

**2024**

# Sustainability Report





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Photographs throughout this report were taken at Nuveen Natural Capital properties.

This report contains interactive elements such as navigation and global and regional maps. Please download the document and open it in Adobe Acrobat for the optimal reading experience. If you don't have Adobe Acrobat, you can download it here for free:



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# Message from our Global Head



**Martin Davies**  
*Global Head of  
Nuveen Natural Capital*

Nuveen Natural Capital's 2024 Sustainability Report continues our commitment to showcase sustainability activities across Nature, Climate, People in our managed global farmland, timberland and environmental restoration operations.

## Interconnected challenges require interconnected solutions

There is increasing recognition that urgent challenges facing the global food, fiber and timber value chains are deeply interconnected. The connections are evidenced by scientific research<sup>1</sup>:

- *Climate change impacts* – record global temperatures and extreme weather events threaten biodiversity and crop production
- *Biodiversity loss* – steep declines in wild animal and insect species increase climate vulnerability and affect production
- *Unsustainable production* – outdated practices can contribute to climate change and biodiversity loss, use inputs inefficiently and fail to support ambitious production needs to meet population growth

Together, we must develop a joined-up approach to address these interconnected challenges. This is why Nuveen Natural Capital is investing and innovating to advance our Nature, Climate, People sustainability strategy.

## Holistic approach in action

Our holistic land management approach strives to avoid unintended consequences that may arise from a narrowly focused pursuit of one goal.

One example of this holistic approach in action is our Nature-Positive Farming Program in Europe. Created in partnership with our farming tenants, this initiative seeks to make farming practices more resilient climatically, environmentally and socially, while also making the tenants' businesses more financially sustainable. Similar examples of our teams' application of our holistic Nature, Climate, People approach appear throughout this Sustainability Report.

Overcoming the world's interconnected challenges requires delivery that is both urgent and transparent. As we move forward, Nuveen Natural Capital will contribute to interconnected solutions by leveraging our three decades of land-based investing experience. We intend to invest globally in nature-based climate solutions while sustainably managing our existing farmland and timberland assets.

As we accelerate improvements in soil, water, biodiversity, climate and communities – across 3 million acres, 50+ crop types and 15+ timber species – we will continue to be guided by our values, sound business principles and the spirit of partnership that strengthens everything we do.

# Message from our Head of Sustainability



**Cristina Hastings Newsome**  
*Head of Sustainability*

Nuveen Natural Capital continues to refine its sustainability approach by innovating with our partners, upgrading our data capture, and improving the measurement of on-the-ground practices to increasingly reflect outcomes.

## Measuring externalities from production

Increasingly, leaders in our industry are acknowledging the interconnected challenges of nature, climate and production, as well as the need for similarly interconnected solutions.

For example, it is insufficient to only calculate the efficiency of agricultural production using traditional financial tools. The hidden costs of the wider food chain have been estimated at \$12.7 trillion,<sup>2</sup> when factoring in various environmental, nutritional and social externalities.

Emerging global standards and tools are helping us more ably measure and manage these externalities and, ultimately, improve outcomes. For example, Nuveen Natural Capital is integrating each of these frameworks and concepts into our sustainability process:

1. *The GHG Protocol Land Sector and Removals Guidance* – helps to standardize accounting for emissions and removals, using separate ledgers.
2. *Taskforce on Nature-related Financial Disclosures* – supports integration of nature into business decision-making and clearer reporting on outcomes.
3. *Natural Capital Accounting Standards* – enable us to better measure the ecosystem services our natural assets provide. Better measurement can lead to better management and long-term resilience of the assets.

## Values guide us along our journey

As we progress on our sustainability journey, we are guided by values of humility, collaboration, and pragmatism.

- Humility refers to our desire to continuously improve: to disclose what we do and don't know, to clearly state assumptions, and to explain next steps for improving. It also describes our commitment to revisiting our initial assumptions as new standards evolve.
- Collaboration captures our commitment to working with a diverse range of partners. This means resisting the impulse to operate in an echo chamber, collaborating only with like-minded people in businesses that resemble our own. The better approach is to seek out a range of collaborating partners, including non-governmental organizations (NGOs). This diversity of perspective, as with many other kinds of diversity (including in nature itself), may help to build better outcomes and bolster resilience.
- Pragmatism entails being realistic and honest about what we can achieve, while keeping an eye on materiality so we activate the largest levers to maximize impact.

Upholding these values will be critical in the years ahead, given the challenges and opportunities in the wider natural capital value chain. Nuveen Natural Capital's 2024 Sustainability Report brings these values to life through profiling our strategy and activities, and spotlighting the extensive work being done by our teams globally across Nature, Climate and People.



# Company profile

Nuveen is the global asset management arm of TIAA. Nuveen manages \$1.2 trillion in assets across fixed income, equities, alternatives and solutions-based strategies for over 1,300 institutional clients in 32 countries worldwide.\*

Nuveen Natural Capital is Nuveen's land-focused investment manager. We provide investors access to global farmland and timberland opportunities with \$13.7 billion of assets under management\* across diverse geographies, crop and tree species, environmental markets, and operating strategies. With over 37 years of investment experience and more than 220+ employees globally, the platform offers extensive geographic reach combined with deep sector expertise.

\* As of December 2023 in US\$

† Data not gathered for assets under disposition

‡ Note that such certifications or standards are primarily a function of supply-chain demand, and that crops going directly into the food value chain (as opposed to feed) tend to have higher supply-chain requirements for certification

## Nuveen Natural Capital

**220+**  
employees

**600+**  
properties across  
10 countries

**97%**  
Timberland portfolio  
covered by third-party  
standards†

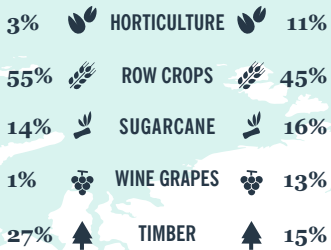
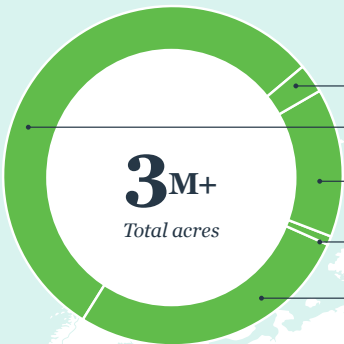
**63%**  
Farmland portfolio  
covered by third-party  
standards‡

# TOTAL PORTFOLIO

(as of December 2023 in US\$)



For more detailed crop information,  
please visit the interactive Farmland  
Transparency Map on [nuveen.com](https://nuveen.com)



ENVIRONMENTAL RESTORATION  
36K+ ACRES AND  
\$142M UNDER ADVICE

OFFICE GENDER DISTRIBUTION:



26% \$6.9B  
OF TOTAL ACRES (794,055) AUM (51%)

<1% \$0.15B  
OF TOTAL ACRES (16,594) AUM (1%)

2% \$0.02B  
OF TOTAL ACRES (60,090) AUM (<1%)

<1% \$0.16B  
OF TOTAL ACRES (6,941) AUM (1%)



33% \$3.6B  
OF TOTAL ACRES (1,001,294) AUM (26%)



4% \$0.68B  
OF TOTAL ACRES (114,850) AUM (5%)

2% \$0.25B  
OF TOTAL ACRES (71,911) AUM (2%)



29% \$1.8B  
OF TOTAL ACRES (864,368) AUM (13%)



<1% \$0.01B  
OF TOTAL ACRES (677) AUM (<1%)

## HORTICULTURE

Almonds, apples, avocados, blueberries, cherries, hazelnuts, lemons, macadamias, mandarins, navels, pears, pistachios, plums, pomegranates, prunes, raisins, table grapes, and walnuts

## ROW CROPS

Barley, beans, blackberries, broccoli, brussels sprouts, cabbage, carrots, chickpeas, corn, cotton, cucumber, kale, lucerne, lupins, millet, mint, oats, onions, peanuts, peas, peppers, potatoes, pumpkins, rapeseed, raspberries, rice, ryegrass, sesame, sod, sorghum, soybeans, squash, strawberries, sugar beet, sunflower, tomatoes, watermelons, and wheat

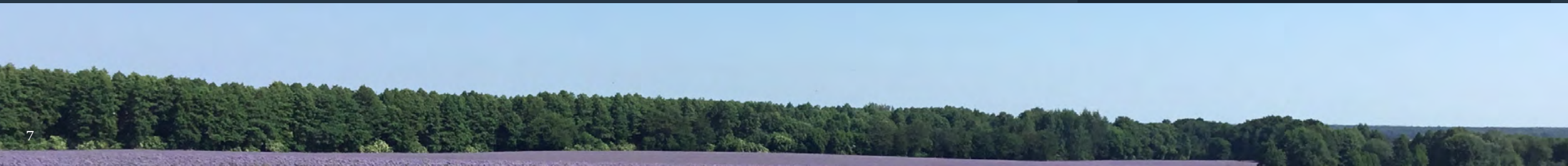
## TIMBER

Douglas fir, eucalyptus, fine hardwoods, gmelina, khaya, loblolly pine, lodgepole pine, longleaf and shortleaf pine, ponderosa pine, poplar, red alder, red ceiba, Sitka spruce, teak, western hemlock, western, red cedar pine, and willow

Note: Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.



# Sustainability strategy and approach

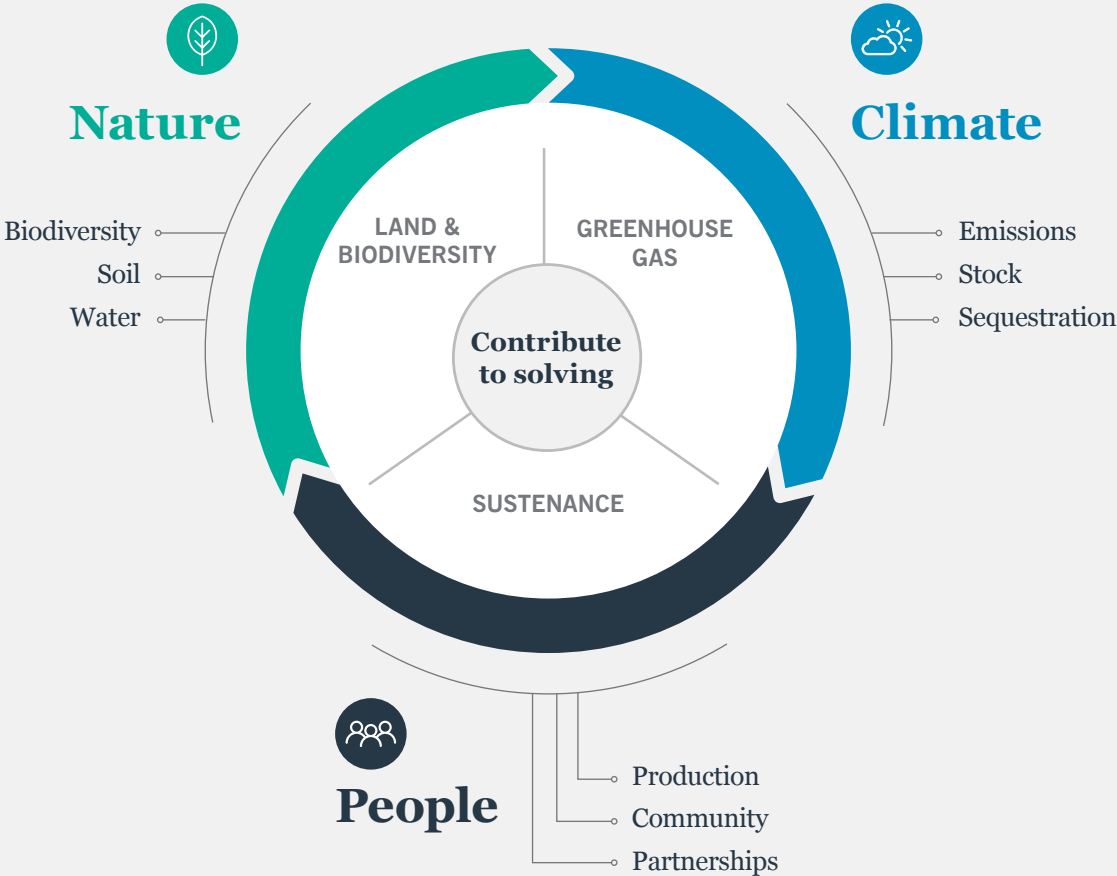


# Sustainability strategy

Nuveen Natural Capital's holistic sustainability strategy is built upon experience and insights gained during three decades of land-based investment in regions across the world.

