

Nature Capital: Biodiversity in Forest Investment Strategies

The global economy has been working on climate-related risks, opportunities, and impact areas with variable success and an uneven focus over the past decade. In parts of the economy this work has been urgent, while in others less so, fluctuating alongside other urgent themes like geopolitical confrontation, AI, supply chain issues, tariffs, and numerous other topics. The science for the climate is there - we know that greenhouse gas emissions are a culprit, these need to be measured, targets need to be set, and emissions reduced.

In the background though, a much more complex theme has been brewing and not yet reached the same level of attention: our impact on nature, biodiversity loss, ecosystem change and the risks, opportunities, and impact areas that touch our daily lives and investments. As an asset class, forests are a natural go-to place to investigate this system in more depth. On the same hectare, timber raw material is produced alongside carbon sequestration, habitats for species, health and well being benefits, air purification, water regulation, and raw materials for the pharmaceutical industry. Sounds too good to be true? Yes, in practice this renewable commodity is a complex system of dependencies, where both positive and negative impacts can occur. Through this paper, we aim to break down how nature and biodiversity can be integrated as part of the forest investment process and asset lifecycle.



Portfolio Managers Anniina Kostilainen and Teemu Silmu

FORESTS AS MULTI-FUNCTIONAL NATURAL CAPITAL ASSETS

Forest investments differ from most other asset classes in that they are inherently embedded in natural systems and can deliver far more than simply timber and carbon sequestration. For forest investors with long investment horizons, biodiversity is not an external constraint, but an integral component of sustainable value creation. Unlike many other sectors where environmental outcomes are externalities to be managed, in forestry, ecological processes are fundamental for growth and quality of the asset. While forestry involves extracting timber, commercial and biodiversity objectives are not inherently in conflict, provided that forest management is designed with ecological context, structural diversity, clearly defined impact objectives and long-time horizons in mind.

WHAT SHOULD AND CAN BE MEASURED?

In general, at the core of the challenge with biodiversity and investments is the question of how to measure nature and its related risks, opportunities, and impacts. After all, “you cannot manage what you don’t measure” is the age old saying that tends to be applied in responsible investment contexts. We have observed the evolution of different measurement approaches, and would categorise them as follows:

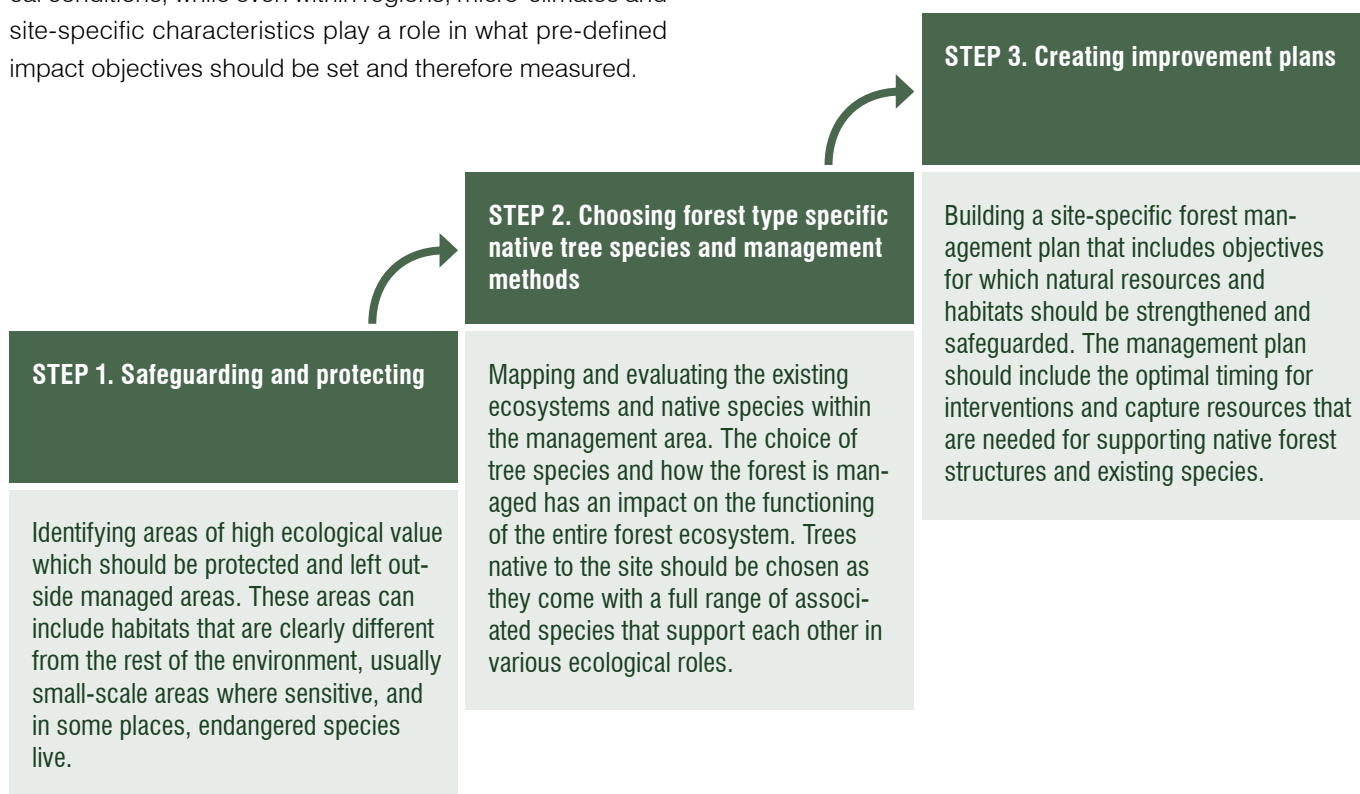
Nature 1.0 – Management and policy focus. Historically, nature frameworks have focused on capturing operational aspects of forest management. Similar to traditional ESG data products, this approach served as a natural starting point because operational inputs are easier to measure and data on companies’ practices is more readily available: the activities, policies, and commitments that forest management companies have in place on the ground can easily accessed through dialogue and company reports. It follows that ‘performance’ is assessed on how forests are managed, rather than measuring the impact that these management practices have on nature.

