

Unlocking natural capital value

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Institutional investors seeking resilient, future-ready portfolios are turning to timberland and farmland—strategic assets that combine climate resilience, biodiversity, and long-term value creation. Backed by four decades of global expertise, Manulife Investment Management delivers competitive returns while monetizing ecosystem services through carbon projects, water stewardship, pollinator programs, and mitigation banking. These assets have consistently outperformed on a risk-adjusted basis (Sharpe ratios: farmland 1.20, timberland 0.86 vs. S&P 500 0.51 and commercial real estate 0.59), underscoring resilience through market cycles.

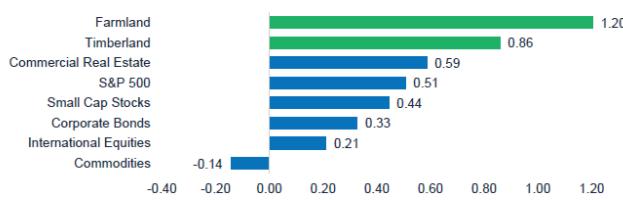
Why timberland and farmland now?

As the global economy transitions in response to climate change and biodiversity loss, timberland and farmland have become essential platforms for climate action and portfolio diversification. They offer enduring fundamentals—steady income, diversification, and inflation protection—while benefiting from new tailwinds such as decarbonization and growing demand for nature-based solutions. Managed effectively, they deliver additional alpha through ecosystem services such as carbon sequestration, water stewardship, and renewable energy integration.

Performance data underscores their resilience: over the past two decades, farmland and timberland have outperformed traditional asset classes on a risk-adjusted basis, with Sharpe ratios of 1.20 and 0.86, compared to 0.51 for the S&P 500 and 0.59 for commercial real estate (NCREIF Indexes, 2005–2024). Regulatory shifts—including conservation funding, stricter land-use rules, and carbon market development—combined with investor demand for measurable impact, are expanding the investable universe and reinforcing long-term value.

Non-timber revenue reached 19% of U.S. total revenue, up from 8.6% in 2017. New programs like pine straw raking and biochar production create scalable, long-term income streams, while expanded recreation

Sharpe ratios by asset class (2005–2024)



licensing delivered \$2.7M in new revenue.

Regenerative returns: expanding natural capital value

While these fundamentals make timberland and farmland compelling, their true potential lies in how they're managed. At Manulife Investment Management, our integrated stewardship model and Value-Added Services (VAS) platform transform these assets into dynamic systems that generate value beyond traditional production. By monetizing ecosystem

services—such as carbon credits, water solutions, pollinator programs, and renewable energy leases—we create new revenue streams while enhancing ecological health and portfolio resilience. The following case studies demonstrate how these strategies deliver measurable impact and scalable outcomes for investors and the environment.

Natural capital in action

Case study: scaling timberland for climate impact

Scale, biodiversity, and carbon strategy can compound returns in timberland.

Issue

Institutional investors increasingly seek timberland assets that deliver strong financial returns while advancing climate-positive strategies. Achieving these objectives requires large, diverse tracts that support sustainable production and enhance ecosystem resilience.

Action

We acquired and managed extensive timberland holdings with significant hardwood presence to boost biodiversity and productivity. To unlock additional value, we launched three ACR IFM 2.1 carbon projects, projected to generate approximately 6 million removal-based credits over 20 years, positioning clients to benefit from growing voluntary and compliance carbon markets.

Outcomes

- Financial:** long-term carbon credit generation creates new revenue streams and strengthens portfolio resilience
- Environmental:** combines timber value with forward-looking carbon strategies, advancing climate and biodiversity goals
- Strategic:** demonstrates leadership in scale, sustainability, and innovation within timberland investing

Beyond its scale, Project Linstock includes islands along the Mississippi River, creating one of the most intact ecosystems in the southern United States. Seasonal flooding constrains logging windows and access, but the high-integrity habitat supports wildlife, biodiversity, and high-quality carbon outcomes—reinforcing long-term asset value.

Case study: recharge basin initiative – Central California

Proactive water management can reduce costs, secure supply, and meet regulatory goals—while enhancing biodiversity.

