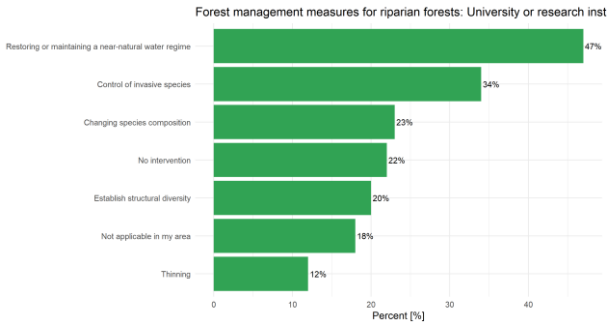
Appendix 143: Share of survey participants among representatives from **NGOs** reporting the implementation of specific management measures to address the effects of improperly managed riparian forests.



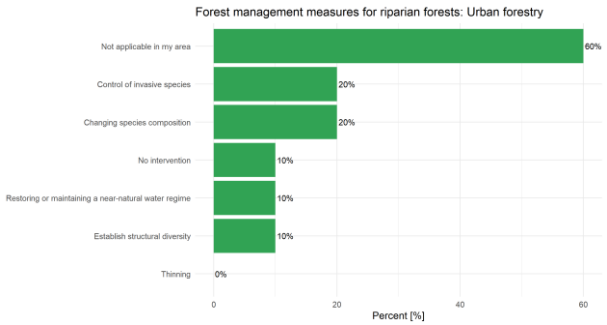
Appendix 144: Share of survey participants among representatives from **"Other" stakeholders** reporting the implementation of specific management measures to address the effects of improperly managed riparian forests.



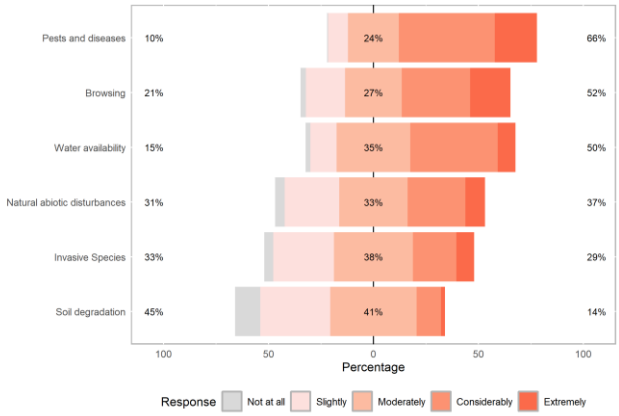
Appendix 145: Share of survey participants among representatives from **regional authorities** reporting the implementation of specific management measures to address the effects of improperly managed riparian forests.



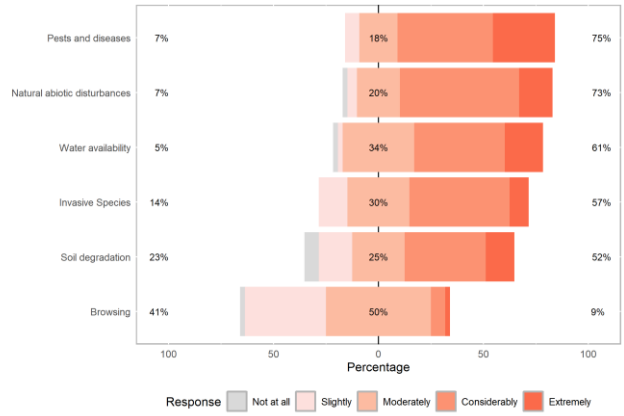
Appendix 146: Share of survey participants among representatives from **universities and research institutions** reporting the implementation of specific management measures to address the effects of improperly managed riparian forests.



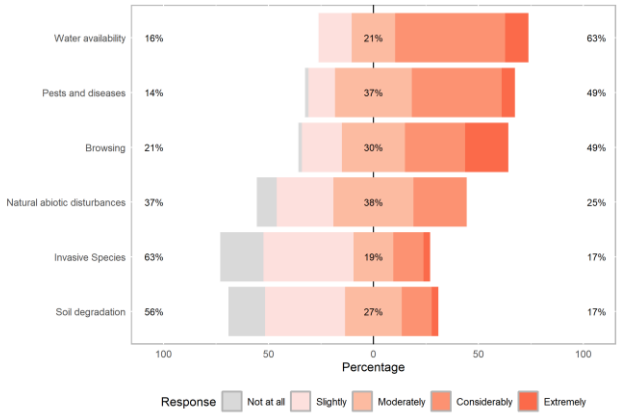
Appendix 147: Share of survey participants among representatives from **urban forestry** reporting the implementation of specific management measures to address the effects of improperly managed riparian forests.



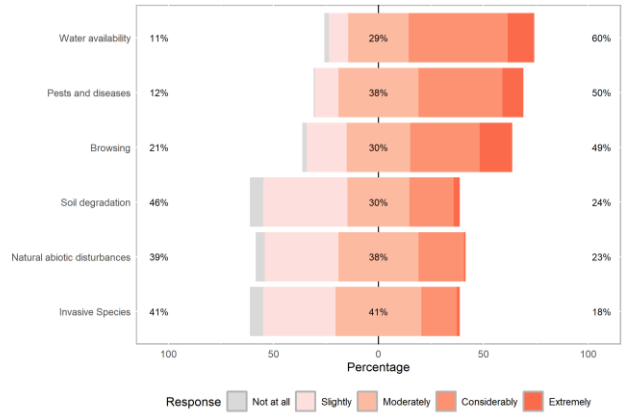
Appendix 148: Survey responses from **Austria** on the perceived importance of ecological barriers to successful forest regeneration.



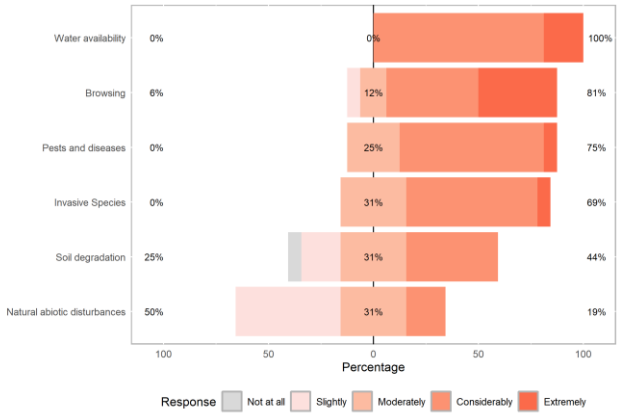
Appendix 149: Survey responses from **Croatia** on the perceived importance of ecological barriers to successful forest regeneration.



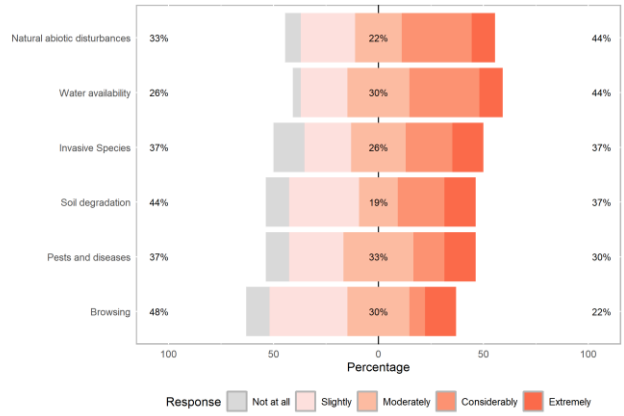
Appendix 150: Survey responses from **Czech Republic** on the perceived importance of ecological barriers to successful forest regeneration.