Nature 2.0 – Impact investment. Alongside the evolution of responsible investment, impact investment frameworks have found their way to forests too. Nature 2.0 moves further, and aims to capture the baseline state of nature, designing site-specific interventions, and then measuring and monitoring how nature evolves as a result over the long term. The challenge lies in sensible measurement of thousands of animal and plant species, their habitats, their distribution and how they interact, support, and rely on each other. To date, metrics for fully measuring this complex system are in their infancy. Instead, proxy indicators have emerged that capture nature-related characteristics of specific forest sites. These indicators are based on evidence that certain forest characteristics are important for particular species and species groups to thrive. Indicators measure the availability and quality of these characteristics. Importantly, which indicators are used need to account for the local context: biodiversity in boreal forests looks very different from temperate and tropical conditions, while even within regions, micro-climates and site-specific characteristics play a role in what pre-defined impact objectives should be set and therefore measured.

THE FOREST IMPACT INVESTMENT SYSTEM

As we have hinted, biodiversity in forests is primarily determined by the availability and quality of habitats. Species respond to structural features of the forest ecosystem, which means that the resources that exist in the forest should be optimised so that these structural features can be improved towards each site's natural state, while forests are being used for commercial purposes.

Therefore, even though we have common metrics that can be tracked across sites, forest management plans cannot be copy-pasted from one site to another. Rather, each specific site needs to be assessed for its own qualities as a first step, after which targeted management actions to improve biodiversity can be created. We structure this process in three distinct steps:



Each step in the process above is necessary for improving biodiversity in commercial forests. Without protecting areas of high ecological value (Step 1), the biodiversity of the whole site may be jeopardised and the impact on ecosystem functions can be negative. Protection ensures immediate benefits for specialised species. Assessing the existing forest ecosystem (Step 2) unlocks the ability to choose suitable management methods and tree species that are native to the site, which then allows for existence of species that have adapted to live in close interaction with them. Some species

are strictly dependent on a single tree species, and some of these organisms are crucial for ecosystem functioning (e.g., mycorrhizal fungi that live in symbiosis with trees). Targeted management actions (Step 3) further support biodiversity by shaping healthier forest structures and encouraging growth. This can include increasing the amount and diversity of deadwood which creates habitats for fungi, insects, and cavity-nesting species. The location, scale, timing, and quality of implementation all determine the magnitude of impact.

