Cross-Sectoral Benefits of the EU Nature Restoration Regulation

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2. Executive Summary

Purpose of the Report

The EU Nature Restoration Regulation (NRR), which entered into force in August 2024, is the first comprehensive law at a continental scale aimed at restoring Europe's degraded ecosystems. It is a cornerstone of the EU Biodiversity Strategy to 2030, which mandates binding targets to restore ecosystems that are essential for biodiversity, climate resilience, and disaster prevention. This report examines how restoration can serve as a unifying solution addressing biodiversity loss, climate change, water scarcity, and land degradation simultaneously, rather than treating these as separate policy challenges. The NRR marks a paradigm shift in how Europe approaches its interconnected environmental threats. Rather than treating biodiversity loss, climate change, water scarcity, and land degradation as separate policy challenges, the NRR recognises that restoring ecosystems can deliver across multiple sectors simultaneously.

With Member States currently drawing up their National Restoration Plans (NRPs) for the September 2026 deadline, this report focuses on implementation at the national, regional and local level. It examines how restoration can be managed as a catalyst for cross-sectoral collaboration and practical solutions. The analysis takes a solutions-oriented approach by identifying enabling conditions, cross-sectoral synergies, and practical insights gathered from good practices and lessons learned from eight Member State case studies (Croatia, France, Germany, Greece, Ireland, Poland, Spain, Sweden). Through 27 interviews with 32 experts (government representatives, environmental NGOs, researchers, sector representatives) and extensive desk research, this evidence-based analysis highlights what can work well, and why, so lessons can be shared across contexts. Throughout, we focus on enablers, synergies, and practical insights, the conditions that allow restoration to succeed.

Findings: NRR as an Enabling Framework for Cross Sectoral Governance

The NRR creates conditions for governance transformation through vertical integration from EU to local levels. It provides political visibility and harmonized concepts that national processes alone have lacked. The NRR addresses long-standing Nature Directive implementation gaps by creating an impetus to tackle deficiencies in Natura 2000 management plans, spatial planning, and species protection. The NRR helps break down institutional silos by inspiring new collaborations between ministries that traditionally operated in isolation. The NRP development process brings together previously disconnected actors, establishes formal consultation mechanisms, and creates ongoing dialogue that could persist beyond plan submission.

Existing multi-stakeholder fora demonstrate practical avenues for implementing the NRR at different levels. Successful models include **Germany**'s Lower Saxony Way, where state government, agricultural organizations, and environmental NGOs jointly implement 15 measures for nature, species and water protection in rural landscapes; **Spain**'s social tables for water, bringing trade unions, environmental NGOs, farmers, and academics together to co-create water management positions; and transboundary cooperation through the Alpine Convention developing standardized monitoring and technical guides. These examples show that collaborative governance structures already exist and can be leveraged for restoration implementation.

The EU LIFE programme has been traditionally relied upon as the main mechanism to finance restoration. However, current proposals under the Multiannual Financial Framework (2028-2034) suggest it may be merged with other climate and environmental funding through the Cohesion Fund and European Competitiveness Fund. While EU funding will remain of key importance, financing mechanisms must extend beyond traditional EU funding streams. Pre-existing national mechanisms which could be used for restoration purposes include water

agencies collecting environmental taxes (**France**: €2.2 billion annually), payments for environmental services (**France**: additional €50 million per year for wetlands), and post-natural-disaster restoration investments (**Spain**: €34.5 million post-2025 fires). the Cohesion Fund and European Competitiveness Fund. Importantly, private capital is increasingly through carbon certification schemes (**France**'s low-carbon label, **Germany**'s MoorFutures for peatland restoration), corporate-NGO partnerships (**Germany**'s NABU Climate Fund with REWE retailer investing €25 million), landscape financing (**Spain**'s AlVelAl with private and philanthropic funding employing 570 people), and growing insurance and healthcare sector interest recognizing that restoration reduces health-related costs. This diversification demonstrates that restoration is attracting investment from multiple sources due to its multiple benefit streams.

Findings: Restoration Enhances Cross-Sectoral Synergies

Restoration is already proving its value as a unifying solution across Member States. Restored forests preserve carbon stocks, regulate water cycles while providing fire protection, and build resilience to storms, droughts, and pest outbreaks that monoculture plantations cannot withstand. Marine habitats support fisheries recovery while simultaneously building coastal resilience against storms and providing carbon storage. Restored agricultural landscapes enhance soil health while supporting pollinators and maintaining rural livelihoods. These cross-sectoral synergies are emerging across Member States, showing that when ecosystems are restored, the benefits cascade across multiple domains that have traditionally operated in silos. Restoration is a connective investment meeting multiple policy objectives, which is why it represents one of the most efficient uses of public and private resources available to European governments.

The report examines restoration across ten domains, some not directly linked with environmental management, as highlighted in the eight case studies: (1) Climate Mitigation and Adaptation, (2) Reversing Biodiversity Loss, (3) Water Resilience and Governance, (4) Agriculture and Rural Livelihoods, (5) Forestry and Private Landowners, (6) Marine Ecosystems and Fisheries, (7) Health and Wellbeing, (8) Economic Opportunities for Local Communities, (9) Energy and Infrastructure, and (10) Defence and Security.

Critical Success Factors and Strategic Importance

Critical success factors identified across case studies reveal the conditions necessary for effective implementation. Economic viability is essential: restoration must create value for participants (farmer income from new value chains, fisheries recovery supporting livelihoods). Co-construction approaches where farmers, fishing communities, and local actors help design solutions, build trust, ownership, and ensure schemes meet local needs. Cross-sectoral framing that presents restoration as a solution to agriculture's water stress, fisheries' stock collapse, forestry's climate vulnerability, and public health challenges broadens political acceptance and demonstrates practical relevance.

The timing is critical. Climate-related and environmental degradation damages are escalating across the continent: floods have caused over €170 billion in losses and thousands of deaths since 1980, water stress affects 30% of EU land and 34% of its population, and drought severity could increase by 40–80% by 2050 in many regions.[1] Wildfires, soil degradation, and ecosystem collapse are intensifying. Against this backdrop, restoration is not an environmental "nice-to-have" but a strategic investment in resilience and wellbeing. In economic terms, independent assessments estimate that restoring degraded ecosystems could deliver nearly €1,860 billion in benefits at a cost of around €150 billion, yielding €8–€38 for every euro spent.[2] Full restoration of Natura 2000

[1] 1.4 Water and Climate Impacts | 1. Biodiversity and Ecosystems | Europe's Environment 2025 (EEA)," accessed January 26, 2026, https://www.eea.europa.eu/en/europe-environment-2025/thematic-briefings/biodiversity-and-ecosystems/water-and-climate-impacts.
[2] "The Importance of Restoring Nature in Europe | Publications | European Environment Agency (EEA)," accessed January 25, 2026, https://www.eea.europa.eu/en/analysis/publications/the-importance-of-restoring-nature-in-europe.

sites alone could generate 50,000 to 140,000 jobs.[3] Scientific consensus is increasingly stressing the importance of the need to restore nature, with the European Academies Science Advisory Council highlighting how nature restoration is a strategic investment in Europe's security, prosperity, and ecological stability.[4] By safeguarding and restoring the natural systems on which much of the EU's economy depends, the NRR contributes to Europe's strategic independence in the face of global environmental, economic, and geopolitical uncertainties.

Key Strategic Messages:

- The NRR represents a paradigm shift from protection to restoration. It is not just protecting what nature remains, but also restoring ecosystems' ability to regenerate and build resilience.
- The NRR is an opportunity, not just for nature conservation but for local communities, businesses, national security, policy coherence etc. It is a powerful tool for creating synergies between social, economic, and environmental goals, while enhancing their resilience to climate shocks.
- Restoration is a cross-cutting solution that addresses the urgent needs of multiple sectors simultaneously, making it one of the most efficient investments Europe can make in its future prosperity and security.
- The NRP development process creates formal platforms for dialogue, forces ministries to recognize interdependencies, establishes ongoing coordination mechanisms that persist beyond plan submission, and can institutionalise collaboration that previously occurred only sporadically or informally.
- Nature restoration is not new. It is already happening in the EU's economy and society. Hence, the NRR can build upon ongoing projects and decades, if not centuries, of local experience and evidence.
- Nature restoration includes many different practices, from conservation to cultural and economic activities and must be rooted in local contexts.
- Restoration projects have the potential to attract (public/private) funding because of their multiple benefits for different sectors, and the private sector increasingly recognising the economic resilience that healthy nature brings.
- Trust-building with agricultural communities through intermediary bodies is essential, such as with organisations with pre-existing farmer relationships, farmer ambassador networks for peer-to-peer demonstration, and co-construction approaches where agricultural communities help design schemes. This can be more effective than top-down mandates from environmental authorities, as this builds trust and recognises local knowledge.
- When restoring degraded forest, the best results come from initiatives carrying out a bottom-up, locally rooted approach such as with indigenous people, living in the north of Europe, have centuries of knowledge about ecosystem integrity, as well as on-the-ground insights regarding urgent restoration needs.
- Small-scale family foresters and landowners are increasingly interested in alternative management systems (close-to-nature forestry), as they now bear the economic risk of owning degraded lands due to monoculture forestry practices. When changing their logging methods and thus restoring degraded forests, it enhances resiliency to climate change-related damages, such as beetle outbreaks and extreme weather; droughts, landslides, downpouring, storms, etc. Additionally, participants in restoration projects are motivated by a desire to manage their forests in more sustainable ways and often emphasise stewardship values, including the wish to pass on healthy, productive forests to future generations, as well as an interest in learning, innovation and knowledge-sharing.

[3] "EUR-Lex - 52019DC0236 - EN - EUR-Lex," accessed January 25, 2026, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2019:236:FIN.
[4] "Opportunities in Nature Restoration." Accessed February 11, 2026. https://easac.eu/publications/details/opportunities-in-nature-restoration-1.

The Nature Restoration Regulation (NRR) in a nutshell

The NRR entered into force in August 2024, establishing legally binding targets for Member States to restore degraded ecosystems across the European Union. The regulation requires Member States to restore at least 20% of habitats in poor condition to good condition by 2030, increasing to 60% by 2040 and 90% by 2050, covering terrestrial, freshwater, marine, and urban ecosystems including forests, wetlands, peatlands, rivers, agricultural lands, and coastal habitats. The regulation includes non-deterioration provisions requiring Member States to prevent decline once ecosystems are restored, while allowing flexibility to determine baselines, reference conditions, and restoration measures adapted to national and regional contexts.

Member States must submit National Restoration Plans (NRPs) to the European Commission by September 2026, detailing how they will achieve the 2030 target of restoring at least 20% of degraded Natura 2000 habitats to good condition and outlining strategies for meeting 2040 and 2050 targets across all ecosystem types. Following submission, Member States will receive feedback from the Commission and may adjust their plans accordingly, with formal NRP revisions and reviews scheduled for 2032 and 2042. Member States are required to monitor and report progress according to the regulation's requirements, with the European Environment Agency producing technical reports and the Commission reporting to the European Parliament and Council.

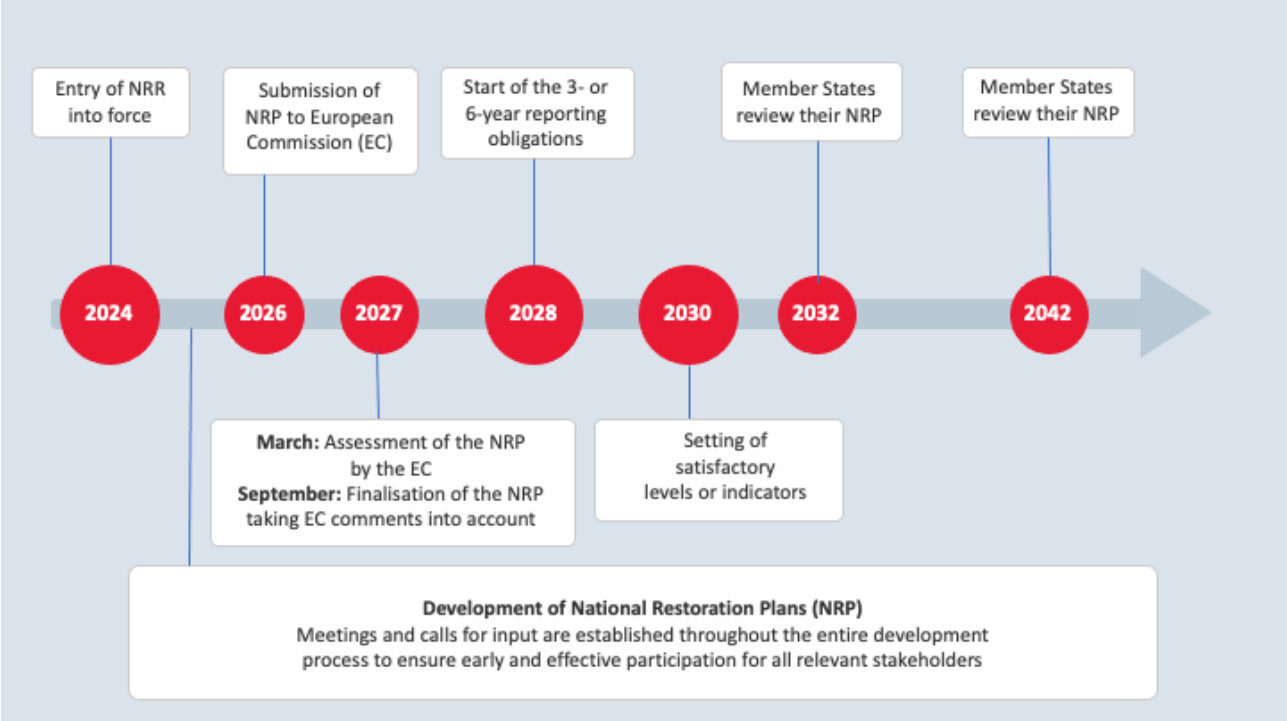

Figure 1 - NRR time plan.

3. Methods

Approach

This study takes a solutions-oriented approach. Rather than cataloguing barriers to restoration, we sought to identify enabling conditions through practical insights from Member States. These focus on progress, or even potential for progress in specific aspects, while the same member state may also be facing significant challenges in other aspects. These are described in case studies. This report aims to bring together findings and identify cross-cutting issues.

Advisory Committee

An Advisory Committee guided the selection of eight case studies and topic areas and gave feedback on findings. Representatives from *Skydda Skogen*, BirdLife Europe, WWF European Policy Office, ClientEarth, Fern, Oceans5, and *Pracownia* (see Annex 1 for list of advisory board members) as well as the European Climate Foundation (ECF) accompanied the project.

SWOT Analysis

An initial SWOT analysis was conducted for selected pieces of legislation within the EU's nature protection and restoration framework. It provides an overview of the strengths and weaknesses of existing biodiversity-relevant instruments as well as opportunities and threats for successful implementation. This helped to highlight synergies and conflicts between different pieces of legislation and implementation and enforcement issues faced by particular Member States.

Case Study Selection

Based on the initial overview, eight Member States were selected and paired with a topic area that reflects either a sector under climate stress (e.g. agriculture, water, marine ecosystems) or a specific nature-based solution (e.g. wetlands, sustainable forestry). The selection aimed to capture diverse pressures, governance contexts, and restoration approaches across Europe (Table 1). The Member States selected are not necessarily forerunners in their approach to Nature Restoration, sometimes the contrary, but are used to illustrate, how restoration actions can solve some of the current, urgent challenges in these locations.

Table 1. Overview of topic areas addressed, the main pressures and potential solutions provided by restoration

Member State	Topic Area and Reasoning
Croatia (HR)	**Forests and Grasslands** - fire management amid increasing climate risks. Balancing biodiversity conservation with rural livelihoods **Pressures:** fires, heatwaves, droughts **Nature-Based Solutions (NbS) of grasslands:** carbon storage, prevents soil erosion, biodiversity hotspots, drought and flood resilience **NbS of forests and sustainable forestry:** carbon storage, prevents soil erosion, flood control, drought resilience, climate control

France (FR)	**Wetlands** - Wetlands are ecologically and hydrologically beneficial **Pressures:** agriculture, drainage, urbanisation, infrastructure **NbS of wetlands:** carbon storage, flood control, drought resilience
Germany (DE)	**Agriculture** - Tension between intensive farming and ecosystem resilience (biodiversity loss, nitrate pollution, and soil degradation). **Pressures:** Climate-induced droughts and floods **NbS that help:** peatlands and wetlands for flood control and water resilience, paludiculture to promote economic-alternatives for farmers
Greece (GR)	**Renewable Energy Infrastructure** - Tension between rapid renewable energy expansion (especially wind and solar) and biodiversity protection. **Pressures:** poorly placed wind farms impact species, especially birds, hydropower can significantly alter river ecosystems **Alternatives:** Better spatial planning is needed, especially for wind farms. Dismantling obsolete river obstructions. Increased investments in agrovoltics to combine agriculture productivity, energy autonomy, and nature restoration for local communities.
Ireland (IE)	**Marine Ecosystems** - Marine dimension crucial due to Ireland's vast maritime territory. Fisheries sector facing severe stock declines. **Pressures:** behind on marine protected area identification, declining fish stock **NbS of marine environments:** carbon storage, climate control, balanced ecosystems for fished when properly managed
Poland (PL)	**Forests** - Forest ecosystems central to national identity and policy. Tension between intensive forestry and nature conservation. **Pressures:** monocultures, pests, wildfires, timber-driven economic interests **NbS of forests and sustainable forestry:** carbon storage, prevents soil erosion, flood control, drought resilience, climate control
Spain (ES)	**Agriculture & Water Resilience** – Spain's acute water stress makes one of Europe's most climate vulnerable countries which directly threatens its agricultural sector **Pressures** - Acute drought, wildfire, and desertification pressures **NbS that help:** wetland and river rehabilitation for water resilience, and agroecological transition for soil health and economic alternatives
Sweden (SE)	**Forests** - central to economy, climate, and biodiversity policy. Tension between intensive forestry, nature conservation, and local communities and indigenous people. **Pressures:** monocultures, pest outbreaks, wildfires, timber-driven economic interests **NbS of forests and sustainable forestry:** carbon storage, prevents soil erosion, flood control, drought resilience, climate control

Data Collection

Data collection started with a document review to complete a template on the administrative and legislative structure of each member state under consideration and initial background on the topic. This was used as a basis for developing a semi-structured interview framework for each member state. For each interviewee, this was adapted slightly, depending on their expertise.

The primary data collection method was semi-structured interviews with experts and key stakeholders. Interviewees were selected using the network of the authors, ECF and the Advisory Board for an initial selection with snowballing from the first interviewee. In each case, the aim was to ideally speak to a mix of different representatives ideally a scientific expert, member of government and member of civil society (NGO or sector representative where relevant) (see Table 1 2). Over 90 experts were contacted, resulting in 27 interviews with a total of 32 individuals being conducted. A list of interviewees is included in Annex 2.

Table 2. Interview categories

	HR	FR	DE	GR	IE	PL	ES	SE
Government Institutions	1	1	1	1			1	
Environmental NGO	1	1	2	2	2	2	1	2
Sector Representative					1		1	1
Research		2		2		1	1	
Total Interviews Done	2	4	3	5	3	3	4	3

Data Analysis

Interviews were written up and main themes coded according to the subjects addressed with the support of Anthropic's Claude and Opus models. Case study fiches were created summarising the interview findings and the initial case study overviews. These were supplemented by additional desk research. At a focus group, carried out in Brussels, the advisory board gave input on initial findings (based on a sub-section of the case studies) and helped target the research and point to other information sources. This combination of primary and secondary sources enabled triangulation of key themes and ensured that case study narratives were grounded in both stakeholder perspectives and documented evidence.

Based on the fiches, cross cutting themes were identified. These were divided into two categories: cross sectoral synergies (cross overs between the topic areas for which the cases were selected) and the enabling framework provided by the restoration law (i.e. benefits provided by the new legal structure and approaches to putting it in place).

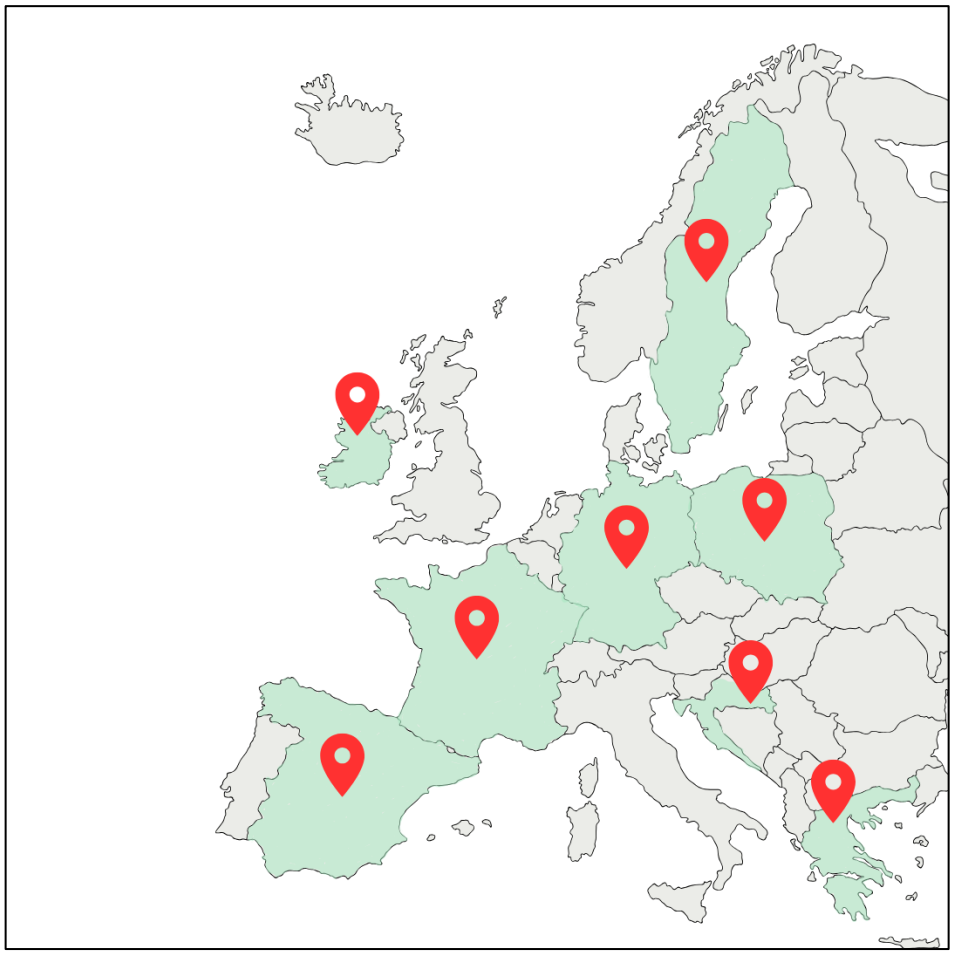

Figure 2 - Map of Europe highlighting the eight case study countries: Croatia, France, Germany, Greece, Ireland, Poland, Spain, and Sweden.

4. Findings: The NRR as an Enabling Framework

The Nature Restoration Regulation does more than set ecological targets, it creates conditions for action. Across the case studies, a consistent finding was that the NRR is functioning as an enabling framework: a mechanism that strengthens governance coherence, prompts new collaborations, expands the range of actors engaged in restoration, and channels attention and resources toward implementation. Here we examine four dimensions of that enabling function.

Vertical Integration: From EU to Local

A coordination tool from EU to local

The NRR is an ecologically diverse law, which impacts numerous habitats within protected areas, agricultural landscapes, forests, cities, marine areas etc. This intersects with a whole suite of EU legislation and must involve multiple socio-economic sectors. The EU legislative layer adds political visibility and pressure for coherence that national processes alone have lacked. As interviewees noted, the NRR can have a transformational impact, similar to the EU Water Framework Directive (WFD) on water policy, by bringing together a range of commitments and setting timeframes.

One common thread throughout the case studies, is that many Member States are behind in implementation of the Nature Directives, often through a lack of management plans for Natura 2000 sites and insufficient integration into spatial planning. To implement the first phase of the NRPs, Member States must understand the state of their habitats and species within their protected area networks. The NRR is an opportunity to revitalise action to improve Nature Directives compliance adding backing to calls both in and outside government for increased resources to tackle long-standing information gaps. Some Member States are already adopting new strategies to start incorporating the NRR into their climate planning., such as:

> ***Croatia*** *adopted new Nature Protection Objectives in 2025 to align with the NRR and Kunming-Montreal Global Biodiversity Framework. The Government established a new coordination group for nature restoration, and the agriculture, forestry, fisheries, maritime affairs, finance, spatial planning, tourism and economic sectors will be actively working on meeting these new objectives.[5] Updates to the national Nature Protection Law are planned to mainstream restoration principles into standard procedures. A Climate Change Adaptation Centre will be established to invest in Croatia's internal capacity for adaptation implementation and coordination.[6]*

A tool for improving consistency between and within Member States

The NRR was viewed as a lever for increasing consistency of approaches across the case studies. It introduces harmonised concepts for ecosystem typologies, restoration objectives, and common ecological indicators, while also remaining flexible for Member States to decide their baselines and reference conditions and the types of restoration measures they will utilise. This can increase common understanding of approaches and use of similar tools. The EU Biodiversity Observation Coordination Centre (EBOCC) is being established to support Member States in collaborating in the observation and monitoring approaches with the NRR in mind.

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[5] *PODLOGA ZA IZRADU CILJEVA ZAŠTITE PRIRODE REPUBLIKE HRVATSKE KOJI DOPRINOSE GLOBALNOM OKVIRU ZA BIORAZNOLIKOST Sadržaj*, n.d., accessed January 23, 2026, https://www3.weforum.org/docs/WEF_New_Nature_Economy_Report_2020.pdf. p.24

[6] *This Version of the Report on Climate Change Adaptation in the Performance Audit Report Climate Change Adaptation in the Republic of Croatia REPUBLIC OF CROATIA STATE AUDIT OFFICE*. 2025. https://showyourstripes.info/s/europe/croatia/all

Horizontal Coordination: Across Countries, Ministries and Sectors

Transnational collaboration

Establishing the NRPs in the appointed timeframes is a significant challenge for managing authorities but one which can also encourage transnational collaboration. On the European level, managing authorities are in frequent exchange through the mechanisms established by the European Commission and bilaterally to multilaterally through their own initiatives. Existing transnational collaboration mechanisms are also used e.g. under the Alpine Convention, the Alpine Biodiversity Board underlined the need for transboundary cooperation when implementing the NRR, by developing standardised biodiversity monitoring practices, regular data exchange and technical guides for Alpine restoration practices and measures. They also suggested that Member States (Austria, Germany, France, Italy, Slovenia) include that regional priorities and Alpine cross-border cooperation is included in their NRPs in harmonised language.[7]

Interministerial collaboration

The NRR is inspiring new collaborations across ministries and sectors that have traditionally operated in silos. Interviews across all countries highlighted that cross-ministerial and cross-sectoral collaboration is needed to address climate change stressors. Nature restoration can provide nature-based solutions which help address these urgent crises e.g. in Croatia collaboration between forestry and nature protection to address wildfires or in France integrating water structures into biodiversity planning. Pre-existing national management plans provide avenues for NRR cross-sectoral collaborations. River Basin Management Plans (RBMPs) were highlighted as a major vehicle for integrating NRR objectives, since the plans are required to protect and, where necessary, restore water bodies to reach good status and prevent deterioration under the WFD. Similarly National Climate Adaptation Strategies outline how countries will adapt to climate change in the medium- and long-term including how NbS can buffer changes. National Energy and Climate Plans (NECPs) are tools to support Member States identifying their ways towards achieving the EU's energy and climate targets. It is important that they work with NRPs rather than against them. CAP Strategic Plans will be updated and perhaps revitalised under the new CAP and provide an essential funding mechanism for nature restoration.

Cross-sectoral collaboration

The restoration community must be broad to be successful. While the NRR was initially regarded as divisive, multiple actors are already engaged in positive collaborations including farmers, foresters, fishers, water authorities, health professionals, land managers, local authorities, and the private sector, many of whom are contributing to restoring ecosystems without necessarily calling their work “restoration”. Fishers can contribute through no-take zones and by voluntarily pausing fishing during breeding periods, helping stocks recover and ecosystems regenerate. Farmers by restoring soils, biodiversity and water through agroecology, agroforestry, agro-solar systems and other regenerative practices, often supported by payments for ecosystem services (PES). Foresters and private landowners are exploring alternative forestry models and emerging crediting schemes; for example, Swedish private forest owners are increasingly shifting towards regenerative forest management after recognising that clear-cutting weakens forests and undermines climate resilience. Water authorities and engineers restore natural water filtration, flood protection and wetland functions, delivering public health benefits and water security. At the same time, businesses, investors and foundations are financing nature-positive models such as paludiculture and wetland rewetting to strengthen food security and climate resilience. Together, these actors form a growing restoration community that spans sectors and scales, demonstrating that nature restoration is already embedded across Europe’s economy and society.

There are already cross-sectoral collaborations between non-governmental actors on restoration, as well as potential forums where the NRR can be discussed and acted upon. In **Greece**, restoration pilots are already taking place between NGOs and local energy cooperatives and communities to create nature positive photovoltaic

[7] *Nature Restoration in the Alpine Region: A Challenge and an Excellent Opportunity for Cooperation Starting Cooperation-International Workshop on Nature Restoration in the Alpine Region*, n.d., accessed January 25, 2026, https://ieep.eu/news/guidance-and-recommendations-for-ambitious-nature-restoration-plans-report/.

(colloquially: solar panel) parks on rural land, which will act as restoration sites. The ecosystem services the project hopes to restore/improve include: pollinator support, erosion control, improve soil moisture retention and health, habitat connectivity and wildlife movement, and microclimate buffering. For potential forums for NRR implementation, the "social tables for water" in **Spain** can be an important venue to drive NRR implementation, due to the diverse actors present. The "social tables for water" in the Andalusian region brings together labour and agricultural unions, environmental NGOs, farmers, and academics to providing common positions on water management that feed into regional planning processes. These local dialogue tables on water governance shows that trust-based, cross-sectoral cooperation can exist even in polarised contexts. In **Germany**, the Lower Saxony Way is another example of bringing together state government, agricultural organizations, and environmental NGOs in a jointly implemented agreement outlining ambitious measures for nature, species, and water protection with financial compensation for farmers who restrict land use.

The National Restoration Plan as a Planning Tool

Establishing an NRP is not merely about establishing a legal instrument but establishing a planning process requiring scientific assessment, legal adaptations and collaboration between multiple sectors. Member States have a deadline of September 2026 for submitting their first draft plans. A series of feedback loops with the Commission are then planned to finalise them. The plans are then regularly updated and progress towards the key targets measured.[8] The preparation of the NRPs is an opportunity for Member States to anticipate, at the territory/landscape, regional, and national level, future climate and biodiversity impacts and put in place strategies to mitigate them. This is an opportunity to holistically collaborate cross-ministerially and across sectors on nature restoration, climate adaptation and mitigation. With this approach, nature restoration can build on tomorrow's resilience towards climate change impacts such as improving disaster risk reduction and reducing future costs.

Many Member States are grappling with scientific information gaps and fulfilling existing legal requirements necessary for successful NRPs. Member States must submit their NRPs with the best available scientific evidence and knowledge per Article 4(9). In **Greece**, management plans for Natura 2000 sites are largely lacking. A LIFE project has assisted with establishing site-specific conservation objectives and are being built into the legal site protection framework. The NRP process can also provide an important avenue to discuss interlinkages and impacts of the NRR on other EU frameworks, improving interministerial and intersectoral collaboration as described above. In Ireland, the government working through a LIFE project to map Marine Protected Areas (MPAs) in need of restoration and protection to better inform their implementation of the EU Biodiversity Strategy which has knock on improvements for the MSP, Nature Directives, RED III, and NRR implementation. Finally, stakeholder engagement is a required part of establishing the plans. The process creates formal platforms bringing together diverse stakeholders (e.g. farmers, fishers, local communities, NGOs, infrastructure provides) and establishes dialogue mechanisms that can persist beyond the initial plan submission.

The "Restore Nature NRP Mid-Term Assessment Report" provides a snapshot view of the NRP development process across 23 EU Member States reflecting the situation in late September and early October 2025. The analysis is broken down by the level of their i) science base (use of best-available knowledge and data), ii) ambition (vision and scope) iii) inclusiveness (participation and transparency) and iv) empowerment (political buy-in, coordination and resources) and overarching scores are given based on this. From our case study countries, three Member States (France, Germany, Spain) are categorised as having progressing development (ongoing efforts with most core elements in place and structure emerging) ; three Member States (Greece, Ireland, Sweden) are categorised as being in an early stage of progression (initial steps taken, but progress remains fragmented, slow or unclear); and two Member States (Croatia, Poland) are categorised as having insufficient/unclear progress (core enabling elements largely missing; no coherent NRP preparation visible).[9]

[8] "Regulation - EU - 2024/1991 - EN - EUR-Lex," accessed January 25, 2026, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32024R1991&qid=1722240349976."
[9] Antier, Clémentine, and Codruța Savu. Nature Restoration Plan Development Process in EU Member States: Mid-Term Assessment . 2025. https://www.restorenature.eu/File/WWF%20-%20NRP_mid%20term%20assessment_Final.pdf.

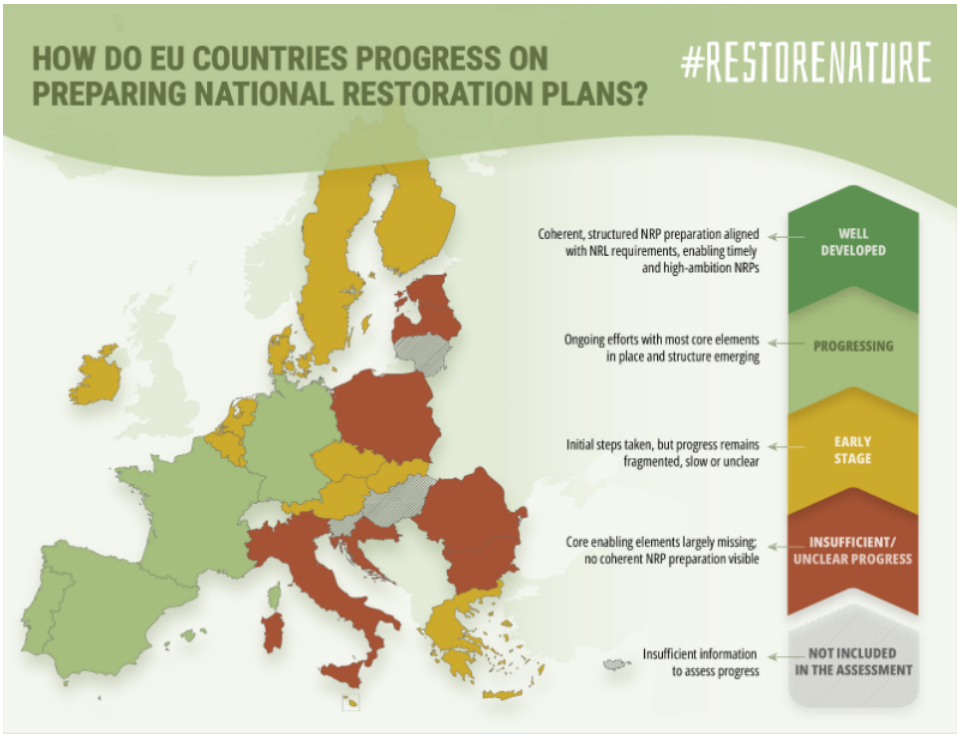

Figure 3 - "Restore Nature NRP Mid-Term Assessment Report" overall assessment on NRP progression[10]

Attracting Financing

European Union funding opportunities

Under the current Multiannual Financial Framework (MFF) (2021-2027), there is no overarching EU restoration fund and funding is expected to be allocated from pre-existing EU funding envelopes. The structural and cohesion funds[11] provide opportunities to fund local and regional restoration actions through their various programmes. However, the proposed MFF for 2028-2034 would reduce funding for nature. In the proposal, the LIFE Programme is discontinued as an independent instrument, instead being integrated into the through the Cohesion Fund and European Competitiveness Fund. Additionally, a horizontal 'do no significant harm' principle and a 35 % spending target for the climate and the environment would be set. The spending target has a wider scope than the current climate and biodiversity target, combining all policy areas related to the green transition.[12] These are important developments to be aware of as stakeholders navigate the restoration funding landscape going forward.