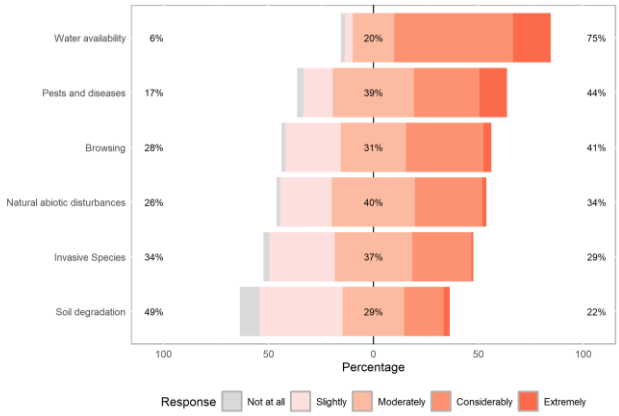
Appendix 151: Survey responses from **Germany** on the perceived importance of ecological barriers to successful forest regeneration.



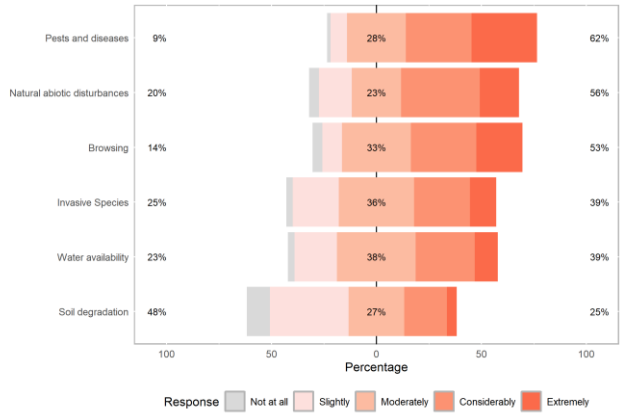
Appendix 152: Survey responses from **Hungary** on the perceived importance of ecological barriers to successful forest regeneration.



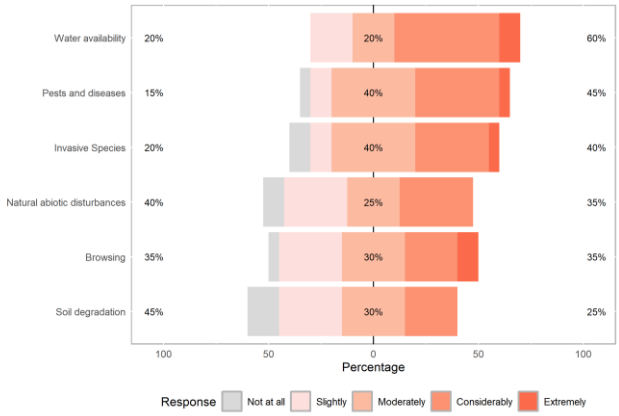
Appendix 153: Survey responses from **Italy** on the perceived importance of ecological barriers to successful forest regeneration.



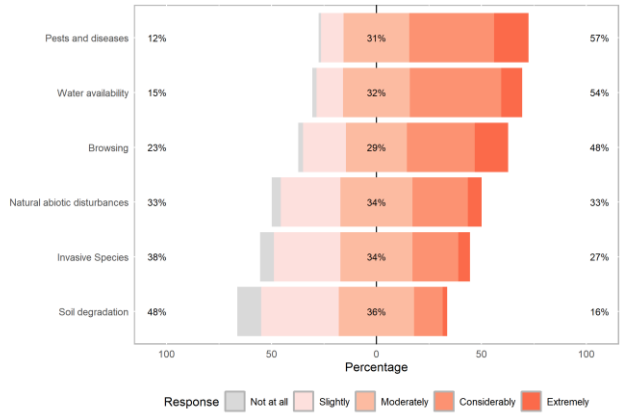
Appendix 154: Survey responses from **Poland** on the perceived importance of ecological barriers to successful forest regeneration.



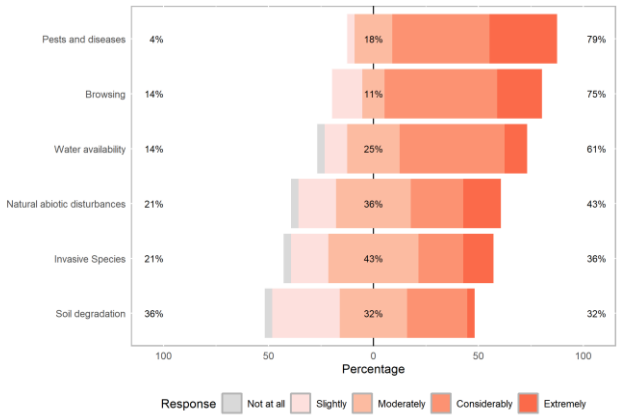
Appendix 155: Survey responses from **Slovenia** on the perceived importance of ecological barriers to successful forest regeneration.



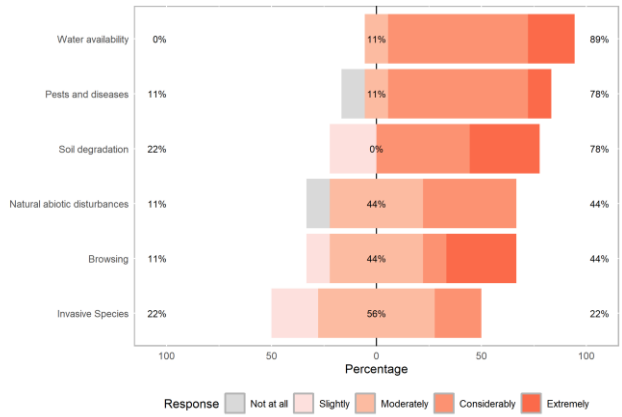
Appendix 156: Survey responses from **conservation managers** on the perceived importance of ecological barriers to successful forest regeneration.



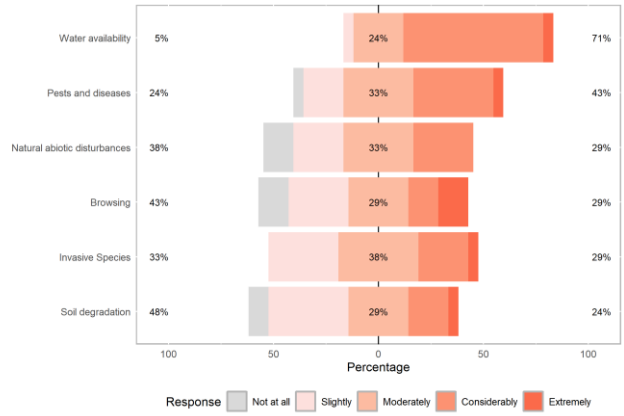
Appendix 157: Survey responses from **forest managers** on the perceived importance of ecological barriers to successful forest regeneration.



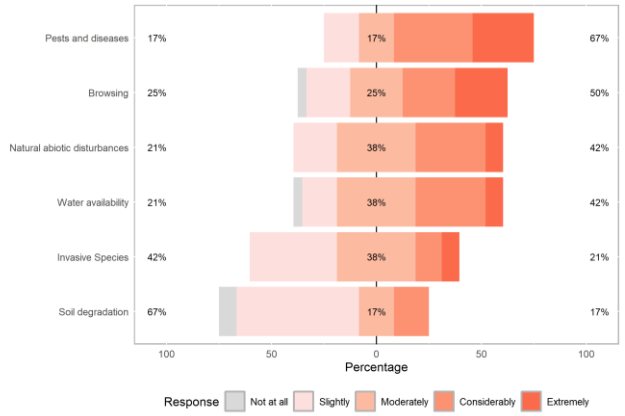
Appendix 158: Survey responses from **national authorities** on the perceived importance of ecological barriers to successful forest regeneration.