Issue

California's Central Valley faces mounting water challenges: prolonged droughts, stricter groundwater regulations, and increased flood risks during wet years. For institutional investors, these pressures threaten crop productivity, increase operational costs, and jeopardize long-term asset resilience.

Action

We implemented a large-scale regenerative groundwater recharge program to replenish aquifers and mitigate flood risk. Leveraging our scale and integrated property management expertise, we built a network of recharge basins—starting with ~350 acres in 2015 and expanding by ~150 acres in 2017. By flooding designated areas to allow water to percolate into underground aquifers, we improved water security, reduced pumping costs, and strengthened long-term resource health. We then shared benefits and lessons learned with surrounding



Source: Manulife IM, 2024. For illustrative purposes only.

water districts, extending regenerative practices across the region.

Outcome

- **91,000 acre-feet of water recharged** since 2017, securing supply for ~13,000 acres of almonds and pistachios
- **~\$165 acre/feet in power cost savings** and reduced pumping costs
- compliance with California's **Sustainable Groundwater Management Act (SGMA)** and potential recharge credits

Beyond financial and regulatory gains, the project raised water tables, alleviated flooding, and created bee-friendly habitats for pollinator restoration—demonstrating how innovative water solutions enhance asset resilience and deliver measurable value for investors.

Case study: enhancing timber and agriculture performance through pollinator integration

Pollinator programs can diversify revenue, improve yields, and strengthen ecosystems—at timber and farm scale.

Issue

Pollinators are essential to ecosystem health, supporting the reproduction of 85% of the world's flowering plants—including two-thirds of global crops. For investors, this biodiversity support is critical to sustaining long-term productivity. At the same time, diversification beyond traditional timber and crop sales is increasingly important to reduce risk and unlock new revenue streams.

Action

We implemented a comprehensive pollinator strategy across our timberland and agricultural properties:

- **18,000 hives** placed on timberland sites in Louisiana, Texas, and Florida
- hundreds of acres of pollinator habitat planted on farms in California, Washington, and Wisconsin
- to ensure best practices and certification standards, we partnered with the Pollinator Partnership to identify and enhance pollinator health and habitat across our portfolio.

Outcome

This initiative delivered measurable financial and ecological benefits:

- **revenue impact:** direct income from hive leasing and improved crop yields
- **scalability:** each designated timber site hosts 200–300 hives, creating a replicable model for expansion
- **certification:** achieved Bee-Friendly Certification on a California almond and pistachio property, reinforcing sustainability leadership
- **ecological gains:** expanded habitats improved biodiversity and ecosystem resilience

By integrating pollinator programs into timberland and agricultural operations, we strengthened ecosystem resilience, diversified revenue streams, and advanced regenerative objectives—creating long-term value for investors and the environment.

Innovation and scalability

Our strategies are designed for innovation and scalability, delivering value across diverse geographies and asset types. Examples include:

- **Pollinator program:** Implemented across timberland in Louisiana, Texas, and Florida, and farmland in California, Washington, and Wisconsin—demonstrating how ecological enhancements and revenue diversification can scale efficiently.
- **Groundwater recharge initiative:** Large-scale water management in California's Central Valley delivering cost savings, regulatory compliance, and ecological benefits.

By leveraging data-driven insights, strategic partnerships, and certification standards, we aim to deliver strong financial performance while advancing nature-positive outcomes—helping to position Manulife Investment Management as a leader in nature-based investment solutions.

Five themes shaping the future of natural capital investing

As markets adapt to the global transition driven by climate change and biodiversity loss, investors face a complex landscape of change. To navigate this shift, we've identified five core investment themes that reflect the scale and diversity of opportunities across global capital markets—informing our approach to regenerative agriculture, carbon-focused forestry, conservation partnerships, and renewable energy integration. Timberland and farmland stand as complementary pillars of a strategy built for resilience and long-term growth.

Creating value through sustainable natural capital management

Timberland and farmland have moved beyond traditional production to become strategic platforms for resilience and long-term value creation. The case studies above demonstrate how monetizing ecosystem services—from carbon to water to pollinators—can diversify income, reduce risk, and strengthen portfolios. With the scale and operational depth to execute, Manulife Investment Management provides investors with competitive returns and measurable impact, supporting the transition to a nature-positive economy.



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