Beyond the three practical steps above that guide our work in practice, our forest and ESG teams at United Bankers have created a “Theory of Change” impact model that fur-

ther details the actions we take, their intended outcomes, and the wider impacts that our forest investments contribute to. This framework directs our activities and allows us to

better capture and communicate the impact of forest investments:

UNITED BANKERS’ FOREST IMPACT MODEL

IMPACT THEMES:

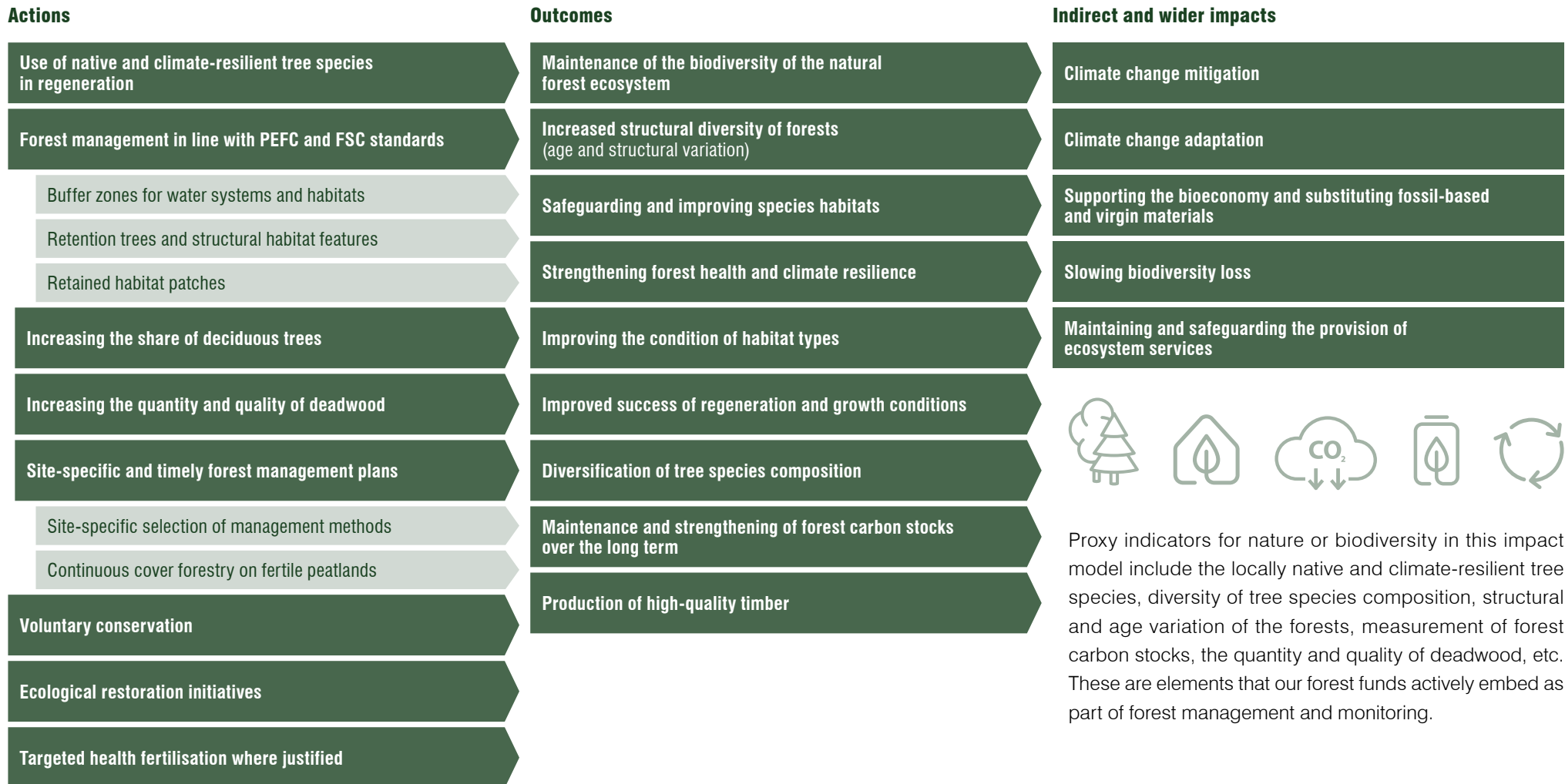
CLIMATE CHANGE MITIGATION

IMPROVED BIODIVERSITY

CLIMATE RESILIENCE AND ADAPTATION

INCREASED TIMBER SUPPLY

IMPACT PATHWAY:



Proxy indicators for nature or biodiversity in this impact model include the locally native and climate-resilient tree species, diversity of tree species composition, structural and age variation of the forests, measurement of forest carbon stocks, the quantity and quality of deadwood, etc. These are elements that our forest funds actively embed as part of forest management and monitoring.

WORKING WITH NATURE OVER THE LONG TERM

It is important to also consider that species respond to actions targeting structural forest features at different timescales. Some measures affect species almost immediately after implementation, whereas the positive effects of other measures become visible only after years or decades. For example, protecting a valuable habitat immediately benefits the species associated with it while habitats change over time, and the species living in them change accordingly.