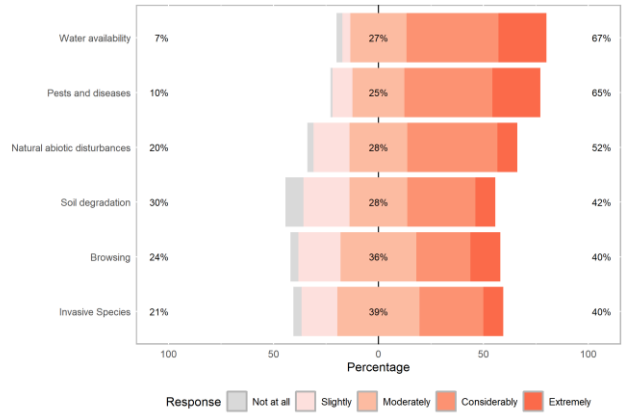
Appendix 159: Survey responses from **NGOs** on the perceived importance of ecological barriers to successful forest regeneration.



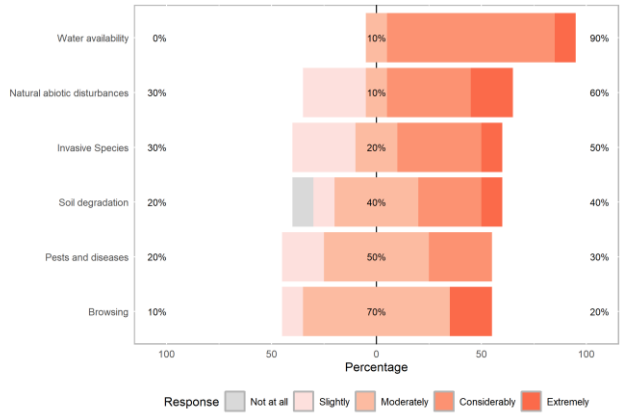
Appendix 160: Survey responses from **"other" stakeholders** on the perceived importance of ecological barriers to successful forest regeneration.



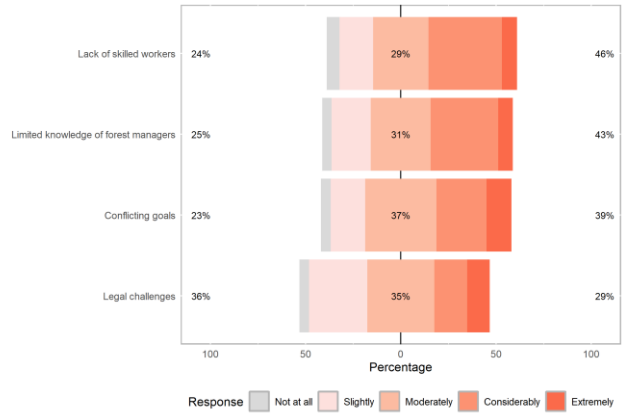
Appendix 161: Survey responses from **regional authorities** on the perceived importance of ecological barriers to successful forest regeneration.



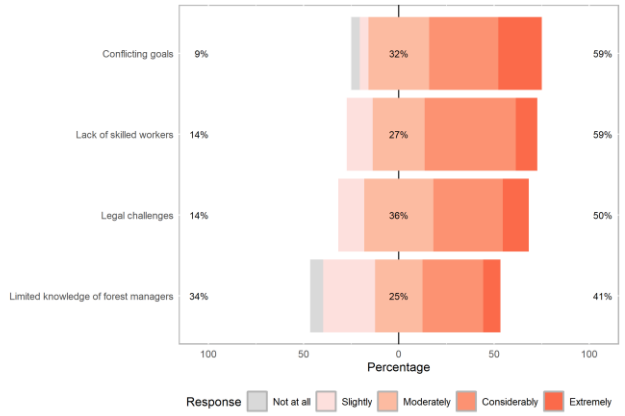
Appendix 162: Survey responses from **universities and research institutions** on the perceived importance of ecological barriers to successful forest regeneration.



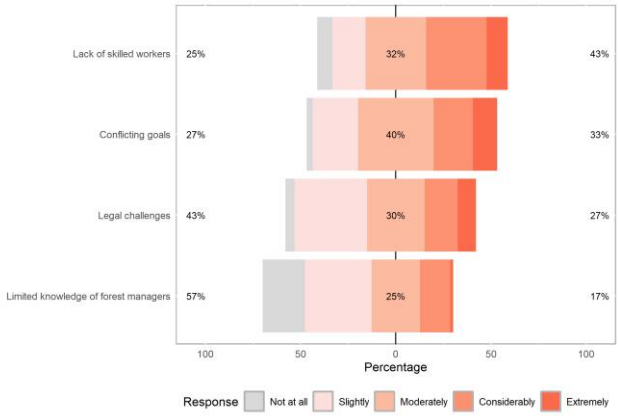
Appendix 163: Survey responses from **urban forestry** on the perceived importance of ecological barriers to successful forest regeneration.



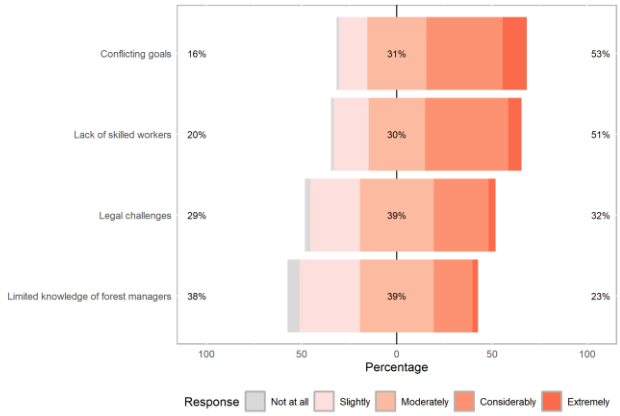
Appendix 164: Survey responses from **Austria** on the perceived importance of social barriers to successful forest regeneration.



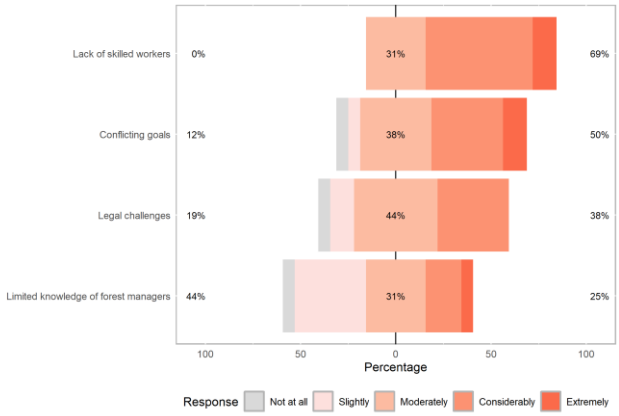
Appendix 165: Survey responses from **Croatia** on the perceived importance of social barriers to successful forest regeneration.



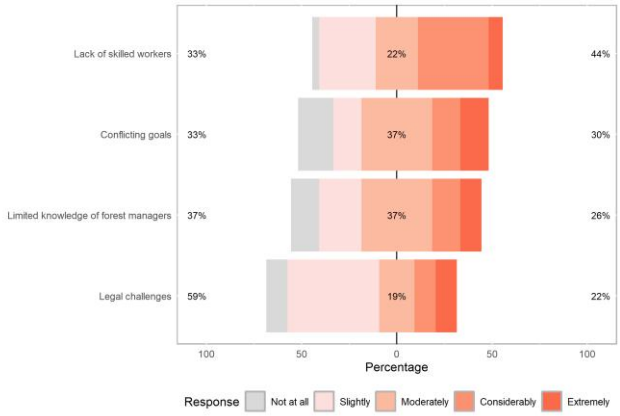
Appendix 166: Survey responses from **Czech Republic** on the perceived importance of social barriers to successful forest regeneration.