The strategy – Nature, Climate, People – outlines how we seek to advance important global goals to: enhance ecosystem services; address greenhouse gas emissions; and provide people with vital sustenance, including food, timber and fiber.

This approach strives to enhance productivity and environmental benefits for both agriculture and timberland over the long term.

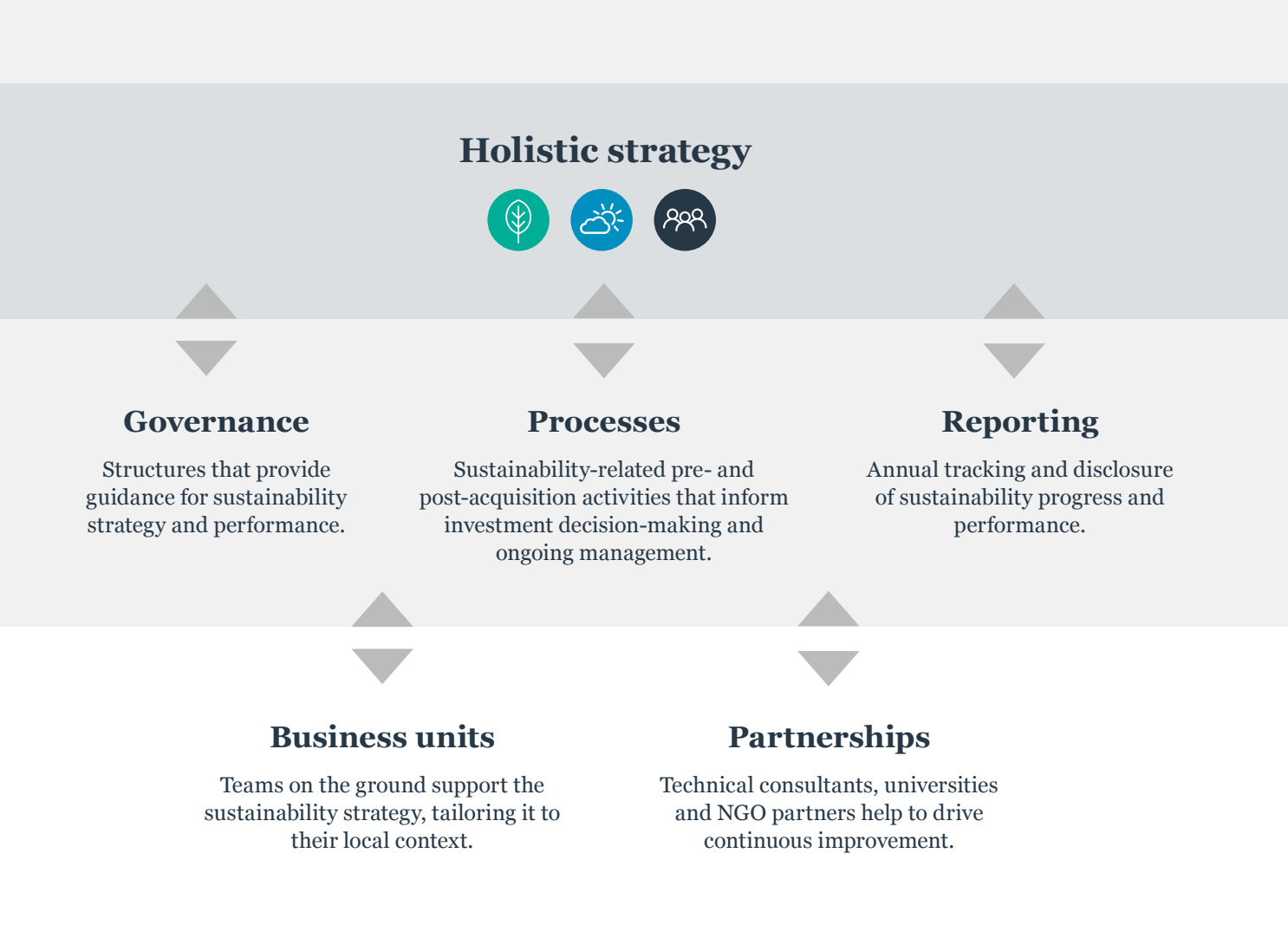




# Supporting architecture

Nuveen Natural Capital has a structure for integrating sustainability into our processes as well as a framework for monitoring and reporting progress. This structure includes an ESG representative across all major functions and business units, and a Sustainability vote on the Global Investment committees. It also includes public-facing *principles* and a *zero-deforestation policy*.

We are informed by sustainability standards relevant to our industry and look to external partners to continuously improve. Ultimately, the teams on the ground are the operational experts: they strive to innovate and implement practices that are appropriate to local soil, water and climatic conditions.



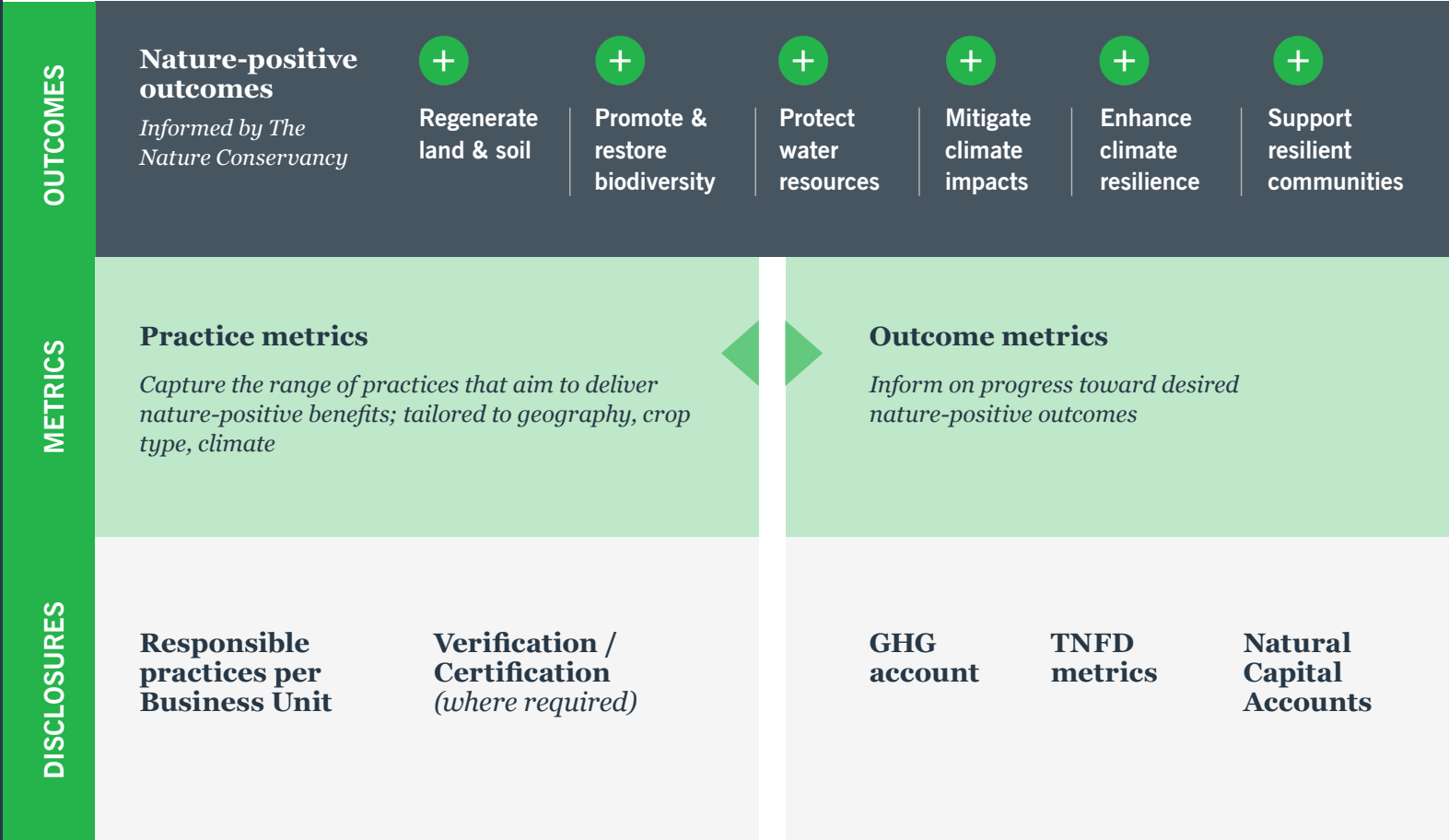


# Monitoring and reporting framework

In the spirit of continuous improvement, we are enhancing how we monitor our sustainability progress and our attempts to make a positive contribution to global goals involving Nature, Climate and People.

Our measurement framework is evolving to include metrics for monitoring both practices and desired outcomes that align with achieving nature-positive goals. Our holistic view seeks to avoid the unintended consequences of favoring certain outcomes or practices over others.

In this report, we disclose responsible practices as informed by the nature-positive approach developed with The Nature Conservancy. Additionally, we continue to report greenhouse gas (GHG) accounts and expand Natural Capital Accounts. Also, for the first time, we share our progress against a subset of the core and sector metrics established by the Taskforce on Nature-related Financial Disclosures (TNFD).





TIMELINE

2012 to 2017

- First Sustainability Report published
- First Sustainability KPIs reported, in alignment with UN PRI for Farmland
- ESG Advisory Council created
- ESG audits established in Brazil
- Code of Conduct launched in Brazil
- First Farmland Transparency Map

2012  
770K  
ACRES  
under farmland  
management

34K  
ACRES  
under timberland  
management

2018 to 2020

- Zero Deforestation Policy published for Brazil
- Published first carbon removals data for timberland
- Farmland ESG Committee established
- Social assessments in place for emerging markets
- CSR program launched
- ESG Framework v.1 in place
- Leading Harvest launched
- First greenhouse gas (GHG) emissions estimates published for farmland

2021 to 2022

- Nature, Climate, People strategy published
- Upgraded transparency resources
- Nuveen Natural Capital formed, unifying farmland and timberland businesses
- Natural capital balance sheet published for a farmland property
- New global collaborations initiated
- Piloted the GHG Protocol’s Land Sector and Removals Guidance
- Global Sustainability Policy launched, including upgraded zero deforestation commitment for material regions

2023

- Reported on responsible practices KPIs per business unit
- Piloted natural capital asset register and our first top-down biodiversity mapping
- Published natural capital balance sheet for a timberland property
- Upgraded GHG emissions methodology, including timberland emissions
- Published our first carbon removals data for farmland
- Piloted Taskforce on Nature-related Financial Disclosures (TNFD) for timberland

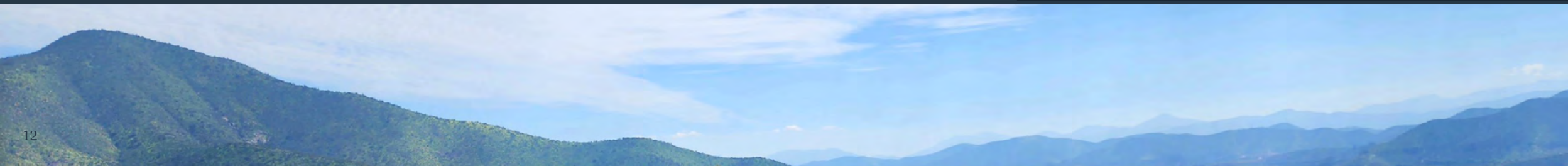
2023  
3M+  
ACRES  
combined under  
management

2024

- Publish natural capital asset register for portfolio
- Further integrate leading standards into our reporting: GHG Protocol’s Land Sector and Removals Guidance, TNFD, and natural capital accounting
- Develop emissions-reduction roadmap
- Expand monitoring of outcomes and implementation of nature-positive practices



# Nature







# Our approach

We understand the importance of responsible stewardship of natural capital. This includes productive land for generating food, timber and fiber, as well as supporting land, comprising native vegetation, watercourses, and other natural habitats.

We seek to promote nature-positive practices that consider biodiversity, water, land and soils. As part of this, we endeavor to better quantify the outcomes from our activities, utilizing global standards such as TNFD and natural capital accounting.



## In this report

This year we present our completed land classification results, which detail our natural capital asset register across our portfolio. Alongside this, we profile and analyze outputs from the second natural capital account developed for a timberland property.

We also summarize our top-down and bottom-up activities to assess and manage our footprint on biodiversity, water and soils.

We share what we have learned so far from piloting the TNFD’s LEAP approach to assess a timberland property. We also provide an overview of our current alignment with TNFD’s core and sector metrics.