Maintaining and enhancing forest biodiversity also requires action at both the stand and landscape levels. While both levels are essential, biodiversity outcomes emerge from the combined contribution of different stands and how they interact across the landscape rather than from each stand delivering all objectives simultaneously.



The role of deadwood in the asset lifecycle

Species dependent on deadwood can be supported by conserving existing deadwood during forest management operations, creating artificial snags, and ensuring the future formation of deadwood by leaving retention trees (a healthy or dead tree left permanently standing in a forest after clearcutting or felling). The amount and quality of deadwood are important factors to take into account in order for these to be effective. For example, the fungus harjaskäppä thrives on aspen retention trees in the early stages of decay. In contrast, increasing habitats required by species dependent on dead standing pine trees takes a long time, as the process of pine trees becoming dead standing snags and decaying on the forest floor can take hundreds of years.

It is estimated that at least half of the threatened and near-threatened species of boreal heath forests can survive in managed forests of different ages if sufficient key structural features, old living and dead trees, are available. Some species, however, only thrive if there is old-growth forest in their surroundings while others require 'untouched' habitats. This requirement by nature is why United Bankers' forest funds contain targets for both protecting ecologically valuable areas and increasing the structural features of managed forests.

This complex system of dependencies in forests should be integrated into the investment decision making process and forest management plans during ownership phase. Importantly, the forest lifecycle extends across decades and can be much longer than the investment lifecycle of a fund. This makes responsible exits also a key aspect of forest fund management. United Bankers discusses important biodiversity features of sites together with potential buyers during the selling process to both share information and get an understanding of continued site management plans. After all, stronger, healthier natural systems support overall forest resilience to shocks over the long term (e.g., storms, insects, or other climate change related events) and contributes to growth, which benefits future owners and ultimately delivers both investment returns and returns to nature.

SOCIAL DIMENSIONS

Beyond the impact logic for biodiversity above, United Bankers' forest investments in Finland also carry unique learnings from a social impact angle.

Our shared experience of public access rights (Everyone's Right) is rooted in commercial forests. In practice, this means everyone has the right to roam and forage in private and public forests. In fact, Finnish forests deliver over 3 billion kilograms of edible mushrooms and berries per year, which are accessible for everyone irrespective of ownership. This has fostered a strong connection and respect among the general population towards nature. A resilient and diverse natural environment is understood to be essential for safeguarding the foundations of human well-being, society, and the economy. This creates a strong societal connection to forest landscapes and underpins public legitimacy for commercial forestry. A resilient and biodiverse forest environment supports not only ecological health but also the human experience in nature, well-being, and cultural identity.

WHAT IS NEXT?

Forest investments offer a unique opportunity to find alignment between financial return and the impact on nature. As a forest investor, we hold the privilege and responsibility to steward our fund's forest ecosystems with care and for the long term. All human activity involves some degree of natural resource use, but optimising these activities narrowly for a single outcome can undermine other linked outcomes, jeopardising long term value, resilience, and risk-adjusted returns. Therefore, we have the responsibility to design our forest activities to account for each forest's ecosystem for the long term. Setting pre-defined impact objectives allows for more thoughtful, structured, and measurable actions, and means learnings also can be shared with the wider industry.

Given the long-term nature of forest investments, it takes time to realise the impact objectives that our forest funds seek to deliver. Nevertheless, we measure, monitor and report on these proxy indicators and continue to seek ways in which our biodiversity measurements can be improved. Active engagement with academia, industry organisations, forest management companies, and other stakeholders is crucial for advancing the conversation around nature as an investable asset class. What excites us is to be able to play an active part in how these frameworks evolve and to deliver our clients with financial returns that are supported by positive outcomes for nature.



Anniina Kostilainen
Head of Forest Sustainability,
Portfolio Manager



Christina Rehnberg
Head of ESG and Impact

ABOUT THE AUTHORS: United Bankers is a leading Nordic real asset manager who specialise in forest, real estate and infrastructure funds. Through their funds they are the fourth largest private forest owner in Finland. Their buy-and-build investment strategy complements how forests tend to be owned in the region. Timberland properties are generally small, allowing clusters of properties to be developed strategically in local areas. These clusters build economies of scale and improve cost efficiencies. United Bankers was founded in 1986 and comprise of about 200 experts. The company is listed on the Nasdaq Helsinki Stock Exchange. To find out more, please visit unitedbankers.com.