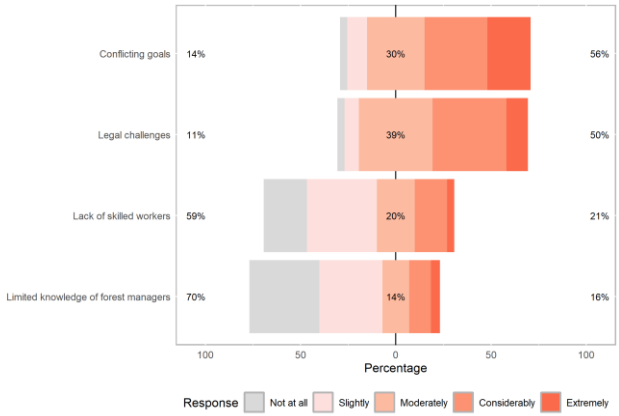
Appendix 167: Survey responses from **Germany** on the perceived importance of social barriers to successful forest regeneration.



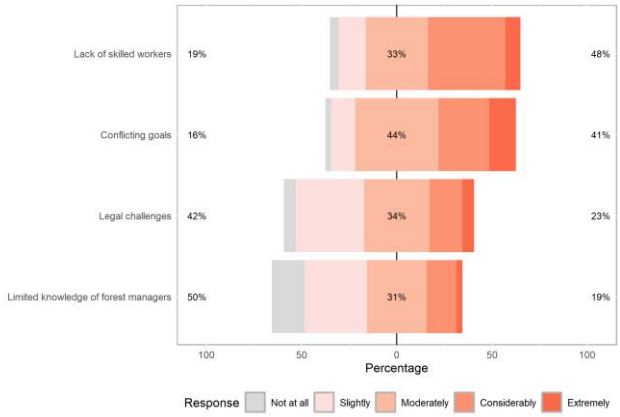
Appendix 168: Survey responses from **Hungary** on the perceived importance of social barriers to successful forest regeneration.



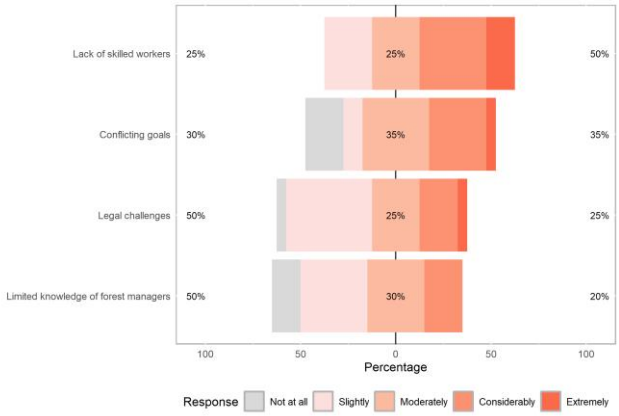
Appendix 169: Survey responses from **Italy** on the perceived importance of social barriers to successful forest regeneration.



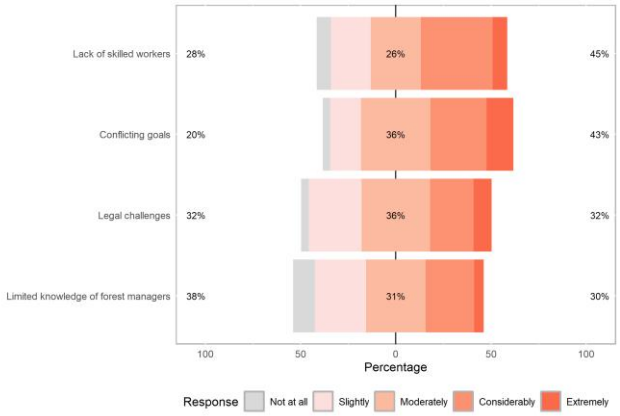
Appendix 170: Survey responses from **Poland** on the perceived importance of social barriers to successful forest regeneration.



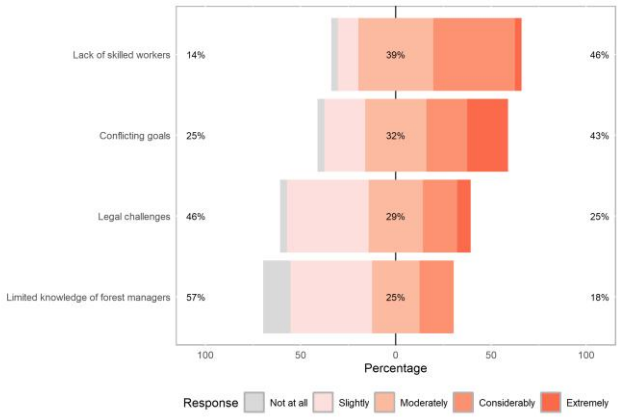
Appendix 171: Survey responses from **Slovenia** on the perceived importance of social barriers to successful forest regeneration.



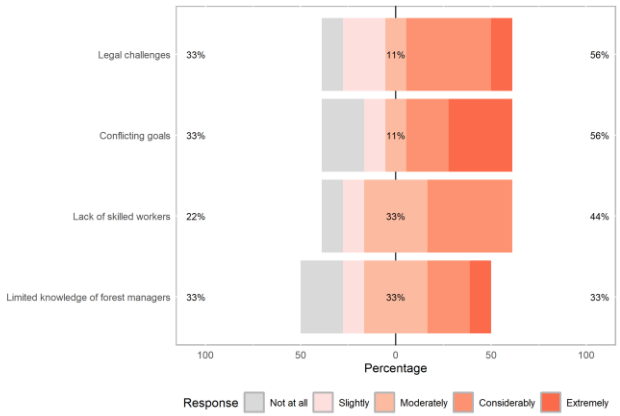
Appendix 172: Survey responses from **conservation managers** on the perceived importance of social barriers to successful forest regeneration.



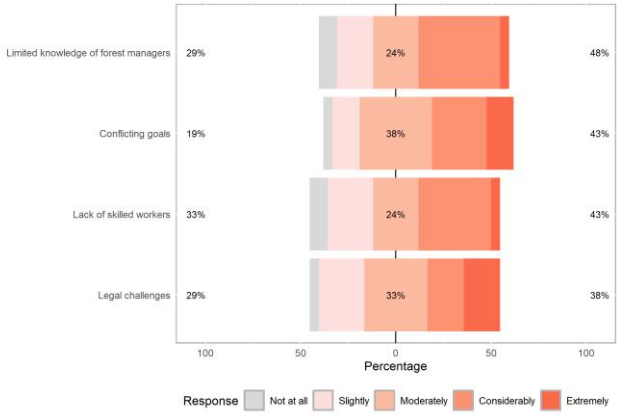
Appendix 173: Survey responses from **forest managers** on the perceived importance of social barriers to successful forest regeneration.



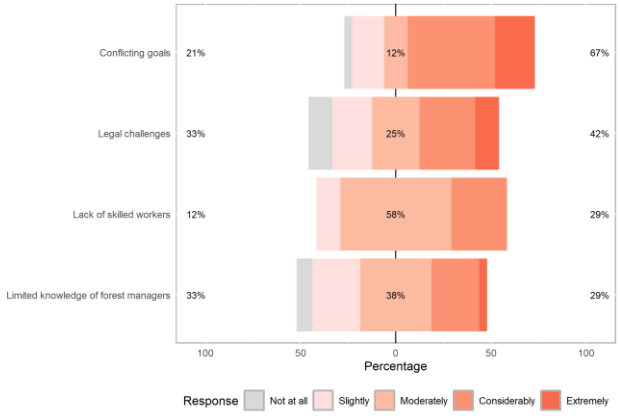
Appendix 174: Survey responses from **national authorities** on the perceived importance of social barriers to successful forest regeneration.