## Looking forward

- Continue to expand natural capital accounting across our portfolio to better quantify and value the ecosystem benefits our assets provide
- Further integrate leading standards, including TNFD, into our reporting
- Improve how we monitor practices and nature-related outcomes



# Measuring and managing our footprint on nature

We adopt top-down and bottom-up activities, where appropriate, to help measure and manage our footprint on biodiversity, water and soils. These activities may vary based on geography and operating strategy. Here are some examples.

## Top-down activities

### Biodiversity risk assessment

*Pre-acquisition assessment of material properties*

### Satellite imagery

*Classification of productive and supporting areas by land cover type*

### Asset register

*Overview of the extent of natural capital on properties. Results on [page 16](#)*

### Natural capital account

*Estimate of the value of ecosystem services from natural assets. Timberland example [starting page 17](#)*

### Taskforce on Nature-related Financial Disclosures

*Pilot of LEAP Approach on a U.S. Timberland property ([page 19](#)); first reporting on select TNFD metrics ([starting page 77](#))*

### Biodiversity baselining

*Collaboration with a leading university which is creating a biodiversity composite tool ([page 16](#))*

### Responsible Practices

*Application and tracking of practices to promote biodiversity, water efficiency and soil health ([page 35](#))*

### Water management

*Principles which govern our water management approach for specific crop types and geographies ([page 73](#))*

### Conservation

*Protection of areas of high conservation and restoration value*

### Habitat management

*Consultation with wildlife experts to inform U.S. timberland management practices*

### Biodiversity monitoring

*Mapping of existing biodiversity on material properties*

## Bottom-up activities





TOP-DOWN EXAMPLE:

## **Biodiversity baselining**

“**The Crowther Lab at ETH Zürich is developing the SEED Biocomplexity Index – a globally-standardised, holistic and high-resolution measure of the intactness of every terrestrial ecosystem on Earth. We are looking forward to the upcoming collaboration with Nuveen Natural Capital to help validate and inform their regenerative agricultural practices, and assist them with the necessary transition into a nature-positive future.**”

**Ian Brettell, PhD**  
Policy Director, ETH Zürich's Crowther Lab

BOTTOM-UP EXAMPLE:

## **Habitat management**

“**Nuveen Natural Capital and their local staff are tremendous partners for state fish and wildlife management. They are responsive to the needs and recommendations from local Oregon Department of Fish and Wildlife (ODFW) staff and often partner with ODFW on projects that benefit fish and wildlife populations and habitats, which also benefits local communities. This includes a local elk collaborative and a cooperative public access/law enforcement project. These instances highlight the positive impact their partnership has on local communities and the fish and wildlife resources that are important to Oregonians.**”

**Paul Atwood**  
District Wildlife Biologist, Oregon Department of Fish and Wildlife

# Understanding natural capital across our portfolio

Building on a pilot covering a subset of our portfolio, Nuveen Natural Capital has completed a land classification project across its portfolio.\* This land classification, which is based on satellite imagery, enables us to measure the extent and spatial configuration of a variety of natural land cover types, such as forests, grasslands, shrublands and surface water bodies.

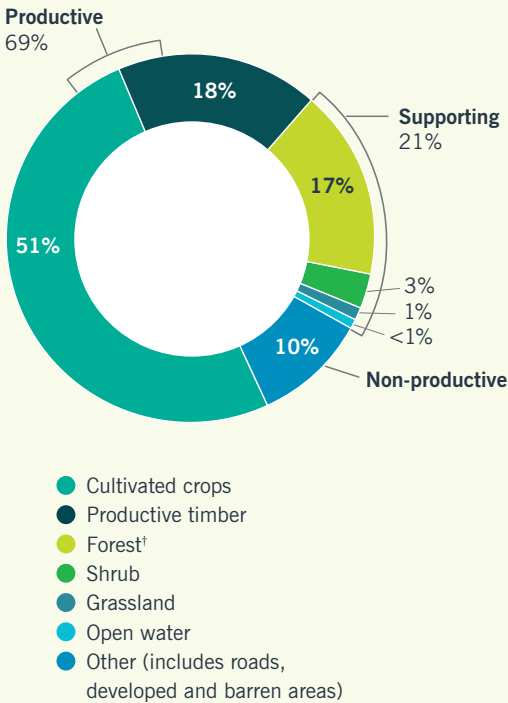
This detailed information provides the basis for our natural capital asset registers, which we use to create natural capital accounts. It also helps us identify potential areas for restoring and enhancing natural capital as well as to estimate carbon stocks in our supporting lands.

The land classification model, which has been developed with Esri, a third-party provider, is intended to be updated annually.

To complete the picture, we seek to assess the condition of our natural assets. We currently use the Integrated Biodiversity Assessment Tool (IBAT) as a proxy for assessing some elements of ecosystem health for material properties. The tool provides access to the World Database on Protected Areas, IUCN Red List of Threatened Species, and the World Database of Key Biodiversity Areas.

We are exploring other methods for understanding the condition of natural assets. In 2024, we will begin collaborating with ETH Zürich’s Crowther Lab, which through its SEED initiative is developing a standard measure of biocomplexity for any terrestrial location on the planet. This biodiversity composite tool will help us create a baseline of the biodiversity present at our assets and enable asset-level evaluation of overall ecosystem health and richness of species.

Natural capital asset register  
Area classification across global portfolio\*



“Our team is proud to support Nuveen Natural Capital in utilizing location intelligence and advanced analytics at scale to expand its natural capital accounting program across its asset portfolio globally.”

Robert Richard, PhD  
Senior Data Scientist, Esri

611K+

ACRES  
supporting land across  
global portfolio

42M+

ESTIMATED  $\tau\text{CO}_2\text{E}$   
carbon stock in supporting  
lands across portfolio

\* As of December 2023. Data not gathered for assets under disposition.  
† Forest includes deciduous high/medium carbon density, coniferous high/medium carbon density, wetlands, and riparian.



# Accounting for natural capital

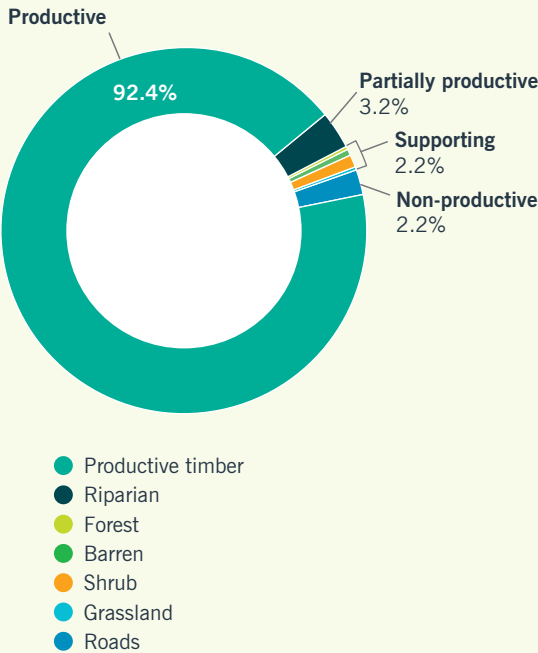
In partnership with Economics for the Environment Consultancy (eftec), Nuveen Natural Capital has continued to develop its natural capital accounting coverage in line with BSI 8632:2021 standard requirements (Natural Capital Accounting for Organizations). This work has included creating a natural capital balance sheet pilot for a second U.S. timber property (see next page), building on existing Brazilian farmland and U.S. timberland property pilots that were profiled in our 2022 and 2023 Sustainability Reports, respectively.

Our most recent pilot was conducted for a 30,276-acre timberland property in the U.S. Pacific Northwest.

By leveraging the outputs of our land classification project, we were able to generate satellite imagery data. Subsequent data analysis using geographic information systems (GIS) supported the development of a property asset register, which is an inventory of natural capital assets, including productive and supporting forest, native vegetation, and surface waters.

The natural capital asset register underpins the materiality assessment of ecosystem services provided by natural assets at the property. This register also includes a condition account, which presents a suite of environmental metrics to monitor changes in the quality of nature at the property. For example, metrics generated through IBAT enhanced our ability to recognize the important role our asset sites and surrounding areas play in providing habitat to endangered species.

**Natural capital asset register**  
30,276-acre timberland property  
in the U.S. Pacific Northwest



“ We continue to support Nuveen Natural Capital as it expands the coverage and use of natural capital accounting across its portfolio. This rapidly developing work will significantly strengthen its nature-related reporting and disclosure capabilities, as well as support improved risk management and decision-making. We will remain a close partner, ensuring that the roll-out of its natural capital accounts align to the BSI 8632:2021 standard.”

Ian Dickie  
Director, eftec

20

**ENDANGERED SPECIES**  
identified as being potentially located  
on or within 50km of the site

787K+

**ESTIMATED TC02E**  
carbon stored in productive timber  
stands across the property

# Natural capital balance sheet for a timberland asset

Natural capital balance sheets enable Nuveen Natural Capital to capture and measure a wider range of ecosystem benefits than financial reporting can reflect.



## Key takeaways


- The estimated gross value that ecosystem services provided to the wider society is four times the value provided to private landowners. By accounting for a wider range of ecosystem benefits that our natural assets deliver, we can better analyze the true impact that different practices have on natural capital values and seek to improve land management.
- Private value was derived mainly from timber production. Values for recreation were small, but only reflect benefits we are currently able to capture and monetize.
- Physical volume metrics are presented for ecosystems services where current methodologies do not support valuation of material benefits (e.g., biodiversity). We continue to build our research base to enable monetary estimates for these ecosystem services.
- Riparian habitat covers over 3% of the total property site. These areas of land, adjacent to watercourses, act as buffer zones by helping to regulate water supply and quality, protect soil quality, and reduce flood risk throughout the property.
- The financial resources committed to maintaining the asset represent about 9% of the value of ecosystem benefits that we are currently able to measure. Such comparisons help us assess how our investments can be deployed most effectively.
- A full breakdown of the methodology and assumptions that support the compilation of the estimates can be found in the appendix (see page 76).

2023 reporting year <i>Present value (US\$ millions) calculated over 25 years for the 30,276-acre timberland property</i>		Value to business	Value to society	Total value
Asset values	Timber	12.8	–	12.8
	Carbon sequestration	0	47.8	47.8
	Air quality regulation	–	0.4	0.4
	Recreation	<1	0	<1
	<b>Gross asset value</b>	<b>12.8</b>	<b>48.1</b>	<b>60.9</b>
Material non-monetized asset values		Endangered species potentially located within 50km of the site		20
	Biodiversity	Area of property covered by conservation easement		256 acres
		Number of natural springs at property		14
	Water quality	Proportion of woodland managed as riparian buffer		3%
	Soil quality			
	Flood risk management			
	Carbon (tCO2e) embedded in timber leaving property			696,320
	Liabilities	Natural capital production costs	-4.3	–
Natural capital maintenance costs		-1.0	–	-1.0
Buffer maintenance costs		-0.2	–	-0.2
<b>Total gross asset maintenance costs</b>		<b>-5.4</b>	<b>–</b>	<b>-5.4</b>
<b>Total net asset value</b>		<b>7.4</b>	<b>48.1</b>	<b>55.5</b>

Note: There can be rounding differences in the numbers in the table.

Hypothetical estimates are shown for illustrative purposes only as examples and do not represent the performance of any specific strategy or any specific investment. This information should not be used to derive or predict future performance of any investment or strategy.





# Piloting TNFD's LEAP approach

The Taskforce on Nature-related Financial Disclosures framework, complemented by the LEAP approach (Locate, Evaluate, Assess, Prepare), provides tools to help businesses understand the connections between their activities and nature.

LEAP is a four-step integrated assessment approach that involves locating interfaces with nature, evaluating dependencies and impacts, assessing risks and opportunities, and preparing to respond and report.

In 2023, Nuveen Natural Capital piloted the proposed LEAP approach on a U.S. timberland property, with a focus on direct operations. Our goal was to provide TNFD with feedback from a practitioner's perspective, and to identify opportunities for Nuveen Natural Capital to align with TNFD recommendations over time.