The European Regional Development Fund (ERDF) and Cohesion Fund's second key policy objective is "a greener, low-carbon and resilient Europe" which includes promoting climate change mitigation and adaption, as well as risk prevention and management. Seeing as NRR is a climate adaptation strategy, and the NbS that come from restoration can be utilised for risk management (for instance flood buffering with wetland restoration), this allows room for stakeholders to apply for funding through the ERDF and Cohesion Fund. Some nature restoration projects are already being undertaken under these funds, such as:

> *The Central-BIC Project, is an Interreg project co-funded by the ERDF, which aims to restore degraded grasslands, protect natural resources and develop sustainable tourism practices whilst working closely with local communities, arable and livestock farmers, and tourists to test tailored solutions for ecosystem management and biodiversity conservation. Rural communities often lack the knowledge and resources to transition to more*

[10] Antier and Savu, Nature Restoration Plan Development Process, 2025.
[11] "European Regional Development and Cohesion Funds (2021–2027) | EUR-Lex," accessed January 24, 2026, https://eur-lex.europa.eu/EN/legal-content/summary/european-regional-development-and-cohesion-funds-2021-2027.html.
[12] Grislin, Axel. *Impacts of the 2028-2034 MFF Proposals on the Climate and the Environment*. 2025. .

sustainable management, hence the need to develop inclusive tailor-made solutions for these communities. The project is taking place in Austria, Italy, Croatia, Germany, Poland, Hungary, Slovakia, and Slovenia.[13]

National Recovery and Resilience Plans (RRP), established under the Recovery and Resilience Facility (RRF), must allocate at least 37% of their total funding towards climate and environment objectives, which can include the protection, restoration and sustainable use of Natura 2000 sites.[14] In the Netherlands, part of their RRP is being used support enhance nature restoration actions to reduce the negative impacts nitrogen emissions have had in and around Natura 2000 areas. This included nature quality improvement, hydrological actions and improving spatial planning to compensate for forest loss and invasive species management.[15]

The CAP can support small- and large-scale restoration on farmlands and Natura 2000 sites, through eco-schemes, agri-environment schemes and non-productive investments. Under Article 11, the NRR requires that Member States enhancement of biodiversity in agricultural ecosystems by achieving an increasing trend in at least 2 out of 3 indicators: i) Grassland butterfly index ii) Stock of organic carbon in cropland mineral soils iii) Share of agricultural land with high diversity landscape features. The CAP Strategic Plans can help achieve these goals via additional funding with eco-schemes under Pillar 1 and European Agricultural Fund for Rural Development (EAFRD)-funded agri-environment-climate measures under Pillar 2 which specifically target landscape features.[16]

National funds

The NRR provides Member States a key opportunity to transform their national funding systems to support local and regional restoration efforts. Some Member States, like **Germany** have a comprehensive framework already available to support NRR implementation. The existing funding structure includes the Joint Task for the Improvement of Agricultural Structures and Coastal Protection (GAK) at federal/state level, state budgets, and EU instruments such as LIFE, CAP and RRF. More specifically, the Action Plan for Natural Climate Protection (ANK) provides funding opportunities for peatland rewetting and soil conservation. The entire funding structure has the potential to support new legislative initiatives, including the nature conservation budget in general and funding pots of the Federal Ministry for Agriculture, Food and Regional Identity (BMLEH).[17]

Even in constrained budget environments, NRR investments can be developed by vested authorities, even if other funds have been cut in other ministries. In **Sweden** the Swedish Board for Agriculture, a government agency under the Ministry of Agriculture, opened a call in 2025, offering grants totalling €1 million for projects promoting NRR implementation in agricultural landscapes. Authorities, municipalities, associations, organisations and companies can apply. The grants require that the projects are collaborative, so diverse stakeholders can develop and implement the projects together.[18] Ultimately, earmarking sections of one's national budget is a strategic investment for Member States to not only meet NRR objectives, but also to invest in NbS which help reduce the enormous economic costs of climate-related damages (ex: an estimated €249 million in wildfire damages in **Croatia** between 2010-2021[19]).

Private sector investments and collaborations

As governments, NGOs, and the private sector have gained increased awareness of the positive impact nature has on their socio-economic stability, increased investments have been made to nature restoration projects to

[13] "Stopping Biodiversity Loss through Better Ecosystem Management - Interreg Central Europe," accessed January 24, 2026, https://www.interreg-central.eu/projects/central-bic/.
[14] "Regulation - 2021/241 - EN - Rrf - EUR-Lex," accessed January 24, 2026, https://eur-lex.europa.eu/eli/reg/2021/241/oj/eng.
[15] "Nature Programme - European Commission," accessed January 24, 2026, https://commission.europa.eu/projects/nature-programme_en
[16] *How to Fund the Trans-European Nature Network (TEN-N) Common Agricultural Policy*. n.d. Accessed January 24, 2026. https://files.wri.org/d8/s3fs-public/2021-08/repurposing-agricultural-subsidies-restore-degraded-.
[17] "Nature-Based Climate Protection: Funding | Kompetenzzentrum Natürlicher Klimaschutz (KNK)." Accessed January 8, 2026. https://www.kompetenzzentrum-nk.de/en/funding.
[18] "Rewilding Europe - Ecological Restoration Fund," accessed December 19, 2025, https://ecorestorationfund.org/grants/rewilding-europe/.
[19] "Croatia - Management of Wildfire Risk | GFDRR." Accessed January 18, 2026. https://www.gfdrr.org/en/publication/croatia-management-wildfire-risk.

enhance NbS. There is an understanding that farmers, fishers, and forest owners need financial support to enact restoration projects on their land. This can take shape in many ways, through dedicated business partnerships, carbon credits, and co-funding for restoration projects.

Interviewees described how there has been increasing interest from companies (insurance companies, healthcare mutuals, food & beverage) to collaborate with NGOs and producers to support climate adaptation projects in line with their sustainability strategies. Organisations like the Corporate Leaders Group Europe, are making the case that businesses and nature restoration can go hand in hand, to drive shared economic and ecological benefits.[20] In **Germany** for instance, German conservation NGO NABU and major supermarket retailer REWE, established the NABU Climate Fund in 2022, which has at least €25 million available to support nature-based climate protection projects. The majority of projects has focused on peatland rewetting, with 4,3000 hectares of peatland secured by rewetting in 2024. REWE group expressed that their company has a clear responsibility to support climate protection projects, as global warming and species extinction are the two biggest ecological crises of our time, directly impacting everyone.[21]

In cases of low investment from Governments such as in **Sweden** for instance, budget cuts have paused funding for municipality-run nature restoration projects. Private foundations have been stepping in to fund restoration research. The Ecological Restoration Fund (ERF) has provided Rewilding Europe €10 million for rewilding interventions across Europe.[22] This includes a Rewilding Sweden project which focuses on restoring the interconnected landscapes of old-growth forests, wetlands, and free-flowing rivers in Swedish Lapland (*Sápmi)*, while creating benefits for local people and indigenous communities from nature-based economies.[23]

There are also pilot projects to launch carbon credit schemes that specifically enable restoration. In **Germany**, MoorFutures® is a peatland carbon-credit initiative that finances the rewetting of drained peatlands by selling CO_2 certificates tied to emission reductions from restored peatlands. Buyers (both businesses and individuals) can purchase MoorFutures® to support local peatland restoration projects, and the proceeds fund planning, ditch blocking, water-level management and long-term monitoring of rewetted sites. These projects prevent CO_2 emissions, enhance biodiversity, improve water quality and hydrology, and create ecosystem benefits such as flood buffering and reduced fire risk.[24] These types of initiatives show that restoration is possible to fund through a crediting scheme, and projects should explore how this model can be applied for other ecosystems.

The increasing interest of businesses to invest in restoration, and green financing mechanisms indicate that there is growing momentum, and potential, to further expand the availability of these funding opportunities to local communities.

[20] "Business Briefing: From Risk to Resilience: The Business Imperative of Nature Restoration | Corporate Leaders Groups." Accessed February 11, 2026. https://www.corporateleadersgroup.com/reports-evidence-and-insights/business-briefings/business-briefing-risk-resilience-business.
[21] "NABU Climate Fund: NABU and REWE Are Taking Stock of the Initial Success - REWE Group." Accessed January 7, 2026. https://www.rewe-group.com/en/press-and-media/newsroom/press-releases/nabu-climate-fund-nabu-and-rewe-are-taking-stock-of-the-initial-success/.
[22] "Rewilding Europe - Ecological Restoration Fund." Accessed December 19, 2025. https://ecorestorationfund.org/grants/rewilding-europe/.
[23] "Rewilding Sweden - Ecological Restoration Fund." Accessed December 19, 2025. https://ecorestorationfund.org/grants/rewilding-sweden.
[24] "MoorFutures - About." Accessed January 9, 2026. https://www.moorfutures.de/ueber-moorfutures.

5. Findings: Cross Sectoral Synergies: Restoration as a Policy Solution

Restoration is not a single-sector activity, and its benefits cross policy boundaries. A rewetted peatland can sequester carbon, reduce flood risk, improve water quality, and create habitat. A farm managed through regenerative agriculture can build soil health, support pollinators and reduce input costs. A restored coastal wetland can protect communities from storm surge, filter pollutants, and sustain fisheries. The same intervention delivers across climate, water, agriculture, health, and biodiversity objectives simultaneously. Here we present the cross-sectoral synergies that emerged from the eight case studies. **Rather than treating restoration as a biodiversity measure with incidental co-benefits, we examine it as a unifying solution addressing multiple pressures across sectors that have traditionally operated in isolation.** Each synergy is grounded in evidence from the case studies (highlighted for further reference).

Climate Mitigation and Adaptation

Europe is experiencing the accelerating impacts of climate change: rising temperatures, more frequent and intense heatwaves, prolonged droughts, severe floods and escalating wildfires. Climate-related damages have already exceeded €170 billion since 1980 and caused thousands of deaths.[25] Drought severity is projected to increase by 40-80% by 2050 in many EU regions. In **Croatia**, wildfire damage between 2010 and 2021 reached €249 million, with 2024 seeing 21% more fires and four times more burned area than the previous year. In **Spain**, major fires in summer 2025 triggered €24 million in emergency restoration spending. Degraded ecosystems amplify this vulnerability: almost 50% of European peatlands are degraded and while drained peatlands represent only 3% of EU agricultural land,[26] rewetting them could reduce agricultural emissions by around a quarter[27]; forests weakened by monoculture plantings, pest outbreaks and invasive species are shifting from carbon sinks to carbon sources. Climate and biodiversity crises are mutually reinforcing: ecosystem degradation reduces nature's capacity to buffer climate impacts, while climate stress accelerates species loss and habitat decline.

The EU policy framework sets targets for emission reductions including specifically for land use. The European Climate Law (2021) establishes binding targets of climate neutrality by 2050 and a 55% net GHG reduction by 2030. The Clean Energy for All Europeans package (2019) underpins this framework through the Governance Regulation, requiring Member States to prepare integrated National Energy and Climate Plans (NECPs) that set out national contributions on energy efficiency and reduction. The EU Climate Adaptation Strategy (2021) promotes nature-based solutions as cost-effective measures to buffer floods, droughts and heatwaves. The revised Land Use, Land-Use Change and Forestry (LULUCF) Regulation (2023) requires land use sectors to deliver net carbon removals of 310 Mt CO_2 by 2030, creating incentives for peatland rewetting, afforestation and improved forest management. The NRR builds on these objectives: Article 10 requires restoration of degraded peatlands, while Articles 4 and 12 target forest ecosystems for carbon sequestration and climate resilience.

[25] "Too Much Water - Environment - European Commission," accessed January 26, 2026, https://environment.ec.europa.eu/topics/water/water-wise-eu/too-much-water_en.
[26] "Why Is Peatland Rewetting Critical for Meeting EU Environmental Objectives? | Ecologic Institute." Accessed March 3, 2026. https://www.ecologic.eu/19098.
[27] United Nations Environment Programme, "Global Peatlands Assessment: The State of the World's Peatlands - Evidence for Action toward the Conservation, Restoration, and Sustainable Management of Peatlands," *Global Peatlands Assessment: The State of the World's Peatlands - Evidence for Action toward the Conservation, Restoration, and Sustainable Management of Peatlands*, ahead of print, November 2022, https://doi.org/10.59117/20.500.11822/41222.

Member States are beginning to link their National Climate Adaptation Strategies with restoration priorities. In **Croatia**'s strategy, for example, forests, grasslands and wetlands are identified as critical climate buffers.

Links between climate change mitigation and adaptation and restoration are fairly clear and the two areas are becoming more linked in policy and administrative structures. Quantifying the carbon and thus financial benefits of restoration can clarify the benefits for certain sectors. In **France**, the Peatland Resource Centre is developing a methodology to quantify emission reductions from peatland rewetting, enabling certification under the national low-carbon label scheme. This allows restoration projects to be monetised on the French voluntary carbon market, offering income streams to farmers and landowners while enhancing carbon sinks. Healthy peatlands also support adaptation by acting as natural sponges that buffer floods and droughts. In **Sweden**, forests already offset approximately 70% of the country's non-LULUCF sector emissions, but intensive forestry practices have degraded their ecological condition, which is reducing their ability to absorb carbon.[28] The Restoration Futures project, supported by a SEK 7 million (€660,000) Wallenberg Foundation grant, explores how forest restoration can simultaneously promote biodiversity and carbon sequestration. Meanwhile, WWF Sweden's *Naturnära Skogsbruk i Tiveden* project trains private forest owners in continuous-cover forestry alternatives to clear-cutting. This helps preserve carbon stocks, enhance biodiversity, and build resilience to storms, droughts and pest outbreaks, making them more economically resilient in the long run.

Reversing Biodiversity Loss

Europe's biodiversity is in steep decline with 81% of protected habitats in unfavourable condition.[29] The drivers are well documented: habitat loss and fragmentation from agriculture, urbanisation and infrastructure; pollution from agricultural runoff, industrial sources and plastics; overexploitation of species through fishing, hunting and unsustainable harvesting; invasive alien species outcompeting native flora and fauna; and climate change shifting ecological conditions faster than many species can adapt. While the Natura 2000 network is the most significant protected area network in the world, effective management, adequate funding and enforcement are lacking in many Member States.

The EU Biodiversity Strategy for 2030 sets headline targets to reduce biodiversity loss: protecting 30% of land and sea, with 10% under strict protection; restoring degraded ecosystems; reversing pollinator decline; and reducing pesticide use. The Nature Directives (Birds and Habitats Directives) provide the legal framework, requiring Member States to maintain or restore species and habitats to favourable conservation status and maintain the Natura 2000 network. The NRR builds on and extends these obligations setting legally binding restoration targets across terrestrial, freshwater, marine and urban ecosystems, and introduces specific requirements for pollinators (Article 8), agricultural biodiversity indicators (Article 9), and urban green space (Article 6). The regulation also mandates non-deterioration provisions: once ecosystems are restored, Member States must prevent their decline. **This represents a significant shift for biodiversity policy, from protection of what remains, to active restoration of what has been lost**.

In **France**, the Foundation *Crédit Mutuel* is sponsoring a project for the restoration of breeding pools to favourable conditions of a nationally threatened dragonfly species (lestes macrostigma) in Mediterranean wetlands. The project is run by Tour du Valat, a research institute for conservation of Mediterranean wetlands. In **Greece**, a preventative approach was taken to protect vital mountain ecosystems. The "Untrodden Mountains" project used scientific evidence to impede road and artificial land expansion in six large mountainous roadless areas (0.74% of Greek land). Road development is a key factor causing land-use change, and is disruptive to wildlife, ecosystems services and human health. The Greek government formally recognised the project and the protection of these roadless areas was put into national legislation. This allows for the safeguarding of some of Greece's most ecologically valuable forests and mountains, including from renewable energy development. From

[28] "Sweden and Finland Urge Revision of EU's Forestry Climate Targets - ArcticToday." Accessed February 11, 2026. https://www.arctictoday.com/sweden-and-finland-urge-revision-of-eus-forestry-climate-targets/.
[29] European Parliament, *Europe's Environment Report 2025*, 2023, https://www.eea.europa.eu/en/europe-environment-2025.

these two examples, it is clear that nature restoration requires proactive prevention of future damage, it is not just actively restoring degraded ecosystems

Water Resilience and Governance

Water stress and floods are growing threats across the EU. Water stress affects about 30% of the land and 34% of the population, with climate projections estimating that drought severity could increase by 40-80% by 2050 in many parts of the EU.[30] Since 1980, floods have caused over €170 billion in damage and thousands of deaths across the EU.[31] Flash floods are expected to become more frequent and intense in large parts of Northern, Central and Eastern Europe, while sea level rise threatens coastal flooding if current global warming continues.[32] Degraded wetlands, drained peatlands and channelised rivers have reduced landscapes' natural capacity to absorb rainfall, store water and buffer extremes.

The EU water policy framework is already fairly complete. The Water Framework Directive (WFD) requires Member States to protect and restore water bodies to reach good ecological status, with River Basin Management Plans (RBMPs) serving as the primary planning vehicle.[33] The Floods Directive (2007) requires flood risk management plans that increasingly recognise natural water retention measures as cost-effective alternatives to grey infrastructure. The NRR reinforces these objectives, with Article 7 requiring restoration of river connectivity. Water governance structures already exist to manage rivers, drinking water and extraction across the EU. River basin authorities, drinking water authorities, and intermunicipal bodies are key actors. Their environmental duties have been built up by the EU existing framework and are further added to by the NRR. In **France**, in 2006, ecological restoration was officially integrated into the water agencies (bodies charged with managing and preserving water resources) missions. Investment in wetland acquisition and management doubling between 2010 and 2020 to reach €43.3 million by 2021.

In **France** the Water Agency of Loire-Bretagne which has been funding and supporting a wetlands restoration project in Ster Vraz Marsh on Belle-Île-en-Mer since 2020. The project is led by the collective of communes, *Communauté de communes* de Belle-Île-en-Mer. The project aims to restore valley floors overgrown with reeds to their original wetland state and restore former ecological functioning. Wetland restoration is essential for the island, because the water supply mainly relies on rainwater runoff. Wetlands filter and purify the runoff water arriving to drinking water intakes. In **Spain**, river basin authorities are financed by the Ministry for the Environment (MITECO) to out hydrological-forestry restoration efforts on areas affected by fire and more generally to reduce soil erosion, pollution. The Ebro Resilience project brings together MITECO, the Ebro River Basin Authority, regional governments (*La Rioja, Navarra, Aragón*), scientists, local municipalities, farmers and civil society to restore floodplains, meanders and riparian habitats along the middle Ebro River using nature-based solutions. By reconnecting the river to its floodplain, restoring wetlands and riparian vegetation, and creating buffer zones, the project improves water retention, groundwater recharge and natural flow regulation, which helps **reduce both flood risk and vulnerability to drought and water scarcity**. At the same time, it enhances biodiversity, soil moisture and ecosystem health, showing how collaborative river restoration can strengthen climate resilience in a highly water-stressed basin.

Agriculture and Rural Livelihoods

European agriculture faces a convergence of pressures: volatile markets, rising input costs, climate impacts, and rural depopulation. This is having a clear impact on the sector, the work force has significantly declined over time

[30] "1.4 Water and Climate Impacts | 1. Biodiversity and Ecosystems | Europe's Environment 2025 (EEA)," accessed January 26, 2026, https://www.eea.europa.eu/en/europe-environment-2025/thematic-briefings/biodiversity-and-ecosystems/water-and-climate-impacts.
[31] "Too Much Water" accessed January 26, 2026.
[32] "Flooding | Flooding | European Climate and Health Observatory Climate-ADAPT," accessed January 26, 2026, https://climate-adapt.eea.europa.eu/en/observatory/topics/health-impacts/flooding/flooding.
[33] To note, a review and revision of the WFD has been proposed in 2026, facing criticism from environmental groups. See https://eeb.org/en/reckless-move-risks-derailing-water-protections/

and since 2024, farmer protests have erupted in different locations across Europe. Farmers represent a small share of the EU workforce and agriculture a small proportion of its GDP, but the importance of the agricultural sector should not be underestimated. Farmers are essential custodians of Europe's landscapes, 38% of which are farmed.[34] We are dependent on them, not only for our food security but also choices in agricultural land use determine our responses to the range of environmental challenges we face and whether landscape-wide restoration is possible. Farmers are regarded as a powerful lobby and have been successful in maintaining a large proportion of the agricultural budget for the EU Common Agricultural Policy (CAP). Relations with the environmental sector are often strained, to confrontational. Nonetheless, it would be a mistake to regard the sector as internally homogeneous, there are also significant internal divides. Representation on the EU level and in many Member States, tends to be focused on larger scale, conventional styles of agriculture. Smaller scale, especially pastoral or High Nature Value extensive systems are particularly challenged, receiving generally smaller basic payments and generally poorly rewarded for the public goods they provide.

The CAP, in its constant phases of reform, is facing the next major change concurrent with the 2027-2034 Multiannual Financial Framework. The European Commission proposal suggests combining the CAP with structural funds, while ring-fencing certain aspects. The overall budget is likely to decrease. Member States would have more flexibility to make choices on their priorities. As with the current CAP Strategic Plans, Member States would produce national plans demonstrating their cross-cutting priorities. Aligning these with the NRPs, will be an important step. Given that Member States do have increased flexibility, the implementation on national level becomes ever more important. Innovative schemes such as Payment for Ecosystem Services (PES) are starting to be more widely used in certain countries to make links to additional services bought from farmers clearer.

In **France**, the relationship between the farming sector and environmental agencies is strained (see the French case on the Agency for Biodiversity (OFB) and farmers). However, on a local level, restoration can be seen as an opportunity for certain parts of the farming sector, particularly when measures are co-developed with farmers. France's BUFFER+ project brought in a local public agency (EDENN), trusted by the farmers, to co-produce tailored PES for peatland restoration. It acted as a boundary organization to bridge on-the-ground knowledge and direct support to farmers with scientific and technical expertise while developing a network of farmer ambassadors to prove effectiveness through peer-to-peer demonstration rather than top-down messaging. Extensive farming where a main challenge is abandonment of agricultural land can also benefit from a move to recognise restoration actions. In **Croatia**'s Dinara Mountains, the Mosaic of LIFE[35] project provides support for livestock farmers to restore 560 hectares of bush-encroached grassland through traditional extensive grazing and controlled burning. The project aims to preserve Natura 2000 grasslands, reduce fire risk and at the same time, promote local products and services. These activities provide a fairer recompense for ecological services provided by extensive farming and giving them recognition for their activities in addition to food production.

Forestry and Private Landowners

Europe's forests face mounting pressures from climate change, intensive management practices and competing demands. Rising temperatures, prolonged droughts and pest outbreaks are weakening forest health across the continent. In Sweden, storms, droughts and bark beetle infestations have caused widespread damage, while in Croatia and Spain, wildfire frequency and intensity are escalating. Decades of plantation forestry favouring monocultures have reduced resilience. Uniform stands of single species and age classes are more vulnerable to disease, fire and windthrow than diverse, structurally complex forests. In Poland, spruce monocultures in the Beskids and Sudetes are poorly suited to water retention, exacerbating flood risks in mountainous regions. Only 14.2% of EU forests are considered to be in good ecological condition.[36] Forests are increasingly at risk of becoming sources of emissions when they burn, and contributors to flood damage when their hydrology is compromised.

[34] "Farms and Farmland in the European Union - Statistics - Statistics Explained - Eurostat," accessed January 30, 2026, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Farms_and_farmland_in_the_European_Union_-_statistics.
[35] LIFE is a European Union funding instrument for the environment and climate action
[36] "Forest | Ecosystems and Their Services | Biodiversity Information System for Europe," accessed January 30, 2026, https://biodiversity.europa.eu/europes-biodiversity/ecosystems/forest.

The EU Forest Strategy for 2030 sets out a vision for resilient, biodiverse forests that deliver climate benefits, calling for closer-to-nature forestry practices and strict protection of primary and old-growth forests. The LULUCF Regulation additionally creates incentives for forest management that enhances carbon sequestration. Within the NRR, Articles 4 and 12 require improvement in the ecological condition of forest ecosystems, including increases in standing and lying deadwood, forest connectivity and structural diversity. Forest ownership varies significantly between Member States. The majority of forests in Sweden or Germany are under private ownership and here the NRR requirements have been particularly contested with forest owners who see them impinging on their independence. In Poland, State Forests manages 77% of forests. However, it has in the past acted largely independently. Recent citizen and local authority pressure following the 2024 floods has prompted the Ministry to instruct State Forests to prepare protection concepts for vulnerable areas.

Forest owners participating in the WWF-run "*Naturnära Skogsbruk*" project in **Sweden** are motivated by a desire to manage their forests in more sustainable ways. Many seek alternatives to clear-cut forestry that preserve continuous forest cover, enhance biodiversity, and **increase resilience to climate-related risks such as storms, droughts and pest outbreaks.** Participants often emphasise stewardship values, including the wish to pass on healthy, productive forests to future generations, as well as an interest in learning, innovation and knowledge-sharing around sustainable forestry practices that balance production with environmental responsibility. Similarly, in **Poland**, there are growing local and regional initiatives to enhance forestry protection and move away from clear cutting practices. A bottom-up civil society resolution led to the Poznań city council to temporarily secure forests with protected status from logging and draft legislative changes to protect the threatened Darzybor old-growth Forest. The resolution obliges the mayor to negotiate with the Regional Directorate of State Forests to permanently secure the forest's protected status and develop draft legislative changes in collaboration with scientists and parliamentarians, with no logging reported in Darzybor Forest since the resolution's approval, demonstrating how citizen action combined with municipal governance can achieve practical protection outcomes that the NRR can build upon and scale. These emerging examples demonstrate that **the transition toward climate-resilient, biodiverse forestry is not only ecologically necessary but increasingly economically rational and socially supported**. The NbS of forests provide large-scale benefits, such as flood prevention, cooling effects, and soil retention

Marine Ecosystems and Fisheries

Europe's seas are under severe pressure. Overfishing has depleted fish stocks, with many populations remaining below sustainable levels despite decades of management efforts. Bottom trawling continues to damage seabed habitats, destroying the ecosystems on which fish populations depend for spawning and nursery grounds.[37] Climate change is compounding these pressures. Warming waters are shifting species distributions, ocean acidification threatens shellfish and coral communities, and more frequent storms are eroding coastal habitats.[38] Infrastructure development in coastal regions has been a serious pressure for decades. Now expanding offshore energy development has added another pressure and regulation is still catching up with the impacts. Fisheries of high importance in countries such as Greece and Ireland with significant coastlines. Coastal communities that have depended on fishing for generations face an uncertain future as catches decline and younger generations leave the sector.

The Marine Strategy Framework Directive (MSFD) requires Member States to achieve Good Environmental Status in their marine waters, addressing biodiversity, food webs, seabed integrity and the impacts of fishing. The Common Fisheries Policy (CFP) sets catch limits and technical measures for controlling fish stocks. These are built upon by the Ocean Pact, establishing an overarching framework for ocean governance, and the aim to establish an Ocean Act. Energy policy has a significant impact on the marine environment (see Energy and Infrastructure below). The NRR introduces specific marine restoration obligations: Article 5 requires restoration of marine habitats including seagrass beds, sediment bottoms and shellfish reefs. Similarly to the challenges of

[37] "Bottom Trawling - Oceana Europe," accessed January 30, 2026, https://europe.oceana.org/bottom-trawling/.
[38] "How Climate Change Impacts Marine Life | Publications | European Environment Agency (EEA)," accessed January 30, 2026, https://www.eea.europa.eu/en/analysis/publications/how-climate-change-impacts-marine-life.

engaging the farming sector, engaging fishing communities as partners rather than obstacles is important for implementation. Energy companies as the other key actor are more organised but governments' ability to engage them varies between countries.

In **Ireland**, there is a major initiative to prevent seagrass degradation with the help of local oyster fishers. The Tralee Oyster Fisheries Society is helping scientists map out seagrass habitats along the shoreline and avoiding fishing in those identified areas. The Society has agreed to disperse oyster shells in key areas to develop reefs for key species, like spider crabs. In **Greece**, in the *AMORGORAMA* project on Amorgos Island, as established by local fishers to tackle both overfishing and plastic pollution. Actions included a voluntarily pause to fishing in April to May during reproductive season, replacing fishing gear with more sustainable methods, and establishing three Marine Protected Areas which are strict no-take-zones. These three Fisheries Restricted Areas were officially approved by the Greek Government at the UN Our Ocean Conference 2024. These two examples illustrate that **when fishing communities are active partners; collaborative approaches can be developed that align the livelihoods of coastal communities with the health of marine ecosystems.**

Health and Wellbeing

The links between healthy ecosystems and human health are increasingly recognised. Air pollution, much of it linked to agricultural emissions, transport and industry, causes over 300,000 premature deaths annually in Europe.[39] Degraded urban environments with insufficient green space contribute to heat island effects, respiratory illness and mental health problems. Water pollution from agricultural runoff and inadequate wastewater treatment affects drinking water quality and bathing waters.[40] In 2024, the annual health costs for human exposure to per- and polyfluoroalkyl substances (PFAS) (chemicals) was estimated to be € 39.5 billion.[41] Climate-related extreme events such as heatwaves, floods and wildfires, have direct health impacts, with the 2022 European heatwave alone linked to over 60,000 excess deaths.[42] Beyond these direct pathways, **there is growing evidence that access to nature supports mental health, reduces stress, encourages physical and strengthens community cohesion.**[43] However, urban green space is unequally distributed, with lower-income neighbourhoods typically having less access to parks.[44] Rural communities face different pressures: land abandonment, declining services and the health burdens carried by ageing populations.

The policy framework connecting health and nature restoration is emerging but fragmented. Under the European Green Deal, the Farm to Fork Strategy fell under the remit of the DG SANTE, clearly acknowledging the health impacts of agriculture, however implementation has proved challenging. The EU's Zero Pollution Action Plan targets reductions in air, water and soil pollution with clear health co-benefits. The One Health approach which recognises the interconnection of human, animal and environmental health, is gaining traction. It is an integrated approach that aims to sustainably balance and optimise the health of people, animals and ecosystems.[45] While still viewed as rather marginal in environmental policy, the NRR potentially strengthens the links between the two areas. Article 6 requires Member States to ensure no net loss of urban green space and tree canopy cover, with increases required by 2040 and 2050, directly supporting urban health outcomes. Wetland and peatland restoration under Article 9 and 10 improves water quality, while forest restoration enhances air quality and

[39] "Air Pollution in the EU: Facts and Figures - Consilium," accessed January 30, 2026, https://www.consilium.europa.eu/en/infographics/air-pollution-in-the-eu/.
[40] "Polluted Water - Environment - European Commission," accessed January 30, 2026, https://environment.ec.europa.eu/topics/water/water-wise-eu/polluted-water_en.
[41] "The Cost of PFAS Pollution for Our Society - Publications Office of the EU." Accessed February 11, 2026. https://op.europa.eu/en/publication-detail/-/publication/2bcea765-fbf8-11f0-8da5-01aa75ed71a1/language-en.
[42] "Over 61,000 Excess Deaths Quantified in Europe Due to Heat in Record Summer 2022 | News | European Climate and Health Observatory Climate-ADAPT," accessed January 30, 2026, https://climate-adapt.eea.europa.eu/en/observatory/news-archive-observatory/over-61-000-excess-deaths-in-europe-due-to-heat-in-record-summer-2022.
[43] Rachel M. Nejade et al., "What Is the Impact of Nature on Human Health? A Scoping Review of the Literature," *Journal of Global Health* 12 (2022): 04099, https://doi.org/10.7189/JOGH.12.04099.
[44] "Who Benefits from Nature in Cities? Social Inequalities in Access to Urban Green and Blue Spaces across Europe | Publications | European Environment Agency (EEA)," accessed January 30, 2026, https://www.eea.europa.eu/en/analysis/publications/who-benefits-from-nature-in-cities-social-inequalities-in-access-to-urban-green-and-blue-spaces-across-europe.
[45] World Health Organization. "One Health." Accessed December 8, 2025. https://www.who.int/health-topics/one-health#tab=tab_1.

provides recreational spaces. In France, **insurance and health care mutuals are beginning to invest in restoration, recognising that healthy ecosystems reduce health costs potentially attracting significant private finance.** The challenge lies in making these connections explicit in NRPs and ensuring that health ministries and public health agencies are engaged alongside environment departments in restoration planning.

In **Spain**, a study on the Vitoria-Gasteiz wetland, it was found that the restoration of the wetland has reduced nitrate concentrations in the waters and from the groundwater thanks to the recovery of its biogeochemical function. During storm events, the wetland was able to reduce the nitrate concentration entering the Alegria River, which is an important river on the quaternary aquifer. In **France**, Tour du Valat has a long-standing programme on bringing together ecosystem health and human health**.** The research institute was founded by André Hoffmann, Vice Chairman of Roche, a pharmaceutical company focused on human therapeutics and diagnostics. The idea that wetlands could be places improving to human health, rather than detrimental, as had long been thought, was part of the founding philosophy. Tour du Valat reported that they increasingly receive funding from health mutuals and insurance companies, recognising these cross-cutting benefits.

Economic Opportunities for Local Communities

Rural communities in many parts of Europe face depopulation, ageing workforces, declining services and limited investment. This is leading to an increasing "urban-rural divide" and can be regarded as a contributing factor to an increasingly divided society. Restoration has substantial potential to generate local economic benefits. The European Commission estimates that full implementation of the NRR could create 50,000 to 140,000 jobs across the EU,[46] while delivering €8-€38 in benefits for every euro invested.[47] **Beyond direct jobs, restoration can underpin local economies through nature-based tourism, sustainable food and fibre production, and new value chains for products from restored landscapes.** Restoration also enhances nature and society's resilience towards disasters, with the EU Civil Protection Knowledge Network reporting that investing in disaster resilience produces 2-10 times more benefits from costs, including nature-based solutions for flood prevention, wildfire risk reduction etc.[48] However, restoration projects that arrive as top-down impositions, without local ownership or tangible local benefits, risk deepening resentment rather than building support.

Support to community regeneration is divided across a range of EU funds. The CAP's LEADER programme and community-led local development initiatives offer mechanisms for bottom-up restoration planning. Structural funding such as Cohesion policy and the Just Transition Fund can support restoration in regions facing economic restructuring.

In southeast **Spain**, the AlVelAl landscape partnership brings together farmers, livestock breeders, researchers and citizens across five regions (Altiplano de Granada, Los Vélez, Alto Almanzora, Noroeste de Murcia, and Guadix) in a 20-year plan to combat desertification through regenerative agriculture. The partnership has developed the "almendrehesa" system, integrating almonds, aromatic crops, beekeeping and lamb farming. These are allowing farmers to generate higher margins so they can re-invest in restoration on their farms. The landscape partnership is developing supply and value chains for these crops to be sold in touristic areas across the regions. Regional partnerships like this also provide an opportunity to employ many in the region, as the partnership now employs over 500 people to keep it running. In **Germany** biomass from re-wetted peatlands is being integrated into commercial value chains regionally, via the PaludiAllianz project. Farmers are connected with local businesses to promote the use of biomass and fibres (such as reeds and cattails) in their products. These types of initiatives not only strengthen farmers' economic interest in restoration but also develops short and sustainable value chains for businesses and delivers climate benefits as well.

[46] "EUR-Lex - 52019DC0236 - EN - EUR-Lex," accessed January 25, 2026, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2019:236:FIN.
[47] "The Importance of Restoring Nature in Europe | EEA," accessed January 25, 2026,
[48] *Economics for Disaster Prevention and Preparedness SUMMARY REPORT Investment in Disaster Risk Management in Europe Makes Economic Sense*. 2021. www.worldbank.org. p.14

Energy and Infrastructure

Green energy is urgently needed in Europe (see climate section). However, Europe's accelerating energy transition is reshaping landscapes at an unprecedented scale. Meeting the EU's renewable energy targets requires massive expansion of wind and solar capacity. **Greece** alone projects solar PV capacity to grow from 4.8 GW to 34.5 GW by 2050. Alongside this, grid infrastructure, transport networks and urban development continue to fragment habitats and place pressure on ecosystems. The tension between renewable energy deployment and nature conservation has become increasingly visible. Poorly sited wind farms threaten bird and bat populations, ground-mounted solar installations can displace biodiversity, and offshore developments affect marine ecosystems. This is evident in many Member States but has been particularly highlighted in Greece where pressure from solar and wind developments adds to damage caused by poorly sited hydropower, road building and coastal development in the past.