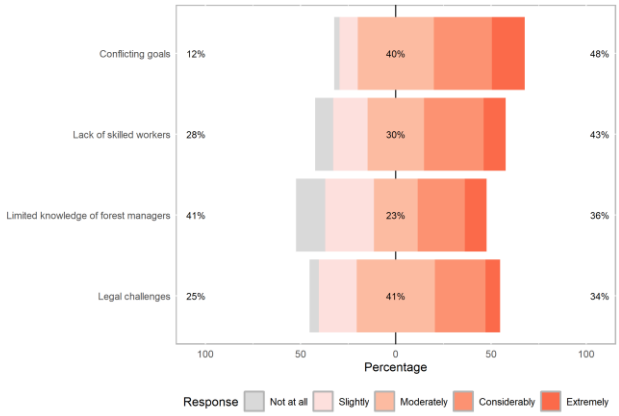
Appendix 175: Survey responses from **NGOs** on the perceived importance of social barriers to successful forest regeneration.



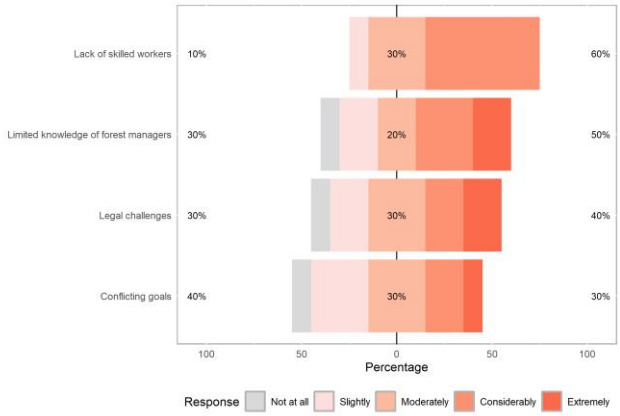
Appendix 176: Survey responses from **"other" stakeholders** on the perceived importance of social barriers to successful forest regeneration.



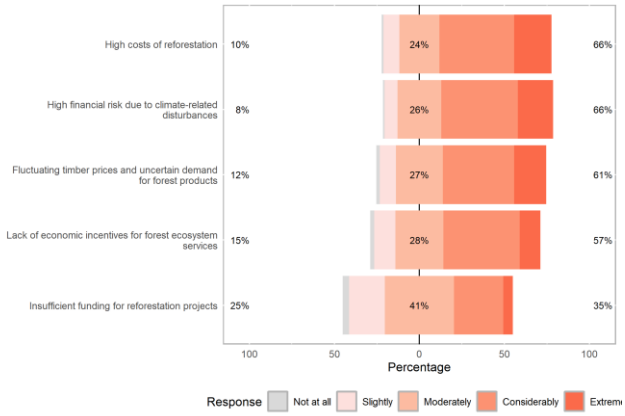
Appendix 177: Survey responses from **regional authorities** on the perceived importance of social barriers to successful forest regeneration.



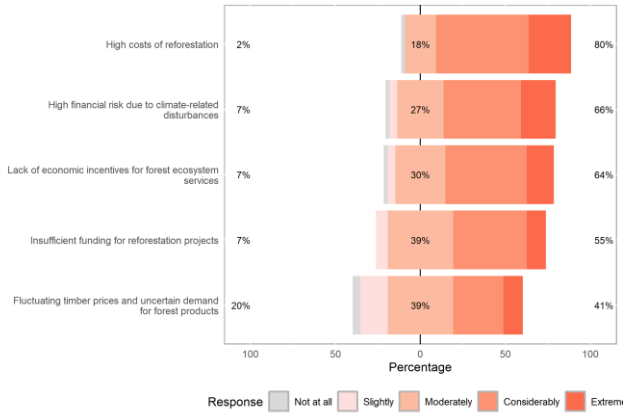
Appendix 178: Survey responses from **universities and research institutions** on the perceived importance of social barriers to successful forest regeneration.



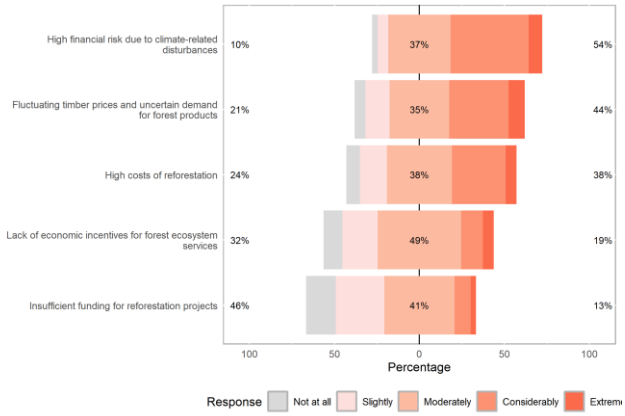
Appendix 179: Survey responses from **urban forestry** on the perceived importance of social barriers to successful forest regeneration.



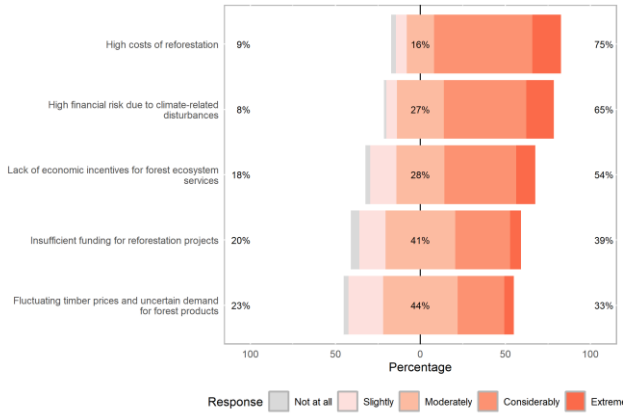
Appendix 180: Survey responses from **Austria** on the perceived importance of economic barriers to successful forest regeneration.



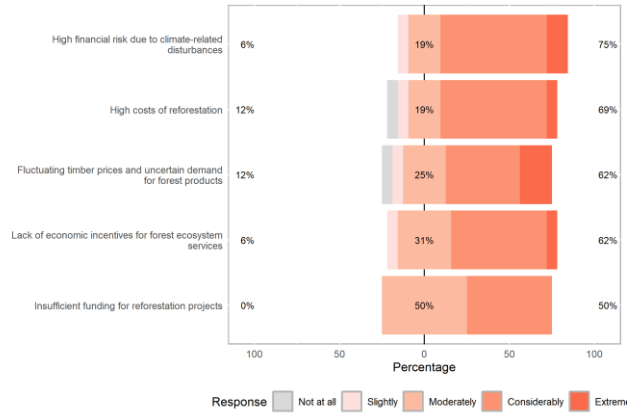
Appendix 181: Survey responses from **Croatia** on the perceived importance of economic barriers to successful forest regeneration.