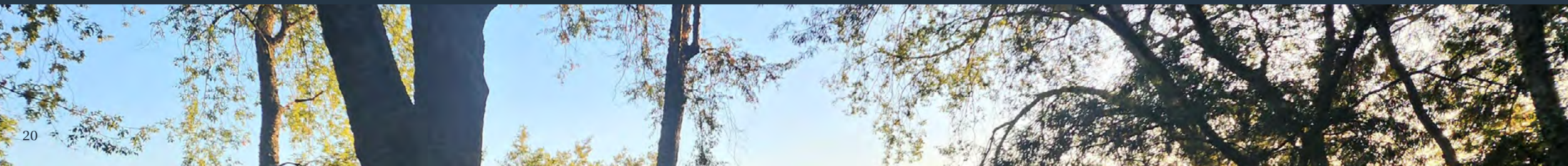
## Key takeaways

- Deeper understanding of the most material nature-related dependencies for this specific timberland operation, such as timber provision, pest and disease control, climate regulation, flood and storm protection and pollination.
- Assessment of the potential impact of our business activities on nature as well as other nature-related risks (e.g., climate change) that may affect nature's condition and therefore the services we depend on.
- Review of existing practices and identification of additional activities that could be considered to avoid or minimize impacts and mitigate nature-related risks and in turn improve resilience.

Alongside this work, Nuveen Natural Capital has reported on a subset of the core and sector metrics for Forestry and Food as part of the TNFD recommendations *(starting page 77)*.



# Climate







# Our approach

We believe that agriculture and timber management practices can play important roles in addressing climate change by reducing emissions, enhancing carbon sequestration and protecting existing carbon stocks.

We seek to improve how we measure and report greenhouse gas (GHG) emissions and removals and look for opportunities to improve our GHG footprint through management, conservation or restoration activities.



## In this report

We continue to improve and expand reporting on our GHG footprint, which now includes carbon stock estimates for supporting lands across both timberland and farmland. We also have increased transparency about our GHG methodology and assumptions.

We share our progress thus far in identifying opportunities to reduce our footprint.

We also provide an update on carbon projects across our portfolio.



## Looking forward

- Refine our GHG accounting and reporting based on the GHG Protocol's Land Sector and Removals Guidance (final version expected in 2024)
- Identify where emission reductions may have already taken place compared with a 2019 baseline
- Establish a scope 1 and 2 emissions-reduction roadmap



# Greenhouse gas accounting methodology

## Corporate emissions

Corporate emissions for Nuveen Natural Capital in 2023 were 675 tCO<sub>2</sub>e.

- Scope 1 emissions, primarily from our dedicated offices and auto fleet, resulted in 442 tCO<sub>2</sub>e (65%).
- Scope 2 emissions, from purchased electricity, resulted in 59 tCO<sub>2</sub>e (9%).
- Scope 3 emissions, from air travel, resulted in 174 tCO<sub>2</sub>e (26%).

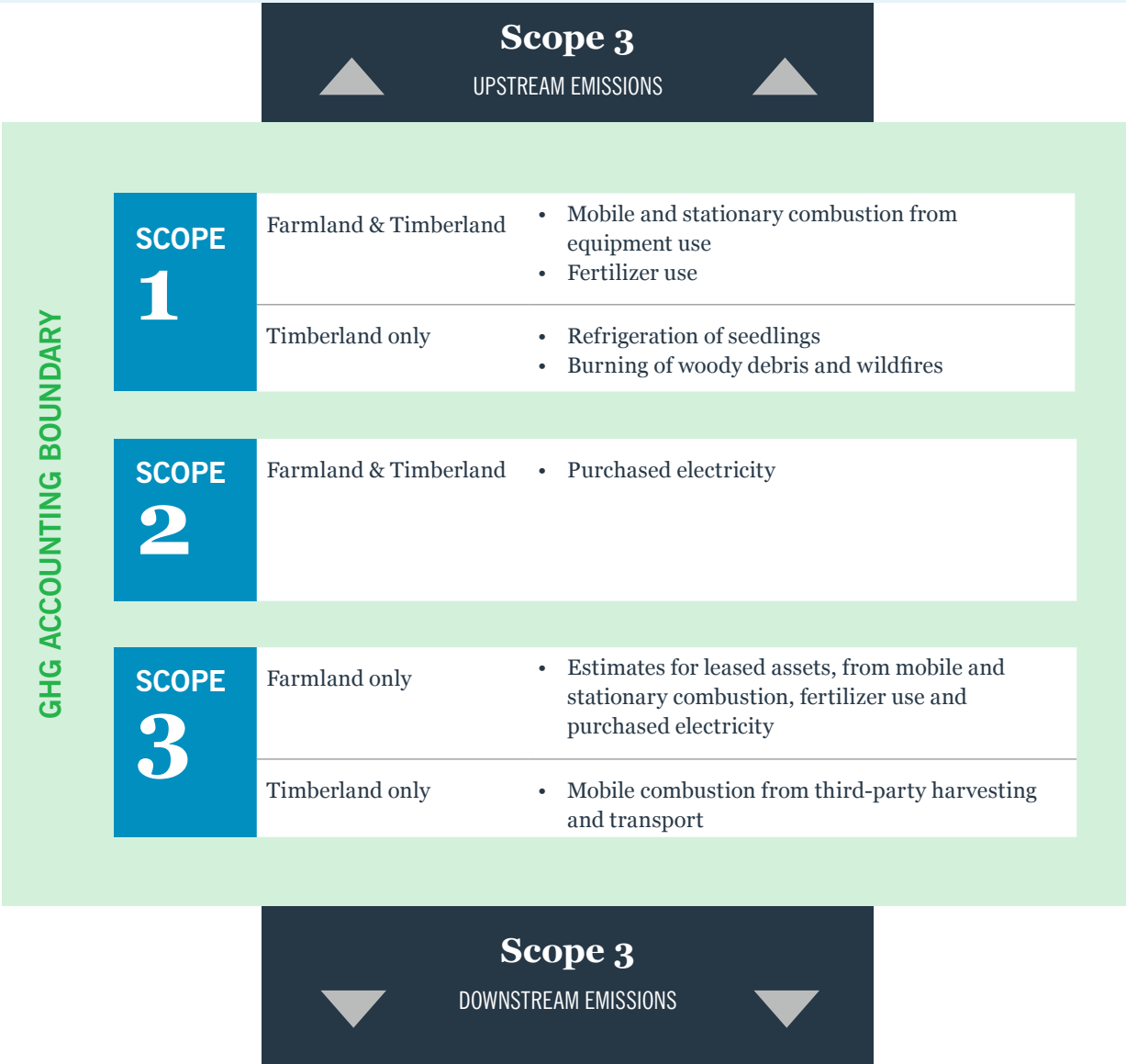
## Portfolio emissions

We account for greenhouse gas emissions from our assets under management. For these assets, we focus accounting on emissions from activities that occur within the assets’ physical boundaries.

Regarding farmland assets for which we have operational control, we report on-farm emissions as scope 1 and 2. Regarding leased assets which are operated by tenants, we report emissions as scope 3.

For timberland assets, we account for and report some additional material scope 3 emissions.

Corporate and portfolio emissions methodology is informed by the GHG Protocol and the IPCC Guidelines for National Greenhouse Gas Inventories.





# Farmland GHG Account

Emission results are calculated for nearly all farmland properties globally, while carbon stock and sequestration estimates are calculated for vineyards and horticulture properties in the United States and Chile only.

## Emissions

- Operational boundary:** measure and report emissions resulting from activities that take place within the property boundary.
- Organizational boundary:** emissions for assets under our operational control are reported as scope 1 and 2, while emissions from leased assets are reported as scope 3.
- Coverage:** include properties operational for at least one full calendar year.
- Data:** use asset-level data where available for assets under our operational control, and informed estimates for remaining assets. All data is self-declared.
- Notes:** mobile combustion emissions are linked to equipment such as tractors and harvesters; stationary combustion emissions are linked to use of irrigation pumps; fertilizer emissions cover direct and indirect (volatilization and leaching) emissions; electricity emissions are based on local electricity grids (location-based method).
- Excluded due to lack of data:** scope 3 upstream and downstream emissions; land-use change emissions that might have occurred in the last 20 years; crop residue decomposition.
- Calculation:** emission factors are sourced from the Cool Farm Tool, IPCC, and EPA for CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O. CO<sub>2</sub>e is computed by multiplying each greenhouse gas by its global warming potential based on the IPCC Fifth Assessment Report.

1.4M+

ESTIMATED  $\tau$ CO<sub>2</sub>e  
carbon stock in  
select vineyards  
and horticulture  
properties

153K+

ESTIMATED  $\tau$ CO<sub>2</sub>e  
average annual  
carbon sequestration  
in vineyards and  
horticulture properties

36M+

ESTIMATED  $\tau$ CO<sub>2</sub>e  
carbon stock in  
supporting lands across  
our farmland portfolio

6.4M+

KWH SOLAR ELECTRICITY  
generated on our California  
horticulture properties

Scope	Sources	CO <sub>2</sub> e (tonnes)
Scope 1	Mobile & stationary combustion	20,344
	Fertilizer use	29,982
	<b>Total GHG emissions</b>	<b>50,326</b>
Scope 2	Purchased electricity	6,011
	<b>Total GHG emissions</b>	<b>6,011</b>
Scope 3	Mobile & stationary combustion	130,767
	Fertilizer use	371,517
	Purchased electricity	21,935
	<b>Total GHG emissions</b>	<b>524,220</b>
<b>Grand total GHG emissions</b>		<b>580,557</b>

CO <sub>2</sub> (tonnes)	CH <sub>4</sub> (tonnes)	N <sub>2</sub> O (tonnes)
19,728	2	2
4,023	0	98
<b>23,750</b>	<b>2</b>	<b>100</b>
5,993	0	0
<b>5,993</b>	<b>0</b>	<b>0</b>
126,804	16	13
46,349	0	1,227
21,827	2	0
<b>194,980</b>	<b>17</b>	<b>1,241</b>
<b>224,723</b>	<b>20</b>	<b>1,341</b>

Note: There can be rounding differences in the numbers in the table.

## Stock & sequestration

**Productive land:** model and report estimated stock and sequestration in vineyard and horticultural crops. Includes above- and below-ground biomass carbon pools (live trees, vines and roots), and excludes fruits, nuts, shells, husks, and annual canes. Debris (dead biomass) and soil organic carbon pools are also excluded, ensuring

conservative estimates. More granular data on tree spacing, count, and age, combined with tree circumference measurements from a sample of our almond plantings, contributed to better estimates. Modeled assumptions, including biomass accumulation curves, are derived from published scientific literature.

**Supporting land:** carbon stock in above-ground biomass is estimated for forested areas using conservative carbon estimates per ecological zone. The estimates are sourced from the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.

# Timberland GHG Account

All results are calculated for timberland properties in the United States, Colombia, Panama and one property in Brazil.

## Emissions

- Operational boundary:** measure and report emissions from activities within the property boundary. Third-party harvesting and transport emissions are also estimated.
- Organizational boundary:** report emissions from activities for which Nuveen Natural Capital has direct responsibility (up to the transfer of timber ownership) as scopes 1 and 2. Activities after timber ownership transfer are reported as scope 3.
- Coverage:** include properties operational for at least one full calendar year.
- Data:** use a combination of asset-level data (e.g., fertilizer use) and informed estimates (e.g., equipment type and use intensity is used to estimate fuel consumption). All data is self-declared.
- Notes:** mobile combustion emissions are linked to equipment such as tractors and other heavy-duty vehicles; fertilizer emissions cover direct and indirect (volatilization and leaching) emissions; electricity emissions are based on local electricity grids (location-based method).
- Excluded due to lack of data:** scope 3 upstream and downstream emissions; land-use change emissions that might have occurred in the last 20 years; and emissions from the decomposition of organic matter.
- Calculation:** emission factors are sourced from the EPA as well as from academic literature for CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O. CO<sub>2</sub>e is computed by multiplying each greenhouse gas by its global warming potential based on the IPCC Fifth Assessment Report.

39M+

τCO<sub>2</sub>e  
carbon stock in global  
timberland portfolio

2.8M+

τCO<sub>2</sub>e  
average annual  
sequestration\*

5.3M+

ESTIMATED τCO<sub>2</sub>e  
carbon stock in supporting lands  
across our timberland portfolio

214K+

CARBON CREDITS  
sold in 2023\*\*

Scope	Sources	CO <sub>2</sub> e (tonnes)	CO <sub>2</sub> (tonnes)	CH <sub>4</sub> (tonnes)	N <sub>2</sub> O (tonnes)
Scope 1	Mobile combustion	146,423	145,820	2	2
	Stationary combustion	10	10	0	0
	Refrigeration of seedlings	45	45	0	0
	Fertilizer use	15	0	0	60
	<b>Total GHG emissions</b>	<b>146,493</b>	<b>145,875</b>	<b>2</b>	<b>62</b>
Scope 2	Purchased electricity	27	27	<1	<1
	<b>Total GHG emissions</b>	<b>27</b>	<b>27</b>	<b>&lt;1</b>	<b>&lt;1</b>
Scope 3	Mobile combustion from third-party harvesting and transport	93,321	93,088	<1	<1
	<b>Total GHG emissions</b>	<b>93,321</b>	<b>93,088</b>	<b>&lt;1</b>	<b>&lt;1</b>
<b>Grand total GHG emissions</b>		<b>239,841</b>	<b>238,990</b>	<b>3</b>	<b>63</b>
Scope 1	Biogenic (as a result of burning of woody debris or wildfires)	102	102	<1	<1

Note: There can be rounding differences in the numbers in the table.