The EU Omnibus packages, adopted throughout 2025, introduce sweeping simplifications to environmental legislation. The Environmental Omnibus (December 2025) streamlines environmental assessments under the EIA, SEA, Water Framework, Habitats, and Birds Directives, introducing accelerated permitting timelines and a toolbox of measures for strategic sectors including renewable energy, grids, and decarbonisation projects. Under the revised Renewable Energy Directive (RED III), projects located in designated Renewable Acceleration Areas (RAAs) may be exempt from Environmental Impact Assessments entirely, with permitting processing time limited to just one year. These changes risk reducing the scrutiny applied to projects that may affect sensitive ecosystems. Theoretical safeguards include encouraging Member States to identify "go-to" areas for renewables where environmental impacts are minimised.

In **Greece**, the Greek government has adopted a ministerial decision protecting the Aoos River, one of Europe's last free-flowing rivers, by prohibiting the construction of dams and hydropower plants (including Small Hydropower Plants) within its protected section. The protection allows sustainable economic activities like farming, stockbreeding, and tourism while preserving the river's ecological integrity, biodiversity, and cultural heritage. In **Ireland**, the University of College Dublin is partnering with Codling Wind Park, Ireland's largest planned offshore wind park, to research the potential of using NbS to protect and enhance biodiversity in selected sites along the Irish coast. The project will focus on eco-engineering approaches, and the restoration of oyster reefs and seagrass beds. The hope is that the results can inform suitable ecoengineering options for the offshore renewable industry in Ireland. These two examples show that reconciling conservation with energy development requires context-specific approaches, whether through outright protection or through integration of restoration into new infrastructure projects. This demonstrates that nature restoration and energy development can be compatible when there is proper spatial planning in place, and ecological integrity is prioritised from the outset.

Defence and Security

Climate-related disasters (floods, wildfires, droughts) are increasingly recognised as civil security threats, requiring emergency response capacity and imposing significant costs on public budgets. The EU Civil Protection Mechanism has been activated repeatedly in recent years for climate-related emergencies across Member States.[49] Beyond disaster response, degraded landscapes can amplify security risks: deforested hillsides increase flood and landslide danger to downstream communities; drained peatlands become fire hazards; and poorly managed forests near borders can either facilitate or hinder hostile movement. In conflict situations, restored peatlands and forests may act as natural barriers. In post-conflict contexts, environmental remediation and restoration are preconditions for safe land use as unexploded ordnance and mine contamination render landscapes dangerous for decades. More broadly, resource scarcity driven by environmental degradation can contribute to social instability and migration pressures that have wider security implications. Nature restoration can enhance local sustainable value chains, which can be a source of resilience and strategic autonomy. This is

[49] "The EU Civil Protection Mechanism in Numbers - Consilium," accessed January 30, 2026, https://www.consilium.europa.eu/en/infographics/civil-protection/.

particularly relevant for sectors like food and wood, which often rely on globalised, input and technologically dependent industrial value chains. Governments are beginning to see the security connections with biodiversity as well. As part of their long-term resilience planning, the UK government published an assessment in 2026 outlining how environmental degradation can disrupt food, water, health and supply chains, both at the national and international level. The assessment stresses the importance in innovation, green finance and global partnerships as strategies for our collective security and prosperity.[50]

The policy framework connecting restoration to security is nascent but growing. The EU's Strategic Compass for Security and Defence (2022) acknowledges climate change as a "threat multiplier" and commits to mainstreaming environmental considerations,[51] while the Climate Change and Defence Roadmap ensures climate policy implications are integrated into defence planning, infrastructure, and capability development.[52] Focus on use of NbS in defence mechanisms is receiving increased attention in the face of the increased security threat from Russia.[53]

Poland's East Shield (*Tarcza Wschód*) programme already incorporates natural obstacles such as the Biebrza Marshes alongside engineered barriers. This builds upon existing collaborations between the army and nature conservation organisations in Poland. The LIFE21-GIE-PL-INF-ARMY project (2022–2024), led by the Ministry of National Defence, created a management network for 116 Natura 2000 sites on military land, produced a 230-page nature conservation guide for military sites, and trained 500 personnel in biodiversity management establishing nature protection advisors within the military structure. Restoring floodplains, rewetting peatlands, and maintaining healthy forests can thus reduce flood and wildfire risks to civilian and military infrastructure while simultaneously creating strategic terrain advantages. In **Croatia**, the NATURAVITA project in eastern Croatia combines mine clearance with forest restoration and fire management infrastructure, addressing both post-conflict legacy and ecosystem degradation in a single integrated intervention.

[50] "Nature Security Assessment on Global Biodiversity Loss, Ecosystem Collapse and National Security - GOV.UK." Accessed February 11, 2026. https://www.gov.uk/government/publications/nature-security-assessment-on-global-biodiversity-loss-ecosystem-collapse-and-national-security.
[51] European Union External Action Service. "The EU' Climate Change and Defence Roadmap." Accessed January 30, 2026. https://www.eeas.europa.eu/eeas/eu-climate-change-and-defence-roadmap_en.
[52] "The EU' Climate Change and Defence Roadmap | EEAS." Accessed January 30, 2026. https://www.eeas.europa.eu/eeas/eu-climate-change-and-defence-roadmap_en.
[53] "Peatlands as a Natural Defence: An Innovative Approach to Europe's Security," accessed January 30, 2026, https://www.aeco.earth/blog/peatlands-as-natural-defence-an-innovative-approach-to-europes-security.

6. Conclusions

The NRR represents a transformative opportunity to address Europe's interconnected crises through ecosystem restoration that delivers multiple benefits simultaneously across society. The case studies examined in this report reveal that restoration is already proving its value as a unifying solution: rewetted peatlands that sequester carbon while buffering floods and droughts, restored forests that regulate water cycles while providing fire protection and carbon storage, marine habitats that support fisheries recovery while building coastal resilience, and agricultural landscapes that enhance soil health while supporting pollinators and rural livelihoods. These cross-sectoral synergies are emerging across Member States, showing that when ecosystems are restored, the benefits cascade across multiple policy domains that have traditionally operated in silos. The timing could not be more critical, as climate-related damages escalate with floods causing over €170 billion in losses since 1980, water stress affecting 30% of EU land, and drought severity projected to increase 40-80% by 2050, making restoration a strategic investment in resilience.

Restoration is cross-cutting solution that addresses the urgent needs of multiple sectors simultaneously, making it one of the most efficient investments Europe can make in its future prosperity and security. For **agriculture** facing increasing droughts, degraded soils, and water scarcity, restoration delivers climate-resilient farming through improved water retention, enhanced soil health, and natural pest control. For **water authorities** confronting escalating flood damages and supply insecurity, restoration provides natural infrastructure through wetlands that buffer extremes and filter pollutants at a fraction of the cost of grey alternatives. For **coastal communities** dependent on fisheries facing decreasing stocks, restoration rebuilds the spawning grounds and nursery habitats essential for marine productivity. For **foresters** grappling with wildfire risk and pest outbreaks, restoration creates structurally diverse, climate-resilient forests. For public health systems bearing the costs of air and water pollution, heatwaves, and mental health challenges, restoration delivers cleaner environments and access to nature. For rural communities facing depopulation and economic decline, restoration generates local employment, supports nature-based tourism, and creates new value chains for products from restored landscapes. The NRR's transformative power lies in making these connections explicit. The same hectare of restored peatland that sequesters carbon also prevents flooding, purifies water, supports biodiversity, and can generate income through paludiculture, making restoration a tool to meet multiple policy objectives and social needs.

Beyond the ecological and economic case, the NRR is functioning as an enabling framework that is catalysing governance transformation and building the collaborative infrastructure essential for implementation at scale. The NRP development process is creating formal platforms where previously disconnected actors are coming together to recognize their interdependencies and co-design integrated solutions. Promising collaborations are already emerging that demonstrate the potential: agricultural organizations partnering with environmental NGOs in multi-stakeholder agreements in **Germany**; trade unions working alongside environmental groups in **Spain**'s social tables for water, energy cooperatives partnering researchers in **Ireland** to best place marine wind turbines to benefit fish stocks. These innovations show that restoration can be regarded not as constraint but as opportunity. The difficult task ahead is to upscale these positive examples using the NRP process, strategic financing mechanisms, cross-ministerial coordination platforms, and participatory governance forums to transform isolated successes into systemic change.

As Member States finalise their NRPs, and think of the next steps after it, they need to recognise that restoration is a strategic pathway to building the climate resilience, water and food system stability, healthy ecosystems, and thriving communities that Europe strives for.

7. Case Studies

Croatia, Fire Risks in Forests & Grasslands and the NRR

In Croatia wildfires have become an escalating threat to forests and grasslands, costing €249 million in damages between 2010 and 2021 alone. Yet fire is not solely a hazard; when carefully controlled, it can be a conservation and restoration tool. The NRR provides an opportunity to restore degraded grasslands, reduce fire risk, and revitalize rural livelihoods, where civil society, fire departments, and government can work together to develop sustainable fire management strategies that benefit nature as well.

Introduction

The Croatian context

Croatia has made significant efforts in improving nature conservation structures since joining the EU in 2013, having made significant progress in transposing and implementing EU nature legislation, including the Birds and Habitats Directives. The country has achieved the 30% land and marine protection target, with the Natura 2000 network covering over one-third of its territory. The government has generally been supportive of nature restoration, voting in favour of the NRR, and adopting a National Biodiversity Strategy and Action Plan (2017–2025), which includes restoration objectives for key habitats and species, as well as commitments to expand protected areas and improve management effectiveness.[54] However, challenges include enforcement, monitoring, and aligning conservation with development pressures such as tourism, infrastructure, and agricultural intensification. For fire risk specifically, a major conservation challenge is the loss of open habitats due to land abandonment and forest succession.

The Croatian governance structure creates implementation challenges, as institutional responsibilities are divided regarding land management, with the national level overseeing parks while Natura 2000 and protected area management is the responsibilities of counties. Inspection responsibilities exist within state structures, but capacity is low and staff numbers insufficient. The same bodies overseeing Natura 2000 will likely manage NRR compliance, stretching resources further. Fragmentation and limited cooperation between forestry and nature-protection institutions further complicates effective nature restoration law implementation. Croatia currently has two open infringement cases related to the EU Nature Directives. In one case, Croatia did not properly ascertain if certain wind farms they authorised in Natura 2000 sites would negatively impact the sites.[55] The second case is regarding not effectively setting up a monitoring system to prevent the by-catch of sea turtle and seabird species in Croatian waters.[56]

> **Political positioning:** Centre-right Croatian Democratic Union (HDZ) has been in power since 2016. The government has generally positioned itself as pro-EU and supportive of green transition agendas, but biodiversity and restoration are lower priority issues compared to economic development, infrastructure expansion, and tourism promotion.

[54] Republic of Croatia Ministry of Environment and Energy. *NATURE PROTECTION STRATEGY AND ACTION PLAN OF THE REPUBLIC OF CROATIA FOR THE PERIOD 2017-2025*. 2017. https://mingo.gov.hr/UserDocsImages/UPRAVA%20ZA%20ZA%C5%A0TITU%20PRIRODE/strate%C5%A1ka/NBSAP_leaflet.pdf.
[55] "May Infringements Package: Key Decisions," accessed January 17, 2026, https://ec.europa.eu/commission/presscorner/detail/en/inf_20_859.
[56] "February Infringements Package: Key Decisions," accessed January 17, 2026, https://ec.europa.eu/commission/presscorner/detail/en/inf_25_242.

National Legal Framework: The Nature Protection Act (2005) aligns with the EU Birds and Habitats Directive.[57] National Biodiversity Strategy and Action Plan (2017–2025), which includes restoration objectives for key habitats and species, as well as commitments to expand protected areas and improve management effectiveness.[58] In addition, the National Climate Change Adaptation Strategy highlights the vulnerability of ecosystems to climate impacts, particularly droughts and wildfires, and the role of restoration in building resilience.[59]

Land use: Croatia has 38.15% of its land covered by protected areas,[60] and 32% of marine waters.[61] Forests cover approximately 46% of the land area, with 23% being privately owned, and 77% under public ownership, mainly through Croatian Forests (*Hrvatske šume*).[62] Grasslands cover 16.7% of land.[63]

Main Bodies Responsible: The Ministry of Protection and Green Transition (MZOEZ) is the primary national authority responsible for implementing national and EU nature policy and developing the National Restoration Plan (NRP). The Ministry of Interior (MUP) coordinates firefighting with the Croatian Firefighting Association.

Financing: Financially, Croatia relies heavily on EU funds for restoration, particularly Cohesion Policy funding and rural development programmes under the CAP. Nationally, the Environmental Protection and Energy Efficiency Fund is used for environmental protection, which could include restoration.

Forests and grasslands in Croatia

Croatia is divided into three biogeographic regions where habitats vary considerably. In the continental and Alpine inland, Croatian forests are generally considered healthy, with 73% considered to be in good ecological condition (compared to the EU average of 52%). Unfortunately, grasslands, focussed on the Mediterranean coast are in a more precarious situation, with 58.6% of grassland habitats being in a poor or bad conservation state.[64] Croatia faces growing risks from forest and grassland fires, particularly in its coastal regions, where climate change has increased the frequency and intensity of droughts, heatwaves, and extreme weather events. In 2024 alone, Croatia experienced 21% more open-air fires and four times more burned area than 2023. The damage from wildfires between 2010 and 2021 is estimated to be €249 million.[65] Forests are increasingly vulnerable to fire damage, pest outbreaks, and land-use change, which threaten both ecosystem health and rural livelihoods. Traditional grasslands, many of which depend on extensive grazing, are also at risk of abandonment, shrub encroachment, and higher fire susceptibility. Prescribed fire (planned fires under professional supervision) is seen as a conservation and preventative measure to reduce fire risks. A number of pilot projects are running with the aim to integrate prescribed burning into regulation. However, historical reliance on highly flammable tree species (such as Aleppo pine) in plantations and experiences of destructive wildfires, has sown doubt in the

[57] "Law Gratis," accessed December 16, 2025, https://lawgratis.com/blog-detail/environmental-laws-at-croatia.
[58] Republic of Croatia Ministry of Environment and Energy, *NATURE PROTECTION AND ACTION PLAN OF THE REPUBLIC OF CROATIA FOR THE PERIOD 2017-2025* (2017), https://mingo.gov.hr/UserDocsImages/UPRAVA%20ZA%20ZA%C5%A0TITU%20PRIRODE/strate%C5%A1ka/NBSAP_leaflet.pdf.
[59] REPUBLIC OF CROATIA MINISTRY OF ECONOMY AND SUSTAINABLE DEVELOPMENT, *CLIMATE CHANGE ADAPTATION STRATEGY IN THE REPUBLIC OF CROATIA FOR THE PERIOD UNTIL 2040 WITH A VIEW TO 2070* (2020), https://mingo.gov.hr/UserDocsImages/KLIMA/Climate%20change%20adaptation%20strategy.pdf.
[60] "Croatia | Countries | Biodiversity Information System for Europe," accessed January 17, 2026, https://biodiversity.europa.eu/countries/croatia.
[61] "Plenković: Let the Ocean Breathe so That Life May Thrive Again, and Humanity May Catch Its Breath | Vlada Republike Hrvatske," accessed January 18, 2026, https://vlada.gov.hr/news/plenkovic-let-the-ocean-breathe-so-that-life-may-thrive-again-and-humanity-may-catch-its-breath/44587.
[62] "Croatia," accessed January 17, 2026, https://www.cepf-eu.org/about-us/members/croatia.
[63] "Land Cover Statistics - Statistics Explained - Eurostat," accessed January 17, 2026, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Land_cover_statistics.
[64] *Policies for the Future of Farming and Food in Croatia*, OECD Agriculture and Food Policy Reviews, December 15, 2025, https://doi.org/10.1787/011C6272-EN.
[65] "Croatia - Management of Wildfire Risk | GFDRR." Accessed January 18, 2026. https://www.gfdrr.org/en/publication/croatia-management-wildfire-risk.

minds of the public and politicians in the use of prescribed fire. At the same time, ironically, a cultural tolerance for landscape burning and weak arson enforcement, illustrate the gap between open burning restrictions in the Fire Protection Law (*Zakon o zaštiti od požara*) and local reality. Bridging this divide is seen as essential to move from uncontrolled to controlled fire practices.

Coordination between the nature conservation sector and the forestry sector is progressively improving, particularly regarding the integration of nature protection into fire management plans by Croatian Forests. However, conflicts exist between forest and conservation laws, where fire management remains largely absent from the Forest Law (*gospodarenje šumama*). The lack of a joint fire and restoration strategy and insufficient fire ecology data were also highlighted as major gaps by interviewees.

Why is the NRR relevant for Croatia and Fire Risks in Forests and Grasslands?

At the national level

The NRR is viewed by interviewees as a significant opportunity to revitalise existing legislation and bring reforms at the national level in Croatia. National Nature Objectives were adopted by the government in 2025 with some linked directly to the NRR objectives itself.[66] Work is currently underway on the National Restoration Plan (NRP) and an integrated national strategy. The regulation is driving new coordination mechanisms across ministries (forestry, agriculture, spatial planning). Updates to the national Nature Protection Law are planned to mainstream restoration principles into standard procedures.

The "Restore Nature NRP Mid-Term Assessment Report" categorises Croatia as having "insufficient/unclear" progress. This is due to concerns over the slow process and capacity to draft the plan while positives included (some) government openness to support by feedback from society.[67] The division of administrative responsibilities described above do not aid NRR implementation. Institutional responsibilities are divided regarding both protected site and land management. Forestry sector ownership is split between 75% state-owned and 25% private ownership. Steps are being taken to increase coordination. A new coordination group for nature restoration has been established on top of existing Nature Directive coordination aiming to increase dialogue with agriculture, forestry, spatial planning, and construction sectors for the urban dimension. Key government agencies involved in the NRP include Croatian Forests as the primary landowner for grasslands and forest land, private forest owners, and the agriculture sector, particularly farmers who benefit from grassland management through state leases. Finally, alliances are emerging among the forestry agency, private owners, and the agricultural sector, supported by a planned Climate Change Adaptation Centre within the Ministry, which will focus on fire detection surveillance cameras in the Mediterranean area.

Croatia intends to include fire management in their NRP. However, conflicts with forestry law still exist. One reform that was achieved[68] is the allowance of shrubs removals in grassland clearings for habitat preservation and fire management. This was previously forbidden by forest law. The change has not been without controversy, criticised by the NGO Croatian Forestry Society for increasing barren land and contributing to soil erosion, water regulations and habitat functions, which further underscores the tensions between fire management and conservation.[69] Positively, there is a strong momentum, perceived by interviewees, that MZOZT is recognising the links between restoration and climate change, forest health, and carbon storage. The National Climate Change Adaptation Strategy specifically acknowledges the vulnerability of the forests, grasslands and overall biodiversity to climate change, citing fire as a major threat. The Strategy highlights the importance in developing cross-sectoral measures (water management, agriculture, forestry, spatial planning) to strengthen biodiversity

[66] "Ministarstvo Zaštite Okoliša i Zelene Tranzicije Republike Hrvatske - Ciljevi Zaštite Prirode Republike Hrvatske Koji Doprinose Provedbi Globalnog Okvira Za Bioraznolikost Iz Kunminga i Montreala," accessed January 23, 2026, https://mzozt.gov.hr/ciljevi-zastite-prirode-republike-hrvatske-koji-doprinose-provedbi-globalnog-okvira-za-bioraznolikost-iz-kunminga-i-montreala/10190
[67] Antier and Savu, *Nature Restoration Plan Development Process*, 2025.
[68] "Hrvatska Izrađuje Plan Za Obnovu 30 Posto Devastiranih Prirodnih Staništa - Klimatski Portal." Accessed January 18, 2026. https://klimatski.hr/2025/03/31/hrvatska-izraduje-plan-za-obnovu-30-posto-devastiranih-prirodnih-stanista/.
[69] "*Hrvatska Izrađuje Plan*"

resilience based on NbS, including the use of restoration and using measures related to traditional knowledge and agricultural practices.[70]

At the regional and local level

NGOs are taking strong steps in investing in projects which combine habitat restoration and fire management. BIOM, a key conservation NGO, has been at the forefront of practical implementation, with a dedicated branch focusing on habitat management, especially open and mosaic habitats. The organisation's work centres on traditional practices such as livestock grazing and controlled fire use as tools for habitat conservation and fire prevention. BIOM has led significant projects including "Dinara Back to LIFE" and "Mosaic of LIFE," which explore the ecological role of prescribed burning and include capacity building and knowledge discussions. This approach emphasizes the need to move from uncontrolled to controlled fire practices, recognizing fire as both a conservation and a preventive measure.

> *The Mosaic of LIFE project aims to restore and improve grassland habitats and bird populations across central Dalmatia through nature-based solutions and sustainable agricultural practices. The project's four main objectives are to restore at least 560 hectares of bush-encroached grassland and improve management of an additional 1,020 hectares to increase nesting pairs of four target bird species; empower livestock farmers and stakeholders to preserve Natura 2000 grasslands through economically viable traditional extensive agriculture; advocate for mosaic landscape preservation using climate-resilient nature-based solutions aligned with EU Nature Restoration Law; and raise awareness about the importance of mosaic landscape conservation and traditional farming practices.*[71]

Since use of prescribed fire can be controversial with politicians and the public, an important step has been to integrate fire departments as direct project partners (e.g. in Dinara Back to LIFE), to increase societal buy in. NGOs have also been very active in exchanging internationally on fire management, with strong connections to Mediterranean partners, especially Spain. However, expanding these activities to private land is challenging. NGOs have tried to engage local landowners in coastal areas of Croatia where land abandonment is linked with increased fire risks. However, progress is slow due to limited capacity and small land parcel sizes.

Project funding at the regional and local level relies heavily on EU instruments, particularly LIFE funding and Cohesion Policy funds have been creatively used to restore forests through Croatian Forests' specific projects. So far agri-environment-climate under the CAP has not been adapted to restoration practices, though Partly for this reason, the agricultural sector's involvement remains limited, and an interviewee described hesitancy in the sector to lobby for inclusion of fire prescription measures due to their potential controversy.

Cross sectoral synergies and opportunities

The restoration of forests and grasslands in Croatia offers significant synergies between climate adaptation, fire prevention and civil protection, and rural livelihoods. The NRR has the potential to further strengthen these.

Nature-based solutions for fire management

The restoration of forests and grasslands can act as nature-based solutions (NbS) to reduce fire risk. Adaptive forestry, green corridors, agroforestry, rewetting peat/wetlands and rewilding can all reduce fire risk. Post-fire management requires comprehensive forest restoration, including the reintroduction of native fire-resistant vegetation, which can slow down fire spread, and adaptive forestry which includes mixed tree stands and ages that reduces fire connectivity. This also has added benefits of enhancing forest resilience to threats like pest-

[70] REPUBLIC OF CROATIA MINISTRY OF ECONOMY AND SUSTAINABLE DEVELOPMENT. *CLIMATE CHANGE ADAPTATION STRATEGY IN THE REPUBLIC OF CROATIA FOR THE PERIOD UNTIL 2040 WITH A VIEW TO 2070*. 2020. https://mingo.gov.hr/UserDocsImages/KLIMA/Climate%20change%20adaptation%20strategy.pdf. p.29

[71] "Projekt Mosaic of LIFE - NP Krka." Accessed January 18, 2026. https://npkrka.hr/en_us/o-nama/projekti/mosaic-of-life/.

outbreaks.[72] Grazing management through rewilding or agroforestry helps reduce the vegetation density reducing fire load and contribute to firebreaks. Grazing not only maintains sustainable forest ecosystems, but the economic benefits of maintaining grazing livestock can benefit local communities.[73]

> *The NATURAVITA project, implemented in eastern Croatia's Kopački rit Nature Park and Mura-Drava Regional Park, is primarily funded by the EU Cohesion Fund. Its main objectives are to clear mine contamination, restore and protect forest and forestland in protected and Natura 2000 areas, and rehabilitate water resources to enable sustainable ecosystem management. The project combines ecosystem resilience and fire management. Fire management is built into the project through the construction and upgrading of 107 ha of fire breaks and 33 km of fire roads, significantly improving forest fire-fighting infrastructure, while biological restoration activities cover over 1 000 ha of forests, including replacing alien species with native species and revitalising rare wetland grasslands. The project is led by Croatian Forests, with partners including the Ministry of the Interior, Croatian Waters, the Nature Park Public Institution, and the Ministry of Regional Development.[74]*

Traditional practices and rural livelihoods

Figure 4 - Extensive livestock grazing can reduce scrub encroachment in Croatia Photo Credit: Dario Hipolito

As land abandonment increases due to depopulation in rural and mountainous regions the decline in livestock grazing and traditional pasture management results in overgrown grasslands.[75] This can reduce habitat quality for rare plant and pollinators, which can increase the spread of invasive species. They can also increase fire risk due to accumulated woody biomass. Grassland restoration, i.e. shrub removal and grazing play a key role in reducing fire risk. Grasslands benefit from wild or livestock grazing, as it stimulates growth and plant health, as long as it is not intensive and herds move from place to place.[76] A major barrier to working on grassland restoration identified by farmers interviewed in the Dinara Back to LIFE project, is their own lack of financial resources and limited funding opportunities available for individual farmers to combat overgrown grasslands. Current agricultural subsidies do not meet the needs of pastoral farmers and complex administrative procedures discourage them further.[77]

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[72] "Nature-Based Solutions for Fire-Resilient European Forests | Publications | European Environment Agency (EEA)." Accessed January 18, 2026. https://www.eea.europa.eu/en/analysis/publications/nature-based-solutions-for-fire-resilient-european-forests.
[73] Arbinolo, M., Patimo, G., Rey, E., Stokkeland, O., Verde, J. C., Casartelli, V., Marengo, A., Melinato, S., Mysiak, J., Salpina, D., Afentoulidis, S., Brăilescu, C., & S.rensen, J. (2024). UCPM Wildfire Peer review report: Greece 2024. https://doi.org/10.25424/CMCC-79TS-VV91
[74] European Forest Institute (EFI), and Integrated Forest Management Learning Architecture (INFORMAR). *Promoting the Integration of Nature Conservation into Sustainable Forest Management at the Policy, Practice and Research Level*. n.d. Accessed January 18, 2026. https://informar.eu/sites/default/files/pdf/integrate-brochure.pdf. p.16
[75] *Policies for the Future of Farming and Food in Croatia*. OECD Agriculture and Food Policy Reviews, December 15, 2025. https://doi.org/10.1787/011C6272-EN.
[76] "The Value of Grazing as a Wildfire Prevention Tool | UCP Knowledge Network." Accessed January 18, 2026. https://civil-protection-knowledge-network.europa.eu/stories/value-grazing-wildfire-prevention-tool.
[77] "Grassland Condition in Kvarner Calls for Urgent Conservation Measures – Biom." Accessed January 18, 2026. https://www.biom.hr/en/2025/05/23/grassland-condition-in-kvarner-calls-for-urgent-conservation-measures/.

Controlled/prescribed fires was a traditional agricultural landscape tool used widely for fire prevention prior to modern fire suppression policies.[78] However, the introduction of regulations and penalties on illegal open fires, reduced its use. Gradually, prescribed fires are being reintroduced to protect and restore grassland habitats in the context of traditional livestock farming, through projects like the Dinara Back to LIFE project, run by BIOM. Restoration success depends on reconciling traditional practices with modern regulation, moving from punitive to participatory approaches. It is evident that restoration can find common grounds within a broader cultural and heritage context, using traditional ecological knowledge, linking pasture use, livestock keeping, and landscape maintenance.

> *The Dinara Back to LIFE project aims to protect and restore dry grassland habitats, supporting protected bird species within Natura 2000 network sites in the Dinara Mountains of Croatia through sustainable management and revitalization of traditional livestock farming. The project engages with key local stakeholders including the Local Action Group "Cetinska Krajina," as well as local livestock farmers, communities, and municipal representatives from cities like Vrlika. The project integrates controlled burning alongside planned grazing and manual vegetation removal as complementary restoration techniques. The project aims to further promote the practice and advocate for a change of administrative frameworks to facilitate broader implementation. The fire management approach is designed not only to restore overgrown grasslands but also to prevent larger summer wildfires while promoting the recovery of native grassland vegetation. There is ongoing monitoring to assess the ecological effects and develop technical guidelines for sustainable grassland restoration and management that can be transferred to other regions.*[79]

[78] Kelp, Makoto, Marshall Burke, Minghao Qiu, Iván Higuera-Mendieta, Tianjia Liu, and Noah S. Diffenbaugh. "Effect of Recent Prescribed Burning and Land Management on Wildfire Burn Severity and Smoke Emissions in the Western United States." *AGU Advances* 6, no. 3 (2025). https://doi.org/10.1029/2025AV001682.
[79] "Home - Dinara Back to LIFE." Accessed January 18, 2026. https://dinarabacktolife.eu/en/.

France, Wetlands and the NRR

Few ecosystems offer as many co-benefits as wetlands – from carbon storage and flood control to recreational and economic uses. In France, where wetland restoration already engages the biodiversity agency and the water agencies, farmers, private investors, and health advocates, the NRR provides an opportunity to connect these actors and amplify the multiple dividends that restoration can deliver.

Introduction

The French context

France has a well-developed environmental governance system with aspects of public participation. France positions itself as a leader on biodiversity at EU and international levels, hosting major events and pushing for high-level commitments. Environmental issues remain on the political agenda and of importance for the public (82% of respondents in a French Biodiversity Agency (*Office Français de la Biodiversité* - OFB) survey considered protecting biodiversity crucial or very important).[80]

However, a complicated, layered governance structures make coherent, long-term planning difficult. Biodiversity-specific legislation often takes a backseat to more politically salient environmental topics. The agricultural crisis has led to a weakening of political support for biodiversity, as was seen in 2025 over the adoption of the *Loi Duplomb*[81] or the public debates over the '*mega-bassines*'.[82] At EU level, France is currently facing an open infringement about the Birds Directive implementation on net hunting practices.[83] Previous high level infringements related specifically to wetlands include a judgement against France for failing to avoid deterioration of habitats for protected birds in the Marais Poitevin and a judgement for causing heavy and prolonged pollution to the Mediterranean Sea in the *Etang de Berre*. The issue (release of fresh water by *Électricité de France* [EDF] and has been subject to further legal proceedings.

Political positioning: Centrist administration with a technocratic and pro-EU orientation. Both the far right and radical left are important players on the political stage. In recent years, very frequent changes of government have led to political instability.

National Legal Framework: The Environmental Code (*Code de l'Environnement*), integrates EU biodiversity requirements, complemented by France's National Biodiversity Strategy to 2030 (SNB 2030), renewed in 2021–2022 to align with the EU Biodiversity Strategy.

Land use: France manages one of the largest Natura 2000 networks in the EU, covering approximately 13% of its land area and 33% of marine waters, with management plans (DOCOBs) developed for many sites. An estimated 30% of the land has been identified as originally wetlands with a realistic estimation of 15 to 20% still covered by wetlands.[84]

Main Bodies Responsible: The Ministry for Ecological Transition and the *Office Français de la Biodiversité* (OFB) national and the regional environmental directorates (DREALs) for implementation.

Financing: National funding mechanisms exist for biodiversity, including *Fonds Vert* and *Loto Biodiversité*, alongside EU LIFE funding for restoration projects. EU funds are underused due to negative perceptions as undermining national priorities in budgets. Water Agencies collect environmental tax levied on users

[80] Office français de la biodiversité (OFB), https://ofb.gouv.fr/perception-de-la-biodiversite-par-les-francais
[81] Le Parlement Adopte Définitivement La Controversée Loi Duplomb Sur l'agriculture," accessed December 10, 2025, https://www.lemonde.fr/planete/article/2025/07/08/loi-duplomb-sur-l-agriculture-que-contient-le-texte-qui-doit-etre-vote-a-l-assemblee-nationale_6619911_3244.html.
[82] "Mégabassines : Pourquoi s'y Opposer ? - Greenpeace France," accessed December 10, 2025, https://www.greenpeace.fr/mega-bassines-pourquoi-opposer/.
[83] "Commission Decides to Refer FRANCE to the Court of Justice," accessed December 10, 2025, https://ec.europa.eu/commission/presscorner/detail/da/ip_25_455.
[84] Office français de la biodiversité, *La Biodiversité Des Milieux Humides Français*, February 2025, https://doi.org/10.1016/j.heliyon.2023.e13482.

which amount to around 2.2 billion euros a year. The fees provide financial support to public entities and private individuals who carry out river basin actions or projects (including restoring and maintaining aquatic environments).[85]

Wetlands in France

Wetlands have suffered significant degradation in France, with over two-thirds lost since the early 20th century due to drainage, agriculture, urbanisation, and infrastructure development. They are recognised as high-priority ecosystems for biodiversity and water management and since 2000 have been increasingly protected under the Environmental Code, which regulates activities that are likely to cause loss or degradation. Specific sites are designated under international and EU frameworks Ramsar, Natura 2000, or as "Wetland of Specific Environmental Interest" (*Zone Humide d'Intérêt Environnemental Particulier* - ZHIEP) which is a national status used to ensure stronger control of land-use change in ecologically valuable wetlands.

France's National Plan for Wetlands (*Plan National Zones Humides* - PNZH)[86], now in its fourth iteration (2022–2026), supports conservation and sustainable management of wetlands, with dedicated actions for restoration such as reaching a target of 50,000ha of restored wetlands by 2026, developing a low carbon label to value peatlands or promoting good agricultural practices for wetlands. National wetlands' mapping and monitoring remain outdated with neither national level inventory nor standardised identification and assessment of wetlands.[87] [88] Despite their ecological importance, wetlands still suffer from negative public perceptions, historically associated with disease, which presents communication challenges for restoration initiatives.

Figure 5 - Horses grazing near a wetland Photo Credit: Maruclert/TdV

Why the NRR is an opportunity for French wetlands?

Strengthening coherence at national level

Opinions diverge on whether the NRR will meaningfully revitalise France's biodiversity legislative framework. The law was described as potentially having a transformational impact, similar to that of the EU Water Framework Directive (WFD) on water policy, bringing together a range of commitments and setting a timeframe. The EU legislative layer adds political visibility and pressure for coherence that national processes alone have lacked. The EU dimension was overall viewed positively as a lever for accountability and consistency. The development of the NRR also provides an important opportunity for different ministries to reevaluate horizontal

[85] Les Agences de L'Eau, *THE WATER AGENCIES and French Water Policy* (2015), https://www.partenariat-francais-eau.fr/?ressource=the-water-agencies-and-french-water-policies.
[86] Ministère de la Transition écologique, *PLAN NATIONAL MILIEUX HUMIDES 2022-2026*, March 15, 2022, https://www.ecologie.gouv.fr/sites/default/files/documents/DP_ZonesHumides.pdf.
[87] Office français de la biodiversité, "Les Prélocalisations et Inventaires de Milieux Humides | Zones Humides," accessed December 10, 2025, https://www.zones-humides.org/entre-terre-et-eau/ou-les-trouve-t/les-prelocalisations-et-inventaires-de-milieux-humides.
[88] Ministère de la Transition écologique, *PLAN NATIONAL MILIEUX HUMIDES 2022-2026*, 2022.

cross-ministerial collaboration on restoration. The overall NRP development process is categorised as "progressing" with good progress by the "Restore Nature NRP Mid-Term Assessment Report". Compared to other EU countries, France has conducted a satisfactory broad and comprehensive public consultation and is relying on solid scientific knowledge. However, the assessments highlight that funding for nature protection is declining (environment-related public spending was cut by 14% in 2025, including the Green Fund (*fonds vert*) which finances local level initiatives[89]) while harmful agricultural subsidies persist[90], with concerns whether the NRR will undergo full implementation in the agriculture and fisheries sectors. Additionally, existing regulations also need to be adapted to reduce factors of degradation and destruction, so they are more in line with NRR objectives.