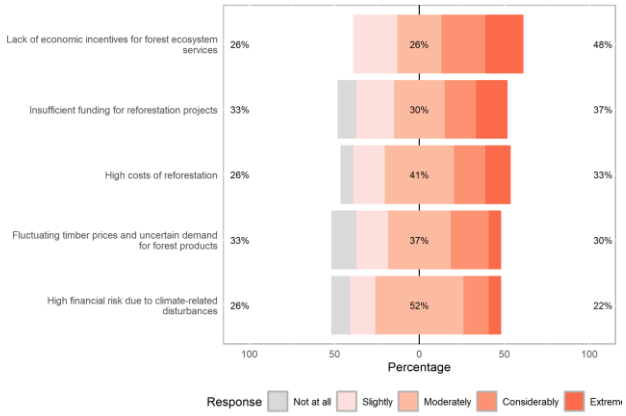
Appendix 182: Survey responses from **Czech Republic** on the perceived importance of economic barriers to successful forest regeneration.



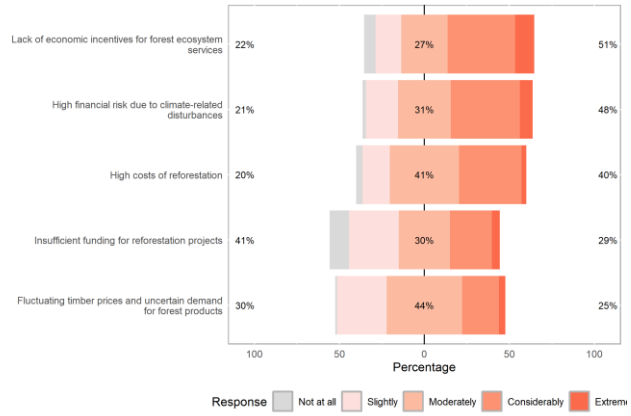
Appendix 183: Survey responses from **Germany** on the perceived importance of economic barriers to successful forest regeneration.



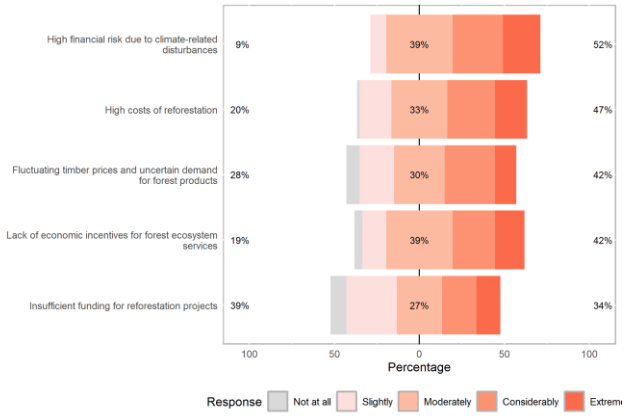
Appendix 184: Survey responses from **Hungary** on the perceived importance of economic barriers to successful forest regeneration.



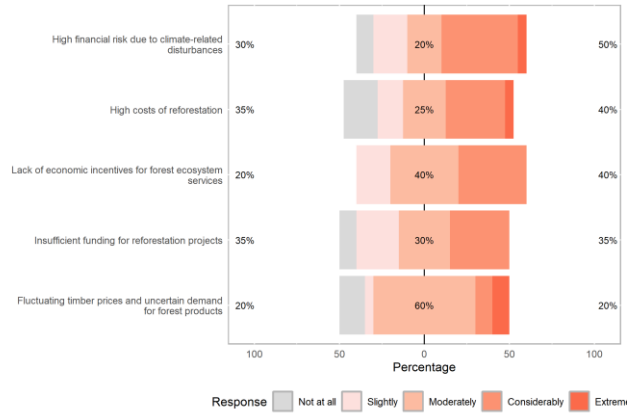
Appendix 185: Survey responses from **Italy** on the perceived importance of economic barriers to successful forest regeneration.



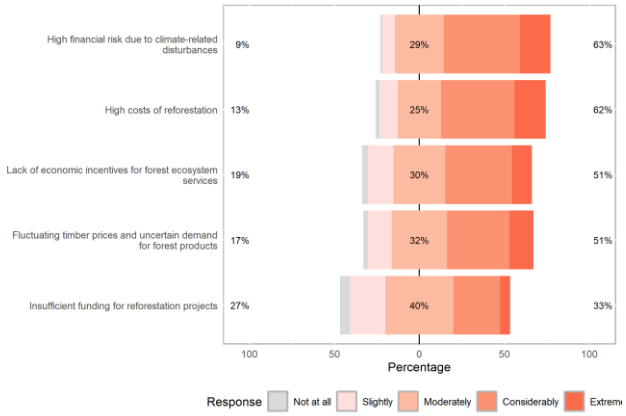
Appendix 186: Survey responses from **Poland** on the perceived importance of economic barriers to successful forest regeneration.



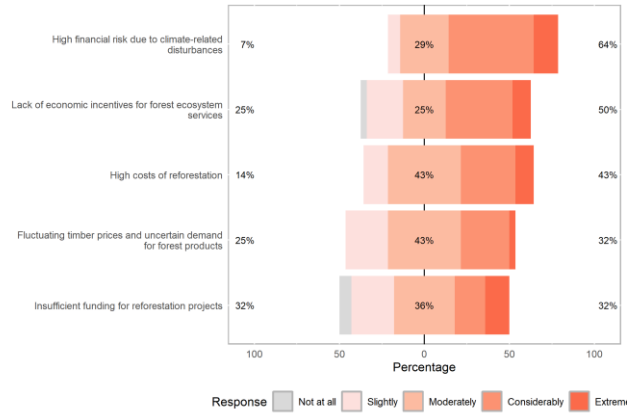
Appendix 187: Survey responses from **Slovenia** on the perceived importance of economic barriers to successful forest regeneration.



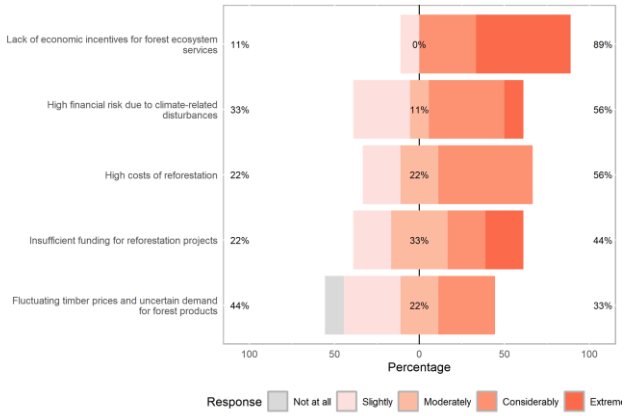
Appendix 188: Survey responses from **conservation managers** on the perceived importance of economic barriers to successful forest regeneration.



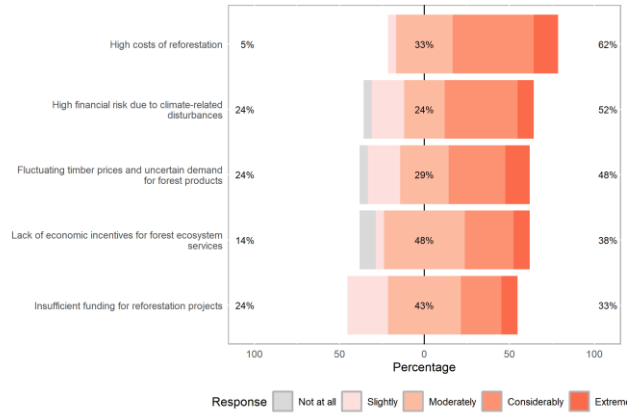
Appendix 189: Survey responses from **forest managers** on the perceived importance of economic barriers to successful forest regeneration.