## Stock & sequestration

**Productive land:** model and report the carbon stock and sequestration in standing timber. Includes above- and below-ground biomass carbon pools (live trees and roots), and excludes dead organic matter.

Annual tree measurement is conducted in specific areas to contribute to better estimates. Modeled assumptions, including biomass accumulation curves, are derived from published scientific literature.

**Supporting land:** carbon stock in above-ground biomass is estimated for forested areas using conservative carbon estimates per ecological zone. The estimates are sourced from the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.

\*Annual carbon sequestration in productive land has been adjusted for sold credits

\*\*One carbon credit is equal to one metric ton of CO<sub>2</sub>e



# Continuously improving our GHG methodology

Nuveen Natural Capital has been continuously evolving both the breadth and depth of our GHG methodology. For example, our reporting now includes carbon stock estimates for supporting lands across both timberland and farmland.

Differences in farmland emissions from 2022 to 2023 are influenced by changes in acreage, revised emission factors, and data-quality improvements from leased assets. An updated growth curve for U.S. almonds, along with improved data relating to planted areas and age classes, resulted in higher carbon sequestration estimates for productive farmland.

As for timberland emissions, the inventory now covers all properties in the United States\*, as well as assets in Brazil, Colombia and Panama. The adoption of new calculation tools and emission factors also contributes to differences in GHG estimates.

2023 reporting year	Emissions	Stock	Sequestration
Farmland productive	0.58M tCO2e	1.4M+ tCO2e†	0.15M+ tCO2e†
Farmland supporting	Not calculated	36M+ tCO2e‡	To be calculated
Timberland productive	0.23M tCO2e	39M+ tCO2e	2.8M+ tCO2e§
Timberland supporting	Not calculated	5.3M+ tCO2e‡	To be calculated

In 2023, Nuveen Natural Capital worked with Quantis, an environmental sustainability consultancy, to review our GHG methodology against the Greenhouse Gas Protocol’s draft Land Sector and Removals Guidance.

Now, we are updating our emissions baseline of 2019 to allow for comparability across the years. This will enable us to better measure any reductions already achieved and help to identify levers for further emissions reductions.

These efforts will inform our climate-action roadmap, which we will develop with our local teams. This roadmap’s holistic approach should help us pursue emissions reductions while advancing our goals for nature and people.

Potential future methodology improvements include: estimating biogenic carbon stored in long-lived wood products, exploring methods for measuring soil organic carbon, and investigating land-use change emissions that might have occurred in the last 20 years.

“Our collaboration with Nuveen Natural Capital on their climate journey has been pivotal for their company and for broader stakeholders. Understanding the nuances of greenhouse gas accounting, alongside the on-the-ground actions being implemented, is crucial for navigating sustainable transformation.”

Tetyana Pecherska  
Global Lead, Land and Agriculture, Quantis

\* Properties operational for at least one full calendar year in Dec. 2023  
† Above- and below-ground biomass carbon pools estimates for vineyards and horticulture properties in the United States and Chile

‡ Above-ground biomass carbon in forested supporting land  
§ This indicator shows the average annual sequestration that has occurred throughout the lifecycle of the asset

# How to deliver verified carbon credits

Timberland and farmland owners have the potential to realize carbon value embedded in their natural capital assets by developing carbon credit projects. Owners can generate carbon credits by managing land in ways that reduce GHG emissions or increase removals of CO<sub>2</sub> from the atmosphere. To quantify the climate benefits of these changes, there are established crediting standards and mechanisms for monitoring, reporting and independent verification.

In pursuing this work, owners undertake specific management activities for each type of carbon project such as:

- **Forest restoration:** These projects create or restore forest cover, which increases the removal of CO<sub>2</sub> from the atmosphere, as well as storing carbon in above- and below-ground biomass.
- **Improved forest management:** This means altering how forests are managed to increase carbon storage or to reduce or avoid emissions by constraining harvesting.

- **Avoided deforestation:** REDD+ projects reduce emissions by stopping deforestation and forest degradation, both of which contribute significantly to global emissions.
- **Cropland management:** Introducing practices such as cover crops or reduced/no-till to increase soil carbon storage or avoid emissions by reducing fertilizer use.
- **Agroforestry:** These projects are varied and may include a mix of intercropping (planting two or more crop types or species in the same area at the same time) and/or natural regeneration (e.g., to increase carbon storage in soils and biomass).

Carbon markets and project activities also offer the possibility of generating social and environmental benefits beyond carbon alone.

*Nuveen Natural Capital's Carbon Market Integrity Principles* reflect our commitment to actively support market integrity.



As of 2023, Nuveen Natural Capital has carbon projects in development in the United States, South America, and Australia for both compliance and voluntary market frameworks. All together, these projects are expected to deliver an estimated 6M+ tCO<sub>2</sub>e of additional climate benefits over the first ten years of the projects.

For more information on carbon markets for land-based investments, please see [An introduction to carbon markets for land-based investments \(nuveen.com\)](https://nuveen.com)





People



# Our approach

Nuveen Natural Capital's commitment to people is multifaceted. At a high level, what we do is intended to provide what people need to live and thrive — namely food, timber, and fiber — both today and in the decades ahead.

At the same time, on the ground, we strive to support local communities through our business relationships and our corporate social responsibility (CSR) programs. We also look to promote knowledge-sharing and capacity-building among our tenants, crop managers and property operators.



## In this report

We provide an overview of our guiding principles.

We share examples of how we engage with our tenants, crop managers and property operators, as well as with local communities.

Also featured is an update of our sustenance estimates as well as our collaboration with The Nature Conservancy.



## Looking forward

- Improve how we track our community engagement activities in U.S. timberland
- Continue to promote knowledge-sharing among tenants, crop managers and property operators



# Guidelines and policies

Nuveen Natural Capital strives to operate in accordance with the five UN Principles for Responsible Investment (PRI) in Farmland, addressing:

- 1. Environmental sustainability
- 2. Labor and human rights
- 3. Land and resource rights
- 4. Business and ethical standards
- 5. Transparent reporting

Our Global Sustainability Policy includes a zero-deforestation commitment, as per the UN and FAO definition, while striving to abide by all local regulations. Cut-off dates for specific biomes are informed by leading standards including: the EU Deforestation Regulation, the Accountability Framework, and the leading certification for a specific crop or region (e.g., Round Table for Sustainable Soy, for the Cerrado, Brazil).



## Contributing to new standards

In 2023, Nuveen Natural Capital participated in the PRI's Nature Reference Group, a multistakeholder initiative aimed at enhancing investor capacity for addressing nature and biodiversity loss. Discussions within the Nature Reference Group informed the development of *PRI-led guidance* for investors on integrating nature-related risks and opportunities in their investment practices and policies.



## Social assessment for specific geographies

Nuveen Natural Capital conducts a pre-acquisition review for prospective investments in certain regions of Brazil and Romania. This additional review helps us identify social-related risks and potential steps to engage with local communities surrounding the property.

# Sharing expertise

Nuveen Natural Capital endeavors to promote technical support, training and peer-to-peer capacity-building among its tenants, crop managers and property operators.

In addition to delivering on-the-ground training, Nuveen Natural Capital publishes a Global Thoughts newsletter externally once a year, while our Polish team distributes its Rural Thoughts newsletter to their tenants quarterly. These technical bulletins are complemented by *external thought leadership* on a range of sustainability topics.



## In practice examples

### Sustainability Viticulture Summit

Since 2022, Nuveen Natural Capital has organized an annual Sustainability Viticulture Summit to train vineyard crop managers in sustainable practices and techniques. Representatives from leading California winegrape producers have taken part in the summit.

### U.S. Row training

In February 2024, approximately 30 of Nuveen Natural Capital's row crop tenants from across the Mississippi Delta gathered for a day of training and discussion about conservation practices relating to irrigation. Farmers learned how to use technology to remotely control and schedule irrigation wells and pivots. Currently, 900 well-timer units are being installed across our U.S. Row Crops assets in the Mississippi Delta, with a goal of adding the timers to all wells in the Delta portfolio. Well timers save farmers time and money while conserving water.

### Cover Crop Field Day

Nuveen Natural Capital Poland organized a half-day educational field workshop focused on cover and companion cropping techniques. Eight tenants visited several fields established with cover crops, as well as a field of winter oilseed rape which was partly established with a companion crop. The introduction of cover crops is fundamental to the Nature-Positive Farming Program and improving soil health (*see page 67*).



# Engagement with local communities

Nuveen Natural Capital strives to foster strong relationships within communities where we invest and operate, engaging in a range of activities.

## Diversity and inclusion

**15 years** of involvement in the Fruits of Employment initiative, which gives individuals with disabilities access to competitive employment across select properties. Since its inception, 150+ workers have gained employment through the initiative.

## Recreational access

Our forests provide opportunities for hiking, wildlife viewing, and fishing and hunting (the latter activities regulated by local governments to sustainably manage wildlife populations).

## Indigenous communities: U.S. Timberland

Nuveen Natural Capital strives to recognize and respect Indigenous People’s rights. As part of our stewardship we support the maintenance of sites having historical and cultural value, and their associated spiritual, medicinal and ceremonial activities.

9K+

**RECREATIONALISTS**  
from 42 U.S. states and 2 Canadian provinces were granted free access to our North American timberland properties while an additional 4K+ individuals benefited from our recreational lease opportunities.

## Corporate social responsibility

Our investor-supported CSR programs allow our teams to contribute to surrounding communities, with a focus on education, environment and social engagement. Read about some of our initiatives in the Portfolio in Focus section (page 34).

280K

US\$ INVESTED  
in CSR projects  
in 2023

19

CSR  
projects  
supported

33%

NATURE-ALIGNED  
PROJECTS  
(e.g., native vegetation  
restoration)



22%

CLIMATE-ALIGNED  
PROJECTS  
(e.g., pilots for measuring  
soil carbon sequestration)



72%

PEOPLE-ALIGNED  
PROJECTS  
(e.g., support for local schools and  
restoration of historic buildings)



Note: Some projects support more than one sustainability priority



# Providing sustenance

Nuveen Natural Capital endeavors to estimate protein, calorie, fiber and timber provisions from our overall portfolio. Here are details of our process:

- Our calculations were based on harvested, not processed, amounts from our farmland and timberland production
- We combined different crop types for a total calorie and protein count
- Our calculations used USDA nutritional data<sup>3</sup> to estimate calories and protein per 100-gram servings
- Our estimates were based on assumptions of daily requirements of 2,000 kcal<sup>4</sup> and 50 grams of protein.<sup>5</sup> In addition, we estimated 226 grams of cotton<sup>6</sup> per T-shirt and about 28 cubic meters of timber for framing a 140 square meter house<sup>7</sup>

**Generated across our portfolio in 2023** *(estimated)*

**48T+**  
CALORIES

*Approximately equivalent to the necessary annual caloric intake of 66 million people, or the combined population of Spain and Portugal*

**354B+**  
GRAMS OF PROTEIN

*Approximately equivalent to the necessary annual protein intake of 19 million people, or the population of Romania*

**102M+**  
KILOGRAMS OF COTTON

*Roughly the amount needed to make 450M+ T-shirts*

**752K+**  
CUBIC METERS OF TIMBER

*Enough to build the frames for roughly 26.5K family homes (about 140 sq m in size)*



# Collaborations foster continuous improvement

Nuveen Natural Capital forms collaborations with external partners and technical experts to continuously enhance our sustainability strategy.

Throughout 2023, we collaborated with The Nature Conservancy (TNC) with the goal of developing a nature-positive definition and measurement approach. TNC experts reviewed our sustainability approach for farmland and timber management, and co-developed a nature-positive framework for responsible practices, which was shared in our 2023 Sustainability Report. The framework articulates the nature-positive outcomes that we seek from our Nature, Climate, People strategy:

- **Nature:** regenerate land and soils, promote and restore biodiversity, protect water resources
- **Climate:** reduce greenhouse gas emissions, enhance carbon sequestration, protect carbon stocks
- **People:** provide food, fiber and timber sustainably, support resilient communities, collaborate through partnerships

Based on desired nature-positive outcomes, we identified four main principles for responsible farmland and timberland practices and metrics. These form the foundation for the KPIs in the Portfolio in Focus section.



