POLICY BRIEF

BEYOND PROTECTED AREAS: INTEGRATED APPROACHES TO BIODIVERSITY CONSERVATION

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Main messages

- Addressing biodiversity loss requires an integrated approach that combines measures across relevant policy areas.
- Demand-side measures should be treated as key leverage points for improving biodiversity outcomes.
- Mitigating climate change is a crucial component for halting biodiversity loss.
- Policies that halt biodiversity loss can generate wider benefits for human health, security and resilience.

Context

Biodiversity is essential to human well-being by supplying essential ecosystem services, including food production, clean water and climate regulation. However, biodiversity has been declining due to human activity such as agriculture, deforestation and pollution (IPBES, 2019). Determining leverage points for halting and reversing biodiversity loss is important for designing effective policies (IPBES, 2019).

In the Kunming-Montreal Global Biodiversity Framework (GBF), a global commitment adopted to ensure a healthy planet on which we can live in harmony with nature, Target 2 requires that by 2030 at least 30 percent of the land, water and seas is protected, and Target 3 that 30 percent of degraded ecosystems are restored. Furthermore, consumption patterns should be changed by 2030 to reduce the pressure on our ecosystems, in line with Target 16.

To achieve these targets, there is a need to analyse the effectiveness of different policies in an integrated manner. We have used a global integrated assessment model, integrating human and natural systems, to project long-term scenarios with different approaches to tackling biodiversity loss. The analysis contrasts the synergies and trade-offs of different policy options, including a focus on tackling climate change, land protection, reducing pressures on natural ecosystems, or a combination of the above.

The scenarios

Table 1 An overview of the scenarios and what measures are implemented in each of them.

Baseline	Shared Socioeconomic Pathway 2 (SSP2) Continuation of current trends
Protected Areas	50% protection of all biomes
Reduced Demand	Maximum feasible food waste reduction in rich countries and Latin America, resulting in about 50% reduction in food waste Technical and behavioural changes to reduce energy demand 20% reduction in per-person roundwood demand Universal adoption of the EAT-Lancet diet by 2050, a healthy, sustainable and largely plant-based diet
Climate Mitigation	Achieve the well below 2°C climate goal with biomass-based energy use limited to 100 EJ
Mix	All the above

Key results

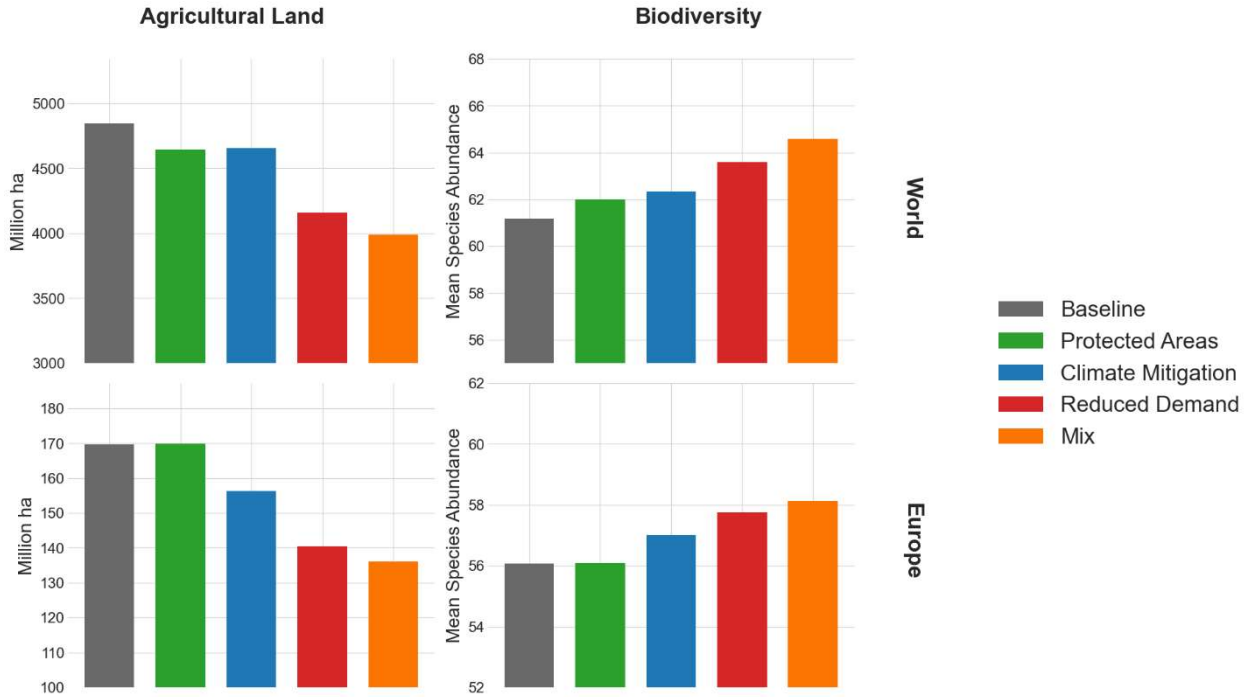

Figure 1: Global and European scenario results in 2050 for agricultural land area and biodiversity. Biodiversity is given in terms of Mean Species Abundance, an indicator of local biodiversity intactness.