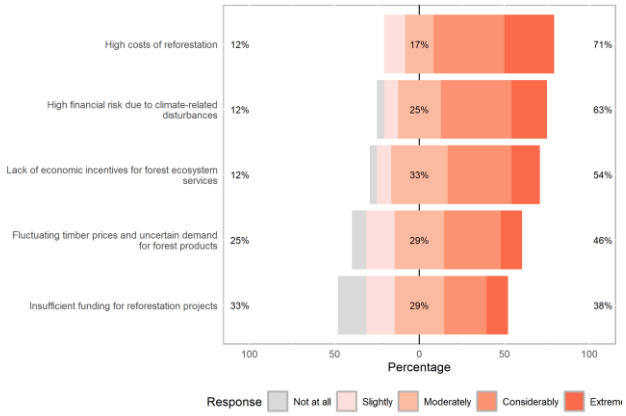
Appendix 190: Survey responses from **national authorities** on the perceived importance of economic barriers to successful forest regeneration.



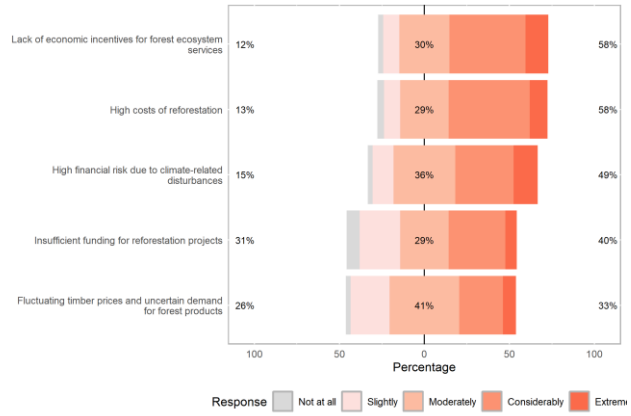
Appendix 191: Survey responses from **NGOs** on the perceived importance of economic barriers to successful forest regeneration.



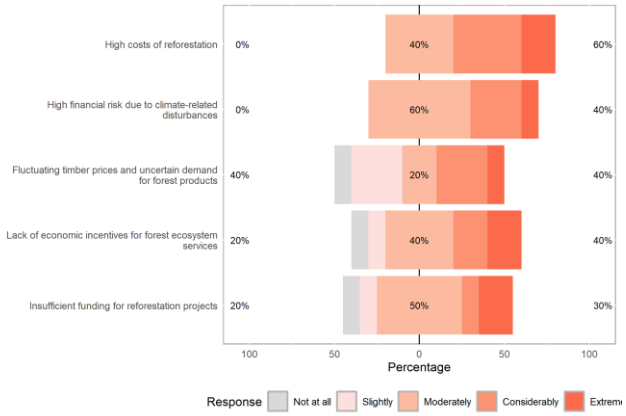
Appendix 192: Survey responses from **"other" stakeholders** on the perceived importance of economic barriers to successful forest regeneration.



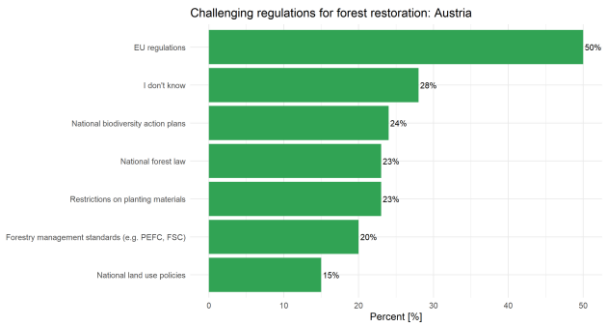
Appendix 193: Survey responses from **regional authorities** on the perceived importance of economic barriers to successful forest regeneration.



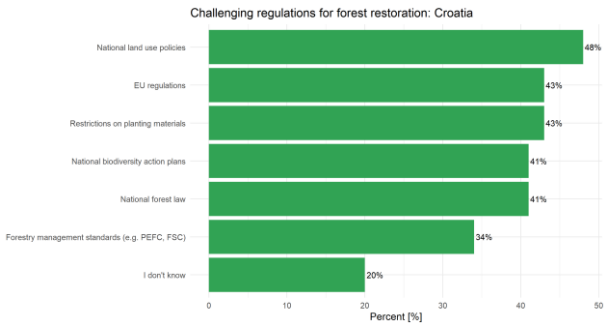
Appendix 194: Survey responses from **universities and research institutions** on the perceived importance of economic barriers to successful forest regeneration.



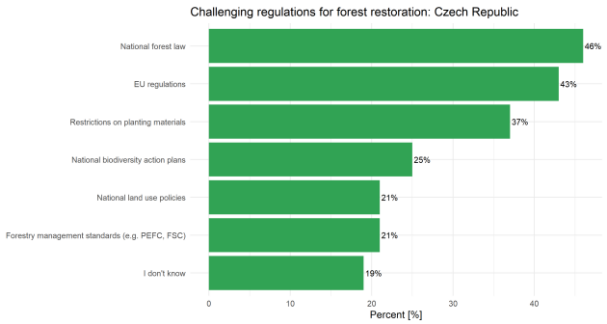
Appendix 195: Survey responses from **urban forestry** on the perceived importance of economic barriers to successful forest regeneration.



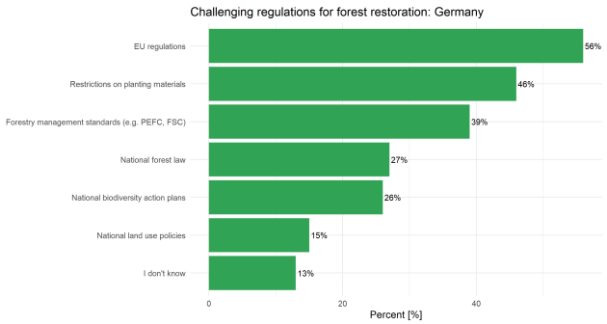
Appendix 196: Share of survey participants in **Austria** reporting regulatory factors as challenges for restoration practices.



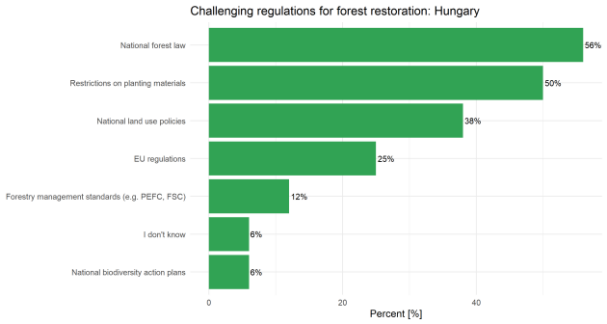
Appendix 197: Share of survey participants in **Croatia** reporting regulatory factors as challenges for restoration practices.



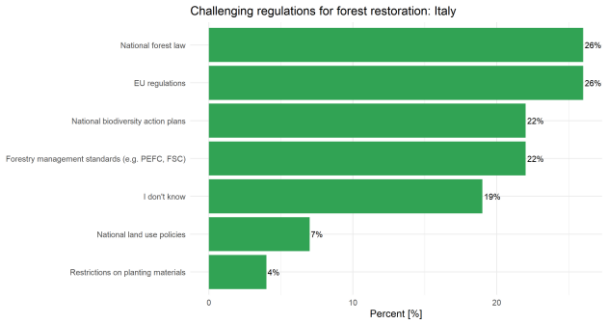
Appendix 198: Share of survey participants in **Czech Republic** reporting regulatory factors as challenges for restoration practices.



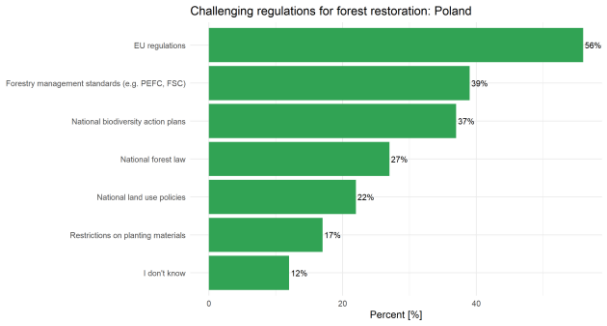
Appendix 199: Share of survey participants in **Germany** reporting regulatory factors as challenges for restoration practices.