Regenerative land management



Nature-positive landscapes



Enriching communities



Credible and transparent reporting

In 2024, TNC and Nuveen Natural Capital will look to continue collaborating to promote knowledge exchange and capacity-building.

“Nuveen Natural Capital’s nature-positive framework helps to guide asset managers toward management practices and investments that can deliver positive outcomes for people and nature. We look forward to continuing to collaborate with Nuveen Natural Capital to build their internal capacity to execute this ambitious framework.”

Michael Wironen  
Director of Corporate Engagement for Food & Water, The Nature Conservancy

# Portfolio in focus





# Tracking responsible practices

Monitoring and reporting on responsible practices are a core element of our *measurement framework*. We have worked with The Nature Conservancy to develop an approach that outlines our desired nature-positive outcomes and the practices intended to achieve them:

- Desired outcomes related to soil, water, climate, biodiversity and community
- A suite of responsible practices that can contribute to realizing these outcomes and that are tailored to the crop and local context (including local soil, water, climatic conditions)

This approach helps to support our tenants, crop managers, and property operators to measure, manage and make improvements specifically suited to local needs.

For 2023, all reported data was self-declared by tenants, crop managers and property operators, with no external audit. Response rates per business unit have been disclosed and we will strive to increase these rates in the coming years.

## Nature-positive outcomes

Regenerate land & soil

Promote & restore biodiversity

Protect water resources

Mitigate climate impacts

Enhance climate resilience

Support resilient communities

## Nature-positive principles and practices



### Regenerative land management

- Protect & restore soil health (e.g., avoiding excessive soil disturbance, integrated soil fertility, diverse crop rotations, continuous cover)
- Adaptive management of natural resources (e.g., water protection initiatives, energy efficiency, etc.)
- Apply integrated pest management (IPM) strategies
- Protect & support biodiversity in working lands
- Promote innovation



### Nature-positive landscapes

- Conserve & restore natural ecosystems collectively (e.g., wetlands, riparian areas, protected areas)
- Strategically manage edge of field/ supporting lands/conservation areas
- Connect functional habitats



### Enriching communities

- Generate & share knowledge through connected communities
- Provide or facilitate delivery of resources to land managers
- Support enabling conditions for resilient communities (e.g., recreation access, indigenous engagement policies)
- Safeguard the wellbeing of both people & animals



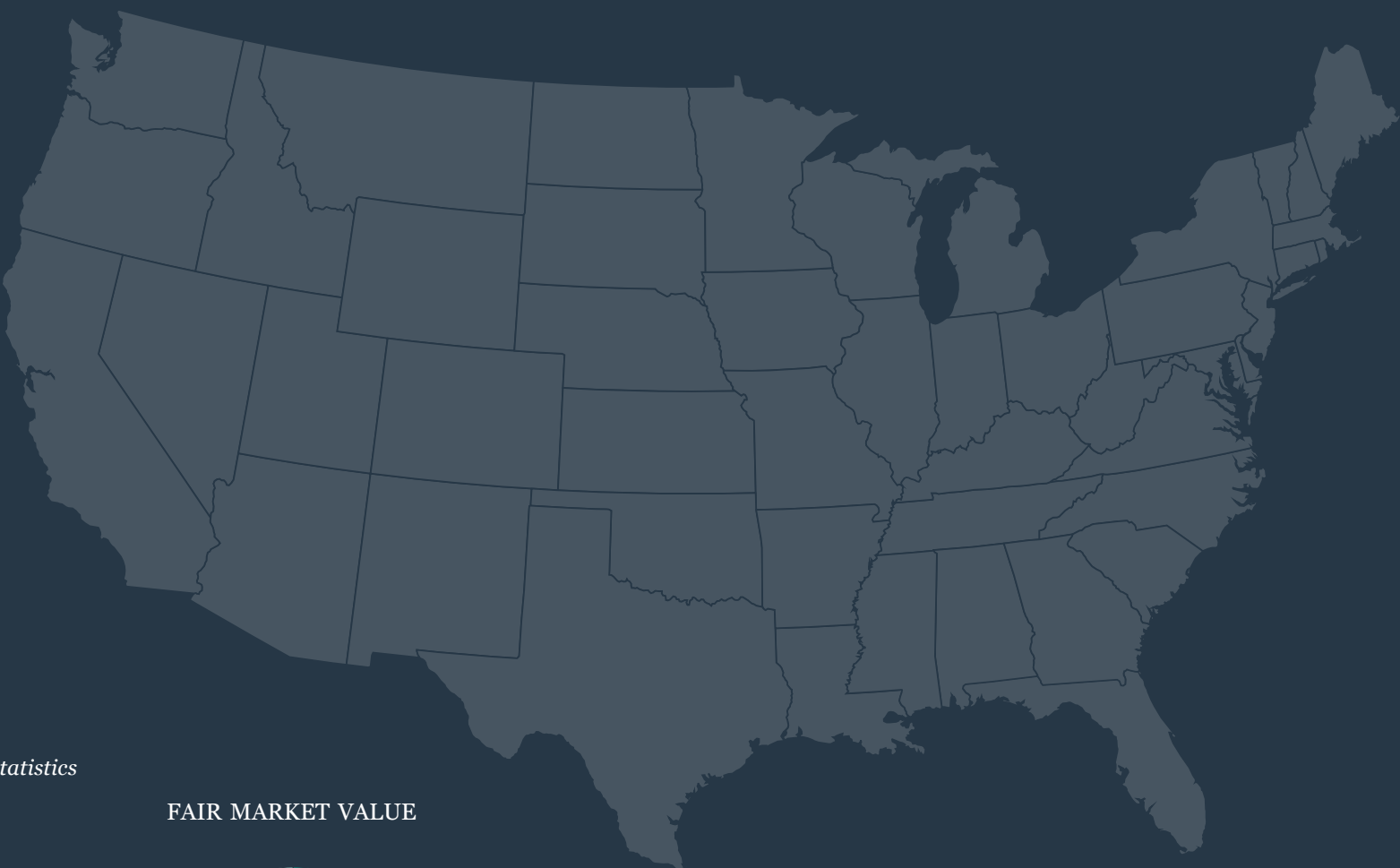
### Credible and transparent reporting

- Third-party certification

# United States

*With properties in 19 U.S. states, Nuveen Natural Capital supports the cultivation and harvesting of a wide range of agricultural and timber products.*

● UNITED STATES OFFICE LOCATIONS

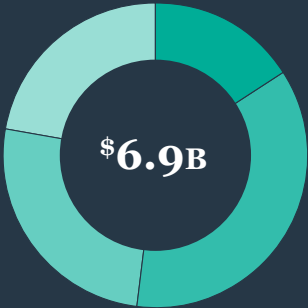


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TOTAL ACRES



FAIR MARKET VALUE

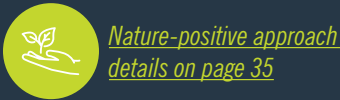



 **ENVIRONMENTAL RESTORATION**  
36K+ ACRES AND \$142M UNDER ADVICE

As of December 2023 in US\$. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.



U.S. Timberland



NATURE-POSITIVE PRINCIPLES		PRACTICES	INDICATORS	RESULT
 Regenerative land management	Land & soil health		Properties with climate suitability assessment of tree species	100%
			Properties avoiding excessive soil disturbance†	100%
			Properties with mechanisms to increase carbon removals in soils‡	43%
			Properties with integrated fire management strategy	100%
	Resource optimization		Properties with water protection initiatives during all management phases	100%
			Properties with efficient utilization of forest resources residues§	100%
 Nature-positive landscapes	Supporting biodiversity		Portfolio area covered by protected native vegetation	7%
			Properties with a program to conserve biological diversity	100%
			Total area of conserved riparian buffers	47K+ acres
 Enriching communities	Safeguard well-being		Properties with health and safety training	100%
			Properties with indigenous people engagement policies	100%
	Indigenous peoples and local communities		Properties with stakeholder engagement policies	100%
			Properties with programs to protect important social or cultural value areas	100%
			Properties providing recreation access to local communities	86%
 Credible and transparent reporting	Certification		Acres certified by third-party standard	100%

Result coverage: 100% of area under management (as of December 2023; excludes assets acquired during that year)

† Practices include reduced soil compaction techniques from the selection of equipment to the restriction of the movement of heavy machinery

‡ Mechanisms such as carbon projects or conservation easements (extended rotation ages)

§ Such as woody debris naturally decomposing or sent to be converted into electricity

|| Sustainable Forestry Initiative® (SFI®)

## U.S. Timberland



### Pilot explores nature-friendly, revenue-generating black birch removal

#### NEW YORK AND PENNSYLVANIA

Nuveen Natural Capital conducted a pilot to gauge the feasibility of a Timber Stand Improvement project in areas where the increasing dominance of black birch trees had put forest diversity at risk. The birches have been outcompeting many other tree species typically found in a regenerating stand, which required herbicide treatments and other processes to stem their proliferation.

The team worked with a contractor to physically remove small-stem black birches from the targeted stands by using mechanical processes. The pilot test showed that mechanical removal costs were largely offset by savings on herbicide treatments as well as by a new revenue stream from selling the black birch on the market to produce essential oils. Additionally, the pilot improved stand quality over a large area of the forest.

Sustainable Forestry Initiative® (SFI®) recognized this pilot project as a Notable Practice in the third-party organization's most recent audit, which observed: "Nuveen Natural Capital has done a commendable job of finding an outlet for black birch, a species that historically had no value and was often cut down and left in the woods."



#### Positive impacts

- *Reduced chemical use and costs*
- *Improved growth rates for residual trees*
- *More desirable species composition*
- *Improved use of forest resources*

**“The people at Nuveen Natural Capital care about wildlife and their habitats, and are always looking for new ways to incorporate wildlife management goals into overall forest management. Most recently we’ve been working together to convert an area under powerlines to native pollinator habitat, eradicating non-native species and reintroducing native plants. This project highlights their commitment to partnerships, sustainability, and real science applications.”**

#### **Fran Cafferata**

Certified Wildlife Biologist® and owner of Cafferata Consulting



# U.S. Timberland



## Social engagement spans indigenous relations, community wellness, economic growth

### OREGON AND WASHINGTON

Our teams in the Pacific Northwest strive to promote community engagement efforts through diverse partnerships.

- **Re-opening a port** – We worked with the Port of Astoria, Oregon, to re-open a log export yard, creating new jobs, opening a new market for logs coming from our timberlands, and strengthening our relationships with local leaders.
- **Making way for biking** – Through a partnership with North Coast Trails Alliance (NCTA) we provide public access to a network of mountain biking trails on the timberlands. The trails, which NCTA maintains, range from family-friendly routes to technical downhill descents, and offer interpretive signs about the forest and its features.
- **Partnering with indigenous communities** – We’ve worked with the Chinook Indian Nation by providing access to first foods through hunting and gathering opportunities; conducting firewood-cutting events; helping to establish a local footprint through land leases; and elevating indigenous voices in local government meetings.



- **Offering recreational opportunities**  
– Local communities enjoy access to our property, such as Seaside High School, which uses it to train cross-country runners, and the Neah-Kah-Nie High School, which uses it for natural resource education programs.



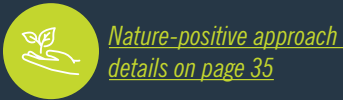
### Positive impacts


- *Engagement with and support of Native American communities*
- *New jobs and restored export facility*
- *Support of healthy lifestyles in region*

“Nuveen Natural Capital has been an amazing partner with the Chinook Indian Nation (CIN). Nuveen Natural Capital has gone above and beyond when it comes to providing us access to the lands that are part of our ancestral territory so that CIN can continue to gather and harvest our traditional foods. Nuveen Natural Capital has always had their ears open for us to be able to tell our stories and always acknowledged our words when we spread our knowledge about being Stewards of the land so that we can carry it on for the next seven generations.”