In terms of the measures most focused on and relevant for wetlands, a mismatch between legal classifications and ecological realities was highlighted, particularly that the NRR focuses primarily on peatlands, potentially excluding other wetland types. Additionally, the fact that wetlands are not fully mapped in France can be a barrier to identifying the most important restoration areas. The adoption of the NRR contributed to renewed interest in filling these knowledge gaps, and there are recent efforts to address the mapping deficit.

> *From 2024-2025, the Rhône-Mediterranean-Corsica Water Agency and European Regional Development Fund (ERDF) sponsored a Mediterranean peatland inventory project, as southern peatlands are lacking significant data, including the state of peatland degradation and carbon stocks.*[91]

The NRR is acknowledged by many stakeholders as increasing interest and funding flows for restoration and wetlands. There was however a shared perception that financial instruments aimed at nature restoration (1) favour project-based restoration rather than long-term management, reinforcing short policy cycles and (2) may feed controversial compensation mechanisms under which highly biodiverse areas may be degraded while poor biodiverse areas are restored. In France, there are legal systems meant to mitigate these concerns, like the Environmental Code, which includes mandatory compensation measures for biodiversity with a clear mitigation hierarchy: avoid, reduce, restore/compensate. Where impacts are unavoidable, developers must demonstrate ecological equivalence and that compensation will last as long as the damage occurs. This legal framework obliges concrete, measurable restoration outcomes rather than ad-hoc actions.[92] For landowners, there is also *l'obligation réelle environnementale* (ORE), a legal tool established through a contract, where landowners implement environmental protection measures attached to their property for a period of up to 99 years. These obligations withstand even if ownership changes, as they are tied to the property, which further solidifies the long-term viability.[93]

Enabling implementation at regional and local levels

Experts foresee improved vertical integration of restoration measures across national, regional and biogeographical levels, although warning there might be regional challenges resulting in uneven implementation. DREALs play a decisive role in planning, financing and operationalising environmental actions, which means differences in political priorities, administrative capacity and budget allocation can translate into differences on the ground. In the past, some regions have created dedicated wetland strategies and stronger funding envelopes, while others lack up-to-date inventories or staff capacity to launch new projects.

The NRR also contributed to the ongoing increase in NGO collaborations, and cross-NGO working groups on

[89] "What's in the French State's 2025 Budget," accessed January 20, 2026, https://www.lemonde.fr/en/les-decodeurs/article/2025/02/07/what-s-in-the-french-state-s-2025-budget_6737882_8.html.
[90] "COP16 : Le Comité Français de l'UICN Appelle à Accélérer La Mise En Œuvre Du Cadre Mondial de La Biodiversité – UICN Comité Français | Préserver La Biodiversité," accessed January 20, 2026, https://uicn.fr/cop16-le-comite-francais-de-luicn-appelle-a-accelerer-la-mise-en-oeuvre-du-cadre-mondial-de-la-biodiversite/.
[91] "Caractérisation Des Tourbières Du Delta Du Rhône – Tour Du Valat," accessed December 8, 2025, https://tourduvalat.org/actions/caracterisation-des-tourbieres-du-delta-du-rhone/.
[92] "Chapitre III : Restauration de La Biodiversité, Renaturation et Compensation Des Atteintes à La Biodiversité (Articles L163-1-A à L163-5) - Légifrance," accessed January 11, 2026, https://www.legifrance.gouv.fr/codes/section_lc/LEGITEXT000006074220/LEGISCTA000019279510/.
[93] "Obligation Réelle Environnementale | Ministères Aménagement Du Territoire Transition Écologique," accessed January 11, 2026, https://www.ecologie.gouv.fr/politiques-publiques/obligation-reelle-environnementale.

wetlands have been established with the aim to strengthen partnerships and increase impact. France's strong protection of private property makes land acquisition and management a critical enabler for the NRR. NGOs such as the *Ligue pour la Protection des Oiseaux* (LPO) and other organisations such as the *Conservatoire du Littoral* play central roles in securing and managing land for restoration and protection, including wetlands. For instance, LPO France owns and manages 2,077 hectares of land where ninety-five per cent of these areas are wetlands.[94] There is therefore a strong reliance on land management and new land acquisition by NGOs, sometimes considered as a less bureaucratic process than for state purchase.

At the local level, private funding sources are increasingly important and in the last years interest rose from insurance and health care mutuals as well as large companies in the sectors of infrastructure development, energy, or food and beverage. The research centre Tour du Valat located in the Rhône Delta regularly collaborates with private funders for nature restoration projects, though they reported staffing and capacity shortages.

> *The foundation Crédit Mutuel[95] sponsors a Tour du Valat project for the restoration of breeding pools to favourable conditions of a nationally threatened dragonfly species (lestes macrostigma)[96] in Mediterranean wetlands.*

Cross sectoral synergies and opportunities: where restored wetlands are solutions

Wetland restoration can support climate, water and agriculture targets, while also enhancing resilience against droughts, floods, and extreme weather. Additionally, restored wetlands support human well-being and health by filtering freshwater and providing a recreational outlet.[97] Emphasising the societal benefits wetlands provide to communities is a strong tool to inspire multi-stakeholder interest and action for wetland restoration.

Climate adaptation & mitigation: a strong synergy

Almost 50% of European peatlands are degraded, with drained peatlands represent only 3% of the EU's agricultural land. Peatlands are powerful carbon sinks, as rewetting them would avoid up to 25% of the EU's greenhouse gas emissions from agriculture.[98] Peatland rewetting is prioritised in the NRR and the regulation addresses the need to restore degraded wetlands, acknowledging that the restoration and rewetting of organic soils bring significant biodiversity benefits and reduce greenhouse gas emissions.[99] Two Articles address peatland restoration: (i) Article 4: Member States must restore 28 wetland habitat types (including peatlands) listed under the Habitats Directive, (ii) Article 11.4: Member States shall establish measures targeting the restoration of drained peatlands.[100]

To reach climate neutrality by 2050, virtually all drained peatlands in the EU need to be rewetted, hence restored.[101] In this context, the political and social support for peatland restoration has broadened.

> *Since 2019, the French government has developed a "low carbon label" scheme, which allows for the monetization of greenhouse gas (GHG) emission reductions on the French voluntary carbon market. The*

[94] LPO France, *Espaces Protégés (Co)Gérés Par La LPO FRANCE - Rapport d'activité 2024* (2024).
[95] "Fondation Tour Du Valat | Fondation Crédit Mutuel Alliance Fédérale," accessed December 10, 2025, https://fondation.creditmutuelalliancefederale.fr/fr/les-projets-soutenus/Fondation-Tour-du-Valat.html.
[96] "Lestes Macrostigma (Eversmann, 1836) — Atlas Dynamique Des Odonates de France," accessed December 11, 2025, https://atlas-odonates.insectes.org/odonates-de-france/lestes-macrostigma.
[97] Phoebe R. Maund et al., "Wetlands for Wellbeing: Piloting a Nature-Based Health Intervention for the Management of Anxiety and Depression," *International Journal of Environmental Research and Public Health* 16, no. 22 (2019): 4413, https://doi.org/10.3390/IJERPH16224413.
[98] United Nations Environment Programme, "Global Peatlands Assessment: The State of the World's Peatlands - Evidence for Action toward the Conservation, Restoration, and Sustainable Management of Peatlands," Global Peatlands Assessment: The State of the World's Peatlands - Evidence for Action toward the Conservation, Restoration, and Sustainable Management of Peatlands, ahead of print, United Nations Environment Programme, November 2022, https://doi.org/10.59117/20.500.11822/41222. p.17-18
[99] "Regulation - EU - 2024/1991 - EN - EUR-Lex," p.59
[100] "Regulation - EU - 2024/1991 - EN - EUR-Lex,"
[101] "Peatlands and the Path to Climate Neutrality - Eurosite," accessed December 8, 2025, https://www.eurosite.org/peatlands-and-the-path-to-climate-neutrality/.

> *Peatland Resource Centre is developing a method to quantify the emission reductions achieved through the rewetting of degraded peatlands[102] in order to certify peatland-restoration projects in France and monetize their emission reductions.[103] This can offer an income stream to farmers and incentivise investment into peatland restoration, while increasing awareness of peatlands as important carbon sinks.*

Healthy wetlands also support climate adaptation measures such as flood and drought prevention. Wetlands act as natural sponges to soak up flood waters, protect shorelines, and protect against storms and droughts. They can buffer flooding and prevent the salinization of water in swamp and agricultural land in coastal areas.

> *The extensive marshes in Western France (Grand Marais de L'Ouest) face coastal compression due to climate change and counties such as the Charente-Maritime face increased coastal flood risk.[104] The county state authorities recognise wetlands as essential to natural and territorial balance and promote collaborative water management groups, including for managing floods.[105] In this same county, LPO has acquired parts of the Voutron Marshes. Under their ownership, water management evolved into close-to-nature management, including higher water levels in the spring to benefit local biodiversity and overall adapting agricultural activities to operate on a higher water level. The land management also involves collaboration with local farmers, who maintain the meadows through cattle grazing making it a win-win situation for farmers and biodiversity.[106]*

Water governance reform: opportunities for water & biodiversity governance integration

In relation to wetlands' role in flood control and drought prevention, NRR implementation in wetlands should further drive integration of biodiversity and water governance at the national and local level. The water agencies are charged with overseeing water management at the major basin level. Since enactment of the 2006 Law on Water and Aquatic Ecosystems, which adopted the principles of the WFD, they have ecological restoration included in their mission and increasingly integrate biodiversity concerns, strengthening potential synergies for funding and planning. Between 2010 and 2020, water agencies investment in wetland acquisition and management doubled,[107] reaching 43,3 million euros in 2021. Intermunicipal authorities also hold some water governance responsibility via the GEMAPI Law (*Gestion des Milieux Aquatiques et Prévention des Inondations*). GEMAPI delegates mandatory responsibility for managing aquatic environments and preventing floods to intermunicipal authorities. The GEMAPI competences include the natural protection and restoration of sites, such as wetlands.[108] However, the degree of integration of nature restoration in water management practices remains uneven across regions. Siloed management structures persist, and interviewees reported a lack of communication and collaboration between the water and nature conservation sectors. The NRR can be an opportunity for the Water Agencies and OFB to convene and streamline their restoration strategies, particularly within the development process of the NRP and the implementation beyond it.

Interviewees perceived the lack of engagement of local, community-based syndicates in charge of water management in development of the NRR as a missed-opportunity. These structures, charged with managing local

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[102] "Un Label Bas Carbone Pour La Restauration Hydraulique Des Tourbières Dégradées - Pôle-Relais Tourbières," accessed December 10, 2025, https://www.pole-tourbieres.org/action/label-bas-carbone/.
[103] Bernard, Grégory. *PROJET DE METHODE LABEL BAS-CARBONE POUR LA RESTAURATION HYDRAULIQUE DES TOURBIERES DEGRADEES Proposée à La Direction Générale de l'Energie et Du Climat Par La Fédération Des Conservatoires d'espaces Naturels*. July 2, 2025. https://www.consultations-publiques.developpement-durable.gouv.fr/IMG/pdf/methodelbc_tourbieres_vf.pdf.
[104] Think Hazard - Global Fund for Disaster Risk Reduction, "Think Hazard - Charente-Maritime - Coastal Flood," accessed December 10, 2025, https://www.thinkhazard.org/en/report/16317-france-poitou-charentes-charente-maritime/CF.
[105] Les services de l'État en Charente-Maritime, "Les Marais de La Charente-Maritime," July 31, 2025, https://www.charente-maritime.gouv.fr/Actions-de-l-Etat/Environnement-risques-naturels-et-technologiques/Milieux-Foret-et-Biodiversite/Marais-et-zones-humides/Les-marais-de-la-Charente-Maritime.
[106] Ligue pour la Protection des Oiseaux (LPO), "Le Marais de Voutron," 2013, https://www.lpo.fr/media/read/29266/file/Fiche%20n%C2%B0024%20Marais%20de%20Voutron%20DEF.pdf?inLanguage=fre-FR&version=1.
[107] Le service des données et études statistiques (SDES), "Les Milieux Humides En France - Extrait Du Bilan Environnemental 2024 | Données et Études Statistiques," February 3, 2025, https://www.statistiques.developpement-durable.gouv.fr/les-milieux-humides-en-france-extrait-du-bilan-environnemental-2024.
[108] Rémy Tourment et al., *The New French Regulation on Flood Protection Works: Consequences on Risk Management*, Periodica Polytechnica Budapest University of Technology and Economics, 2021, null-null, https://doi.org/10.3311/FLOODRISK2020.14.11.

water and sanitation services, include a broad panel of stakeholders from the local community, such as public authorities, water users (farmers, citizens), civil society, and industry. They could be an important forum to promote wetland restoration and nature-based solutions in water management. Other interviewees mentioned collaborations should be promoted with ecological/water and hydrology engineering experts and companies who typically work on public projects.

> *Since 2020, the Water Agency of Loire-Bretagne is funding and supporting a wetlands restoration project in Ster Vraz Marsh on Belle-Île-en-Mer. The project is led by the collective of communes, Communauté de communes de Belle-Île-en-Mer. The project aims to restore valley floors overgrown with reeds to their original wetland state and restore former ecological functioning. Wetland restoration is essential for the island, because the water supply mainly relies on rainwater runoff. Wetlands filter and purify the runoff water arriving to drinking water intakes.[109] In 2025, the project was granted a "Water Award" from the Water Agency.[110]*

Agriculture dialogue: tense but indispensable

Farmers are key partners who can help manage the non-deterioration of restoration sites on their land, making their engagement invaluable. However, it is politically difficult to engage them. Practices such as drainage and agricultural input use are still encouraged through some CAP instruments and have impacts for water quality and quantity. The social crisis in the agricultural sector has also fuelled resistance to environmental authorities and poses major challenges for NRR implementation. This is demonstrated by the growing hostility towards OFB staff in some rural areas.

Financial support for restoration activities is seen by some as a solution. In particular, the wider investment of Payments for Environmental Services (PES) schemes for farmers by the government, including the Water Agencies, such as the Agence de l'Eau Rhône Méditerranée Corse, and the Parisian Drinking Water Authority.[111] [112] Starting from 2024, the preservation of wetlands will be strengthened with an additional €50 million per year in PES.[113] An interviewee explained that PES are perceived as more flexible and trust-based by farmers. In a JRC study, interviewed French farmers saw Agri-Environment-Climate schemes (AECs) under the CAP as too selective in their criteria and stringent administratively, which can dissuade farmers from participating. The farmers observed that mainly smaller farmers took AECs due to their need for additional income.[114] Interviewees stressed that co-construction with farmers and other relevant actors is important to ensure schemes meet expectations and are adapted to local conditions.

> *The BUFFER+ project, coordinated by the Agricultural Chambers in Pays de la Loire, aims to co-produce a tailor-made PES for peatlands, with farmers and technical experts, to support livestock farmers' livelihoods and develop funding opportunities for restoration. In addition to carbon sequestration, the scheme also covers peatland restoration. The project aims to develop a network of farmer ambassadors to encourage other farmers to join the scheme by proving its effectiveness. Project developers understand that building trust between stakeholders with conflicting positions is essential for a successful co-production process. Hence, the project invited EDENN, the public agency which manages the project's Natura 2000 site, to co-produce the PES scheme, as they already have a pre-existing relationship with the farmers. EDENN is acting as a boundary organisation to bridge on-the-ground knowledge and direct support to farmers, with scientific*

[109] "Restaurer Les Zones Humides," accessed December 10, 2025, https://www.ccbi.fr/restaurer-les-zones-humides/.
[110] "À Sauzon, Le Trophée de l'eau Récompense La Restauration Du Marais Rétro-Littoral de Ster Vraz | Le Télégramme," accessed December 10, 2025, https://www.letelegramme.fr/morbihan/belle-ile-en-mer-56360/sauzon/a-sauzon-le-trophee-de-leau-recompense-la-restauration-du-marais-retro-littoral-de-ster-vraz-6896375.php.
[111] "Eau de Paris à l'avant-Garde Avec Son Régime d'aides Agricoles | Coordination EAU Île-de-France," accessed December 12, 2025, https://eau-iledefrance.fr/eau-de-paris-a-lavant-garde-avec-son-regime-daides-agricoles/.
[112] "Paiements Pour Services Environnementaux Publics | Ministères Aménagement Du Territoire Transition Écologique," accessed December 11, 2025, https://www.ecologie.gouv.fr/politiques-publiques/paiements-services-environnementaux-publics
[113] Ministères Aménagement du territoire Transition écologique, *Plan d'action Pour Une Gestion Résiliente et Concertée de l'eau* (2023), https://www.ecologie.gouv.fr/sites/default/files/documents/MAR2023_DP-PLAN%20EAU_BAT%20%281%29_en%20pdf%20rendu%20accessible.pdf. p.10
[114] François J. DESSART, *Farmers' Views on EU Agri-Environmental Policies*, 2019, https://doi.org/10.2760/049327. p.7

> *and technical expertise on environmental measures. These efforts illustrate that boundary organisations play a critical role in fostering synergies between stakeholders with different perspectives.*[115]

Health & wellbeing: narrative openings

Wetlands play a vital role in providing freshwater to our planet, filtering bacteria viruses and metals, and are essential to our freshwater cycles. The ecosystem services wetlands provide are invaluable to society and restoration will further enhance wetland resilience.[116] Historically, wetlands were associated with diseases like malaria, particularly in the Camargue region of France. Interviewed experts explained this perception continues today. There are opportunities to overcome these negative perceptions. In a study on public perceptions on wetland restoration surrounding the Marais des Baux in southern France, it was found that the main resistance towards wetland restoration was fear of increased mosquito populations. Respondents showed significantly positive preferences for small-scale, targeted restoration of the wetland as compared to large-scale wetland restoration, which was not viewed, unless mosquito control is conducted using natural predators and water level variations.[117] The study found that mosquito control, is essential to generate support for large-scale wetland restoration. Overall, while the "One Health" framing is viewed as an opportunity by interviewees, as it is yet unclear whether the public see real health benefits in wetlands on an overarching level. Without further public awareness raising, the extent to which this can currently be used to gain public support for wetland restoration is perhaps limited to specific cases.

> *"Les Marais du Verdier" association manages the local marshland in Sambuc. The association brings together site users, villagers, hunters, and other members to create multi-use and concerted events that promote social cohesion and well-being – such as bird-watching events and knowledge sharing sessions.*[118] *The linking of well-being, wetlands, and nature restoration is seen as a strong synergy to develop a personal attachment and agency to one's local environment.*

[115] Upcoming publication (2026) by Irene Pérez Beltrán "*How can emerging spaces of dialogue with farmers facilitate the implementation of the EU Nature Restoration Regulation?*"
[116] "Human Wellbeing Is Irrevocably Tied to the State of the World's Wetlands - Wetlands International," accessed December 8, 2025, https://www.wetlands.org/blog/human-wellbeing-is-irrevocably-tied-to-the-state-of-the-worlds-wetlands/.
[117] Vanja Holmquist Westerberg, Robert Lifran, Søren Bøye Olsen, To restore or not? A valuation of social and ecological functions of the Marais des Baux wetland in Southern France, Ecological Economics, Volume 69, Issue 12, 2010, Pages 2383-2393, ISSN 0921-8009, https://doi.org/10.1016/j.ecolecon.2010.07.005.(https://www.sciencedirect.com/science/article/pii/S0921800910002715)
[118] "The Verdier Marshes: Concerted Management of a Marsh in the Camargue – Tour Du Valat," accessed December 10, 2025, https://tourduvalat.org/en/actions/the-verdier-marshes-concerted-management-of-a-marsh-in-the-camargue/.

Germany, Agriculture and the NRR

Germany is facing the impacts of intensive agricultural practices with nitrate pollution and degraded soils and is engaging in efforts to mitigate this: innovative peatland rewetting initiatives, federal/regional strategies, and emerging coalitions bridging farmers, environmental NGOs, and corporations to invest in nature restoration. The NRR provides an opportunity to further re-enforce existing strategies that can enhance carbon sequestration, flood resilience, soil health, and biodiversity recovery, that benefit both agricultural communities and the broader society.

Introduction

The German context

Germany has a comprehensive but decentralised approach to nature conservation, supported by a strong legal foundation. Restoration is integrated into national policy through river basin management, peatland rewetting, and forest conversion projects. Germany also has a dense set of existing strategies and laws that align in part with the NRR's objectives, including biodiversity strategies, peatland strategy, CAP strategic planning, and various regional programmes. The NRR was largely supported by Germany who approved it in the EU Council, and the German Bundestag treated the NRR as a key part of the EU's Biodiversity Strategy.[119] The public also generally supported the NRR, with 85% in support, and 73% want an even stronger political commitment to implementing it.[120]

However, implementation is complex due to federal structures, sectoral silos, and land use conflicts. Implementation effectiveness varies widely between federal states, and some regions face significant political and stakeholder (especially landowner) resistance to restrictions. Germany is subject to several nature infringement procedures at EU level, including over species protection and site deterioration.[121] Intensive farming practices, particularly in livestock-dense regions such as Lower Saxony and North Rhine-Westphalia, have led to persistently high nitrate pollution levels, placing Germany under EU infringement procedures for non-compliance with the Nitrates Directive.[122]

> **Political positioning:** Germany transitioned from a coalition government (SPD, Greens, FDP) with a strong environmental agenda to the centre-right Merz government (CDU, CSU, SPD) in 2025, which prioritises economic competitiveness and fiscal restraint. Nature restoration and biodiversity commitments risk are being overshadowed by debates on food security, infrastructure, and security spending.
>
> **National Legal Framework:** The Federal Nature Conservation Act (BNatSchG) implements EU biodiversity directives at national level. A proposal for a law to implement the NRR was proposed by the Environment Ministry (BMUKN) in 2025.[123]
>
> **Land use**: The Natura 2000 network covers around 15% of land and 45% of marine areas, with most sites designated and many having management plans.[124]

[119] Deutscher Bundestag. *Drucksache 20/5559*. February 7, 2023. https://dserver.bundestag.de/btd/20/055/2005559.pdf.
[120] "German Citizens Urge Politicians to Do More to Restore Nature - BirdLife International." Accessed January 9, 2026. https://www.birdlife.org/news/2025/10/14/german-citizens-urge-politicians-to-do-more-to-restore-nature/.
[121] "Nature Protection: Commission Decides to Refer GERMANY to the European Court of Justice over Failure to Properly Implement the Habitats Directive - PubAffairs Bruxelles." Accessed January 9, 2026. https://www.pubaffairsbruxelles.eu/eu-institution-news/nature-protection-commission-decides-to-refer-germany-to-the-european-court-of-justice-over-failure-to-properly-implement-the-habitats-directive/.
[122] "BMLEH - Plant Production - Fertilisation," accessed January 7, 2026, https://www.bmleh.de/EN/topics/farming/plant-production/fertilisation.html
[123] Referentenentwurf eines Gesetzes zur Durchführung der Verordnung (EU) 2024/1991 des Europäischen Parlaments und des Rates vom 24. Juni 2024 über die Wiederherstellung der Natur und zur Änderung der Verordnung (EU) 2022/869 (DurchführungsGW-VO)
[124] "Germany | Countries | Biodiversity Information System for Europe." Accessed January 9, 2026. https://biodiversity.europa.eu/countries/germany.

Main Bodies Responsible: The Federal Ministry for the Environment (BMUKN) is coordinating the planning and implementation process of the NRR in cooperation with other ministries that are leading on certain articles (e.g. Federal Ministry of Food and Agriculture (BMLEH) for Articles 11 and 12; Ministry for Housing, Urban Development and Building (BMWSB) for Article 8) and with the 16 *Länder* (federal states). The Federal Agency for Nature Conservation (BfN) is responsible for research, data management and reporting, and enforcement.

Financing: The existing funding framework (the Federal Action Plan on Nature-based Solutions for Climate and Biodiversity [ANK] the Joint Task for the Improvement of Agricultural Structures and Coastal Protection [GAK] at federal/state level, state budgets, and EU instruments such as LIFE, Recovery and Resilience Fund [RRF], CAP first and second pillars) provides the principal means to finance restoration. There is also the Federal Program for Biodiversity (*Bundesprogramm Biologische Vielfalt*), Wilderness Fund (*Wildnisfonds*), chance.natur (Federal Funding for Nature Conservation – large-scale conservation projects) and National Species Assistance Programmes (*Nationale Artenhilfsprogramme*) which can fund projects with direct or indirect restoration benefits.

Agriculture in Germany

Figure 6 - Thüringen agricultural landscapes Photo Credit: Vedder, CAP4GI

Agricultural ecosystems in Germany are at the centre of the debates on biodiversity loss, water quality, and climate resilience. Agricultural land makes up 52.3% of Germany's surface.[125] Intensive farming practices, particularly in livestock-dense regions such as Lower Saxony and North Rhine-Westphalia, have led to persistently high nitrate pollution levels, placing Germany under EU infringement procedures for non-compliance with the Nitrates Directive. These infringements were closed by the European Commission in 2023, due to Germany's strengthened policy responses.[126] These include revisions of the Fertiliser Ordinance, measures under the CAP, and federal programmes to promote sustainable water management and soil health. Germany has a dense set of existing strategies and laws that align in part with the NRR's objectives, including biodiversity strategies, peatland strategy, CAP strategic planning, state-level initiatives and various regional programmes. However, significant gaps exist between strategy and on-the-ground implementation. Recurring issues highlighted include unclear or overly generic rules in the environmental sector (contrasting with prescriptive

[125] Seeger, Manuel. Agricultural Soil Degradation in Germany. 2023. https://doi.org/10.1007/698_2022_948.
[126] European Parliament - Committee on Petitions, *NOTICE TO MEMBERS* (2024), https://www.europarl.europa.eu/doceo/document/PETI-CM-605990_EN.pdf. p.12

agricultural rules), limited administrative capacity, uneven implementation across *Länder*, and enforcement shortfalls. For instance, the German Federal Court ruled in 2025 that the current manure policy is insufficient in meeting the objectives of the Nitrate Directive, ordering the German government to develop a dedicated nitrate program.[127]

Agriculture is increasingly vulnerable to droughts, floods, and soil degradation, challenges that are expected to intensify with climate change. Up to 19% of Germany's agricultural land is impacted by very high soil erosion,[128] losing around 25 million tons of soil annually due to water erosion, mainly on uncovered soil on arable land. Of these 25 million tons, 22 million comes from arable land and 1.4 million comes from vineyards.[129] This is in large part due to the intensification of agriculture and use to heavy machinery. Harmful subsidies like agricultural diesel tax relief and area-based premiums under the first pillar of CAP contribute to this intensification. Nature restoration can help prevent soil erosion through a variety of methods, such as restoring natural riverbanks with native woodlands (which can act as natural dams), restoring wetlands,[130] improving crop covers, revising grazing practices,[131] rewetting peatlands, and utilising methods such as agroforestry, and fallow land.[132]

> *The HydroSoilWise project is a transnational Interreg North-West Europe initiative (2025–2028) that aims to combat soil erosion in agriculture by improving soil health and hydrological function, with active involvement from German research partners like Hochschule Geisenheim University and Universität Kassel. In Germany, researchers at Geisenheim are conducting field experiments using advanced microlysimeter technology to evaluate cultivation methods that enhance the topsoil's capacity to absorb water rather than shed it, thereby directly reducing surface runoff and erosion risk. The project combines these tests with the co-development of a user-friendly online toolbox of best practices, demonstration events, and training aimed at helping farmers adopt erosion-reducing techniques in vegetable, potato, fruit, and nursery tree production under climate change-driven extremes of drought and heavy rain.*[133]

How is the NRR relevant for agriculture in Germany?

Promising national planning

Generally, interviewees believe that the NRR's interdisciplinary approach can strengthen overall nature governance, by fostering cross-ministerial collaboration beyond the traditional environmental sector. In the "Restore Nature NRP Mid-Term Assessment Report", Germany has been identified as having a progressing NRP development process, which has a solid scientific base, a well-developed and inclusive process, and coherent planning arrangements.[134] The NRP development process has included multiple past and future rounds of public consultation by the Federal Ministry for the Environment (BMUKN), with 1,143 comments received by 158 organisations and associations during the first feedback period from September 2025 to October 2025.[135] Responsibility for the implementation and enforcement of the NRR is shared between the BMUKN and 16 *Länder,* with additional support from the Federal Agency for Nature Conservation (BfN) for research, strategy, and

[127] "German Court Rules That the Government Must Start with a Nitrate Action Programme • Water News Europe," accessed January 7, 2026, https://www.waternewseurope.com/german-court-rules-that-the-government-must-start-with-a-nitrate-action-programme/.
[128] Seeger, *Agricultural,* 2023.
[129] "Soil Loss by Water Erosion | Umweltbundesamt," accessed January 7, 2026, https://www.umweltbundesamt.de/en/topics/soil-land/land-a-precious-resource/soil-loss-any-soil-crumb-counts/soil-loss-water-erosion
[130] "Restoration of Natural Ecosystems Makes Society Thrive | IUCN." Accessed January 8, 2026. https://iucn.org/news/europe/201607/restoration-natural-ecosystems-makes-society-thrive.
[131] Calfapietra, Carlo, Sara di Lonardo, Eleonora Peruzzi, Serena Doni, and Grazia Masciandaro. "Perspectives From Nature-Based Solutions to Restore Soil and Ecosystems." *European Journal of Soil Science* 76, no. 6 (2025): e70134. https://doi.org/10.1111/EJSS.70134.
[132] "Solutions for Restoring Europe's Agricultural Ecosystems | Publications | European Environment Agency (EEA)." Accessed January 8, 2026. https://www.eea.europa.eu/en/analysis/publications/solutions-for-restoring-europes-agricultural-ecosystems.
[133] "Home | HydroSoilWise." Accessed January 8, 2026. https://hydrosoilwise.nweurope.eu/.
[134] Antier and Savu, *Nature Restoration Plan Development Process*, 2025.
[135] "BMUKN: Nationaler Wiederherstellungsplan Für Die Natur in Deutschland." Accessed January 7, 2026. https://www.bundesumweltministerium.de/themen/naturschutz/wiederherstellung-von-oekosystemen/die-eu-verordnung-zur-wiederherstellung-der-natur/nationaler-wiederherstellungsplan-fuer-die-natur-in-deutschland.

guidance. Both ministries at federal and state level are coordinating on the development of the NRP and a dedicated coordination unit is working to ensure linkages between the NRR and other policy updates, including areas that were planned to be addressed jointly such as measures to improve the farmland bird index. An interviewee noted that the NRR can push for much needed updated revisions on other national plans, such as National Action Plan for Plant Protection. One caveat interviewees noted is that due to the federal structure, responsibility is shared between the national level and 16 *Länder* which can lead to variation in enforcement and prioritisation. However, there are attempts to create a more systematic approach. Under the 2025 Coalition Agreement, a special framework plan for nature conservation and climate adaptation is set out, which will be crucial for advancing restoration goals and is under the joint task of both Federal and State governments.[136]

In terms of funding, Germany has a comprehensive framework available to support NRR implementation, though these programs only partially address restoration objectives. The existing funding structure includes the Joint Task for the Improvement of Agricultural Structures and Coastal Protection (GAK) at federal/state level, state budgets, and EU instruments such as LIFE, CAP and RRF. The ANK (*Aktionsprogramm Natürlicher Klimaschutz*) provides some funding opportunities for peatland rewetting and soil conservation.[137] Due to budget constraints, in January 2024, ANK's planned budget was cut by around a third, from €5 billion to €3.5 billion until 2027.[138] The entire funding structure has the potential to support new legislative initiatives, including the nature conservation budget in general and funding pots of the Federal Ministry for Agriculture, Food and Regional Identity (BMLEH). However, to fully realize the NRR's objectives, funds need to be better targeted for nature restoration and scaled up.

Regional levers and growing NGO coalitions

Interviewees expressed that garnering support among farming organisations would be a strong actor to help support NRR implementation and promote its benefits amongst farmers. The Commission on the Future of Agriculture (ZKL) have expressed support for rewetting peatlands for not only climate protection, but also as an income opportunity for farmers, including the use of paludicultures (wet agriculture on rewetted peatlands).[139] A robust network of NGOs is actively engaged with NRR implementation such as the Restore Nature Coalition and other environmental organizations with dedicated agriculture-related expertise. Key actors such as the Working Group for Peasant Agriculture (AbL), German Association for Landcare (DVL), Aktion Agrar, Agora Agrar, and organic farming associations and enterprises are also important partners in the implementation process. This engagement amongst various agricultural-focused organisations signals significant potential for building broader support.

> *The PaludiAllianz is a project aiming to establish scalable value chains with paludiculture biomass from rewetted peatlands. The project engages with rewetting projects across Germany to network biomass producers with commercial enterprises, to promote the use of biomass and fibres from paludiculture into commercial value chains. Combining the restoration of peatlands with a productive use of their biomass by-products, strengthens the economic interest of farmers to engage in restoration, and develops short and sustainable value chains for businesses, and delivers climate benefits as well.[140]*

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[136] Anke Herold et al., *Options for Further Development of the Federal Action Plan on Nature-Based Solutions for Climate and Biodiversity. Report of the Scientific Advisory Board for Nature-Based Climate Action for the Federal Ministry for the Environment, Climate Action, Natu…*, July 2025, https://www.wissenschaftlicher-beirat-fuer-natuerlichen-klimaschutz.de/wp-content/uploads/WBNK_Report_Further_Development_ANK.pdf. p.49

[137] "Nature-Based Climate Protection: Funding | Kompetenzzentrum Natürlicher Klimaschutz (KNK)." Accessed January 8, 2026. https://www.kompetenzzentrum-nk.de/en/funding.

[138] "EU Elections: Climate Movement to Enter Parliament + Afghanistan: Climate Projects to Combat Isolation + Petersberg: Debate Gets Rougher • Table.Briefings." Accessed March 5, 2026. https://table.media/en/climate/professional-briefing/eu-elections-climate-movement-wants-to-enter-parliament-afghanistan-climate-projects-to-combat-isolation-petersberg-financial-debate-gets-rougher.

[139] Zukunftskommission Landwirtschaft. *Zukunft Landwirtschaft. Eine Gesamtgesellschaftliche Aufgabe. Empfehlungen Der Zukunftskommission Landwirtschaft*. August 2021. www.bmel.de/goto?id=89464. p. 82

[140] "Succow Stiftung | Germany: PaludiAllianz." Accessed January 8, 2026. https://www.succow-stiftung.de/en/peatland-climate/germany-paludiallianz.

At the state level, Germany is developing important levers for NRR implementation through regional initiatives. Several federal states have established strong counterparts to national strategies, including Baden-Württemberg's Biodiversity Strengthening Act, the Lower Saxony Way (*Niedersächsische Weg*), Bavaria's pollinator initiative, and expanded biotope networks across multiple regions. While implementation effectiveness varies between federal states, and some regions face public and landowner resistance to restrictions, these state-level initiatives demonstrate the potential for regional leadership in restoration efforts.

> *The Lower Saxony Way, established in 2020, is a multi-stakeholder agreement between the Lower Saxony state government, agricultural organisations (Landvolk and Landwirtschaftskammer), and environmental NGOs (NABU and BUND). It is a jointly implemented agreement which outlines 15 ambitious measures for nature, species and water protection in rural landscapes. The measures include renaturalisation of habitats (including grassland, peatlands, and water bodies), reducing pesticide use, and establishing buffer zones along waterways. The agreement provides financial compensation for farmers (for example with buffer strips, pesticide reduction, agroforestry, and meadow bird protection).*[141] [142]

Cross sectoral synergies and opportunities

The NRR's obligations to restore peatlands align strongly with Germany's climate adaptation strategy, as peatland rewetting can simultaneously address carbon sequestration, flood management, and drought resilience. Increasingly, private-public partnerships are investing in nature restoration, as companies realize the importance of peatlands for their economic interests.