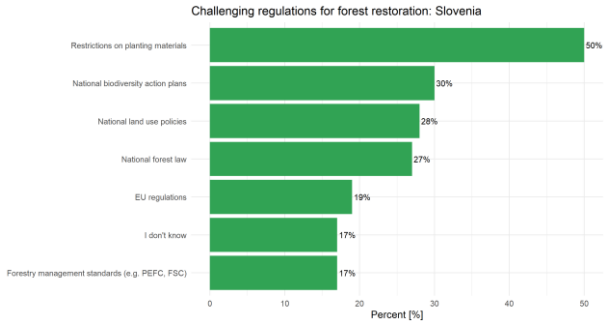
Appendix 200: Share of survey participants in **Hungary** reporting regulatory factors as challenges for restoration practices.



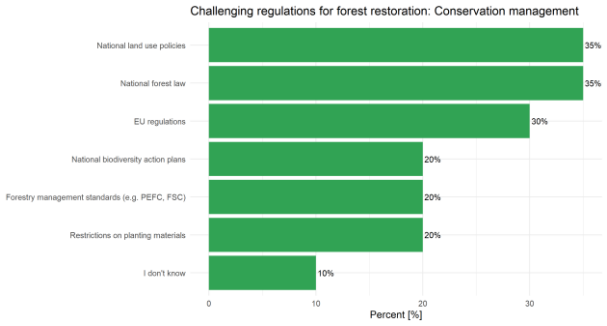
Appendix 201: Share of survey participants in **Italy** reporting regulatory factors as challenges for restoration practices.



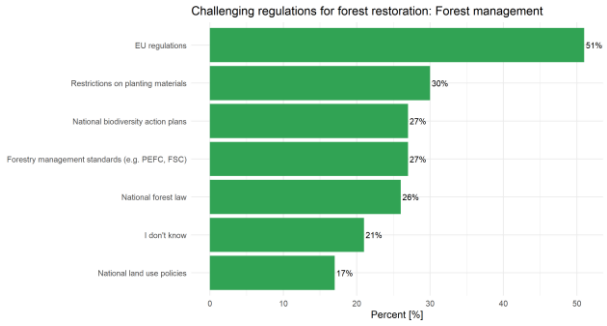
Appendix 202: Share of survey participants in **Poland** reporting regulatory factors as challenges for restoration practices.



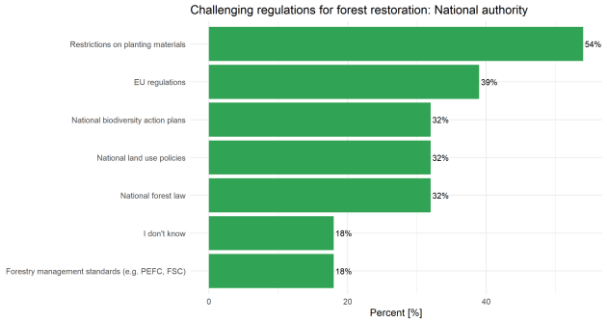
Appendix 203: Share of survey participants in **Slovenia** reporting regulatory factors as challenges for restoration practices.



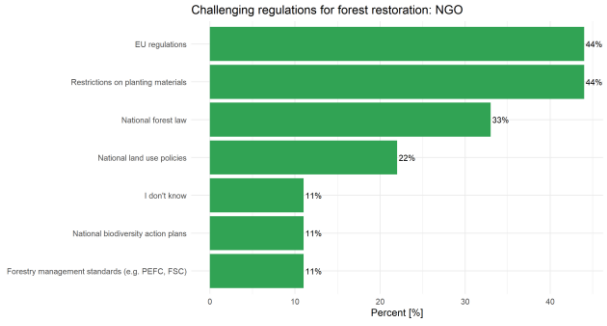
Appendix 204: Share of survey participants among **conservation managers** reporting regulatory factors as challenges for restoration practices.



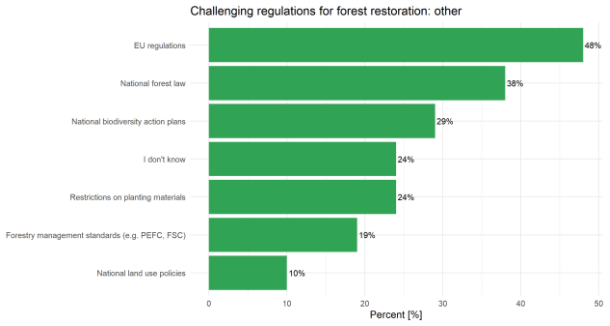
Appendix 205: Share of survey participants among **forest managers** reporting regulatory factors as challenges for restoration practices.



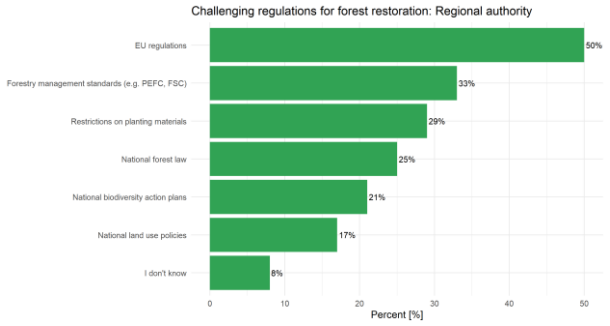
Appendix 206: Share of survey participants among representatives from **national authorities** reporting regulatory factors as challenges for restoration practices.



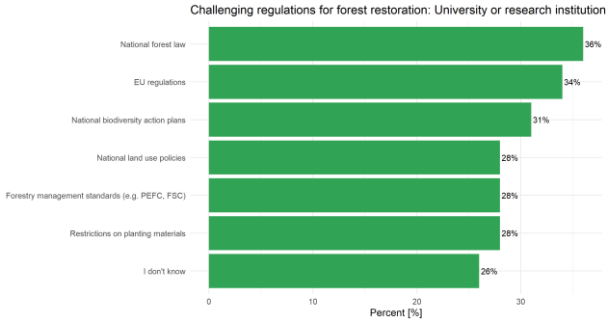
Appendix 207: Share of survey participants among representatives from **NGOs** reporting regulatory factors as challenges for restoration practices.



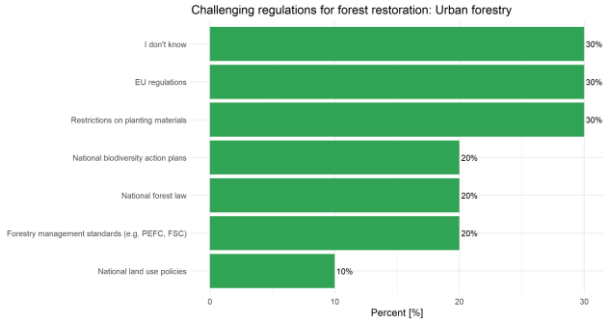
Appendix 208: Share of survey participants among representatives from **"Other" stakeholders** reporting regulatory factors as challenges for restoration practices.



Appendix 209: Share of survey participants among representatives from **regional authorities** reporting regulatory factors as challenges for restoration practices.



Appendix 210: Share of survey participants among representatives from **universities and research institutions** reporting regulatory factors as challenges for restoration practices.



Appendix 211: Share of survey participants among representatives from **urban forestry** reporting regulatory factors as challenges for restoration practices.