**Donovan S Wargo**  
Chinook Indian Nation Council member

U.S. Horticulture



NATURE-POSITIVE PRINCIPLES		PRACTICES	INDICATORS	RESULT
	Regenerative land management	Soil health	Properties practicing reduced or no till	100%
			Properties practicing cover cropping	94%
			Properties incorporating crop residues and debris into soils	100%
			Properties applying organic amendments	61%
	Resource optimization		Properties soil testing at least once every 3 years	98%
			Properties plant tissue testing	100%
			Properties with nutrient management plans following 4Rs principles*	100%
			Properties fertilizing based on crop nutrient requirements	100%
			Properties using crop protection practices that adhere to Integrated Pest Management principles	100%
			Properties water testing	98%
			Properties with flow meters	100%
			Properties using precision irrigation systems or methods	100%
			Properties using technologies to support irrigation management	92%
			Properties where efficiency of irrigation pumping equipment is monitored on an ongoing basis	100%
			Average irrigation pumps running on alternative fuels	98%
			Properties using GPS tracking technology for optimizing farm management	49%

Result coverage: 100% of area under management (as of December 2023)  
\*4Rs: right nutrients, at the right time, in the right place, and in the right quantity

# U.S. Horticulture



Nature-positive approach  
details on page 35

	NATURE-POSITIVE PRINCIPLES	PRACTICES	INDICATORS	RESULT
	Nature-positive landscapes	Edge of field practices	Supporting land under management*	2%
	Enriching communities	Knowledge sharing	Properties conducting health and safety training	100%
	Credible and transparent reporting	Certification	Acres certified or covered by third-party standard†	95%

Result coverage: 100% of area under management (as of December 2023)

\* Supporting land comprises native vegetation, watercourses, and other natural habitats. Result is estimated based on satellite imagery, and may not fully reflect conditions on the ground.

† Including California Almond Sustainability Program, GLOBAL.G.A.P., Bee Friendly Farming (BFF), PrimusGFS, USDA Good Agricultural Practices (GAP), and USDA Organic



# U.S. Horticulture



## Horticulture operations attain Bee-Friendly Farming certification

### CALIFORNIA

By the end of 2023, nearly 25,000 acres of our California properties achieved Bee-Friendly Farming (BFF) certification. The certification is focused on creating supportive environments for the bees that naturally pollinate our crops each year as well as food sources for other pollinators throughout the year. BFF certification is issued by the Pollinator Partnership, a third-party nonprofit that is the largest in the world dedicated exclusively to the protection and promotion of pollinators and their ecosystems.

On 98% of our almond properties we obtained additional third-party verification by Where Food Comes From (WFCF). Our goal is to achieve 100% BFF certification in 2024.



### Positive impacts

- *Support of biodiversity by creating habitat such as cover crops*
- *Synergistic relationships with beekeepers*
- *Improved soil health*

98%

**ACRES**  
*of California almond orchards certified bee-friendly*

37

**PROPERTIES**  
*planted with cover crop seed blends beneficial to pollinator health*

# U.S. Horticulture



## Groundwater recharge systems delivered 3 billion gallons to aquifers

### CALIFORNIA

California experienced a near-record year for precipitation in 2023, a significant change from much lower annual precipitation levels in the state recently. Nuveen Natural Capital employs various water management strategies on our California properties, including optimizing land use based on water characteristics, pursuing opportunities to improve water supplies, and employing technologies to monitor and maximize water-use efficiency.

In recent years, we have invested in groundwater recharge basins, which in wet years return excess surface water to underground aquifers so they can provide sustainable water sources in dry years. In 2023, our California horticulture team in five sites used both permanent and temporary recharge basins to take advantage of the higher-than-average rainfall levels.

Through these efforts, about 3 billion gallons of water were returned to underground aquifers in 2023.



### Positive impacts

- Groundwater sustainability
- Flood risk reduction
- Long-term water supply availability
- Temporary habitat for migratory waterfowl

## Expanding solar portfolio

“Nuveen Natural Capital is an excellent example of large-scale agriculture facilitating the energy transition to a more stable, reliable, and renewable energy future. Our company has installed nearly 6 MW of solar systems for them in California, and another 5.5 MW is scheduled to come online through 2025. Their solar portfolio is projected to produce about 23 million kWh of clean energy each year, offsetting more than 16,000 tCO<sub>2</sub>e while providing a material hedge against rising utility rates.”

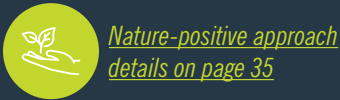
Sales Operation Department  
CalCom Energy




—  
**23M**

KWH  
of solar energy  
per year  
(projected)

U.S. Viticulture

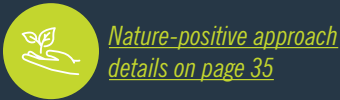


NATURE-POSITIVE PRINCIPLES		PRACTICES	INDICATORS	RESULT
	Regenerative land management	Soil health	Properties practicing reduced or no till	100%
			Properties practicing cover cropping	98%
			Properties incorporating crop residues and debris into soils	100%
			Properties applying organic amendments	97%
	Resource optimization		Properties soil testing at least once every 3 years	100%
			Properties plant tissue testing	100%
			Properties with nutrient management plans following 4Rs principles*	97%
			Properties fertilizing based on crop nutrient requirements	97%
			Properties using crop protection practices that adhere to Integrated Pest Management principles	100%
			Properties water testing	98%
			Properties with flow meters	87%
			Properties using precision irrigation systems or methods	100%
			Properties using technologies to support irrigation management	98%
			Properties where efficiency of irrigation pumping equipment is monitored on an ongoing basis	100%
			Properties using GPS tracking technology for optimizing farm management	100%

Result coverage: 100% of area under management (as of December 2023)  
\* 4Rs: right nutrients, at the right time, in the right place, and in the right quantity



# U.S. Viticulture



	NATURE-POSITIVE PRINCIPLES	PRACTICES	INDICATORS	RESULT
	Nature-positive landscapes	Edge of field practices	Supporting land under management*	3%
			Buffers around watercourses	100%
	Enriching communities	Safeguard well-being	Properties conducting health and safety training	100%
	Credible and transparent reporting	Certification	Acres certified or covered by third-party standard†	100%

Result coverage: 100% of area under management (as of December 2023)  
\* Supporting land comprises native vegetation, watercourses, and other natural habitats. Result is estimated based on satellite imagery, and may not fully reflect conditions on the ground.  
† Including Leading Harvest, LODI RULES, LIVE Certified, California Sustainable Winegrowing Alliance (CSWA), Sustainability in Practice (SIP), Fish Friendly Farming and Salmon Safe

## CASE STUDY

# U.S. Viticulture



### Cover crop trial seeks to enhance soil health and reduce herbicide use

#### CALIFORNIA

A multi-year trial launched in 2023 on a Monterey County vineyard is evaluating the effects of different cover crops and management techniques. Soils in this vineyard are low in organic matter, which results in low water-holding capacity, limited nutrient retention, and the proliferation of hearty weeds.

This pilot compares conventional cover crop management to crimping, the suitability of different cover crops for these practices, as well as the effects of the cover crops on soil health and weed control. Conventional management requires cultivation, mowing and annual reseeded; by contrast, crimping, a novel technique adapted from row crops, requires only a single annual pass to incorporate biomass into the soil and thus eliminates the need for cultivation.

Ultimately, this research may help to identify the optimal management strategy and cover crop species mix to maximize farming efficiency, build soil carbon, reduce fertilizer and water inputs and control weeds.



### Positive impacts

- *Improve soil health*
- *Reduce fertilizer use*
- *Increase water efficiency*
- *Minimize herbicide use*

“With a diverse mix of grape varieties from premium growing regions throughout California and industry leading viticultural expertise, Nuveen Natural Capital is a key supplier for Joel Gott. We believe that sustainable farming methods are fundamental for great wines, and every vineyard they operate is certified sustainable. Their focus on sustainability is essential to providing our consumers with the assurances they demand.”

**Joel Gott**

Owner, Joel Gott Wines

## CASE STUDY

# U.S. Viticulture



## Engaging clients on sustainable viticultural techniques and benefits

### CALIFORNIA

Our team hosted key representatives from a major winery client to showcase innovative farming techniques and explain how a holistic management approach promotes environmental health and grape quality. The tour aimed to strengthen relationships with these valued clients and to differentiate us from other vineyard operators within a competitive marketplace for grapes.




The half-day event featured five educational stations: Precision Soil Mapping, Floor Management for Optimal Soil Health, Irrigation Technology, Building and Maintaining Efficient Vineyards, and Benefits of Biochar. Presentations at each station were followed by discussions between Nuveen Natural Capital staff, winery representatives and team members from the crop manager.



## Positive impacts

- *Improved client engagement*
- *Knowledge-sharing about innovations in viticulture sustainability*



NATURE-POSITIVE PRINCIPLES		PRACTICES	INDICATORS	RESULT
	Regenerative land management	Soil health	Productive area practicing reduced till**	56%
			Productive area rotating crops***	96%
			Productive area practicing cover cropping**	21%
			Productive area maintaining crop residues***	93%
		Resource optimization	Tenants soil testing at least once every 3 years***	100%
			Tenants with nutrient management plans following 4Rs principles*†	100%
			Tenants using crop protection practices that adhere to Integrated Pest Management principles***	100%
	Nature-positive landscapes	Edge of field practices	Supporting land under management*	10%
	Enriching communities	Safeguard well-being	Tenants conducting health and safety training*	83%

Results as of December 2023

\* Result coverage: 10% of area under management (72% Midwest portfolio)

\*\* Result coverage: 80% of area under management

\*\*\* Result coverage: 96% of area under management

† 4Rs: right nutrients, at the right time, in the right place, and in the right quantity

‡ Supporting land comprises native vegetation, watercourses, and other natural habitats. Result is estimated based on satellite imagery, and may not fully reflect conditions on the ground.

## CASE STUDY

# U.S. Row



### Soil health initiative marks 4th year

#### OHIO

Beginning in 2020, two farms began taking part in a multifaceted soil health initiative. This includes planting a mixture of cover crop varieties, including cereal rye, oats, radish and winter wheat (which was left unharvested). Also, the farms have been operating with no-till and rotating crops annually. The farms have tested the soil each year, at roughly the same locations and times of year, to monitor soil organic matter, soil acidity and nutrients (e.g., P and K).



### Positive impacts

- Richer data set on soil health
- Improved water filtration observed after heavy rainfall on one farm

### Pilot compares cover-crop performance

#### MISSISSIPPI

A tenant is striving to gain insights into the relative benefits of select cover crops by piloting four different plant varieties in the fields. The pilot, which covers 1,500 acres, aims to discern which cover crops work well in the region in terms of how they enhance soil health and fertility. Results of the pilot, as well as insights gained from the process, will be shared with other tenants in the region to educate them about the tangible benefits of cover crops.



### Positive impacts

- First-hand knowledge of how certain cover crops actually perform locally
- Boosted fertility and soil health
- Improved knowledge-sharing among tenants

### Tech tools drive water efficiency

#### MISSISSIPPI AND ARKANSAS

Irrigation wells in Mississippi and Arkansas are being fitted with control devices to conserve water and boost team efficiency. Electronic timers allow operators to turn wells on and off remotely via cellphone. Additionally, we are starting to roll out digital flow meters that let operators monitor flows remotely rather than visit the wells to perform visual checks.



### Positive impacts

- Reduced energy and water consumption
- Less fuel and time spent on manual checks
- Learnings and insights that can benefit other farmers in region



## CASE STUDY

# U.S. Row



### Advancing innovation and social impact through greater diversity

**National Black Growers Council (NBGC):** Nuveen Natural Capital is proud to be a gold sponsor of NBGC, which fosters expertise among black growers in the U.S., particularly those growing row crops at scale.

“The NBGC was organized to address the unique needs of Black row crop farmers. We are delighted that Nuveen Natural Capital supports the National Black Growers Council. As a Sustaining Member and strong partner, they help support our mission of improving the efficiency, productivity, and sustainability of Black row crop farmers. This partnership makes positive contributions to rural communities and the global food supply.”

**P.J. Haynie**

Chairman, National Black Growers Council

“Through the National Black Growers Council, we were introduced to Nuveen Natural Capital where we had a chance to share our challenges as black farmers, including the lack of access to quality farmland. As a Sustaining Member, Nuveen Natural Capital not only shared their commitment to agriculture and tenant diversity, but they also listened to our concerns and helped our family farming operation grow by providing us with the opportunity to farm some highly productive land we would not normally have access to.”

**Willis Nelson**

Farmer tenant, Louisiana



# U.S. Row



## Sustaining Nuffield Sponsorship

### UNITED STATES

Since 2015, we have sponsored 12 Nuffield International Farming Scholars through an investor-supported CSR program, which helps young people in the agricultural and related sectors to develop leadership capabilities and further their education. For 2024, we are funding two new scholars in the United States and Chile.

## Delta Streets Academy Donation

### MISSISSIPPI

We are helping the Academy provide at-risk young men in the Mississippi Delta region with high-quality education and support to help them launch careers and achieve community leadership roles. A donation of \$10,000 from our CSR budget (per year for three years) is providing educational enrichment to youth enrolled at the 100-student school. Our direct investment with the Mississippi-based Academy allows its leadership to steward the financial support in ways it deems best for maximum impact.