Peatlands as a climate adaptation powerhouse

The NRR and its obligations to restore peatlands can be a powerful nature-based solution to address climate change crisis in Germany. At the national level, the German National Peatland Protection Strategy specifically is prioritising restoring peat soils, to help enhance resilience against climate crisis, like enhancing carbon sequestration, drought or flooding, and is funding related projects.[143] According to the Agricultural Soil Inventory by the Thünen Institute, peat soils store around a quarter of the total soil carbon of agriculturally used soils in Germany, despite accounting for only 6% of Germany's agricultural land.[144] In contrast, drained peatlands emit 54-51.2 million tonnes of CO_2 annually in Germany, accounting for around 5.4% of all national anthropogenic GHG emissions. This makes the restoration of peatlands for rewetting an important priority in Germany's climate change adaptation strategy, particularly when around 90% of them have been drained.[145]

Peatlands also act as natural buffers for flood and drought periods. Flooding in Germany is projected to increase over the century, according to Federal Environmental Agency.[146] Human-induced climate change has been attributed to increased rainfall and flooding, due to rising global temperatures,[147] and the intensity of heavy

[141] "Der 'Niedersächsische Weg' Als Modell Für Den Bund? | Nds. Ministerium Für Ernährung, Landwirtschaft Und Verbraucherschutz." Accessed January 9, 2026. https://www.ml.niedersachsen.de/presse/pressemitteilungen/der-niedersachsische-weg-als-modell-fur-den-bund-240308.html.
[142] "„Niedersächsischer Weg": Jahresbericht Liegt Vor | Nds. Ministerium Für Ernährung, Landwirtschaft Und Verbraucherschutz." Accessed January 9, 2026. https://www.ml.niedersachsen.de/presse/pressemitteilungen/niedersachsischer-weg-jahresbericht-liegt-vor-244719.html.
[143] Ministry for the Environment, Federal, Nature Conservation, Nuclear Safety, and Consumer Protection. *National Peatland Protection Strategy Publication Details*. 2022. https://www.bundesumweltministerium.de/fileadmin/Daten_BMU/Pools/Broschueren/nationale_moorschutzstrategie_en_bf.pdf. p.38
[144] "Carbon Farming Explained: The Pros, the Cons and the EU's Plans | Clean Energy Wire." Accessed January 8, 2026. https://www.cleanenergywire.org/factsheets/carbon-farming-explained-pros-cons-and-eus-plans.
[145] Wetlands International. "Germany - European Peatland Factsheet." June 2025. https://europe.wetlands.org/wp-content/uploads/sites/6/2025/07/Germany.pdf.
[146] "Klimawirkungs- Und Risikoanalyse Für Deutschland 2021 (Teilbericht 3) | Umweltbundesamt." Accessed January 9, 2026. https://www.umweltbundesamt.de/en/publikationen/KWRA-Teil-3-Cluster-Wasser.
[147] "Wetter Und Klima - Deutscher Wetterdienst - Presse - Attributionsstudie:" Accessed January 9, 2026. https://www.dwd.de/DE/presse/pressemitteilungen/DE/2021/20210824_attributionsstudie_starkregen_news.html.

rainfall in Germany is rising, around 10% higher than four decades ago (2023).[148] The highly urbanised landscape of Germany reduces the amount of water retention, thanks to soil sealing from infrastructure development which also has reduced floodplains. Additionally, intensive farming, reduction on vegetation cover, and agricultural machinery causes soil compaction, which reduces water permeability.[149] Combining flood management with peatland rewetting can effectively lower flood risks, by improving groundwater recharge, slowing water release, and attenuating downstream flow.[150]

> *LIFE Multi Peat (2021–2026) is a project that aims to restore degraded peatlands in five EU countries, including Germany. It is coordinated by NABU in Germany along with partners from Belgium, the Netherlands, Ireland and Poland. In Germany, the project takes place in Häsener Luch (near Löwenberger Land in Brandenburg), involving hydrological restoration of fen peatland that was degraded by historic drainage from agriculture and forestry. Restoration measures include blocking active drainage ditches to raise water levels, monitoring water dynamics and greenhouse-gas fluxes, and establishing conditions for fen vegetation recovery. The site also hosts a feasibility study on paludiculture to explore future sustainable land uses under high water tables.[151] Stakeholder engagement is a core priority of the project in Germany. They host yearly stakeholder events, which bring together representatives from water and nature conservation authorities, regional governments, and local landowners and users. At the 2025 meeting, the workshop presented updated results from the project, discussed alternative land options post-rewetting, and government representatives also presented on new funding opportunities for farmers who voluntarily commit to rewetting.[152]*

Private investments promoting restoration

On top of national and regional level funds mentioned previously, Germany has a growing sphere of private investments into nature restoration, which can help spur the NRR's goals nationally. Environmental NGOs have identified potential partners including private funds, climate-focused alliances, and farming organizations open to pragmatic measures. An interviewee noted that a key opportunity lies in motivating farmer participation through innovative financing mechanisms. The NABU Climate Fund exemplifies how alliances can bridge the differing interests between farming and nature conservation through corporate funds and private capital. The Fund started in 2022 with REWE, a major food retailer, to invest at least 25 million euros in nature-based climate protection projects across Europe, including peatlands. The Fund has secured close to 4,300 hectares of peatland for rewetting and has seven projects in five European countries.[153] There is also growing interest in nature credits, like MoorFutures, who present a promising avenue to attract private investment into restoration efforts. However, common critics of carbon markets and nature credits include fears of greenwashing and lack of deep ecological outcomes. Companies need to be cognisant of this and employ robust methodologies, transparency and governance. It remains to be seen if carbon markets/nature credits will be scaled up, or deliver net positive outcomes, as these projects are still nascent and include risks - including harming biodiversity and reducing the overall amount of public funding for nature. Another potential avenue is that innovative entrepreneurship and market-based approaches in nature conservation are gaining traction, with examples such as flower sponsorships ("Blühpatenschaften") demonstrating how creative financing mechanisms can engage broader public participation in restoration efforts.

> *MoorFutures® is a German peatland carbon-credit initiative that finances the rewetting of drained peatlands by selling CO_2 certificates tied to emission reductions from restored peatlands. The scheme is the first carbon*

[148] "Are Extreme Floods the New Normal for Germany? – DW – 06/03/2024." Accessed January 9, 2026. https://www.dw.com/en/are-extreme-floods-the-new-normal-for-germany/a-69255435.
[149] "Floods - How They Form and How We Influence Them | Umweltbundesamt." Accessed January 9, 2026. https://www.umweltbundesamt.de/en/topics/water/extreme-events-climate-change/floods-how-they-form-how-we-influence-them#floods-are-natural-events.
[150] Karimi, Shirin, Virginia Mosquera, Eliza Maher Hasselquist, Järvi Järveoja, and Hjalmar Laudon. "Does Peatland Rewetting Mitigate Flooding from Extreme Rainfall Events?" *Hydrology and Earth System Sciences* 29, no. 12 (2025): 2599–614. https://doi.org/10.5194/HESS-29-2599-2025.

[151] "Germany | LIFE Multi Peat." Accessed January 9, 2026. https://multipeat.org/en/project-regions/germany.
[152] "The Importance of Stakeholder Engagement in Germany | LIFE Multi Peat." Accessed January 9, 2026. https://multipeat.org/en/blog/importance-stakeholder-engagement-germany.
[153] "NABU Climate Fund", accessed January 7, 2026.

certificate globally specifically designed for peatland rewetting: buyers purchase MoorFutures® to support local peatland restoration projects, and the proceeds fund planning, ditch blocking, water-level management and long-term monitoring of rewetted sites. By restoring the natural wet conditions, these projects prevent CO_2 emissions from oxidising peat, enhance biodiversity, improve water quality and hydrology, and create ecosystem benefits such as flood buffering and reduced fire risk. Each project's emissions reductions are scientifically checked and registered, and the certificates represent verified mitigation over multi-decade time horizons (typically 30–50 years). Since starting in 2010, MoorFutures® has rewet 288 hectares of peatland, saving an estimated 153,084 tonnes of CO_2.[154]

[154] "MoorFutures - About." Accessed January 9, 2026.

Greece, Renewable Energy Infrastructure and the NRR

Greece is expanding renewable energy infrastructure, particularly wind and solar projects, as part of its commitment to meet EU climate and energy targets. While these developments are essential for decarbonisation, they have created growing tensions with nature conservation objectives, due to poor spatial planning and permitting oversight. There is potential for nature-positive approaches like agrivoltaics which can support climate, energy, and agricultural targets while enhancing biodiversity.

Introduction

The Greek context

Greece hosts diverse ecosystems, including extensive coastal and marine areas, wetlands, forests, and mountainous habitats. It has one of the highest percentages of land and sea designated as Natura 2000 in Europe, however, effective management, monitoring, and enforcement remain limited. Implementation has been limited by a weak and fragmented institutional structure, a lack of capacity, and inconsistent funding. Greece is among the EU's worst performers in compliance with nature legislation, with several open infringements under Article 260 for failing to designate or conserve Natura 2000 sites.[155] Court decisions in recent years underscore systemic non-compliance with EU nature law, and a renewed infringement process commenced in 2025 for failing to meet obligations under the Habitats Directive,[156] and INFR(2014)4073 for Habitats Directive infringements related to spatial wind farm planning and failure to carry out an appropriate assessment.[157]

Political positioning: The government is led by the centre-right New Democracy (ND) party under Prime Minister Kyriakos Mitsotakis. The government has shown mixed support for the NRR, backing it at the EU Council level while its MEPs voted against it in the European Parliament. Politically, nature conservation in Greece has tended to rank lower than economic development priorities.

National Legal Framework: In 2014, Greece developed a National Biodiversity Strategy and Action Plan in 2014, aligned with EU biodiversity goals. The National Climate Law (2022) and the National Energy and Climate Plan also highlight synergies between biodiversity protection and climate mitigation/adaptation, particularly in forest fire prevention, coastal resilience, and wetland restoration

Land use: The country has designated more than a quarter of its land (34.63%) and a significant portion of its marine territory (19.8%) under protected areas, with the majority of both under the Natura 2000 network, one of the highest percentages in Europe.[158]

Main Bodies Responsible: The Ministry of Environment and Energy (MEEN) is the lead body for nature legislation implementation and energy policy. For renewable energy licensing MEEN is responsible for environmental licensing and has a supervisory role throughout the various steps and authorisations that any environmental or development project goes through. Both the Decentralised Authorities and Districts issue part of the licensing depending on the size of the project in question. The Regulatory Authority for Energy, Waste and Water (RAAEY), are responsible for managing and supervising the energy market and have licensing authority over whether any specific company/stakeholder is compatible for producing energy. The Hellenic Hydrocarbon and Energy Resources Management Authority (HEREMA) is responsible for managing hydrocarbon projects and off-shore wind farms but does not have licensing authority over those.

[155] *T-PVS/Inf (2015) 22 ASSESSMENT REPORT ON THE LEGAL AND ADMINISTRATIVE IMPLEMENTATION OF THE BERN CONVENTION IN GREECE-FINAL*, 2015, https://rm.coe.int/1680746bed. p.7
[156] "June Infringements Package: Key Decisions," accessed January 21, 2026, https://ec.europa.eu/commission/presscorner/detail/en/inf_25_1241.
[157] "February Infringements Package: Key Decisions," accessed January 21, 2026, https://ec.europa.eu/commission/presscorner/detail/en/inf_23_525.
[158] "Greece | Countries | Biodiversity Information System for Europe," accessed January 21, 2026, https://biodiversity.europa.eu/countries/greece.

Financing: Nationally, the National Green Fund can be used for restoration. Greece will mainly rely on a combination of national and EU funding (CAP, EU Fisheries Fund, LIFE) for nature restoration funding.

Renewable energy in Greece

Greece is rapidly expanding renewable energy infrastructure, particularly wind and solar projects, as part of its commitment to meet EU climate and energy targets, with authorities having a strategic plan to make Greece "the battery of Europe".[159] The revised Renewable Energy Directive (RED III), adopted in 2023, raises the EU's binding target for the share of renewable energy in the energy mix by 2030 to a minimum of 42.5%.[160] In 2014, around half of Greece's electricity was generated by coal, with only 15% coming from solar and wind. Just 10 years later, coal fell down to 6% and solar and wind almost tripled to 43%.[161] Renewable energy developments have created growing tensions with nature conservation objectives, especially in sensitive mountain areas, islands, and marine/coastal zones that overlap with Natura 2000 sites. Large-scale wind parks have raised concerns from local communities and environmental NGOs regarding their impact on bird populations, biodiversity corridors, and landscape integrity.

RED III also mandates an acceleration of permitting procedures for renewable energy projects, by streamlining environmental procedures as a result. This has been strengthened by the Environmental Omnibus (published 16 December 2025).[162] The Greek planning scheme for renewables has few checks and balances for accepting projects and once a park is proposed, most go through the planning process successfully. Wind energy has no zoning for priority areas or no-go areas and renewable energy spatial plans are non-existent. This is because Greece is ten years behind schedule with renewable spatial planning, and its latest plan was developed in 2008, making it obsolete. Additionally, no mapping has been conducted for Renewable Acceleration Areas (RAAs) required by the REDIII, and Natura 2000 management plans are still under development, making it unclear how they will interact with restoration objectives.[163] Similar problems are faced with hydropower schemes, particularly smaller projects which are not integrated into River Basin Management Plans (themselves with significant implementation problems). These gaps were highlighted as a major weakness by some interviewees. Another issue highlighted by interviewees, are various loopholes companies can utilise to bypass stringent environmental requirements, such as setting tight deadlines to review environmental impact assessments.

How is the NRR relevant for renewable energy infrastructure in Greece?

The NRR catalyses identifying information gaps nationally

The NRR is seen by interviewees as an opportunity to finally spur efforts into developing Natura 2000 management plans, which can inform spatial planning with the RED III, the Water Framework Directive (WFD), and the Maritime Spatial Planning Directive (MSPD). However, interviewees expressed concerns about the government capacity to establish coherent planning between the NRR, RED III, WFD, and MSPD. Additionally, an interviewee noted that, as energy security and defence policies become more prioritised, it will be important for authorities to reframe nature restoration as an added benefit and necessity for these policy areas at the strategic level.

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[159] "Μητσοτάκης: Σε Μπαταρία Της Ευρώπης Μπορεί Να Εξελιχθεί η Ελλάδα Δεδομένου Του Ηλιακού Και Αιολικού Δυναμικού Της Χώρας," accessed January 28, 2026, https://energypress.gr/news/mitsotakis-se-mpataria-tis-eyropis-mporei-na-exelihthei-i-ellada-dedomenoy-toy-iliakoy-kai.

[160] "Renewable Energy Targets - European Commission," accessed January 25, 2026, https://energy.ec.europa.eu/topics/renewable-energy/renewable-energy-directive-targets-and-rules/renewable-energy-targets_en.

[161] "Greece Is Turning Its Back on Coal and Replacing It with Solar and Wind - Our World in Data," accessed January 21, 2026, https://ourworldindata.org/data-insights/greece-is-turning-its-back-on-coal-and-replacing-it-with-solar-and-wind.

[162] European Union (2025) The Environmental Omnibus has been published! Press Release: https://circulareconomy.europa.eu/platform/en/news-and-events/all-news/environmental-omnibus-has-been-published

[163] Marion Wingenbach et al., *Overview of Renewable Energy Spatial Planning and Designation of Acceleration Areas in Selected EU Member States*, n.d., accessed January 21, 2026, www.oeko.de. p.24

MEEN leads NRP development and delegates technical preparation to the National Museum of Natural History Goulandris/EKBY. So far, there has been little coordination with other ministries, as most relevant agencies are in house. It is planned to involve the Ministry of Rural Development and Food (YP-AAT) which oversees agriculture and fisheries. It is unclear if the other various authorities who manage energy licensing (Decentralised Authorities and Districts, RAEEY) are being consulted. As a part of an EU coalition of organisations, two NGOs – the Hellenic Ornithological Society (HOS/Birdlife Greecd) and WWF-Greece – are monitoring the NRP development process and provide feedback on its inclusivity and ambition to MEEN. The "Restore Nature NRP Mid-Term Assessment Report" categorises Greece as being in the early stages" of NRP development. There are gaps in science-based information and data availability that needs to be addressed. Progress for development is slow, due to limited staff capacities, leading to concerns on consultations and technical work being rushed prior to the September 2026 deadline. Additionally, the NRP process is opaque to the public,[164] though there are planned consultations in the summer of 2026.

There has been progress by the MEEN in addressing information and data gaps, which will inform the NRP and Natura 2000 management plans. A crucial scientific foundation comes from 23 Special Environmental Studies that serve as the basis for Natura 2000 site management plans, with 11 studies already in place and the remainder expected within the second quarter of 2026, including zoning systems with four protection levels ranging from strict protection to sustainable management.[165] Site-specific conservation objectives for both Habitats and Birds Directive species have been established through two 2023 Ministerial Decisions,[166] developed as part of the LIFE-IP 4 NATURA project (Greek's first Integrative LIFE project and important catalyst for action) and covering up to 90% of Greek Natura 2000 habitats and species.[167] While Greece is now in a much stronger position following these studies, barriers remain, including the need to legally adopt conservation measures from the LIFE-IP 4 NATURA project, as well as updating the Special Spatial Framework for Renewable Energy Sources to incorporate RED III to better guide restoration and protection efforts.

Regarding financing, the National Green Fund is the only identified source of financing nationally and does support restoration projects under the "Environmental Balance Actions" programme. The programme received a €24.7 million budget in 2025, though it is unclear how much went into nature restoration efforts.[168] Otherwise, NRR financing will rely on a mix of national and EU funds. Some interviewees also highlighted harmful subsidies as a persistent key issue. For example, fossil fuel subsidies and misallocated Emissions Trading System (ETS) revenues. NGOS, like WWF Greece, advocates redirecting these funds towards nature-based investments and renewable development compatible with biodiversity.[169]

> *There have been instances in the past, where the Greek government has come together to protect biodiversity. The "Untrodden Mountains" project used scientific evidence to impede road and artificial land expansion in six large mountainous roadless areas (0.74% of Greek land). Road development is a key factor causing land-use change, and is disruptive to wildlife, ecosystems services and human health.[170] The Greek government formally recognised the project and the protection of these roadless areas was put into national legislation.*

[164] Antier and Savu, *Nature Restoration Plan Development Process*, 2025.
[165] "Εκθέσεις - Μελέτες - Υπουργείο Περιβάλλοντος Και Ενέργειας," accessed January 22, 2026, https://ypen.gov.gr/perivallon/viopoikilotita/ektheseis-meletes/.
[166] *ΕΦΗΜΕΡΙΔΑ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ ΕΦΗΜΕΡΙΔΑ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ* (2023), https://ypen.gov.gr/wp-content/uploads/2023/05/%CE%A6%CE%95%CE%9A-%CE%92%CE%842138_2023-%CE%96%CE%95%CE%A0.pdf.
[167] "Natura 2000 – Edo Zoume," accessed January 21, 2026, https://edozoume.gr/en/.
[168] "Πράσινο Ταμείο: Διάθεση 112,16 Εκατ. Ευρώ Για Περιβαλλοντικά Προγράμματα Το 2025 | e-Mc2.Gr," accessed January 21, 2026, https://www.e-mc2.gr/el/news/prasino-tameio-diathesi-11216-ekat-eyro-gia-periballontika-programmata-2025.
[169] WWF-Greece, "Time Running out: NGOs Call on EU Commission to Halt Fossil Fuel Push in Greek Seas | WWF," September 8, 2025, https://www.wwf.gr/en/?19134416%2FNGOs-call-on-EU-Commission-to-halt-fossil-fuel-push-in-Greek-seas.
[170] "Greece Shows the Way for a Roadless Policy in Europe: Links with the European Biodiversity Strategy," accessed January 21, 2026, https://www.researchgate.net/publication/363519826_Greece_shows_the_way_for_a_roadless_policy_in_Europe_links_with_the_European_biodiversity_strategy.

This allows for the safeguarding of some of Greece's most ecologically valuable forests and mountains, including from renewable energy development.[171]

NGOs and local communities are essential watchdogs for nature

At the regional and local level, support for the NRR is mainly concentrated within civil society, notably through NGO networks such as the Wildlife Alliance, which seeks to increase awareness and advocacy at both EU and national levels. NGOs play a key watchdog role in monitoring the impact of renewable energy permitting on species and habitats. However, NGOs face significant resource constraints in their monitoring work, having to evaluate permits on a case-by-case basis, on top of gathering sound scientific evidence, to prove negative impacts on bird species. This problem extends beyond renewables, as most permits in Greece are granted in a non-transparent way. Additionally, there is no accountability process to understand which opinions during consultation procedure (including NGO inputs) are considered in final decisions. Despite these challenges, some successes have been achieved, including suspensions of wind parks from Natura 2000 sites.

Figure 7 - *Akarnanika* mountains Photo Credit: Apostolis Kaltsis

The Akarnanika mountain range is the most important area for the Griffon Vulture in continental Greece. Separate permits were issued for 16 individual wind turbines under an energy community. HOS and the Hellenic Society for the Protection of Nature (EEPF) engaged with authorities to highlight the negative impacts the permitting poses for the bird species and urged them to not proceed with implementing the farms before the LIFE IP 4 NATURA project results were evaluated for the area. Authorities proceeded to start development, anyway, damaging the environment of the Akarnanika mountains. This resulted in a court case being brought by the NGOs to the Council of State, Greece's highest administrative court, requesting a cancellation of the permits. In August 2025, the Council granted a suspension order, temporarily halting some of the installation works, until a final verdict is decided.[172]

[171] "Society for Conservation Biology | SCB Europe Section Press Release: Greece Gives Legal Protection to Roadless Areas," accessed January 21, 2026, https://conbio.org/publications/scb-news-blog/scb-europe-section-press-release-greece-gives-legal-protection-to-roadless.
[172] "Και Με Τη Σφραγίδα Του ΣτΕ η Αναστολή Εργασιών Για Τα Αιολικά Στα Ακαρνανικά - Hellenic Ornithological Society," accessed January 21, 2026, https://ornithologiki.gr/el/enhmerwsh-ekpaideush/enimerosi/ta-nea-mas/2079-kai-me-ti-sfragida-tou-ste-i-anastoli-ergasion-gia-ta-aiolika-sta-akarnanika.

The tensions between renewable energy development and nature conservation continue due to the government allowing the issuance of renewable energy licenses, despite a delay of renewable energy spatial plans, sound Natura 2000 management plans and River Basin Management Plans. Some interviewees highlighted the potential of NGOs and local communities using the NRR as an additional legislative tool to pause the development of renewable energy projects, if they have negative impacts on nature. One interviewee highlighted that a yet unexplored synergy can be in archaeological legislation, as cultural services sometimes call for restoration of the environment and stopping harmful activities such as infrastructure development on archaeological sites.

> *On the Skyros Island, 58 wind turbines were planned on Mount Kochilas in southern Skyros, a key Natura 2000 area for bird species such as Eleonora's falcon and Bonelli's eagle. The area is also a key migratory pathway for 102 bird species. A joint letter from scientific experts in 13 countries was sent to the MEEN, and the European Commission's DG ENV and CINEA, to stop the installation.[173] The local citizen's assembly also banded together to collectively express their refusal of the project, including the mayor, local and regional councillors. A local NGO SPPENK (Society for the Protection of the Environment of South Karystia) presented on the situation and spoke about the consequences the project could bring to livestock, beekeeping, nature tourism and mountain ecosystems as a whole.[174] In 2023, the MEEN's Directorate of Natural Environment and Biodiversity issued a negative assessment on the project, essentially putting an end to the plans.[175]*

Cross sectoral synergies and opportunities

There is potential for renewable energy to complement biodiversity and nature restoration, if stringent environmental impact assessments and spatial planning is undertaken. The NRR has the potential to compliment the objectives of RED III and MSFD.

Nature-positive photovoltaics and agricultural resilience

Greece is at the forefront of renewables in Europe. It has an opportunity to make it the forefront of positive change to support nature-positive renewable energy development. One approach, which is still being explored at a small-scale in Greece and Europe, is the use of "agrivoltaics" in the agricultural space, where photovoltaics (solar panels)[176] are installed above crops. There is a pilot launched in Imathia with a local grower and Venus Growers, a key peach producer association in Greece.[177] Good agrivoltaics combines sustainable farming (which promotes and preserves biodiversity) and electricity productivity, providing improved economic benefits to farmers, energy autonomy, and is a supportive example of sustainable land management. These projects can be turned into small biodiversity rich spots that collect water and provide safe spaces for birds and pollinators. There is a lot of potential for this in Greece. The National Energy and Climate Plan forecasts that solar PV capacity would increase from 4.8 GW in 2022 to 14.1 GW in 2030 (an 194% increase) and 34.5 GW in 2050.[178] The NRR can incentivise to these types of projects, as Article 2 requires measurements to enhance biodiversity on agricultural land.

> *Two NGOs, reLIFE Earth and Nea Guinea, are developing a project to test a "nature plus" regreening approach for existing ground-mounted photovoltaic parks on rural land in Greece. The core idea is to move beyond "biodiversity-adjacent" measures (tidy grass, minimal compliance features) and, instead, design PV parks as functional restoration sites, while keeping operations and energy generation workable. The project*

[173] "International Plea for the Protection of the Eleonora's Falcon in Skyros - Hellenic Ornithological Society," accessed January 21, 2026, https://ornithologiki.gr/en/public-awareness-education/information/our-news/1566-international-plea-for-the-protection-of-eleonoras-falcon-skyros.
[174] "Press Release: Rally in Skyros against Wind Farms | Society for the Protection of the Environment of South Karystia," accessed January 21, 2026, https://www.ochi.gr/en/node/308.
[175] "The Ministry of the Environment Refuses to Install a Wind Farm in the Natura Area - Athens News," accessed January 21, 2026, https://en.rua.gr/2023/04/19/the-ministry-of-the-environment-refuses-to-install-a-wind-farm-in-the-natura-area/.
[176] "Trinasolar Unveils Agrivoltaics Project in Japan, Driving Renewable Energy and Agriculture Synergy," accessed January 21, 2026, https://regional.chinadaily.com.cn/en/2024-08/27/c_1016089.htm.
[177] "Promoting Sustainable Growth with Simpler and Smarter Environmental Legislation." Accessed March 3, 2026. https://ec.europa.eu/commission/presscorner/detail/en/ip_25_2997.
[178] Stavros Vigkos and Panagiotis G. Kosmopoulos, "Photovoltaics Energy Potential in the Largest Greek Cities: Atmospheric and Urban Fabric Effects, Climatic Trends Influences and Socio-Economic Benefits," *Energies 2024, Vol. 17, Page 3821* 17, no. 15 (2024): 3821, https://doi.org/10.3390/EN17153821.

is working with two solar cooperatives/energy communities to start the prototyping. The ecosystem services the project hopes to restore/improve include: pollinator support, erosion control, improve soil moisture retention and health, habitat connectivity and wildlife movement, and microclimate buffering. The main output will be an open, replicable "method pack" (design + monitoring protocol + operational guidance), based on monitored results and practical implementation lessons. The hope is the scale this method up to other communities in Greece and beyond.

Marine restoration and wind energy

Another approach in early days of testing in Greece is appropriately placing wind turbines to enhance the restoration of fish populations by acting as *de facto* marine protected areas and *quasi*-no-take-zones. No-take zones give marine ecosystems the space and protection to self-recover, restoring biodiversity, fish populations, and ecosystem functions. In the Baltic Sea for instance, a study found that fish and other marine species occurred in higher quantities near wind farms. The findings suggest that wind farms contribute to the so-called reef-effect, providing shelter and food supplies to their inhabitants and acting as no-take-zones.[179] However, a precautionary approach should be taken, as these impacts are not understood long term. As a rule of thumb, the study suggests that offshore wind development should be excluded from Natura 2000 sites and other MPAs.[180] The NRR can complement spatial planning requirements under the MSFD and RED III, to encourage more conscious planning to enable restoration in degraded ecosystems.

The AMORGORAMA project was established through a bottom-up participatory approach. The Professional Fishing Association of Amorgos Island was concerned about plastic pollution and overfishing in the Aegean Sea, decided to act in 2019. Their initiative is based on four key actions to protect marine life: a) Pause of fishing activity in April and May, the most important months for fish reproduction, to regenerate stocks. b) Cleaning of coastal areas that are difficult to access by land, during the above period. c) Gradual replacement of fishing gear with more sustainable options, such as larger size nets and hooks. d) Establishment of three Marine Protected Areas along the coastline of Amorgos, where fishing is strictly prohibited. The project developed key partnerships, including the Cyclades Preservation Fund (CPF), the Blue Marine Foundation (BMF), the Municipality of Amorgos, ENALEIA, the Green Fund and MEEN.[181] In April 2024, at the United Nations OUR OCEAN Conference, the Greek government announced approval for the proposed Fisheries Restricted Areas (FRAs) for Amorgos. This approval was a significant step towards the expansion of Marine Protected Areas and the banning of bottom trawling in them by 2030, aligning with global "30x30" goals.[182]

Hydropower and river restoration

Compared to the rapid expansion of solar and wind power, hydropower is growing at a slower rate, with an anticipated increase of 22.6% from 3.1 GW (in 2023) to 3.8 GW by 2030.[183] Hydropower development in Greece poses significant challenges to freshwater ecosystems. The main negative impacts dams have on the environment is that they impact longitudinal river connectivity, fish passage (hence fish species diversity) and significantly alters river ecology.[184] For small hydropower plants (SHPs), the preferred action for nature protection is to prohibit the building of new ones and removing obsolete obstacles. For bigger dams which are harder to remove, water releases should mimic natural variability,[185] and have fish passage solutions (ie ladders, bypass

[179] Alexander H. Knorrn et al., "Beneath the Blades: Marine Wind Farms Support Parts of Local Biodiversity - a Systematic Review," *Science of The Total Environment* 935 (July 2024): 173241, https://doi.org/10.1016/J.SCITOTENV.2024.173241.
[180] "Nine Areas for Offshore Wind Energy Overlap or Border Natura 2000 Protected Areas in the Western Mediterranean | Institut de Ciències Del Mar," accessed January 21, 2026, https://www.icm.csic.es/en/news/nine-areas-offshore-wind-energy-overlap-or-border-natura-2000-protected-areas-western.
[181] "Amorgorama | Become a Part of the Swarm," accessed January 21, 2026, https://www.amorgorama.com/.
[182] "Fisher-Led Fisheries Restricted Areas in Greece," accessed January 21, 2026, https://www.bluemarinefoundation.com/greek-government-endorses-fisher-led-fisheries-restricted-areas-in-amorgos/.
[183] "Greece Renewable Energy Projects 2024." Accessed January 28, 2026. https://www.trade.gov/market-intelligence/greece-renewable-energy-projects-2024.
[184] Widén, Åsa, Birgitta Malm Renöfält, and Roland Jansson. "Environmental Flows in a Future Climate: Balancing Hydropower Production and Ecosystem Rehabilitation in the Ume River System, Sweden." *Science of the Total Environment* 955 (December 2024). https://doi.org/10.1016/J.SCITOTENV.2024.176622.
[185] Ibid.

channels).[186] Much like wind parks, Greece faces similar spatial planning and environmental impact assessment deficiencies with hydropower projects. These planning delays were brought forth by the Court of Justice of the European Union (CJEU) who ruled against Greece for failing to revise their River Basin Management Plans (RBMP) under the WFD and flood risk management plans under the Floods Directive in 2025.[187] Another example is the highly controversial large-scale Acheloos River Diversion project which been cancelled six times by the Greek Court of the State, due to lack of proper environment assessments and planning.[188] [189] Yet the project continues being brought up in regional water plans and is currently being challenged again.[190] Additionally, there are active new infrastructure approvals along the Acheloos basin, such as the Avlaki hydropower plant, which has drawn local opposition.[191] It is evident that these projects continue to persist due to flexible renewable energy permitting and lack of planning from the government's side. Recent policy and restoration efforts show potential pathways to better integrate nature restoration into energy planning but this has let to have much impact in practice.

There has been growing engagement in Greece on river restoration, which includes removing obsolete barriers and restoring free-flowing rivers. There was a national workshop in April 2025 which brought together government representatives from MEEN, the Hellenic National Institute for the Protection of Rivers and the Environment, researchers, experts and civil society. In the workshop, the NRR was discussed, including the need for the NRP to establish clear and measurable targets to removing obstacles, per Article 9.[192] [193] This is important momentum as the NRP development process continues. Rivers serve as vital nature-based solutions that provide flood regulation, water purification, climate adaptation, and biodiversity support, which makes it even more important for authorities to understand the interlinkages between hydropower development and restoration efforts to maximize both ecological resilience and sustainable energy outcomes.

> *The Greek government has adopted a ministerial decision protecting the Aoos River, one of Europe's last free-flowing rivers, by prohibiting the construction of dams and hydropower plants (including Small Hydropower Plants) within its protected section. The decision applies to the river's downstream portion from Northern Pindos National Park to the Greek-Albanian border, an area designated as Protected Landscape and Protected Natural Formation in November 2023. This victory resulted from efforts by civil society organizations including MedINA, Pindos Perivallontiki, and The Green Tank, who advocated for institutional protection considering both ecological value and local community needs. The protection allows sustainable economic activities like farming, stockbreeding, and tourism while preserving the river's ecological integrity, biodiversity, and cultural heritage. Future plans include upgrading the area to National Park status and potentially creating Europe's first Transboundary Wild River National Park by joining it with Albania's neighbouring Vjosa National Park.[194]*

[186] "Towards Nature-Positive Hydropower: ETIP HYDROPOWER Publishes Three Biodiversity White Papers." Accessed January 28, 2026. https://etip-hydropower.eu/latest-news/towards-nature-positive-hydropower-etip-hydropower-publishes-three-biodiversity-white-papers/.
[187] *PRESS RELEASE No 63/25*. 2025. https://curia.europa.eu/site/upload/docs/application/pdf/2025-06/cp250063en.pdf.
[188] "Acheloos Dead End | eKathimerini.Com." Accessed February 2, 2026. https://www.ekathimerini.com/news/30928/acheloos-dead-end/.
[189] "Η Αναχρονιστική Εκτροπή Του Αχελώου Απειλεί Τη Θεσσαλία Με Διαιώνιση Της Κακοδιαχείρισης Του Νερού - Hellenic Ornithological Society." Accessed February 2, 2026. https://ornithologiki.gr/el/enhmerwsh-ekpaideush/enimerosi/ta-nea-mas/2104-i-anaxronistiki-ektropi-tou-axeloou-apeilei-ti-thessalia-me-diaionisi-tis-kakodiaxeirisis-tou-neroy.
[190] "Μετατίθεται Για Την Πρωταπριλιά Του 2026 η Εκδίκαση Στο ΣτΕ Της Προσφυγής Κατά Της Εκτροπής Του Αχελώου." Accessed February 2, 2026. https://www.agrinionews.gr/metatithetai-gia-tin-protaprilia-tou-2026-i-ekdikasi-sto-ste-tis-prosfygis-kata-tis-ektropis-tou-acheloou/.
[191] "ΜέΡΑ25 Θεσσαλίας: Η Κυβέρνηση Εγκρίνει Νέο Φράγμα Στον Αχελώο - Μια Ακόμη Οικολογική Καταστροφή Στον Ορίζοντα, Στο Όνομα Της «πράσινης Μετάβασης»." Accessed February 2, 2026. https://katafylli.gr/index.php/nea/13628-mera25-thessalias-i-kyvernisi-egkrinei-neo-fragma-ston-axeloo-mia-akomi-oikologiki-katastrofi-ston-orizonta-sto-onoma-tis-prasinis-metavasis.
[192] "Ελεύθερα Ποτάμια Χωρίς Φραγμούς: Ξεκίνησε ο Εθνικός Διάλογος Για Την Απελευθέρωση Των Ελληνικών Ποταμών." Accessed January 28, 2026. https://www.energia.gr/article/229319/eleythera-potamia-horis-fragmoys-xekinhse-o-ethnikos-dialogos-gia-thn-apeleytherosh-ton-ellhnikon-potamon.
[193] "Regulation - EU - 2024/1991 - EN - EUR-Lex,"
[194] "A Shield of Protection for the Aoos River - MedINA." Accessed January 28, 2026. https://med-ina.org/a-shield-of-protection-for-the-aoos-river/.