The scenarios explore different aspects of protecting biodiversity and mitigating climate change (Table 1). They are implemented globally by the IMAGE integrated assessment model (Stehfest et al., 2014) coupled with the GLOBIO biodiversity model (Schipper et al., 2020). The results show that the agricultural land area in 2050 is lower than the baseline for each of the scenarios

globally, and lowest in the mix scenario that combines all the measures of the other scenarios (Figure 1). Protecting areas limits conversion of natural areas into agricultural land. In Europe, that does not have much effect, as agricultural area is not expected to increase. The implementation of climate mitigation measures reduces agricultural areas in order to increase land- based carbon sequestration, and improves biodiversity by halting climate- driven biodiversity loss. The implementation of a shift towards more plant-based food, in the reduced demand scenario, results in lower agricultural area, as less area is used to grow feed cops, and thus higher biodiversity levels. The mix scenario, which combines all the other measures, leads to the lowest agricultural area and the highest biodiversity level. The measures are shown to complement each other, by mitigating two of the largest drivers of biodiversity loss: Natural land conversion and climate change.

Comparison of the scenarios with current EU policies

Consumption: The EU acknowledges the benefits of more plant-based food consumption; however, the current measures do not constitute a comprehensive EU dietary-transition policy. The Farm to Fork strategy calls for a transition towards healthy and sustainable diets, recognising that moving to a more plant-based diet will reduce health risks and environmental impacts (European Commission, 2020b). The recently published Protein Action Plan describes the goal to increase the share of protein crops used as animal feed from 25.8% to 35% by 2035 (European Commission, 2026). The action plan also acknowledges the importance of plant-based and alternative protein sources but has no target set for this. Our scenarios identify changes in consumption patterns as a key leverage point for biodiversity conservation. In particular, they indicate that current policies can be expanded by concretely supporting a transition towards more plant-based diets.

Protected areas: The EU Biodiversity Strategy contains targets to protect 30% of EU land by 2030, with one third of the protected areas under strict protection (European Commission, 2021). The legally binding Nature Restoration Regulation complements this framework by establishing binding obligations to restore degraded ecosystems, but its current coverage remains below the 2030 targets (European Commission, 2025). Our scenarios show that protecting areas through preventing land use change improves biodiversity globally, but that combining it with other measures leads to stronger outcomes.

Energy: Under the European Climate Law, the EU must achieve net-zero greenhouse-gas emissions by 2050 (European Commission, 2020a). The law supports the EU's contribution to the Paris Agreement's temperature objectives. Our scenarios show that stringent climate policy itself leads to better outcomes for biodiversity.

Benefits beyond biodiversity conservation

Health:

- Reducing greenhouse-gas emissions will improve public health by lowering exposure to air pollution and supporting cleaner transport and energy systems (World Health Organization, 2025).
- A well-balanced, largely plant-based diet can reduce the chances of health risks such as cardiovascular disease and cancer (World Health Organization Regional Office for Europe, 2021).

Security:

- A diet consisting of mainly plant-based ingredients and therefore reducing dependence on animal-based protein could reduce Europe's reliance on imported feed and strengthen Europe's self-sufficiency (European Environment Agency, 2026).
- The transition to renewable energy required for mitigating climate change can strengthen Europe's energy security by reducing dependence on imported fossil fuels (European Commission, 2022).

Resilience:

- Conserving and restoring biodiversity leads to healthier ecosystems that can protect people from environmental shocks by reducing flood risk, retaining water during droughts and

moderating extreme heat (European Environment Agency, 2024).

Recommendations

1. **Addressing biodiversity loss requires an integrated approach that combines measures across relevant policy areas.**

The effectiveness of this approach will depend on the scope and level of ambition of the measures adopted. Measures with a high level of ambition will be more successful in achieving positive outcomes for biodiversity.

2. **Agricultural land use is a major driver of biodiversity loss.**

Reducing the amount of land required for biomass production would ease pressure on ecosystems and support biodiversity protection and restoration. Since the consumption of animal products accounts for a substantial share of agricultural land demand – both directly through grazing and indirectly through feed production – dietary and food-system measures should be treated as a key leverage point for reducing land use and improving biodiversity outcomes. As current EU policies already acknowledge the importance of this, the next step should be to translate that recognition into clear and measurable targets.

3. **Climate change is an important driver of biodiversity loss.**

Measures to mitigate climate change should therefore form an integral part of strategies to protect and restore biodiversity.

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