Ireland, Marine Ecosystems and the NRR

Marine environments provide a multitude of co-benefits - from food production, carbon sequestration, coastal protection, and homes for fish stocks and shellfish populations. In Ireland, the NRR provides an opportunity to connect land and sea management, align fragmented governance structures, and amplify the multiple dividends that ocean recovery can deliver.

Introduction

The Irish context

Ireland's extensive marine territory is highly biodiverse, hosting over 200,000 species of fish, mammals, crustaceans and invertebrates.[195] Ireland is steadily investing resources to expand their marine protected areas (MPAs), with the recent launch of the MPA LIFE Ireland project as a basis to identify and designate MPAs.[196] In a similar vein, Ireland recently established its first marine national park in Kerry, *Páirc Náisiúnta na Mara*, in 2024.[197]

Despite these efforts, Ireland's nature conservation record is characterised by significant implementation gaps. The country has struggled so far with EU nature legislation targets, with 90% of terrestrial and marine habitats being in unfavourable condition according to 2025 reporting.[198] However, areas where focused conservation efforts have been made, are showing improving trends. Generally, implementation of the EU Nature Directives and the Marine Strategy Framework Directive (MSFD) has advanced in some areas but remains uneven, with enforcement actions by the European Commission pointing to gaps in marine protection and fisheries management. There are currently ongoing infringement cases concerning insufficient implementation of the Habitats Directive regarding Special Areas of Conservation,[199] which have developed slowly and illustrate broader deficiencies in national implementation capacity. Other shortcomings with Ireland's ocean governance include the delayed Maritime Protected Area legislation[200] and failure to meet good environmental status results for many MSFD descriptors.[201]

> **Political positioning:** The current coalition government, comprising Fianna Fáil, Fine Gael, and a group of independent *Teachta Dála,* is generally less driven by environmental priorities than its predecessor. Economic considerations, including particularly the development of offshore renewable energy, remain prominent. While Ireland's overall position on the NRR is supportive, there has been no clear commitment to fund the plan, creating a risk of delay and potential failure to meet its targets.

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[195] "Marine Biodiversity | Marine Institute," accessed January 28, 2026, https://www.marine.ie/site-area/areas-activity/education-outreach/oceans-learning/marine-biodiversity.
[196] "LIFE 3.0 - LIFE22-IPE-IE-MPA-LIFE-IRELAND/101103680," accessed January 18, 2026, https://webgate.ec.europa.eu/life/publicWebsite/project/LIFE22-IPE-IE-MPA-LIFE-IRELAND-101103680/mpa-life-ireland.
[197] "Páirc Náisiúnta Na Mara, Ciarraí - National Parks of Ireland," accessed January 28, 2026, https://www.nationalparks.ie/mara-ciarrai/.
[198] National Parks and Wildlife, The Status of EU Protected Habitats and Species in Ireland. Volume 1: Summary Overview. Unpublished NPWS Report (2025), https://www.npws.ie/sites/default/files/publications/pdf/article-17-report-2025-volume-1.pdf. p.80
[199] "Judgement Issued by CJEU on Case C-444/21 EU Commission v Ireland," accessed January 18, 2026, https://www.gov.ie/en/department-of-housing-local-government-and-heritage/press-releases/judgement-issued-by-cjeu-on-case-c-44421-eu-commission-v-ireland/.
[200] "Marine Protection Delays Makes Ocean Restoration More Uncertain, Warn Environment Groups – The Irish Times." Accessed January 19, 2026. https://www.irishtimes.com/environment/2025/09/11/marine-protection-delays-makes-ocean-restoration-more-uncertain-warn-environment-groups/.
[201] "Ireland's Marine Strategy Framework Directive Marine Strategy Part 1: Assessment (Article 8), Determination of Good Environmental Status (Article 9) and Environmental Targets (Article 10)." Accessed January 19, 2026. https://www.gov.ie/en/department-of-climate-energy-and-the-environment/publications/irelands-marine-strategy-framework-directive-marine-strategy-part-1-assessment-article-8-determination-of-good-environmental-status-article-9-and-environmental-targets-article-10/.

National Legal Framework: Nationally, marine issues are included through the National Marine Planning Framework, the Climate Action Plan 2025 (CAP2025), and the 4th National Biodiversity Action Plan (2023–2030), all of which highlight the importance of ocean health and resilience.

Land use: Ireland's marine area is over 6 times larger than its land area, at 488,000 km^2. Marine protected areas (MPAs) cover over 9% of Irish waters (per national totals),[202] while 13.95% of land is covered by protected areas.[203] The majority of Ireland's marine Natura 2000 sites lack significant conservation measures and management plans.[204]

Main Bodies Responsible: The National Parks and Wildlife Service (NPWS), under the Department of Housing, Local Government and Heritage (DHLGH) implements nature legislation. The Department of Climate, Energy and the Environment (DCEE) oversee marine environment functions (including MPAs) and MSFD reporting. There is also a newly established Maritime Area Regulatory Authority (MARA) under DHLGH and DCEE, which oversees the licencing process for offshore renewables.[205]

Financing: Ireland relies on most if its marine restoration funding from EU Funds, such as LIFE and European Maritime, Fisheries and Aquaculture Fund (EMFAF). The Department of Agriculture, Food and the Marine (DAFM) has pledged €23.86 million to support actions that promote a healthy, sustainable marine environment.[206]

Marine Ecosystems in Ireland

Figure 8 - Saltee Islands in Wexford County Photo Credit: Peter Stein

Marine ecosystems are central to Ireland's restoration agenda, given the country's extensive maritime area and dependence on healthy seas for biodiversity, fisheries, and coastal resilience. Oceans and coastal ecosystems represent the biggest long-term carbon sink on the planet, often referred to as blue carbon. Ireland is estimated

[202] "Ireland's State of the Environment Report 2024," accessed January 27, 2026, https://epawebapp.epa.ie/ebooks/soe2024/228/.
[203] "Ireland | Countries | Biodiversity Information System for Europe," accessed January 15, 2026, https://biodiversity.europa.eu/countries/ireland.
[204] "The EU Environmental Implementation Review - Ireland | An Taisce - The National Trust For Ireland," accessed January 30, 2026, https://www.antaisce.org/news/the-eu-environmental-implementation-review-ireland.
[205] "MARA Launch Marks Major Milestone for Offshore Energy Development," accessed January 18, 2026, https://www.gov.ie/en/department-of-housing-local-government-and-heritage/press-releases/mara-launch-marks-major-milestone-for-offshore-energy-development/.
[206] "Minister of State Dooley Pledges €23.86 Million in Support of Sustainable Ocean Management," accessed January 27, 2026, https://www.gov.ie/en/department-of-agriculture-food-and-the-marine/press-releases/minister-of-state-dooley-pledges-2386million-in-support-of-sustainable-ocean-management/.

to store at least 9.2 Mt of carbon in its saltmarsh and seagrass habitats[207] and the Marine Institute has funded a multitude of projects to further develop Ireland's blue carbon potential, including preventing their further degradation.[208] There are growing concerns about a developing crisis in the fishing sector linked to overfishing by non-EU coastal states, fish stock decline and major decreases foreseen for 2026 in total allowable catches including for key species (e.g. mackerel) in the Irish fishing industry.[209] This means the development of sound strategy which intersects sustainable fisheries management, marine protection, and restoration of degraded habitats even more important. Nationally, marine issues are addressed through the National Marine Planning Framework, the Climate Action Plan 2025 (CAP2025), and the 4th National Biodiversity Action Plan (2023-2030), all of which highlight the importance of ocean health and resilience. The government has committed to expanding MPAs to cover 30% of its maritime area by 2030, a target aligned with EU biodiversity goals and the NRR, with marine restoration framed not only as a biodiversity measure but also as a contribution to climate mitigation and adaptation, coastal resilience, and the sustainable development of the blue economy. Current government priorities include expanding MPAs, restoring habitats such as seagrass beds, kelp forests, and coastal wetlands, and integrating restoration into the blue economy and offshore renewable energy (ORE) planning.[210] The acceleration of OREs potentially conflicts with nature conservation objectives, especially as Ireland has been slow mapping and designation of MPAs, and scientific information gaps exist. At this stage, many ORE developments have not been built yet. The government had an extensive consultation process when developing their Designated Maritime Area Plans (DMAPs), in 2023, with the involvement of both the fishing industry and NGOs.[211] However, there is a lack of transparency on whether their inputs are being considered for the final planning stages.

> *The MPA LIFE Ireland project is an integrated EU-funded LIFE programme initiative designed to develop enabling legislation and a comprehensive framework for designating and managing Marine Protected Areas (MPAs) in Ireland. The project's main objectives include establishing the legal, administrative, and financial structures necessary to create and effectively manage MPAs in Irish waters, implementing the EU Biodiversity Strategy's target of protecting 30% of marine areas, and developing management plans and monitoring systems for designated sites. The project will involve multiple stakeholders including government departments, marine institutes, NGOs, the fishing industry, and coastal communities, and aims to create a sustainable MPA network that balances conservation needs with economic activities such as fishing and offshore renewable energy development. The project is significant as it will provide the basis for identifying and designating MPAs. Once these areas are designated, it can help address Ireland's long-standing delays in implementing proper MPA legislation, which has been a critical gap in the country's marine conservation framework.[212]*

How is the NRR relevant for Ireland and Marine Ecosystems?

Addressing fragmented responsibilities nationally

All interviewees see the NRR as a catalyst for reinvigorating existing environmental legislation and addressing implementation gaps—both within and beyond Ireland's Natura 2000 network. Similarly, the Ocean Pact and

[207] Grace M Cott et al., *Blue Carbon and Marine Carbon Sequestration in Irish Waters and Coastal Habitats*, https://irishriverproject.com/wp-content/uploads/2021/11/blue-carbon-in-irish-waters-and-coastal-habitats_marine-institute-report_may-2021.pdf
[208] "Capturing Irelands Blue Carbon Potential | Marine Institute," accessed January 19, 2026, https://www.marine.ie/site-area/news-events/press-releases/capturing-irelands-blue-carbon-potential.
[209] "Minister Dooley Reacts to Outcomes of December AgriFish Council." Accessed January 19, 2026. https://www.gov.ie/en/department-of-agriculture-food-and-the-marine/press-releases/minister-dooley-reacts-to-outcomes-of-december-agrifish-council/.
[210] "New Measures to Tackle Pollution, Biodiversity Loss and Climate Impacts on Ireland's Seas." Accessed January 19, 2026. https://www.gov.ie/en/department-of-housing-local-government-and-heritage/press-releases/new-measures-to-tackle-pollution-biodiversity-loss-and-climate-impacts-on-irelands-seas/.
[211] "Minister Ryan Launches Consultation on the next Phase of Offshore Renewable Energy in Ireland," accessed January 27, 2026, https://www.gov.ie/en/department-of-climate-energy-and-the-environment/press-releases/minister-ryan-launches-consultation-on-the-next-phase-of-offshore-renewable-energy-in-ireland/.
[212] "LIFE 3.0" accessed January 18, 2026.

upcoming Ocean Law could address implementation gaps with the MSFD and Habitats Directives, while synchronising NRR and MPA targets with marine spatial planning goals.

The "Restore Nature NRP Mid-Term Assessment Report" categorises Ireland as being in the "early stages" of NRP development. The NRP does have a strong foundation, with a strong civil society engagement but interviewees complained of low political commitment, underfunding and poor capacity.[213] At present, Ireland's environmental governance is fragmented across multiple departments, with marine, wildlife, and environmental competencies divided in ways that can undermine effective action. The different NRR interdepartmental working groups and stakeholder meetings may be an opportunity to coordinate across departments, as they come together to develop the NRP. Ireland has established a notably strong civil society stakeholder engagement mechanisms for NRP development compared to many EU Member States. This includes the Independent Advisory Committee Restore Nature Ireland, a three-tier public participation structure encompassing an independent advisory committee, thematic leaders' forums, and grassroots community meetings. The IAC works together to develop consensus recommendations which they deliver to the Minister of State at the DHLGH. The website publicly shared reports from committee meetings, community conversations, and leaders' forums.[214] A limitation highlighted by an interviewee is that the fishing sector is poorly represented (only one representative participates in the leaders' forum).

Civil Society & Industry continue to spearhead progress

Ireland's support for the NRR at EU level was significantly influenced by the EU-wide Restore Nature Campaign. Irish NGOs and broader civil society coalitions successfully campaigned for Irish MEPs and the Irish government to support the NRR. Many groups involved in this campaign are now engaged in the consultations around the design of the Irish NRP, including as part of the Independent Advisory Committee for NRP development. Additionally, Ireland had a Citizens' Assembly on Biodiversity Loss in 2023 including 99 members of the public (including fishers and farmers), which demonstrated that the Irish people were supportive of the NRR if farmers and fishers are respected and included in the process.[215]

NGOs continue to play a leading role in nature restoration post-NRR adoption, actively contributing towards recommendations for identifying restoration sites. Inland Fisheries Ireland has already mapped river barriers and developed a strategy to remove them.[216] The fishing industry is gradually being included into NRR discussions via dedicated forums. For example, the Irish Fisheries Science Research Partnership (IFSRP) between the Marine Institute Ireland, *Bord Iascaigh Mhara* – Ireland's Seafood Development agency and the fishing industry organisations meet four times a year to discuss how science and industry can work together on key issues for the fishing sector. The Marine Leaders Forum met at a high-level with around 40 organisations including fisheries and tourism to examine how to achieve NRR targets in the long-term.[217] While the structure has been good at identify high-level consensus between different stakeholder groups interviewees suggest longer term and deeper engagement with stakeholders is needed.

Both environmental NGOs and the fishing sector closely follow the development of MPAs and proposed OREs. For example, the Killybegs Fishermen's Organisation carries out their own mapping processes to analyse the impact of proposed changes.[218] Neither feel that their voices are fully taken into consideration.

> *The government has launched nationwide "community conversations" on nature restoration. The intention is to engage with local communities and create dialogue on what the NRR means for their region and share perspectives on how it could be delivered. These included conversations on marine ecosystems hosted across*

[213] Antier and Savu, *Nature Restoration Plan Development Process*, 2025.
[214] "HOME | Help to Shape Ireland's Nature Restoration Plan," accessed January 19, 2026, https://www.restorenature.ie/.
[215] Antier and Savu, *Nature Restoration Plan Development Process*, 2025.
[216] Antier and Savu, *Nature Restoration Plan Development Process*, 2025.
[217] "Marine Leaders Forum: Nature Restoration Plan | Irish Whale and Dolphin Group," accessed January 19, 2026, https://iwdg.ie/marine-leaders-forum-nature-restoration-plan/.
[218] *Killybegs Fishermen's Organisation Response and Objection to the Notice of Intention To.* 2023. https://kfo.ie/wp-content/uploads/2024/12/KFO_Response_to_NPWS_SAC_designations_15022023.pdf.

> *three counties in September 2025 – coastal ecosystems in Clare, marine ecosystems in Donegal, and upland and coastal ecosystems in Louth. Over a hundred participants joined the three events. Across the meetings, there was general support for the NRR but concerns whether the government can effectively implement it. Participants emphasised the importance of community-restoration projects, better environmental education, and grounding the NRP in local contexts and community initiatives. Further details on the outcomes are publicly available on the Restore Nature Ireland site and will be taken into consideration for NRP development.*[219]

There are some opportunities for restoration funding nationally, though Ireland mainly relies on EU funding sources such as LIFE and MFAF. However, current budget allocations remain unclear, with interviewees noting that funding, like Ireland's nature governance structure, is fragmented across departments and there is no clear ringfencing for the NRR. Unfortunately, there has been backsliding with nature restoration funding. A €3.51 billion fund originally earmarked for climate, nature, and biodiversity projects was substantially redirected to transport infrastructure.[220] In the budget announced in October 2025 (Infrastructure Climate and Nature Fund) of €256 million there is no mention of funding for restoration.[221]

Cross sectoral synergies and opportunities

Marine restoration can support climate, fisheries and water quality targets, while also supporting human well-being and livelihoods by filtering pollutants from land-based runoff, sustaining fishing communities, and providing recreational and tourism opportunities. Emphasising the societal benefits that healthy seas provide is a strong tool to inspire multi-stakeholder action for marine restoration, particularly when land management practices are interconnected to ocean health.

Land management impacts marine ecosystems

A common thread throughout the interviews was the impact of land management practices on marine habitats, and how restoration on land and sea is interlinked. Land restoration and the reduction of pollution runoff are prerequisites for successful marine ecosystem restoration, as terrestrial activities directly influence coastal and marine water quality through interconnected hydrological systems. Peatland rewetting and wetland restoration present a significant opportunity to reduce agricultural pollution at the source, acting as natural filters while preventing sediment and nutrient runoff into waterways.[222] Community conversations on the NRR showed that water quality is a critical shared concern, with participants repeatedly citing pollution from agricultural runoff, slurry spreading, sewage contamination, and its impacts on drinking water, rivers, marine environments, and human health.[223] The NRR offers potential synergies with existing frameworks like the Water Framework Directive, Nitrates Directive, CAP and MSFD enabling integrated restoration measures such as riparian woodland rehabilitation and wetland restoration that simultaneously address emission reduction, water quality improvement, and marine ecosystem recovery.

> *The Tóchar Wetlands Restoration Project is a three-year wetlands restoration project, co-funded by the Government of Ireland and the European Union through the EU Just Transition Fund Programme, managed by the NPWS. The project focuses on restoring degraded wetlands across Ireland's midlands that were historically altered by industrial peat extraction for electricity and domestic fuels. The project emphasizes that the regions' freshwater wetlands play a crucial role in climate change mitigation and adaptation, improving water quality, and maintaining healthy environments. Another aim of the project is also to develop*

[219] "Information | Restore Nature in Ireland," accessed January 19, 2026, https://www.restorenature.ie/information.
[220] "Environmental Pillar Shocked and Alarmed at Gutting of Nature from the Infrastructure, Climate & Nature Fund in NDP - The Environmental Pillar," accessed January 19, 2026, https://www.environmentalpillar.ie/environmental-pillar-shocked-and-alarmed-at-gutting-of-nature-from-the-infrastructure-climate-nature-fund-in-ndp/.
[221] "Minister O'Sullivan Welcomes Record 15% Increase for Nature and Heritage in Budget 2026," accessed January 19, 2026, https://www.gov.ie/en/department-of-housing-local-government-and-heritage/press-releases/minister-osullivan-welcomes-record-15-increase-for-nature-and-heritage-in-budget-2026/.
[222] Feeley, Hugh, Cormac McConigley, Catherine Bradley, et al. *Water Quality in Ireland 2019-2024 | Environmental Protection Agency*. 2025. https://www.epa.ie/publications/monitoring--assessment/freshwater--marine/water-quality-in-ireland-2019-2024.php.
[223] "Information | Restore Nature in Ireland." Accessed January 19, 2026. https://www.restorenature.ie/information.

> *communities' relationships with restored wetlands and the benefits they bring. The project will engage heavily with local communities, including educational activities, developing public health amenities like walking trails, and developing incentive payment schemes with landowners.*[224]

Restoration for sustainable fisheries

The restoration of marine ecosystems can bring benefits by increasing the carbon sink potential of the ocean and enhancing fish stocks, benefitting local communities. The restoration of coastal and estuarine habitats can increase the stocks of reproductively mature fish (~27% for sole and ~52% for seabass) and increase sustainable catches by 35-65% for these species, according to a study off the coast of the eastern English Channel.[225] This research suggests that habitat restoration can be an impactful tool to regulate fishing pressure to support long-term stock sustainability.

> *Seagrass is not only a strong carbon sink, but it also provides essential nursery grounds for inshore juvenile fish. In Kerry, Ireland, there is a major initiative to prevent seagrass degradation with the help of local oyster fishers. The Tralee Oyster Fisheries Society is helping scientists map out seagrass habitats along the shoreline and avoiding fishing in them. Additionally, the Society has agreed to disperse oyster shells in key areas to develop reefs, helping attract keystone species like the spider crab, a major fishery in Ireland. The eventual hope is to develop the north Kerry coastline as a marine protected area where fishing is allowed in a restricted area.*[226]

The NRR is a key opportunity to invest in further marine restoration research and measures to further promote sustainable and long-term viable fisheries, which is essential for coastal communities and broader food security. Interviewees did note that there can be alignment challenges between the NRR and the Common Fisheries Policy (CFP) that need to be overcome. Many marine habitats that need restoration are damaged by bottom-contact fishing (trawling, dredging), which are allowed in many MPAs.[227] For example, introducing new restrictions or closures will require cross-border acceptance among Member States, which may be politically difficult. One positive development is that the European Commission has released new guidance in 2025 to help Member States better protect marine Natura 2000 sites, while supporting sustainable fisheries. This includes assessing fishing activity threats and putting in place measures to prevent habitat deterioration and significant disturbances to species, as well as necessary restoration measures.[228] This is a positive step in making sure Member States have guidance when they tackle this sticky intersection between fisheries and restoration. At the national level, constructive dialogue needs to be facilitated between the fishing industry, restoration communities, IAC, and relevant government authorities so that these tensions are handled appropriately.

> *The BRICONS project (Building Resilient Irish Coasts through Oyster Restoration: A Nature-Based Solution for Enhancing Marine Biodiversity and Ecosystems) is a five-year, €1.5 million research initiative funded by the Marine Institute that began in June 2025. The project's main objectives are to investigate the potential for restoration of native flat oyster reefs at selected sites along the coastlines of Ireland and Northern Ireland, evaluate how nature-based solutions such as oyster reef restoration can enhance coastal and marine ecosystem resilience, and establish pilot restoration sites working closely with Irish ports, harbour authorities, and coastal community groups. Marine restoration and coastal resilience are emphasized as critically important because oyster reefs can stabilize sediments, improve biodiversity, enhance water quality, and provide a natural buffer to the impacts of climate change while supporting sustainable use of harbours*

[224] "About the Tóchar Project - Tóchar Wetlands." Accessed January 19, 2026. https://www.tocharwetlands.ie/about/.
[225] Sievers, Michael, Rod M. Connolly, Kimberly A. Finlayson, et al. "Enhanced but Highly Variable Biodiversity Outcomes from Coastal Restoration: A Global Synthesis." *One Earth* 7, no. 4 (2024): 623–34. https://doi.org/10.1016/j.oneear.2024.02.013.
[226] "Kerry Fishermen in Bid to Preserve Sea Meadows That Act as Crucial Carbon Sink | Irish Independent," accessed January 27, 2026, https://www.independent.ie/irish-news/kerry-fishermen-in-bid-to-preserve-sea-meadows-that-act-as-crucial-carbon-sink/a1834586878.html.
[227] "Multiple EU Countries Are Failing to Stop Destructive Fishing in Protected Areas, Analysis Finds, as Several Face Legal Action - Oceana Europe," accessed January 27, 2026, https://europe.oceana.org/press-releases/multiple-eu-countries-are-failing-to-stop-destructive-fishing-in-protected-areas/.
[228] "Commission Adopts Guidance on Natura 2000 and Fishing - Environment," accessed January 27, 2026, https://environment.ec.europa.eu/news/commission-adopts-guidance-natura-2000-and-fishing-2025-10-17_en.

> *and ports; the project also contributes to Ireland's commitments under the EU Nature Restoration Law, which requires Member States to submit NRPs for native flat oyster reefs.*[229]

Offshore renewable energy

Ireland's ORE development, presents both significant opportunities and potential conflicts for marine nature restoration under the NRR. The government has prioritized offshore wind development motivated by renewable energy targets, energy security concerns, and rising energy prices. MARA, a new authority to regulate development and activity of OREs was established in 2023.[230] Interviewees worry about a development-first approach that prioritizes infrastructure before adequately addressing conservation concerns or existing marine activities. Interviewees highlighted potential conflicts which include impacts on seabird flyways and breeding grounds, disruption to fishing activities and habitats, and the lack of meaningful consultation with affected stakeholders including fishermen and conservation groups. However, there are also significant potential synergies if ORE developments are properly managed and designated: as they may be considered to be OECMs (Other Effective Area-Based Conservation Measures): offshore wind farms may act as no-take zones effectively turning areas into fisheries reserves bringing similar positive benefits as Marine Protected Areas.[231] Additionally turbine foundations and scour protection can create artificial reefs, with studies suggesting there are no net adverse impacts during operation on benthic communities and artificial reefs can potentially double species richness.[232] For these opportunities to materialize, offshore wind parks must be sited in appropriate locations following rigorous environmental assessments, strategic consultation with fisheries and conservation interests, and integration with NRR objectives. Coordination and planning in regard to NRR objectives remains unclear and requires further development and cross-ministerial collaboration relevant actors, like the MARA.

> *The University of College Dublin is partnering with Codling Wind Park, Ireland's largest planned offshore wind park, to research the potential of using NbS to protect and enhance biodiversity in selected sites along the Irish coast. The project will focus on eco-engineering approaches, and the restoration of oyster reefs and seagrass beds. The Codling Wind Park is investing in this project, as they understand there is a global biodiversity emergency, and see it as a responsibility to develop the project in a manner that protects and, where possible, enhances biodiversity. The hope is that the results can inform suitable ecoengineering options for the offshore renewable industry in Ireland.*[233]

[229] "Marine Institute Approves €1.5m Award for Major All-Island Nature Restoration Project | Marine Institute," accessed January 18, 2026, https://www.marine.ie/site-area/news-events/press-releases/marine-institute-approves-%E2%82%AC15m-award-major-all-island-nature.
[230] "MARA Launch Marks Major Milestone for Offshore Energy Development." Accessed January 18, 2026. https://www.gov.ie/en/department-of-housing-local-government-and-heritage/press-releases/mara-launch-marks-major-milestone-for-offshore-energy-development/.
[231] Gernez, M., J. Champagnat, E. Rivot, and O. le Pape. "Potential Impacts of the Restoration of Coastal and Estuarine Nurseries on the Stock Dynamics of Fisheries Species." *Estuarine, Coastal and Shelf Science* 295 (December 2023): 108557. https://doi.org/10.1016/J.ECSS.2023.108557.
[232] Ibid.
[233] "Biodiversity Project Could Restore Native Oyster Reefs to Dublin Bay - University College Dublin," accessed January 29, 2026, https://www.ucd.ie/newsandopinion/news/2024/october/21/biodiversityprojectcouldrestorenativeoysterreefstodublinbay/.

Poland, Civil Society Action, Forests, and the NRR

Forests cover nearly 30% of Poland's landscape and provide vital ecosystem services—from carbon sequestration to water retention that protects communities from floods and droughts. The country's rich forest heritage, exemplified by the iconic Białowieża Forest, combined with growing civil society engagement and local initiatives, demonstrates significant potential for impactful forest restoration. The NRR offers Poland an opportunity to build on existing bottom-up efforts, integrate forest restoration with climate adaptation, water management, and defence goals.

Introduction

The Polish context

Poland has designated over 20% of its land under the Natura 2000 network, representing a significant commitment to European nature conservation frameworks. However, implementation of the Birds and Habitats Directives remains politically sensitive, particularly where conservation goals intersect with economic or land use interests. Site management and enforcement are inconsistent, with management plans not universally adopted or implemented, often due to resource constraints or stakeholder resistance. Poland has also faced infringement proceedings for non-compliance with Nature Directives, notably over the Białowieża Forest logging case, reflecting ongoing tensions between conservation objectives and intensive logging practices under the State Forests authority.[234] Additionally, the CJEU ruled that Poland was violating the Aarhus Convention for not allowing environmental NGOs and the public to challenge forest management plans in court. They ruled that these plans must be open to public participation and judicial review.[235]

Increasingly, public and government interest in environmental issues is declining, as other priorities take precedent, like national security, inflation etc. The 2024 study "Earthlings Attack!" (*Ziemianie Atakują)* revealed a significant decline in Polish public engagement with environmental issues: those believing "the condition of the Earth is serious and requires immediate action" dropped from 78% in 2020 to 64% in 2024. The analysis attributed this decline to the overwhelming scale of concurrent crises (war, economic crisis, inflation, energy crisis, migration crisis, and climate crisis) and ineffective communication about the climate catastrophe and its effects.[236] In Poland, nature restoration has been portrayed by the government as a threat to agricultural interests, due to farmer backlash.[237]

> **Political positioning:** Since 2023, Poland's government under Prime Minister Donald Tusk is a more centrist and pro-EU coalition. However, the political climate is described as unsupportive or indifferent toward nature restoration, exemplified by Poland's vote against the NRR at EU level.
>
> **National Legal Framework:** The main legal instrument is the Nature Conservation Act (2004), supported by the Environmental Protection Law Act, with oversight by the Ministry of Climate and Environment. The main legal instrument for forest management is the Forests Act (1991).
>
> **Land use**: Poland has designated over 20% of its land under the Natura 2000 network. Forests cover 29.6% of land as of 2024, of which public forests constituted 80.9% of the total forest area, with the State Forests (*Lasy Państwowe* [LP]) managing 77.0% of the total forest area.[238]

[234] "Commission Calls for Immediate Suspension of Logging in Poland's Białowieża Forest," accessed December 29, 2025, https://ec.europa.eu/commission/presscorner/detail/lt/ip_17_1948.
[235] "The Court of Justice of the EU Confirms Environmental NGOs Can Challenge Forest Management Plans | ClientEarth," accessed January 22, 2026, https://www.clientearth.org/latest/news/the-court-of-justice-of-the-eu-confirms-environmental-ngos-can-challenge-forest-management-plans/.
[236] The United Nations Global Compact Network Polandand Lata Dwudzieste Kantar Poland, *Ziemianie Atakują - Pobierz Raport* (2024), https://ziemianieatakuja.pl/en/. p.24
[237] Kość, "Unia Bliżej Kluczowego Rozstrzygnięcia Dla Przyrody. Po Wolcie Austrii Poparcie Polski Wciąż Niepewne - OKO.Press."
[238] *Forestry in 2024* (2025), https://stat.gov.pl/download/gfx/portalinformacyjny/en/defaultaktualnosci/3322/2/6/1/forestry_in_2024.pdf.

Main Bodies Responsible: The Ministry of Climate and Environment, with implementation responsibilities shared among Regional Directorates for Environmental Protection (RDOŚ), while forestry, water, and agriculture sectors are governed separately. LP oversees forestry management in state owned forests.

Financing: The National Fund for Environmental Protection and Water Management is the main fund for environmental activities, including nature restoration and protection.[239]

Forests in Poland

Forests are a defining feature of Poland's landscapes and biodiversity, with the Białowieża Forest symbolising both the richness and the fragility of Europe's last primeval forests. Unfortunately, Polish forests have one of the lowest healthy forest stand indices (14.5%)[240] in Europe according to annual health monitoring data by LP, mainly due to pollution and monoculture practices.[241] Polish forestry policy has been characterised by tensions between conservation objectives and intensive logging practices, particularly under LP which manages most forested land and approximately 77% of Poland's forests.[242]

The Forest Act does not contain provisions related to restoration, passive protection, or natural forest identification, and existing management plans remain entirely production oriented. The Forest Act not only lacks references to the Habitats and Birds Directives, but it also exempts forestry operations from complying with strict species protection regulations (as identified in Point 1 of the CJEU ruling from March 2023).[243] Forest management planning is conducted independently of nature conservation objectives, and forest management plans are neither subject to environmental impact assessment as projects nor to judicial review (as identified in Point 2 of the 2023 CJEU ruling).[244] EU infringement procedures linked to logging in Białowieża highlighted these conflicts and underscored governance weaknesses in balancing economic use with biodiversity obligations. The consensus among interviewees is that the legislative and strategic basis for implementing the NRR is missing, and without major reform of the Forest Act, restoration obligations will remain purely theoretical.

Forest management became an important topic at the political and public level during the 2023 elections. The government prepared a series of promises on how to change the Forest Act and forest governance: 20% of public forest should be excluded from logging, reduce export and burning of quality timber in industrial powerplants, establish citizen oversight of forests etc.[245] These promises were popular amongst the public, with the goal of excluding 20% of public forests from logging is supported by as many as 85% of Poles. However, in 2025, only 0.15% of forests were provided permanent protections. LP oversees selecting the 20% of forests and creating community forests, which is seen as problematic by many environmental organisations.[246] LP has been criticised for prioritising production and revenue over conservation.[247] For example, in 2024, they generated over PLN 700

[239] "The National Fund for Environmental Protection and Water Management Supports the Restoration of Degraded Areas - Ministry of Climate and Environment - Gov.Pl Website," accessed December 29, 2025, https://www.gov.pl/web/climate/the-national-fund-for-environmental-protection-and-water-management-supports-the-restoration-of-degraded-areas.
[240] PAŃSTWOWE GOSPODARSTWO LEŚNE LASY PAŃSTWOWE, *RAPORT O STANIE LASÓW W POLSCE 2023* (2024), https://www.bdl.lasy.gov.pl/portal/Media/Default/Publikacje/raport_o_stanie_lasow_2023.pdf. p.96
[241] "Adapting Forest Management to Climate Change – a Wasted Decade - Supreme Audit Office," accessed December 30, 2025, https://www.nik.gov.pl/en/news/adapting-forest-management-to-climate-change-a-wasted-decade.html.
[242] "Poland's Uneasy Balance between Logging and Forest Preservation," accessed December 29, 2025, https://emerging-europe.com/business/polands-uneasy-balance-between-logging-and-forest-preservation/.
[243] "EUR-Lex - 62021CJ0432 - EN - EUR-Lex," accessed December 29, 2025, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:62021CJ0432.
[244] Ibid.
[245] "Umowa „Koalicji 15 Października" – Ustalenia Programowe - Kancelaria Prezesa Rady Ministrów - Portal Gov.Pl," accessed January 2, 2026, https://www.gov.pl/web/premier/koalicja-15padziernika-program.
[246] Marek Józefiak, "Rekonstrukcja Rządu: 152 Organizacje Apelują o Ochronę Lasów - Greenpeace Polska," July 8, 2025, https://www.greenpeace.org/poland/aktualnosci/37330/rekonstrukcja-rzadu-152-organizacje-apeluja-o-ochrone-lasow/.
[247] "Poland's Uneasy Balance," accessed December 29, 2025.

million (€166 million) more than their initial revenue target and proposed that less than 8% of their managed areas be excluded from logging, as opposed to the initial 20% target.[248]

Why is the NRR relevant for Poland and Forests?

The legislative potential at the national level

Interviewees see the NRR as a potential lever to modernise the Forest Act and integrate ecosystem restoration principles into national law. It can potentially strengthen the implementation of the Habitats and Birds Directives, which have long been applied in Poland in a fragmented manner. The NRR introduces a concrete obligation to restore ecosystems, which may prompt national institutions to adopt a more proactive approach. In the forestry and forest conservation sector, the NRR can fill gaps in passive protection, for example through the expansion of the nature reserve system (an ongoing process), improve monitoring and reporting, which remain weak points in the implementation of both the Habitats and Birds Directives in Poland, and increase pressure for reforming forest management, aligning it more closely with biodiversity conservation goals rather than purely production-oriented objectives.

At present, there is no comprehensive national strategy in Poland that directly corresponds to the objectives of the NRR, and there is a lack of a national framework for NRR implementation, including integrating it into forest policy. The Ministry of Climate and Environment (MKiŚ) is working on the National Plan for the Restoration of Natural Resources (KPOZP) in cooperation with the Institute of Environmental Protection - National Research Institute (IOŚ-PIB). Although this document is intended to be a key instrument for implementing the NRR, its preparation excludes civil society organizations. Furthermore, there have been an insufficient number of opportunities for public consultation, open meetings, or opportunities to submit feedback. An interministerial working group on NRR implementation has been established, which is positive as all interviewees highlighted lack of interministerial coordination as a major obstacle, due to fragmentation and silos. However, there is no publicly available information about its composition, work schedule, or scope of responsibilities. The overall Nature Restoration Plan (NRP) development process is categorised having "insufficient/unclear progress" by the "Restore Nature NRP Mid-Term Assessment Report". While there has been involvement of knowledge partners such as the Institute of Environmental Protection, there has only been one public consultation round and overall lack of transparency on the NRP development process.[249]

Poland has not yet established a dedicated national fund for the implementation of the NRR, but there are existing financial sources that could be utilized within the forestry sector. One interviewee highlighted that the Forest Fund has potential, which currently allocates just 0.3% of State Forest revenues to nature protection. Increasing this share to at least 5% could significantly support NRR goals. Potential Security Action for Europe (SAFE) funding[250] can potentially be dual used for defense and nature, such as green corridors being integrated into strategic roads, or reforestation along logistic routes for erosion control, though these interlinkages have not been explored in depth yet in Europe. All interviewees stressed that there is a strong need for financial incentives for passive protection on private land.

> *Since 2024, Poland has been actively working to expand its system of nature reserves, based on 1500 proposals submitted by scientists and conservationists. One of the most significant achievements is the establishment of the « Bliżyńskie Lasy Naturalne » Nature Reserve, covering 3000 hectares, initiated by the*

[248] Katarzyna Bilewska, "Lasy Państwowe Przez Rok Zrujnowały Proces, Który Ma Ochronić Lasy - Greenpeace Polska," January 8, 2025, https://www.greenpeace.org/poland/aktualnosci/35880/lasy-panstwowe-przez-rok-zrujnowaly-proces-ktory-ma-ochronic-lasy/.
[249] Antier and Savu, *Nature Restoration Plan Development Process*, 2025.
[250] "Common Defence Procurement - Consilium." Accessed March 6, 2026. https://www.consilium.europa.eu/en/policies/defence-procurement/.

> *Workshop for All Beings. It is one of the largest forest nature reserves in Poland and is dedicated to the protection of natural ecological processes, rather than specific species or habitats.*[251]

Regional and civil society leveraging

In Poland, civil society organisations and community-based projects have a strong potential for implementing the NRR at the local level, particularly where state institutions are inactive. Scientific and NGO communities have advanced bottom-up proposals for passive protection zones and new reserves, which can align with NRR goals. For instance, the NGO Workshop for All Beings (PNRWI) has prepared draft amendments to strengthen the Regional Directorates for Environmental Protection (RDOŚ), transforming them from advisory to binding authorities in approving forest management plans. This would allow for more effective prevention of forestry practices that conflict with NRR objectives and better integrate forest policy with nature conservation requirements.

There is also a growing role of utilising the legal system via court cases (civil law, ICJ opinion from 2023) which raises local awareness and involves communities in defending their forests. There have been several cases where organisations and citizens went to civil court in relation to forest conservation. While court cases in Poland are lengthy and costly, in all the following cases logging was suspended until the verdict is produced, making them an effective interim protection tool. (I) In the Carpathian Mountains (Bieszczady area), tracking data and claw marks was used as evidence to show that logging threatened brown bear dens and a key habitat in a Natura 2000 site.[252] (II) In 2017 a motion was filed against LP by PNRWI who argued planned logging in the Białowieża, Browsk, and Hajnówka districts violated Natura 2000 protection requirements in the Białowieża Forest. Part of the argument used was backed by the 2018 CJEU ruling that logging in the Białowieża Forest was illegal.[253] In 2021, the District Court of Warsaw prohibited LP from felling trees in the districts, and LP's 2022 appeal was dismissed.[254] [255] (III) In 2019 thirty local residents and landowners of a village in vicinity of Warsaw have initiated civil proceedings against State Forests for an infringement of their personal rights. This is significant as the first forest-related case initiated by citizens in Poland, not an NGO. Pending the outcome of the case, the court granted interim relief by ordering that the logging be halted.[256]

Figure 9 - A protest at a logging site in Poznan from 2021. Photo Credit: Robert Kalak

[251] "Bliżyńskie Lasy Naturalne - Nowy Rezerwat Przyrody Chroniący Unikalne Dziedzictwo Leśne Gór Świętokrzyskich - Ministerstwo Klimatu i Środowiska - Portal Gov.Pl," accessed January 2, 2026, https://www.gov.pl/web/klimat/blizynskie-lasy-naturalne--nowy-rezerwat-przyrody-chroniacy-unikalne-dziedzictwo-lesne-gor-swietokrzyskich.
[252] "Bear Dens and Ancient Trees Face Onslaught of Logging in Poland | Poland | The Guardian," accessed January 5, 2026, https://www.theguardian.com/environment/2022/nov/15/bear-dens-and-ancient-trees-face-onslaught-of-logging-in-poland.
[253] "CURIA - Documents," accessed January 5, 2026, https://curia.europa.eu/juris/document/document.jsf;jsessionid=9ea7d2dc30dd4595f09e35b74e558d388d17bb12b2b2.e34KaxiLc3qMb40Rch0SaxyNc350?text=&docid=201150&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=731345.
[254] "Sąd Cywilny Wstrzymał Cięcia w Puszczy Białowieskiej!," accessed January 5, 2026, https://lasy.pracownia.org.pl/aktualnosci/240-sad-cywilny-wstrzymal-ciecia-w-puszczy-bialowieskiej.
[255] "Lasy Państwowe Przegrały w Sądzie. Sprawa Dotyczyła Wycinki w Puszczy Białowieskiej - Zielona w INTERIA.PL," accessed January 5, 2026, https://zielona.interia.pl/wiadomosci/polska/news-lasy-panstwowe-przegraly-w-sadzie-sprawa-dotyczyla-wycinki-w%2CnId%2C6316301.
[256] "Mieszkańcy Szumin Walczą o Swój Las. Sprawa Trafiła Na Salę Sądową - GazetaPrawna.Pl," accessed January 20, 2026, https://serwisy.gazetaprawna.pl/samorzad/artykuly/8172915,mieszkancy-szumin-walcza-o-swoj-las-sprawa-trafila-na-sale-sadowa.html.

> *In 2022 in Poznań, activists drafted a resolution[257] securing protective forests around the city, as a response to LP intensively logging in the Darzybor Forest nearby, an old-growth forest. The resolution gained over a thousand signatures, and Poznań councillors approved it. This now obliges the mayor to negotiate with the Regional Directorate of LP to temporarily secure forests with protected status to prevent logging and develop draft legislative changes with scientists and parliamentarians.[258] [259] Since the approval of the resolution, representatives of the Poznań Forestry Department have been meeting with the Regional Directorate. Public consultations were held after the adoption, and in 2022, LP agreed to abandoning clear cutting in favour for methods with a longer regeneration period and leaving ecological clumps.[260] Since 2022, further changes on clear cutting have been made to the forest management plans by forest managers, and the Poznan working group on this resolution frequently attends topical meetings, such as the Regional Forest Forum.[261] [262]*

Building civil society coalitions in support of the NRR, was an important opportunity highlighted by interviewees. There is a growing movement that brings together NGOs, scientific communities, local governments, and grassroots citizen groups. NGOs, civic movements, and scientific communities (those independent of State Forests funding) actively support NRR implementation through public awareness campaigns, monitoring, and advocacy. One example is the '10% Coalition,' which brings together organizations working to place 10% of Poland's territory under strict nature protection. They have an active campaign on the Nature Restoration Law, "Nature Saves People" which aims to educate the public and demystify the NRR.[263] This included an event in January 2025, which brought together NGOs, scientists, and administrators to discuss the practicalities of NRR implementation and how it can be integrated into national policies and plans, with ambitious outcomes.[264] Additionally, some coalition members, like the National Heritage Foundation (*Fundacja Dziedzictwo Przyrodnicze*), buy private forest land and use them as protected areas. However, to be recognised in the national protected area network NGOs need to have an agreement with a public organisation. The Ministry of Environment is looking into a new law which would speed up the process of recognising private protected areas and integrating them into the national network.[265]

> *NGO Foundation Forests and Citizens (Lasy i Obywatele) mapped forests where logging has occurred or is planned to occur based on information by the Polish Forest Data Bank under LP. It received a lot of public interest; 200000 individual users used it in the first month. If citizens are concerned about logging in their local context, they can contact Forests and Citizens who can provide them resources to mobilise.[266] They have also mapped more than 500 initiatives including 160 groups and organisations who are active to reduce the intensity of logging and protect non-productive values of forests. Forests and Citizens builds the capacity of these groups to act effectively and helps them connect with each other to share experiences. Also, a coalition of these grassroots groups has formed (Porozumienie Leśne, Forest Alliance). This alliance has been actively advocating with the Ministry to ensure the protection of non-productive forest values (recreational values,*

[257] "Uchwała Nr LVIII/1068/VIII/2022 z Dnia 2022-01-18 - Bip.Poznan.Pl," accessed January 5, 2026, https://bip.poznan.pl/bip/uchwaly/uchwala-nr-lviii-1068-viii-2022-z-dnia-2022-01-18,86437/.
[258] Dominika Bobek et al., *SAMORZĄDZIE, CHRON LASY! Praktyczny Poradnik o Tym, Jak Gminy Mogą Pomóc w Ochronie Lasów* (2024), https://lasyiobywatele.pl/wp-content/uploads/2024/03/Jak-gminy-moga-pomoc-w-ochronie-lasow-.pdf. p.63
[259] "Resolution on Almost Protective Forests of Poznań," accessed January 5, 2026, https://www.architekturaibiznes.pl/en/forest-protection-forest-protection,16571.html.
[260] *Sprawozdanie z Wykonania Uchwał Rady Miasta Poznania w I i II Półroczu 2022 Roku* (n.d.), accessed January 5, 2026, https://badam.poznan.pl/wp-content/uploads/2023/06/Zalacznik-nr-6_-Sprawozdanie-z-wykonania-uchwal-RMP-I-i-II-polrocze-2022-roku.pdf. p.71
[261] *Załącznik Nr 5 Informacja o Wykonaniu Uchwał Rady Miasta Poznania w 2023 Roku* (2024), https://badam.poznan.pl/wp-content/uploads/2024/06/Zalacznik-Nr-5_Informacja-o-wykonania-uchwal-Rady-Miasta-Poznania-w-2023-roku.pdf. p.63
[262] *Załącznik Nr 5 Informacja o Wykonaniu Uchwał Rady Miasta Poznania w 2024 Roku*, 2025, https://badam.poznan.pl/wp-content/uploads/2025/05/Zalacznik-Nr-5-_-Informacja-o-wykonaniu-uchwal-Rady-Miasta-Poznania-w-2024-roku.pdf. p.55
[263] "Natura Ratuje Ludzi – Koalicja10," accessed January 2, 2026, https://koalicja10.pl/naturaratujeludzi/.
[264] "Nature Restoration Law: Zaczyna Się Wielka Inwestycja w Polską Przyrodę. Jak Zrobić to Dobrze? – Koalicja10," accessed January 2, 2026, https://koalicja10.pl/2024/12/11/nature-restoration-law-zaczyna-sie-wielka-inwestycja-w-polska-przyrode-jak-zrobic-to-dobrze/.
[265] "Projekt Ustawy o Zmianie Ustawy o Ochronie Przyrody Oraz Niektórych Innych Ustaw - Kancelaria Prezesa Rady Ministrów - Portal Gov.Pl," accessed January 5, 2026, https://www.gov.pl/web/premier/projekt-ustawu-o-zmianie-ustawy-o-ochronie-przyrody-oraz-niektorych-innych-ustaw.
[266] "Lasy i Obywatele," accessed January 2, 2026, https://mapy.lasyiobywatele.pl/inicjatywy-obywatelskie.html.

regulating values including water management, air cleaning, etc) as part of a pilot Community Forests pilot (Lasy).[267]

Cross sectoral synergies and opportunities

The intersections between the NRR, forest restoration and climate adaptation, defence, and water management, demonstrate how nature-based solutions can address multiple policy objectives. Capitalizing on these cross-sectoral linkages could help build broader political and public support for forest restoration while delivering tangible benefits beyond biodiversity conservation.

Climate change adaption and mitigation for resiliency

Poland's forests currently sequester around 20-30 million tonnes of CO_2 annually, which offsets an estimates 7-10% of total national emissions.[268] The Supreme Audit Office explicitly acknowledged that the current LP forestry model is not optimal for carbon sequestration.[269] They suggest that more effective measures to increase CO_2 reduction would be, in addition to increasing forest area, limiting tree felling. The Supreme Audit Office of Poland highlights that LP's production-oriented management practices have led to a monoculture of coniferous trees (representing 63% of LP managed forest), making Polish forests particularly vulnerable to climate change, including decay and bark beetle outbreaks.[270] In Poland, it is estimated that annual sequestration will gradually decrease due to a decreased rate in afforestation and ageing Polish forests. Scientists stress that there needs to be a scaling up on mixed cuts and natural forest regeneration, particularly with forest soil cover, to prevent this.[271]

The RE-ENFORCE Project, co-funded by ERDF, is a transnational project focusing on restoring forests from large-scale disturbances such as fire, windthrow, drought, pests, and general mismanagement, with nature-based approaches. In Poland, the Forest Research Institute (IBL) is collaborating closely with LP to coordinate in pilot sites. The first site, Nadleśnictwo Myszyniec, will study a post-fire recovery area (from 2014) and analyse restoration models and resilient species compositions. The second site, Nadleśnictwa Przymuszewo, Runowo and Rytel, will study areas impacted by windthrow (from 2017), and active forest regeneration and adaptive management methods are tested. Both sites will explore how forests recover naturally, and how targeted interventions (species mixes, soil preparation) can improve resilience.[272]

The NRR is an opportunity to enhance the climate resiliency of Polish forests, through enhancing natural reforestation and stressing increased native tree species diversity. Reforestation of forests, the natural or intentional regeneration of tree cover after forest loss, is one tool of forest restoration that has a large capacity to absorb carbon. When assessing reforestation methods, careful consideration should be taken on native species composition, ecosystem functionality, etc, which is informed by ecological restoration. Restoration not only needs to consider the ideal species composition of a specific biome, but also can include controlling invasive species, tree diversity maintenance, restoring forest composition, and managing underbrush competition.[273]

The Szczecin- Forest project takes place in the municipal forests around Szczecin, focusing on restoring two forest plots damaged by bark beetle outbreaks and afforesting one previously unwooded area to expand forest cover. Over 23,000 mixed-species trees are planted on about 5 hectares to enhance the ecological value of the forest and support sustainable forest management. Activities on the ground include removing

[267] "Lasy Społeczne Wokół Miast. Ludzie z Całej Polski Mówią Nam, Co Wyszło z Tego Pomysłu," accessed January 20, 2026, https://next.gazeta.pl/next/7,172392,31478092,od-nadziei-do-rozczarowania-ludzie-z-calej-polski-mowia-nam.html.
[268] "Miliony Na Wizerunek Zamiast Na Klimat – Bilans Projektu Lasów Państwowych - Najwyższa Izba Kontroli," accessed January 5, 2026, https://www.nik.gov.pl/aktualnosci/ochrona-srodowiska/lesne-gospodarstwa-weglowe.html.
[269] "Adapting Forest Management to Climate Change – a Wasted Decade - Supreme Audit Office," accessed December 30, 2025, https://www.nik.gov.pl/en/news/adapting-forest-management-to-climate-change-a-wasted-decade.html.
[270] Ibid.
[271] "Climate Change and the Forests in Poland | Air Pollution & Climate Secretariat," accessed January 5, 2026, https://www.airclim.org/climate-change-and-forests-poland.
[272] "Designing a Common Framework for Forest Restoration - Interreg Central Europe," accessed January 6, 2026, https://www.interreg-central.eu/projects/re-enforce/?tab=outputs.
[273] "Unravelling the Differences: Reforestation vs. Restoration - WeForest," accessed January 5, 2026, https://www.weforest.org/blog/news/unravelling-the-differences-reforestation-vs-restoration/.

deadwood caused by pests, preparing the soil, planting and protecting new trees, and ongoing maintenance. The project aims to mitigate climate change, preserve biodiversity, improve soil-water systems, and support social and recreational value for the local community.[274]

Defence and security: nature as a defensive ally

A unique synergy in this case which was highlighted across interviews, is the intersection between nature and security. The war between Russia and Ukraine has led to increased investment in defending the Polish eastern border through the Shield of the East (*Tarcza Wschód*) programme, which is worth at least PLN 10 billion (€2 billion).[275] Border infrastructure can be disruptive to areas like the Białowieża Forest, as it can increase disturbance, heavy traffic, construction, and associated habitat loss in forest ecosystems. There are also concerns over how border infrastructure will impact large mammals, including their habitat connectivity, spatial behaviour and population genetics.[276] However, there is increasing discourse from the State Council for Nature Conservation (PROP) exploring how habitat conservation and restoration can be used for border protection. Natural ecosystems have an inherent defensive value as dense vegetation and complex hydrology and topography slows movement. Promoting the natural accumulation of large fallen deadwood, removing access roads, and re-wetting forested borderlands can create physical obstacles to hinder or deter hostile military. PROP recommends that border security planning incorporated ecological knowledge, and retains or enhances natural features, as opposed to degrading them. Forest management near the border needs to be adapted to leave deadwood, reduce intensive logging and clear cuts, manage the understory, and limit extensive forest road networks. These actions can restore a wide range of areas to a more natural state, keeping in line with NRR obligations, while also enhancing a natural deterrent to hostile military.[277]

The LIFE21-GIE-PL-INF-ARMY (2022-2024) project was led by the Ministry of National Defence, and aimed to create a permanent management network of the 116 Natura 2000 sites in Polish military areas, whilst cooperating with the Ministry of Climate and Environment, the General Directorate for Environmental Protection, regional boards of infrastructure and other military and civil institutions. The areas managed by the military needed updated data on natural habitats and species, as well as overall nature conservation management procedures.[278] *The project demonstrates that nature is a powerful defensive ally and acknowledges that military activities can be harmful to nature, hence the development of the project.*[279] *The project produced a 230-page nature conservation guide which includes detailed descriptions of habitats on Natura 2000 sites on military land; procedures and best practices for managing those sites; and lastly, information sharing and methods used within the military context.*[280] *The project also established a pool of Natura 200 advisors trained in military site administration and provided training to 500 people on nature conservation within areas.*[281]

Water management: forests for flood prevention

Over the past 30 years, Poland has seen an increase in floods, with some of the most severe ones occurring in 1997, 2001 and 2010, causing significant economic losses of PLN 12.5 billion (€2.9 billion), PLN 3 billion (€0.7

[274] "Szczecin - Poland," accessed January 5, 2026, https://www.reforestaction.com/en/projects/3395.
[275] "Poland Tests Fortifications to Strengthen the Border - Militarnyi," accessed January 6, 2026, https://militarnyi.com/en/news/poland-tests-fortifications-to-strengthen-the-border/.
[276] Richard K. Broughton et al., "The Białowieża Forest as an Example of the Resilience of Long-Term Studies in a Changing World," *Biological Conservation* 304 (April 2025): 111045, https://doi.org/10.1016/J.BIOCON.2025.111045.
[277] PAŃSTWOWA RADA OCHRONY PRZYRODY and – KOMISJA DS. OCHRONY EKOSYSTEMÓW, *Opinia w Sprawie Ekspertyzy "Środowisko Przyrodnicze Jako Naturalna Zapora Zabezpieczająca Granicę Polski - Rekomendowane Rozwiązania* (2024), https://prop.gov.pl/wp-content/uploads/2024/07/PROP-KOE-2024-06_srodowisko_granica.pdf.
[278] "LIFE 3.0 - LIFE21-GIE-PL-INF-ARMY/101074108," accessed January 6, 2026, https://webgate.ec.europa.eu/life/publicWebsite/project/LIFE21-GIE-PL-INF-ARMY-101074108/supporting-users-of-military-areas-in-the-management-of-natura-2000-sites.
[279] "Summary Conference of the LIFE INF-ARMY Project | INF-ARMY.Pl," accessed January 6, 2026, https://inf-army.pl/en/blog/summary-conference-life-inf-army-project.
[280] "T.2.4 Opracowanie Poradnika | INF-ARMY.Pl," accessed January 6, 2026, https://inf-army.pl/pl/dzialania/realizacja-dzialan/wp2-dzialania-w-zakresie-informacji-strategicznych-i-szkolen/t24.
[281] "T.2.3 Organizacja Szkoleń i Warsztatów | INF-ARMY.Pl," accessed January 6, 2026, https://inf-army.pl/pl/dzialania/realizacja-dzialan/wp2-dzialania-w-zakresie-informacji-strategicznych-i-szkolen/t23.

billion), and PLN 12.5 billion (€2.9 billion), respectively.[282] Forests can provide protection against a range of natural hazards, including landslides, flooding, storms, and heatwaves. Studies generally suggest that increasing forest protection and minimizing land cover reductions and disturbances can maintain a forest's ability to provide protection against natural hazards. Dense, mixed-aged, and mixed-species forests are particularly effective for coastal and fluvial flood control. Clear-cut logging is found to significantly increase surface runoff and peak flows, which leads to heightened flood hazards. Researchers suggest that spacing out logging activities and actively reforesting harvested areas are recommended to minimise these negative impacts.[283] Forest soil can retain as much as 62% (31.5 billion m3) of the total amount of water that could potentially accumulate in Polish forests annually, thus reducing the risk of drought by recharging ground water stores and maintaining regional water cycles.[284] Around 48% if regional rainfall originates from forests, which means preserving tree cover and preventing large-scale deforestation is key to maintain balanced precipitation recycling.[285] Through the NRR, increasing forest cover and restoring forests to enhance their soil health and species diversity is thus critical to enhancing drought and flood resilience.

Local forests have been given growing attention and protection by local governments. For instance, local governments are increasingly understanding that logging in the mountains influences water flows and can cause floods and droughts. The city of Bielsko-Biała has experienced two major floods in 2024. The monoculture of spruce trees in the nearby Beskids and Sudetes forests is not suitable for water retention in mountainous regions, leading to enhanced flood risks.[286] In June 2024, residents, NGOs and local authorities called for large parts of the Bielsko Forest district to be managed as "community forests" or protected as reserves to reduce future flood risk. The Ministry of Climate and Environment included Bielsko-Biała among cities where forests might be designated for protection with hydrological and social functions. The Ministry then instructed the LP to prepare concepts for designating these areas. However, LP continuing logging and launching timber tenders even on areas proposed for protection and reserves. Following public protest, the Ministry ordered a halt to logging in some proposed reserves until 2027, but this secures only a fraction of the hectares sought by activists.[287]

> *The "Comprehensive Project for Adapting Forests and Forestry to Climate Change - Small Retention and Combating Water Erosion in Lowland Areas" was implemented by LP from 2016-2023 under the Operational Programme Infrastructure and Environment 2014-2020. The project aimed to strengthen the resilience of lowland forest ecosystems to climate change-related threats such as floods, and droughts through construction and renovation of small retention reservoirs, water damming devices, erosion control measures, and adaptation of drainage systems. The project constructed 1,349 water damming or flow-slowing structures across various lowland areas in Poland, achieving a water retention capacity of nearly 4 million m^3 and retaining over 2.5 million m^3 of water. Beyond water management, the reservoirs created vital refuges for aquatic fauna and flora, water sources for forest animals, and act as biofilters. The total project cost was 246.5 million PLN (€58.5 million), with 162.5 million PLN (€38.5 million) funded by European Union funds.*[288]

[282] Babak Ghazi et al., "Flood Occurrences and Characteristics in Poland (Central Europe) in the Last Millennium," *Global and Planetary Change* 246 (March 2025): 104706, https://doi.org/10.1016/J.GLOPLACHA.2025.104706.
[283] Elham Ashrafizadeh and Rasoul Yousefpour, "Quantifying and Valuing Forests as a Nature-Based Solution for Ecosystem-Based Disaster Risk Reduction: A Systematic Review," *Nature-Based Solutions* 7 (June 2025): 100242, https://doi.org/10.1016/J.NBSJ.2025.100242.
[284] "Las – Naturalna Klimatyzacja Ziemi | WWF Polska," accessed January 5, 2026, https://www.wwf.pl/las-naturalna-klimatyzacja-ziemi.
[285] Ashrafizadeh and Yousefpour, "Quantifying and Valuing Forests"
[286] "Co Powódź Ma Wspólnego z Wycinką Górskich Lasów? Ekspert: Płacimy Za Lata Zaniedbań | Polska Agencja Prasowa SA," accessed January 5, 2026, https://www.pap.pl/aktualnosci/co-powodz-ma-wspolnego-z-wycinka-gorskich-lasow-ekspert-placimy-za-lata-zaniedban.
[287] "Wyciąć, Żeby Nie Było Czego Chronić. Przypadek Lasów Wokół Bielska-Białej," accessed January 5, 2026, https://dzikiezycie.pl/archiwum/2025/marzec-2025/wyciac-zeby-nie-bylo-czego-chronic-przypadek-lasow-wokol-bielska-bialej.
[288] "Adaptacja Na Terenach Nizinnych - Centrum Koordynacji Projektów Środowiskowych - Lasy Państwowe," accessed January 5, 2026, https://www.ckps.lasy.gov.pl/en/adaptacja-na-terenach-nizinnych.

Spain, Agriculture & Water Resilience, and the NRR

Spain's acute water stress makes it one of Europe's most climate-vulnerable countries, where droughts, wildfires, and desertification directly threaten agriculture. NbS for water management offer multiple co-benefits: filtering pollutants, reducing flood and drought impacts, and supporting climate-resilient farming practices. The NRR provides an opportunity to upscale proven local NbS projects and strengthen community-based syndicates to build water and agricultural resilience.

Introduction

The Spanish context

Spain is known for its variety of habitats and range of species, with one of the largest Natura 2000 networks in Europe.[289] The national Law 42/2007 on Natural Heritage and Biodiversity governs nature conservation in alignment with the EU Nature directives. However, while designation is complete, management and monitoring quality varies significantly by region. The current government is supportive of environmental objectives. Biodiversity a policy priority and Spain voted in favour of the NRR. The public sees climate change as one of the biggest challenges facing the country[290] and strongly supports biodiversity conservation.[291]

Spain's governance model is decentralised, with regional governments holding primary responsibility for terrestrial management. The Ministry for Ecological Transition and Demographic Challenge (MITECO) is the central body for nature legislation, with regional and local governments being responsible for implementing at their respective scale. Interviewees stressed that regional political dynamics and conflicts over water, agriculture, and land use can slow or fragment implementation. A clash between economic development prerogatives and environmental protection aims was noted, particularly in rural areas. In 2023 Spain had the most infringement procedures in the EU related to environmental regulations, including Natura 2000 and species protection.[292] Currently, Spain is facing infringements for not proposing or submitting a comprehensive list of Sites of Community Importance (SCI) under the Habitats Directive,[293] and poor management plans for Natura 2000 sites in Galicia.[294] In 2025, Spain held the most active water procedures in the CJEU.[295] Some include i) the Court of Justice of the European Union (CJEU) condemning Spain for failing to comply with the collection and treatment obligations set on the Urban Waste Water Treatment Directive[296] ii) CJEU condemning Spain for breaching the Nitrates Directive for not adopted additional measures of reinforced actions against nitrate pollution in waters[297]

[289] "Spain | Countries | Biodiversity Information System for Europe," accessed January 12, 2026, https://biodiversity.europa.eu/countries/spain.
[290] "95% of Spaniards Support Measures to Adapt to Climate Change, According to EIB Survey," accessed January 16, 2026, https://www.eib.org/en/press/all/2024-428-95-of-spaniards-support-measures-to-adapt-to-climate-change-according-to-eib-survey.
[291] Jose A. Algarra et al., "Is the Spanish Population Pro-Conservation or Pro-Utilitarian towards Threatened Flora? Social Analysis on the Willingness to Protect Biodiversity," *Land* 13, no. 6 (2024), https://doi.org/10.3390/LAND13060785/S1.
[292] "España Cierra 2023 Como El País de La UE Con Más Expedientes Por Infracciones Medioambientales Abiertos | Clima y Medio Ambiente | EL PAÍS," accessed January 12, 2026, https://elpais.com/clima-y-medio-ambiente/2023-12-29/espana-cierra-2023-como-el-pais-de-la-ue-con-mas-expedientes-por-infracciones-medioambientales-abiertos.html.
[293] "EuropeDirectCS | Diputación de Castellón | Paquete de Procedimientos de Infracción de Septiembre Relativos a España: Principales Decisiones," accessed January 12, 2026, https://europedirectcs.dipcas.es/es/actualidad/paquete-de-procedimientos-de-infracci-n-de-septiembre-relativos-a-espa-a-principales-decisiones.
[294] "Parliamentary Question | Galician Government's Repeated Failure to Comply with the Habitats Directive; Infringement Procedure Follow-up | E-003640/2025 | European Parliament," accessed January 12, 2026, https://www.europarl.europa.eu/doceo/document/E-10-2025-003640_EN.html.
[295] "Map Shows All Active Water Infringement Procedures • Water News Europe." Accessed March 4, 2026. https://www.waternewseurope.com/review-shows-all-active-water-infringement-procedures/.
[296] "EU Court of Justice Condemns Spain over Wastewater Deficiencies • Water News Europe." Accessed March 4, 2026. https://www.waternewseurope.com/eu-court-of-justice-condemns-spain-over-wastewater-deficiencies/.
[297] "La Justicia Europea Condena a España Por No Prevenir La Contaminación Del Agua Por Exceso de Nitratos | Tribunales | Actualidad | Cadena SER." Accessed March 4, 2026. https://cadenaser.com/nacional/2024/03/14/la-justicia-europea-condena-a-espana-por-no-prevenir-la-contaminacion-del-agua-por-exceso-de-nitratos-cadena-ser/.

iii) the Commission took Spain to the ECJ for failing to finalize the review of their river basin management plans under the Water Framework Directive (WFD).[298]

Political positioning: Spain is governed by a left-leaning coalition led by the Socialist Workers' Party (PSOE) under Prime Minister Pedro Sánchez, in alliance with regionalist and progressive parties. The government is supportive of EU environmental objectives and has integrated biodiversity and restoration into climate and territorial planning.

National Legal Framework: The national Law 42/2007 on Natural Heritage and Biodiversity and the National Strategic Plan for Biodiversity to 2030 ("Plan Estratégico Estatal del Patrimonio Natural y de la Biodiversidad a 2030") aligns with the EU Biodiversity Strategy 2030.

Land use: Spain has one of the largest Natura 2000 networks in Europe, covering over 27% of its land area and 17% of its marine area.[299] A majority of Natura 2000 sites lack any form of planning or management, which leads to an information and implementation deficit of the EU Nature Directives.[300]

Main Bodies Responsible: The implementation of nature legislation is shared amongst regional and local governments, with MITECO being the central body.

Financing: Spain funds ecological restoration mainly via EU programmes (LIFE Programme, ERDF/Cohesion Funds, CAP), national recovery funds under the Recovery, Transformation and Resilience Plan (PRTR - NextGenerationEU), and national instruments such as the Ecological Restoration and Resilience Fund (FRER), complemented by regional subsidies and NGO-managed grants.

Agriculture and water resilience in Spain

Spain is one of the most exposed countries in Europe to acute water stress and drought, making water resilience a key national priority. Approximately 25% of the Spanish territory is under an extreme level of water stress, especially in the southeast.[301] This increases the risk of wildfires and around 75% of Spanish land being at risk of desertification.[302] Water scarcity disproportionately impacts agriculture, with agricultural land making up close to 50% of Spanish land area,[303] followed by industry and tourism.[304] This has increasingly focused political attention on NbS and ecosystem restoration as essential tools for sustainable water management concerns. Spain's Hydrological Planning Cycle (2022–2027) includes provisions for ecological flows and river restoration,[305] and the National Strategy for Green Infrastructure, Ecological Connectivity, and Restoration promotes NbS to enhance ecosystem services.[306] Nationally, ongoing restoration efforts include wetland rehabilitation, forest fire recovery, and agroecological projects, mainly funded by the EU. However, there are

[298] "Map Shows All Active Water Infringement Procedures." Accessed March 4, 2026.
[299] "Spain | Countries | Biodiversity Information System for Europe," accessed January 12, 2026.
[300] Manuel Cabalar Fuentes et al., "The Natura 2000 Network in Spain and Its Lack of Protection," *European Journal of Geography* 2(1) (January 2011), https://www.researchgate.net/publication/386167871_The_Natura_2000_Network_in_Spain_and_its_lack_of_protection.
[301] "España, Entre Los Países Con Más Estrés Hídrico," accessed January 16, 2026, https://www.fundacionaquae.org/espana-entre-paises-mas-estres-hidrico/.
[302] "Three-Quarters of Spain Are at Risk of Desertification - Climática, the Media Outlet Specializing in Climate and Biodiversity," accessed January 16, 2026, https://climatica.coop/espana-riesgo-desertificacion/.
[303] "Spain - Agricultural Land (% Of Land Area) - 2026 Data 2027 Forecast 1961-2023 Historical," accessed January 16, 2026, https://tradingeconomics.com/spain/agricultural-land-percent-of-land-area-wb-data.html.
[304] *OECD Economic Surveys: Spain 2025*, OECD Economic Surveys: Spain, vol. 2025 (November 2025), https://doi.org/10.1787/ABC5C435-EN.
[305] "Actuaciones En Ejecución de La Estrategia Nacional de Restauración de Ríos," accessed January 12, 2026, https://portal-miteco-stage.adobecqms.net/es/agua/temas/delimitacion-y-restauracion-del-dominio-publico-hidraulico/estrategia-nacional-restauracion-rios/programa-de-restauracion-y-adaptacion-al-cambio-climatico/actuaciones-en-ejecucion.html.
[306] GOBIERNO DE ESPAÑA MINISTERIO PARA LA TRANSICIÓN ECOLÓGICA Y EL RETO DEMOGRÁFICO, *Estrategia Nacional de Infraestructura Verde y de La Conectividad y Restauración Ecológicas* (2021), https://www.miteco.gob.es/content/dam/miteco/es/biodiversidad/temas/ecosistemas-y-conectividad/eniv_2021_tcm30-515864.pdf. p.44

contradictions in national and regional agricultural policy, such as continued expansion of irrigation, weak enforcement, and subsidies that reward high-intensity production. Across all interviews, the agricultural sector emerged as a challenging sector to engage in restoration actions, due to cultural practices, economic pressures, and political resistance. This makes local level engagement and education on nature restoration an important tool to enhance agricultural and water resilience.

Figure 10 - Irrigation system in Daimel, Spain Photo Credit: Jan van der Straaten

How is the NRR relevant for Spain, agriculture, and water resilience?

National level action

Spain has reacted to acknowledge problems with water management with a set of national coordinating strategies: "The National Strategy for Green Infrastructure and Ecological Connectivity and Restoration",[307] The National River Restoration Strategy,[308] the Strategic Wetlands Plan,[309] as well as the "National Strategic Plan for Biodiversity to 2030" have restoration goals imbedded in them. The NRP is viewed as a mechanism to enhance coordination among these existing frameworks. MITECO coordinates the establishment of the NRP through three working groups: (1) regional governments and municipalities; (2) national ministries on cross-sectoral issues (e.g. water, agriculture, forestry, seas); and (3) civil-society and professional organisations. This significant effort to engage other administrators and civil society, with over 400 entities involved, aims to connect ecological restoration within broader socio-economic planning at the ministerial level. Representatives from civil society, economic sectors and other entities have developed a strategy and criteria to implement the NRR in different environments.[310] According to an interviewee, engaging the agricultural sector builds on experiences on water governance dialogues integrating both social and environmental dimensions.

The "Restore Nature NRP Mid-Term Assessment Report" categorises Spain at an "early stage" with moderate progress. There is active work being done to improve environmental data access and mapping, including the development of national reference values. Some existing restoration measures are being adapted and scaled up to support the 2030 objectives. The report recommends more structured engagement with scientists, stakeholders,

[307] "National Strategy for Green Infrastructure and Ecological Connectivity and Restoration - Iniciativa Española Empresa y Biodiversidad," accessed January 16, 2026, https://ieeb.fundacion-biodiversidad.es/en/recursos/national-strategy-for-green-infrastructure-and-ecological-connectivity-and-restoration/.
[308] "River Restoration: Key to Fostering Biodiversity and Climate Resilience - Fundación Biodiversidad." Accessed January 16, 2026. https://fundacion-biodiversidad.es/en/actualidad_home/river-restoration-key-to-fostering-biodiversity-and-climate-resilience/.
[309] "La Restauración de Humedales, Clave Para El Impulso y La Protección de La Biodiversidad - Fundación Biodiversidad." Accessed January 16, 2026. https://fundacion-biodiversidad.es/actualidad_home/la-restauracion-de-humedales-clave-para-el-impulso-y-la-proteccion-de-la-biodiversidad.
[310] "CREAF Contributes to the Guidelines on the Ecological Restoration of Spanish Territory | CREAF," accessed January 16, 2026, https://www.creaf.cat/en/articles/creaf-ecological-restoration-guidelines-spain.

and the public. Additionally, dialogue between national, regional, and local administrations need to be strengthened and depoliticised to develop a clearer strategic direction to meet the 2026 deadline.[311]

Regional and local level collaborations

Currently, there are few local dialogue groups focusing on the NRR specifically, though related agri-ecosystem topic groups could be adapted, such those establishing water irrigation strategies, adapting agricultural systems etc. The River Basin Management Plans, restoring water bodies to good status and preventing deterioration, were highlighted as a major vehicle for integrating NRR objectives, as they are backed by substantial funding and engagement of hydroelectric companies. However, these companies are currently not represented in restoration discussions, a missed opportunity for broader cross-sector integration according to an interviewee. The role of participatory "social tables for water" was highlighted as an impactful informal governance mechanism for balancing water and agricultural demands and a good forum to advocate for nature restoration initiatives. These platforms have achieved unique cross-sector coalitions involving trade unions, environmental NGOs, and academics.

> *The Andalusian Social Water Board was created by a private initiative, through which important associations from different sectors work together and provide common position documents regarding water matters (droughts, water management, climate change, changing precipitation patterns, etc.). Water management is one of the few instances where important labour and agricultural trade unions work together. The Board has worked on position papers on issues such as sustainable food production sustainable water use for irrigation and stopping artificial irrigation. This work results in collective comments and submissions to various planning processes on the regional level, such as hydrological plans and drought plans. These local dialogue tables on water governance shows that trust-based, cross-sectoral cooperation can exist even in polarised contexts. They also engage in public awareness raising through communication products and sharing information on water policy proposals through media outlets. Other regions have expressed interest replicating the Board and one is currently being.*[312] [313] [314]

Cross sectoral synergies and opportunities

Restoring forests, flood plains, river basins and wetlands is key to enhancing water resilience and fighting against fires, droughts, and desertification, all issues that Spain faces. Additionally, the health benefits of restoration is a strong narrative to garner wider support. Further developing private sector-farmer partnerships also strengthens confidence in farming communities to invest in regenerative agricultural practices and restoration on their land.

Water resilience is key for adaptation

In Spain, ecosystem restoration can increase water storage in soils and aquifers, buffer drought and flood impacts, and reduce wildfire risk by lowering fuel loads and landscape dryness, making it one of the most effective tools for tackling water scarcity, droughts and fires.[315] Interviewees focused on, nature-based water management, especially natural water retention measures, through wetland restoration and river basin restoration, as a promising multi-benefit approach to addressing pollution, biodiversity, and microclimatic resilience. MITECO acknowledges the important role water resources have in combating desertification and pollution after wildfires. After the major fires in Spain during the summer of 2025, MITECO invested €24 million in hydrological-forestry restoration in damaged areas. On the hydrological front, there are planned actions to restore riverbeds and banks, to control soil erosion and desertification and restore rural infrastructure for public

[311] Antier and Savu, *Nature Restoration Plan Development Process*, 2025.
[312] "LA MESA SOCIAL DEL AGUA DE ANDALUCIA | Red Andaluza Del Agua," accessed January 16, 2026, https://redandaluzaagua.org/msa/.
[313] "Mesa Social Por El Pacto Del Agua | AEOPAS," accessed January 16, 2026, https://www.aeopas.org/mesa-social-por-el-pacto-del-agua/.
[314] "España Se Enfrentará a La Justicia Europea Por Los Retrasos En La Planificación Hidrológica | RETEMA." Accessed March 4, 2026. https://www.retema.es/actualidad/espana-se-enfrentara-la-justicia-europea-por-los-retrasos-en-la-planificacion.
[315] "Nature-Based Solutions for Fire-Resilient European Forests", accessed January 16, 2026.

use. Additionally, regional river basin authorities are implementing emergency plans (worth €10.5 million) to protect water resources from soil erosion, pollution, and promote the regrowth of riparian vegetarian cover.[316] These investments show that restoration is already being employed in Spain to mitigate against these climate stressors, and the NRR is a complimentary tool to further invest in these types of measures.

> *The Ebro Resilience project brings together MITECO, the Ebro River Basin Authority, regional governments (La Rioja, Navarra, Aragón), scientists, local municipalities, farmers and civil society to restore floodplains, meanders and riparian habitats along the middle Ebro River using nature-based solutions. By reconnecting the river to its floodplain, restoring wetlands and riparian vegetation, and creating buffer zones, the project improves water retention, groundwater recharge and natural flow regulation, which helps reduce both flood risk and vulnerability to drought and water scarcity. At the same time, it enhances biodiversity, soil moisture and ecosystem health, showing how collaborative river restoration can strengthen climate resilience in a highly water-stressed basin.*[317]

Health & biodiversity interlinkages

Interviews noted that one narrative lens that could strengthen public support for restoration, is highlighting the health impacts of nitrogen and pesticides in bodies of water. A study from Greenpeace Spain found that due to intensive agricultural practices, nitrates have contaminated 54% of measured groundwater and 61% of surface water.[318] Nature-based solutions, like wetlands, act as natural filters.[319] Additionally, restoring and reconnecting floodplains to rivers and streams through watersheds are also a cost-effective practice to remove nutrients from bodies of water. Floodplains provide a host of benefits, like nutrient retention, water storage, aquifer recharge and recreation. While farmers are difficult to engage on the topic, studies have shown that education on the health and legal impacts of overuse of nitrogen does have impacts.[320]

> *In a study on the Vitoria-Gasteiz wetland (Basque Country), it was found that the restoration of the wetland has reduced nitrate concentrations in the waters and from the groundwater, thanks to the recovery of its biogeochemical function. During storm events, the wetland was able to reduce the nitrate concentration entering the Alegria River, which is an important river on the quaternary aquifer.*[321]

Financial incentives

Interviews noted a promising source of financing for regenerative agriculture comes from the private sector. In certain local initiatives, a range of local actors have been willing to work together to finance landscape improvements and reduce environmental risk. This means costs are not born only by farmers but by others with a stake in the local area. For example, the landscape partnership, AlVelAl Territory, brings farmers, livestock breeders, businesses, researchers and citizens together to address water scarcity across 5 regions of the Altiplano Estepario in southeast Spain. Their 20-year plan supports the ongoing transformation of the Altiplano landscape by promoting ecosystem restoration, regenerative agriculture, and economic revitalisation. About 570 people working for the Territory today and the project is financed mainly with private and philanthropic funding, and some limited public funding.[322] Foundations such as the Global Nature Foundation, can also be an important

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316 "El MITECO Moviliza 34,5 Millones Para Restaurar Las Zonas Afectadas Por Los Incendios de Este Verano," accessed January 16, 2026, https://www.miteco.gob.es/es/prensa/ultimas-noticias/2025/septiembre/el-miteco-moviliza-34-5-millones-para-restaurar-las-zonas-afecta.html.
317 "Ebro Resilience – Ebro," accessed January 16, 2026, https://www.ebroresilience.com/en/.
318 "La Escalada de Macrogranjas Sigue Envenenando El Agua - ES | Greenpeace España." Accessed January 16, 2026. https://es.greenpeace.org/es/sala-de-prensa/comunicados/la-escalada-de-macrogranjas-en-espana-sigue-envenenando-el-agua/.
319 Ramsar Convention on Wetlands, *Groundwater Replenishment* (n.d.), accessed January 16, 2026, https://www.ramsar.org/sites/default/files/documents/library/services_02_e.pdf.
320 Moreno-Lora, Aurora, Samir Sayadi-Gmada, M. Milagros Fernández-Fernández, and Elisa M. Suárez-Rey. "Nitrate Pollution of Water Bodies from Agricultural Sources: The Role of Training in Enhancing Awareness and Knowledge in Andalusia." *Nitrogen* 6, no. 4 (2025): 103. https://doi.org/10.3390/NITROGEN6040103/S1.
321 García-Linares, C., M. Martínez-Santos, V. Martínez-Bilbao, J. M. Sánchez-Pérez, and I. Antiguedad. "Wetland Restoration and Nitrate Reduction: The Example of the Peri-Urban Wetland of Vitoria-Gasteiz (Basque Country, North Spain)." *Hydrology and Earth System Sciences* 7, no. 1 (2003): 109–21. https://doi.org/10.5194/HESS-7-109-2003.
322 "The AlVelAl Territory | The 4 Returns Community Platform," accessed January 16, 2026, https://4returns.commonland.com/landscapes/revitalizing-land-and-community-in-the-altiplano/.

actor, as they catalysing restoration partnerships between public and private actors and provide funding. An interviewee noted that the project is also working on developing a regenerative agriculture certification, which has garnered a lot of interest amongst other farming communities.

> *Together with local producers the project AlVelAl Territory has developed the almendrehesa concept: an integrated production system that combines almond and local trees, aromatic oil crops, active bee hiving, and lamb farming. La Almehendrehesa markets regenerative almonds, allowing farmers to generate a higher margin on their sustainable produce and investing in restoration of their farms. AlVelAl also develops supply and value chains to promote this local produce to touristic areas. Businesses cases for other produce, like olive oil and compost, are being developed. About 570 people working for the Territory today and the project is financed mainly with private and philanthropic funding, and some limited public funding.*[323]

[323] Ibid.

Sweden, Forests and the NRR

Few countries have as much potential for forest restoration as Sweden, where forests cover 70% of the land and are central to the economy, climate policy and biodiversity. About 70% of Sweden's productive forest land is made up of Scots pine or Norway spruce monoculture[324] leaving them susceptible to climate change. Thus, growing recognition of climate-related damages from beetle outbreaks, droughts, landslides and climate-induced large-scale canopy-fires is creating new momentum for alternative forest management approaches, as landowners increasingly see the economic value of resilient ecosystems. The NRR provides an opportunity to align stakeholders around shared interests in forest resilience, carbon sequestration, and long-term economic viability, thus demonstrating how restoration can deliver multiple benefits for nature, people, and the economy.

Introduction

The Swedish context

Sweden has a strong tradition of environmental stewardship, with robust legislation and benefits from high administrative capacity in environmental policy implementation. However, recent political shifts have challenged long-standing commitments, in balancing conservation with forestry and rural development. The current center-right coalition supported by the far-right Swedish democrats reduced the environmental budget by 7.3 billion SEK (€682 million) since taking office in 2022, which impacts the budget and capacity of the Swedish Environmental Protection Agency (SEPA) and related environmental programs.[325] Regardless, in 2024, the Swedish Environmental Protection Agency launched several projects on ecological connectivity and large-scale habitat restoration, with efforts focused on wetlands, river continuity, and forests.[326]

EU Nature legislation has been transposed into national law, but practical implementation is undermined by limited knowledge, agency capacity, and a dominant production-oriented interpretation of Sweden's forestry law Forestry Act (1993), which interviewees identified as a mismatch between formal strategies and the actual practices required for impactful implementation of the NRR. Legislatively, Sweden has a complicated relationship with infringements of nature legislation, though currently it is not subject to major infringement procedures. In 2021, the European Court of Justice ruled against Sweden in forestry cases, and found Swedish authorities had failed to adequately assess and protect all species in the Nature Directives.[327] In 2011, Sweden had a European Commission infringement case regarding excessive licensed hunting of the wolves, but this was dismissed in July 2025, after the amending of the protection status of the wolf to protected (Directive (EU) 2025/1237).[328] Additionally, in 2020, the European Commission sent a letter of formal notice regarding Sweden's deficiency in the designation of marine Special Protection Areas for birds under the Birds Directive, which is still being worked on.

> **Political positioning:** Sweden is governed by a centre-right coalition supported by the far-right, resulting in a significant push back against environmental policy and EU regulations.

[324] "The Forest and Sustainable Forestry - Swedish Wood," accessed December 19, 2025, https://www.swedishwood.com/wood-facts/about-wood/wood-and-sustainability/the-forest-and-sustainable-forestry/.
[325] "Vad Betyder Regeringens Budget För Miljön?," accessed December 18, 2025, https://www.naturskyddsforeningen.se/artiklar/fortsatta-nerskarningar-i-miljobudgeten/.
[326] The Swedish Environmental Protection Agency, "Management Strategies at Landscape Level," August 29, 2024, https://www.naturvardsverket.se/en/international/research/the-environmental-research-fund/research-efforts-nature/management-strategies-at-landscape-level/.
[327] "European Court of Justice: Sweden Failed to Protect Species - Skydda Skogen," accessed December 18, 2025, https://skyddaskogen.se/en/european-court-of-justice-sweden-failed-to-protect-species/.
[328] "Notice on Multiple Complaint CPLT(2023)01635 [Date: 23 October 2025] - European Commission," accessed December 22, 2025, https://commission.europa.eu/about/contact/problems-and-complaints/complaints-about-breaches-eu-law-member-states/multiple-complaints/notice-multiple-complaint-cplt202301635-date-23-october-2025_en.

National Legal Framework: The main legal basis is the Environmental Code (*Miljöbalken*), which includes biodiversity protection and Natura 2000 obligations, while Swedish forest policy is governed by the Forestry Act (1993).

Land use: Forests cover about 70% of Sweden's land area[329] and play a central role in the country's economy, climate policy, and biodiversity. Natura 2000 areas form part of the formal protection of Swedish forest land. Natura 2000 areas cover about 15% of total land area and 14% of the marine area.[330] The Natura 2000 network has established site management and monitoring.

Main Bodies Responsible: The Swedish Environmental Protection Agency (*Naturvårdsverket* SEPA) and County Administrative Boards (*Länsstyrelser*) implement national nature legislation regionally.

Financing: The central government provides a national budget for biodiversity conservation, primarily through the Swedish Environmental Protection Agency (*Naturvårdsverket - SEPA*) and county administrative boards (*Länsstyrelser*).[331] Sweden also utilises EU LIFE and CAP funding for nature restoration projects.[332]

Forests in Sweden

Forests cover close to 70% of Sweden's land area. Unfortunately, 13 out of 15 forest habitat types are in a poor or unsatisfactory conservation status in comparison to the favorable reference values (FRV) under the Habitats Directive, which benchmarks the long-term viability of habitats on a variety of factors.[333] Sweden's Prioritised Action Framework for Natura 2000 Sites 2021-2027 acknowledges the need for better mapping of the restoration need of habitats and species ahead of the NRR.[334] The proposed restoration measures to improve the conservation status of forests included: i) prescribed burning to recreate natural fire dynamics (ii) hydrological restoration via blocking drainage ditches previously set by forestry production (iii) targeting grazing after tree removal, among others.[335]

Individual forest owners own almost half, approximately 48–50 percent, of Swedish forest land, these family foresters include over 300,000 owners. Private big companies own approximately 25% of the Swedish forest land. The state/state-owned companies, and other legal entities owns approximately 18–25% of Swedish forest land.[336]

Swedish forest policy is governed by the Forestry Act (*Skogsvårdslag*, 1993), which allows forest owners considerable autonomy while requiring consideration of both production and environmental values. Sweden's Environmental Code and Species Protection Ordinance also applies in forests, particularly in relation to Natura 2000 sites and protected species. The Forest Strategy for Sweden (2018)[337] aims to balance multiple forest

[329] "Importance of the Forest – Then and Now - Swedish Forest Industries Federation," accessed December 18, 2025, https://www.forestindustries.se/news/latest-news/2023/04/importance-of-the-forest--then-and-now/.
[330] "Sweden | Countries | Biodiversity Information System for Europe," accessed December 18, 2025, https://biodiversity.europa.eu/countries/sweden.
[331] BIODIVERSA+ - European Biodiversity Partnership, *Sweden National Report Biodiversa+ Governance Sub-Pilot* (2024), https://www.biodiversa.eu/wp-content/uploads/2024/01/Biodiversa-Governance-Sub-pilot-Sweden.pdf. p.4
[332] Biodiversity Information System for Europe, "Green Infrastructure | Sweden ," November 19, 2025, https://biodiversity.europa.eu/countries/sweden/green-infrastructure.
[333] Mats Hannerz and Per Simonsson, *Biodiversity in the Forests-Species, Environmental Work and Statistics* (2021), https://www.forestindustries.se/siteassets/bilder-och-dokument/rapporter/biologisk-mangfald/skogs_rapport_bio_eng_final_links-1.pdf.
[334] The Swedish Ministry of the Environment, *PRIORITISED ACTION FRAMEWORK (PAF) FOR NATURA 2000 in SWEDEN* (2021), http://ec.europa.eu/environment/nature/legislation/fitness_check/action_plan/communication_en.pdf. p.32
[335] Ibid.
[336] SWEDISH FOREST INDUSTRIES FEDERATION, *Snapshot of the SWEDISH FOREST INDUSTRY* (2025), https://www.forestindustries.se/siteassets/bilder-och-dokument/rapporter/koll-pa-svensk-skogsindustri/snapshot-of-the-swedish-forest-industry-2025.pdf p.54
[337] "Sweden Adopts First of Its Kind National Forestry Programme," accessed December 18, 2025, https://www.siani.se/news-story/swedens-first-national-forestry-programme-focuses-on-sustainable-resource-management-and-conservation/.

functions, but it has been criticised for prioritising economic outputs (timber, paper, pulp, and biomass production).[338] Foremost, we see a growing interest among family foresters in changing their logging methods into close-to-nature forestry, and thus restoring degraded forests as they become more aware of climate change's impact on their economic stability if they continue to put all their eggs in one basket: business at usual tree-monoculture forestry. Meanwhile, forest managers are engaging in forest restoration efforts, such as voluntary set-asides, old-growth forest protection, and habitat connectivity projects

Why is the NRR an opportunity for forests in Sweden?

Approaches towards national implementation

Interviewees believe the NRR can support better implementation of the Nature Directives, if the government uses it as an opportunity to gather knowledge, and enhance implementation that is helpful to conservation. There is an active and ongoing process (reference and dialogue groups) that will facilitate the shaping of the National Restoration Plan (NRP), which is handled by forest administration. The overall process is categorised as "early stages" and generally with poor progress by the "Restore Nature NRP Mid-Term Assessment Report". The scientific basis is lacking for favourable reference areas for forest habitats, and there a lack of ambition by authorities to promote nature restoration and its benefits. Positives are that the NRP development process is generally inclusive, and there is good cooperation between authorities, and authorities are prioritising development despite the limited earmarked resources.[339]

Some recent government choices - namely the change towards more "cautious" reporting under the Habitats and Birds Directives - indicate a political intent to avoid substantive revitalisation of the Nature Directives, suggesting that the potential for the NRR to strengthen other instruments is conditional on political will. In 2024, the Swedish government gave the instruction to the Swedish Environment Agency to report forest habitat favourable reference areas (FRAs) based on 1995 data (when the Habitats Directive first came into force in Sweden), instead of current data, "*to safeguard Swedish forestry competitiveness and reduce regulatory burden*".[340] As the NRR's restoration requirements are reliant on these FRAs, NGOs believe this is a way to circumvent the NRR and downplay immediate ecological needs.[341] Despite challenges, there is hope for NRR to make positive change, though coordination between the environment, agriculture, and forestry sectors is limited.

Private funding helps spur regional restoration

The current government's environmental budget cuts have paused some important nature restoration grant sources. For example, the Local Nature Conservation Initiative (LONA) provides funds for municipality-run nature restoration projects and is run by SEPA. Due to budget constraints, no new regular projects were granted in 2025, though applications for wetlands projects were still allowed.[342]

More positively, the Swedish Board for Agriculture announced a call in 2025, offering grants (totalling 11 million SEK [€1 million]) for projects which promote the implementation of the NRR in agricultural landscapes. Authorities, municipalities, regions, associations, other organisations and companies can apply for support, and

[338] Iris Maria Hertog and Sara Brogaard, "Struggling for an Ideal Dialogue. An Analysis of the Regional Dialogue Processes within Sweden's First National Forest Program," *Forest Policy and Economics* 130 (September 2021): 102529, https://doi.org/10.1016/J.FORPOL.2021.102529.
[339] Antier and Savu, *Nature Restoration Plan Development Process*, 2025.
[340] Regeringen och Regeringskansliet, *Regeringen Ger Rapporterings- Och Analysuppdrag Om Gynnsam Referensareal För Art- Och Habitatdirektivets Naturtyper*, Regeringen och Regeringskansliet, 2024, https://www.regeringen.se/pressmeddelanden/2024/12/regeringen-ger-rapporterings--och-analysuppdrag-om-gynnsam-referensareal-for-art--och-habitatdirektivets-naturtyper/.
[341] "Sverige Vill Frångå Kunskapsbaserad Rapportering Kring Biologisk Mångfald - Världsnaturfonden WWF," accessed December 18, 2025, https://www.wwf.se/nyheter/sverige-vill-franga-kunskapsbaserad-rapportering-kring-biologisk-mangfald/.
[342] "LONA – Lokala Naturvårdssatsningen," accessed December 19, 2025, https://www.naturvardsverket.se/bidrag/lona/.

the grants require collaborative projects, which bring different stakeholders together to apply and run the projects.[343]

Private foundations increasingly are investing in nature restoration and provide an alternative to government funding for NGOs and academia. International foundations such as the Ecological Restoration Fund (ERF) have provided Rewilding Europe £9 million (€10 million) for rewilding interventions across Europe.[344] This includes a Rewilding Sweden project which focuses on restoring the interconnected landscapes of old-growth forests, wetlands, and free-flowing rivers in northern Swedish (in *Sápmi*, the indigenous land), thus restoring indigenous peoples' rights to their nature-based culture and economy.[345] Nationally, foundations like the Wallenberg Foundations, and the Forestry Society Foundation (*Stiftelsen Skogssällskapet)* funding for research and conservation projects on forests, which includes restoration relevant topics. EU funding, such as LIFE, can allow projects to be scaled up nationally, which enables a larger breadth of knowledge sharing and capacity building. Irrespective of current government priorities, there are other avenues for interested actors at the local and regional level to mobilize nature restoration activities.

> *The Wallenberg Foundation has granted SEK 7 million (€653,000) to the "Restoration Futures in Sweden's Forests for Biodiversity and Human Well-Being" project led by the Swedish University of Agricultural Sciences (SLU). The project examines how the NRR can be implemented in Sweden in a way that promotes both biodiversity and human well-being. The research team will develop knowledge on how large-scale forest restoration targets can be pursued in ways that integrate environmental goals, production needs, and diverse human values. The Swedish Forest Agency is a close collaborator.*[346]

Cross sectoral synergies and opportunities

Forest restoration enhances carbon sequestration potential, and resiliency to climate change related damages, such as beetle outbreaks and extreme weather; droughts, landslides, downpouring, storms, etc. Increasingly, landowners are considering alternative management systems as they begin to recognize the economic risk of degraded lands.

Climate change adaption via enhanced carbon sequestration

Forests are an important terrestrial carbon sink in Sweden and offsets ~70% of other sectors' emissions outside of the land use sector (LULUCF).[347] Restored forests are more effective carbon sinks than degraded forests, as restoration improves tree growth, soil health, hydrology and ecosystem resilience.[348] Some studies of boreal and temperate forests have shown that restoration with mixed species stands, and other active restoration approaches, can increase long-term ecosystem carbon storage, as opposed to monocultures or degraded forest conditions.[349] About 70% of Sweden's productive forest land is made up of Scots pine or Norway spruce monoculture[350] which make them more vulnerable to incidents such as beetle attacks (which have destroyed

[343] Jordbruksverket, "Utlysning: Samarbete Om Det Svenska Genomförandet Av EU:S Förordning Om Restaurering Av Natur," 2025, https://jordbruksverket.se/stod/utlysningar-och-upphandlingar/samarbete-om-det-svenska-genomforandet-av-eus-forordning-om-restaurering-av-natur.
[344] "Rewilding Europe - Ecological Restoration Fund," accessed December 19, 2025, https://ecorestorationfund.org/grants/rewilding-europe/.
[345] "Rewilding Sweden - Ecological Restoration Fund," accessed December 19, 2025, https://ecorestorationfund.org/grants/rewilding-sweden.
[346] "Three SLU Researchers Receive Wallenberg Funding for Research on the Future of Forests," accessed December 19, 2025, https://www.slu.se/en/news/2025/12/three-slu-researchers-receive-wallenberg-funding-for-research-on-the-future-of-forests
[347] "Net Emissions and Net Removals of Greenhouse Gases from Land Use (LULUCF) - Sweden's Environmental Goals," accessed December 19, 2025, https://www.sverigesmiljomal.se/miljomalen/begransad-klimatpaverkan/nettoutslapp-och-nettoupptag-av-vaxthusgaser-fran-markanvandning-lulucf.
[348] Tiehu He et al., "Meta-Analysis Shows the Impacts of Ecological Restoration on Greenhouse Gas Emissions," *Nature Communications 2024 15:1* 15, no. 1 (2024): 2668-, https://doi.org/10.1038/s41467-024-46991-5.
[349] Enoch Ofosu et al., *Climate Benefits of Afforestation and Reforestation with Varying Species Mixtures and Densities in the North-Western Boreal Lands*, June 3, 2025, https://arxiv.org/pdf/2506.03300.
[350] "The Forest and Sustainable Forestry", accessed December 19, 2025.

millions of spruce trees in Sweden and Central Europe[351]). The NRR is an opportunity for Sweden to invest in its climate resiliency through restored forests, which will enhance economic resiliency of forest owners and the greater economy.

Large areas of Sweden's forests are managed in an industrial clear-cut based follows by tree-monocultures management model, which is estimated to be used in 97% of managed forest areas.[352] This leads to low habitat complexity, degraded soil, and low species diversity, making forests increasingly vulnerable to climate-related disturbances such as storms, droughts, and pest outbreaks, etc.[353] Estimated damages of the 2018 climate- and clear-cut induced large-scale (foremost canopy-) fires in Sweden was more than EUR 166 million.[354] Additionally, in 2024, the forests who were damaged buy storms and bark beetles were 50% more expensive to fell, according to the Swedish Forest Agency.[355] The NRR creates an opportunity to address this vulnerability by requiring the restoration of degraded forest ecosystems and the improvement of their ecological condition. By promoting measures that enhance structural diversity, restore natural hydrology and improve landscape connectivity, the NRR supports the development of more resilient forest ecosystems that are better able to withstand and recover from climate impacts. In this context, forest restoration can function as a climate-adaptation strategy, reducing long-term risks to forest productivity, biodiversity and ecosystem services while strengthening forests' capacity to buffer climate extremes.

> *The Life2Taiga project (2022-2028) is restoring the Western Taiga habitat in Northern Europe, including Sweden. Modern monocultural forestry practices have drastically reduced heterogeneity in the Western Taiga, which historically was rich in biodiversity due to frequent natural fire regimes. The project will be using prescribed fires to promote the regeneration of new naturally regenerated pine and bringing back deciduous trees. This will enhance the biodiversity of rare plants, fungi, insects, and birds, who specialise living in environments created by fire. Over the coming century, the pine forests will become more resilient and biodiversity rich.[356]*

The economic benefits of forest restoration

Figure 11 - A 50-year-old spruce monoculture, which has been thinned in order to initiate a transition to close to nature forestry. Photo Credit: Anders Tivell

[351] "Increased Risk of Major Bark Beetle Outbreaks - Also in Norway - Nibio," accessed December 19, 2025, https://www.nibio.no/en/news/increased-risk-of-major-bark-beetle-outbreaks%20-also-in-norway.
[352] Andreas Brunner et al., *Chapter 2 Definitions and Terminology: What Is Continuous Cover Forestry in Fennoscandia?*, n.d., https://doi.org/10.1007/978-3-031-70484-0_2. p.36
[353] Mark Pickering et al., "Enhanced Structural Diversity Increases European Forest Resilience and Potentially Compensates for Climate-Driven Declines," *Communications Earth & Environment 2025 6:1* 6, no. 1 (2025): 852-, https://doi.org/10.1038/s43247-025-02592-8.
[354] Knutzen, Florian, Paul Averbeck, Caterina Barrasso, et al. "Impacts on and Damage to European Forests from the 2018-2022 Heat and Drought Events." *Natural Hazards and Earth System Sciences* 25, no. 1 (2025): 77–117. https://doi.org/10.5194/NHESS-25-77-2025.
[355] "Costs in Large-Scale Forestry - Skogsstyrelsen," accessed January 11, 2026, https://www.skogsstyrelsen.se/en/statistics/economy/costs-in-large-scale-forestry.
[356] "Life2Taiga, English | Länsstyrelsen Västmanland," accessed December 19, 2025, https://www.lansstyrelsen.se/vastmanland/natur-och-landsbygd/skyddad-natur/skotsel-av-skyddad-natur/naturvardsbranning/life2taiga/life2taiga-english.html

Climate change vulnerability is also an economic issue, and a growing number of Swedish producers are becoming interested in different forestry management systems (such as close-to-nature forestry) which maintain ecological integrity while ensuring long-term economic viability. The NRR creates an opportunity to address this vulnerability by requiring the restoration of degraded forest ecosystems and the improvement of their ecological condition via Article 4 and 12.[357] Restored ecosystems are better able to withstand and recover from climate impacts, and reduces long-term risks to forest productivity, biodiversity and ecosystem services.[358] Interviewees mentioned that highlighting the economic benefits of forest restoration can be an important narrative framework to garner both private and corporate forest-owner support in implementing the NRR.

> *WWF Sweden sponsors an ongoing project "Naturnära Skogsbruk i Tiveden" for private forest owners to learn about natural forestry alternatives to clear-cut forestry. The project trains participants in Tiveden on restorative forestry practices which they can implement in the new forestry plans for their properties. Results will be disseminated to other local actors and forest owners, entrepreneurs, authorities and the public in Sweden. The project demonstrates how the development of increased restorative no-clear forestry can take place, and what added value it can bring for people and biodiversity.[359]*

Forest owners participating in the "*Naturnära Skogsbruk*" ("Close-to-Nature Forestry") project are motivated by a desire to manage their forests in more sustainable ways. Many seek alternatives to clear-cut forestry that preserve continuous forest cover, enhance biodiversity, and increase resilience to climate-related risks such as storms, droughts and pest outbreaks. Participants often emphasise stewardship values, including the wish to pass on healthy, productive forests to future generations, as well as an interest in learning, innovation and knowledge-sharing around sustainable forestry practices that balance production with environmental responsibility.[360]

> *Since 2017, Icebug, a Swedish footwear brand, has contributed up to €234,000 euro to environmental NGO, Naturarvet to purchase and protect old growth forests in Sweden, so they are never farmed, logged or sold. Only 0.3% of forests in Sweden are considered old-growth, hence they are a top priority for Naturarvet. Since 2015, Naturarvet has acquired 921 ha of land, protecting 7 old growth forests, with being their top corporate donor.[361] The company acknowledges the importance of old-growth forests and biodiversity for a sustainable future but further committing to donating 1% of its annual sales to environmental organisations and projects.[362]*

[357] "Regulation - EU - 2024/1991 - EN - EUR-Lex,"
[358] Nataliya Stryamets et al., "To Clear-Cut or Not to Clear-Cut: Diversifying Benefits from Small-Scale Forestry in Sweden," *Forest Ecosystems* 15 (April 2026): 100401, https://doi.org/10.1016/J.FECS.2025.100401.
[359] "WWF Project - Natural Forestry," accessed December 17, 2025, https://www.naturnaraskogsbruk.se/wwf-projekt/.
[360] "Deltagande Skogsägare - Naturnära Skogsbruk," accessed December 19, 2025, https://www.naturnaraskogsbruk.se/deltagande-skogsagare/.
[361] "Icebug Helps Secure the Ultimate Protection for Swedish Old-Growth Forest | EOCA | Conservation Funding | Conservation Grants," accessed January 11, 2026, https://www.eocaconservation.org/icebug-helps-secure-the-ultimate-protection-for-swedish-old-growth-forest/
[362] "Icebug & Naturarvet," accessed January 11, 2026, https://www.icebug.com/en-FI/explore-icebug/naturarvet.

8. Annexes

Annex 1. List of Advisory Committee Members

Ioannis Agapakis – Lawyer (International and European Environmental Law), ClientEarth

Andreas Baumueller – Programme Director (Natural Resources Unit), WWF European Policy Office

Ariel Brunner – Regional Director, Birdlife Europe

Lina Burnelius - Project Leader & International Coordinator, *Skydda Skogen* (Protect the Forest) (Sweden)

Siim Kuresoo – European Forest Campaigner, Fern

Marta Marrero – Director (Europe Programme), Oceans5

Augustyn Mikos – Forest Policy Expert, *Pracownia* (Workshop for all Beings) (Poland)

Annex 2. Interviewees

CROATIA

- **Ivan Budinski** – Nature Conservation Expert, Association BIOM - Birdlife Croatia (NGO)
- Two anonymous contributors – Ministry of Environmental Protection and Green Transition (Government)

FRANCE

- **Dimitri Dupres** – Project Manager for Restoration, *Ligue de Protection des Oiseaux* (LPO - The League for the Protection of Birds) (NGO)
- **Lisa Ernoul** – Coordinator for Management & Evaluation, *Tour Du Valat* (Research Institute)
- **Laurent Germain** – Biodiversity Conservation Programme Coordinator, *Office Français de la Biodiversité* (OFB – French Office for Biodiversity) (Government)
- **Alexis Martineau** – Head of Protected Areas, *Ligue de Protection des Oiseaux* (LPO - The League for the Protection of Birds) (NGO)
- **Irene Perez Beltran** – Climate Policy Officer, *Sociedad Española de Ornitología* (SEO - Spanish Ornithological Society) - Birdlife[363](Research)

GERMANY

- Anonymous – Public Institute (Government)
- **Leonie Pilgram** – Advisor for Natural Climate Protection, *Deutsche Umwelthilfe* (DUH - Environmental Action Germany) (NGO)
- **Stephan Piskol** – Senior Advisor for Biodiversity Policy, *Naturschutzbund Deutschland* (NABU - The Nature and Biodiversity Conservation Union) (NGO)

GREECE

- **Kriton Arsenis** – Founder & Director, ReLife Earth (NGO)
- **Apostolis Kaltsis** – Conservation & Environmental Policy Coordinator, Hellenic Ornithological Society (Research/NGO)

[363] Irene was interviewed for both France and Spain due to her research as a Karlspreis Research Fellow in both countries

- **Myrto Karydi** – Species Protection Policy Officer, Hellenic Ornithological Society (Research/NGO)
- **Yorgos Melissourgos** – Nature Policy Officer, WWF Greece (NGO)
- **Theodota Nantsou** – Head of Policy, WWF Greece (NGO)
- **Vasilis Papadopoulos** – Legal Advisor, Hellenic Ornithological Society (Research/NGO)
- Anonymous – Sustainability Consultant (Research)
- Anonymous – Ministry of Environment and Energy (Government)

IRELAND

- **Edward Farrell** – Chief Scientific & Sustainability Officer, Killybegs Fishermen's Organisation (KFO) (Sector Representative)
- **Donal Griffin** – Fair Seas Campaign Coordinator, Fair Seas Coalition (NGO)
- **Fintan Kelly** – Senior Land Use Officer, Irish Environment Network (NGO)

POLAND

- **Marta Jagusztyn** – Founder, *Fundacia Lasy i Obywatele* (Forest and Citizens Foundation) (Research)
- **Piotr Klub** – Nature Conservation Specialist, *Fundacja Dziedzictwo Przyrodnicze* (Natural Heritage Foundation) (NGO)
- **Sylwia Szczutkowska** – Nature Conservation Expert, *Pracownia* (Association Workshop for All Beings) (NGO)

SPAIN

- **Miguel Ángel Gómez** – Technical Director, ALVELAL (Landscape Partnership) (Sector Representative)
- **Fernando Magdaleno** – Deputy Director at the Environment Ministry, Spanish Ecological Transition Ministry (Government)
- **Julia Martinez** – Executive Director, *Fundación Nueva Cultura del Agua* (FNCA - The New Water Culture Foundation) (NGO)
- **Irene Perez Beltran** – Climate Policy Officer, *Sociedad Española de Ornitología* (SEO - Spanish Ornithological Society) – Birdlife Spain (Research)

SWEDEN

- **Daniel Bengtsson** – Head of Conservation, BirdLife Sweden (NGO)
- **Jörgen Sundin** – Biodiversity Policy Officer, Swedish Society for Nature Conservation (NGO)
- **Anders Tivell** – Forest owner (Sector Representative)

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