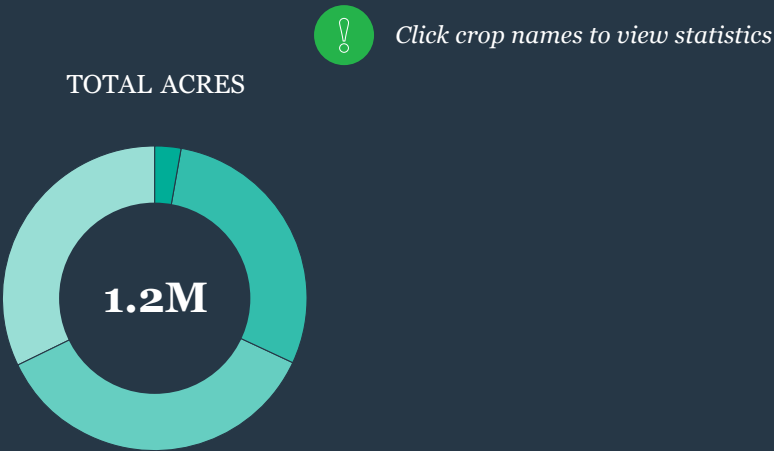
TOTAL SOUTH AMERICA PORTFOLIO

# South America

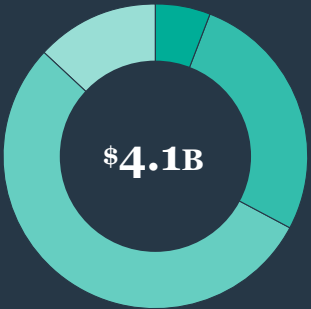
(NOTE: Panama is listed under South America for the purposes of this report)

*Nuveen Natural Capital operates in several South American countries, with the majority of its investments in Brazil.*

● SOUTH AMERICA OFFICE LOCATIONS

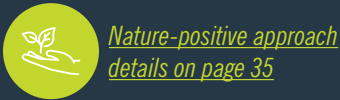



FAIR MARKET VALUE



As of December 2023 in US\$. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

# Brazil Farmland

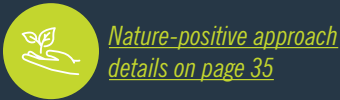





NATURE-POSITIVE PRINCIPLES	PRACTICES	INDICATORS	RESULT
 <b>Regenerative land management</b>	Soil health	Productive area practicing reduced till	<b>68%</b>
		Productive area practicing no till	<b>32%</b>
		Productive area rotating crops	<b>56%</b>
		Productive area practicing cover cropping	<b>46%</b>
		Productive area maintaining crop residues	<b>98%</b>
		Productive area with intercropping	<b>6%</b>
		Productive area with integrated production systems	<b>2%</b>
		Productive area where organic materials were applied	<b>69%</b>
	Resource optimization	Tenants soil testing at least once every 3 years	<b>100%</b>
		Tenants with nutrient management plans following 4Rs principles <sup>†</sup>	<b>98%</b>
		Tenants using crop protection practices that adhere to Integrated Pest Management principles	<b>95%</b>

Result coverage: 80% of area under management (as of December 2023)  
<sup>†</sup> 4Rs: right nutrients, at the right time, in the right place, and in the right quantity



# Brazil Farmland



	NATURE-POSITIVE PRINCIPLES	PRACTICES	INDICATORS	RESULT
	Nature-positive landscapes	Edge of field practices	Supporting land under management*	46%
			Total protected area established along bodies of water	39K+ acres
	Enriching communities	Safeguard well-being	Tenants conducting health and safety training	100%
		Community engagement	Tenants involved in community engagement initiatives	40%
	Credible and transparent reporting	Certification	Acres certified or covered by third-party standard‡	87%

Result coverage: 80% of area under management (as of December 2023)

\* Supporting land comprises native vegetation, watercourses, and other natural habitats. Result is estimated based on satellite imagery, and may not fully reflect conditions on the ground.

‡ Including Bonsucro, Round Table on Responsible Soy (RTRS), Better Cotton Initiative (BCI), RenovaBio, Responsible Brazilian Cotton Program (ABR), Etanol Verde, SAI Platform’s Farm Sustainability Assessment (FSA) and EPA RFS2

# Brazil Farmland



## Restoration actions increase native vegetation

### BRAZIL

Brazil's Forest Code includes specific directives for creating Permanent Preservation Areas (PPAs) and Legal Reserves (LRs) to safeguard water resources, landscapes, biodiversity, and human well-being. We strive to adhere to the Code by conducting land restorations on our farms. Over roughly a decade we have restored more than 5,400 acres of native vegetation, with 250 acres being restored in 2023 alone.

Currently, we actively monitor and maintain an area of 2,643 acres. The work requires persistence and patience, because of wildfire threats, seedling shortages, and slow development of native plants.

In 2024, we plan to restore 370 additional acres.



## Positive impacts

- *Resilient agriculture*
- *Conservation and restoration of lands*

**“The challenges of ecological restoration are numerous, but together we have reached the milestone that will ensure various social, economic, and environmental benefits for current and future generations. Partnerships like ours represent an excellent opportunity for large-scale ecological restoration in Brazil, especially amidst the climate urgency.”**

**Aretha Medina**

Technical Director, Reconecta Florestas

## CASE STUDY

# Brazil



### Satellite data helps with wildfire monitoring

#### BRAZIL

Our team developed a fire monitoring system for our properties in Brazil. The system draws on information from the NASA-supported Fire Information for Resource Management System (FIRMS), which compiles satellite data from contributing fire-detection missions.

After the system pinpoints a potential fire, our team compares the data to satellite images to verify if the alert corresponds to an actual fire. Frequently, detection points are not associated with fires or are not within our property boundaries. The team follows up on every fire alert received; in 2023, they monitored nearly 2 million acres around our properties.


The system's rich information helps our team understand possible causes of fires and amass accurate data on the dimensions of fires. Fortified with this information, they can engage with tenants on various mitigation mechanisms and appropriate next steps.



### Positive impacts

- *Ability to respond to risks*
- *Engagement with tenants on fire management*



NATURE-POSITIVE PRINCIPLES		PRACTICES	INDICATORS	RESULT
	Regenerative land management	Soil health	Properties applying organic amendments	100%
			Properties incorporating crop residues and debris into soils	100%
		Resource optimization	Properties soil testing at least once every 3 years	86%
			Properties plant tissue testing	100%
			Properties with nutrient management plans following 4Rs principles†	100%
			Properties using crop protection practices that adhere to Integrated Pest Management principles	100%
			Properties water testing	100%
			Properties with flow meters	100%
			Properties using precision irrigation systems or methods	100%
			Properties using technologies to support irrigation management	100%
			Properties where efficiency of irrigation pumping equipment is monitored on an ongoing basis	100%
			Average irrigation pumps running on alternative fuels	100%
			Properties using GPS tracking technology for optimizing farm management	14%

Result coverage: 100% of area under management (as of December 2023)  
† 4Rs: right nutrients, at the right time, in the right place, and in the right quantity



	NATURE-POSITIVE PRINCIPLES	PRACTICES	INDICATORS	RESULT
	Nature-positive landscapes	Edge of field practices	Supporting land under management*	16%
			Properties with wildflower strips	78%
	Enriching communities	Safeguard well-being	Properties conducting health and safety training	100%
	Credible and transparent reporting	Certification	Acres certified or covered by third-party standard‡	81%

Result coverage: 100% of area under management (as of December 2023)

\* Supporting land comprises native vegetation, watercourses, and other natural habitats. Result is estimated based on satellite imagery, and may not fully reflect conditions on the ground.

‡ Including GLOBALG.A.P., FSMA, GLOBALG.A.P. Risk Assessment on Social Practice (GRASP), GLOBALG.A.P. SPRING

# Chile



## Enhancing agricultural biodiversity with “Operation Pollinator”

### CHILE

Nuveen Natural Capital has partnered with Syngenta’s Operation Pollinator to promote biodiversity and increase the population of insect pollinators on our farms. The program aims to create habitats tailored to local conditions and various insects’ needs, which include access to suitable food habitats, rich nutritional sources such as pollen and nectar, and safe refuge.

Using the program, our teams in Chile have successfully established the first flower strips on a horticulture property in the O’Higgins region. Through careful monitoring, teams confirmed that the strips provide pollinators with refuge and food, while also supporting species that provide natural pest control. The same flower seeds harvested from this property were later planted at two other farms.

Beyond cultivating flowers, our teams played a key role in planting quillays, a tree species native to Chile’s central region. A total of 500 trees were planted at two farms in the region.



## Positive impacts

- *Enhanced biodiversity*
- *Richer habitat for pollinators*
- *Natural pest control*

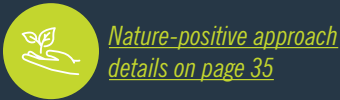
**“ We are beginning to see positive results. Areas near the crops require less intervention, given the presence of natural enemies, we’re observing insects that are not normally found in commercial orchards, and the diverse flowers bring natural beauty to the landscape.”**



**Danilo Muñoz**

Area Manager, Agrofarming S.A.



South America Timberland



NATURE-POSITIVE PRINCIPLES		PRACTICES	INDICATORS	RESULT
 <b>Regenerative land management</b>	Land & soil health	Properties with climate suitability assessment of tree species		<b>100%</b>
		Properties avoiding excessive soil disturbance <sup>†</sup>		<b>100%</b>
		Properties with mechanisms to increase carbon removals in soils <sup>‡</sup>		<b>33%</b>
		Properties with integrated fire management strategy		<b>100%</b>
	Resource optimization	Properties with water protection initiatives during all management phases		<b>100%</b>
		Properties with efficient utilization of forest resources residues <sup>§</sup>		<b>67%</b>
 <b>Nature-positive landscapes</b>	Supporting biodiversity	Portfolio area covered by protected native vegetation		<b>29%</b>
		Properties with a program to conserve biological diversity		<b>100%</b>
		Total area of conserved riparian buffers		<b>7.3K+ acres</b>

Result coverage: 59% of area under management (as of December 2023). Data not gathered for assets under disposition.

† Practices include reduced soil compaction techniques from the selection of equipment to the restriction of the movement of heavy machinery



‡ Referring to carbon projects

§ Such as woody debris naturally decomposing or sent to be converted into electricity

South America Timberland



Nature-positive approach  
details on page 35

NATURE-POSITIVE PRINCIPLES		PRACTICES	INDICATORS	RESULT
	Enriching communities	Safeguard well-being	Properties with health and safety training	100%
		Indigenous peoples and local communities	Properties with indigenous people engagement policies	100%
			Properties with stakeholder engagement policies	100%
			Properties with programs to protect important social or cultural value areas	100%
			Properties providing recreation access to local communities	100%
	Credible and transparent reporting	Certification	Acres certified by third-party standard <sup>II</sup>	92%

Result coverage: 59% of area under management (as of December 2023). Data not gathered for assets under disposition.

<sup>II</sup> FSC® - Forest Stewardship Council® (FSC - C122762)

# South America Timberland



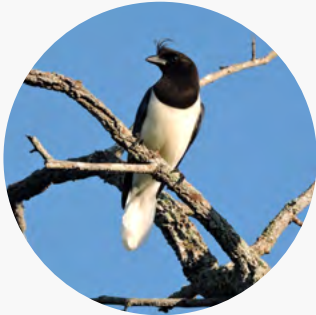
## Third-party audits attest to environmental and biodiversity practices

### BRAZIL

In 2023, the FSC® - Forest Stewardship Council® (FSC – C122762) conducted audits on our largest timber property in South America. All operations maintained their certifications, while one also garnered a declaration for ecosystem services and biodiversity maintenance.

A large part of this property’s domain has been identified as a High Conservation Value area. The Private Natural Heritage Reserve Vale do Anhanduí spans 1,360 acres in the state of Mato Grosso do Sul. A diligent survey identified rare, threatened, endemic and endangered species across various categories – nearly 200 flora species and 27 mammal species – underscoring the area's critical role in regional biodiversity conservation.

The team’s decade-long monitoring of flora and fauna species in this region has confirmed substantial improvements in biodiversity indicators, which correlate with the team’s preventive and mitigative efforts.



## Positive impacts

- Affirmation of forest management practices
- 10-year data record of native flora and fauna

“The Declaration of Ecosystem Services in Biodiversity Maintenance assigned by the audit is a testament to our active engagement in environmental protection, and recognizes our dedication to promoting sustainable practices that ensure a legacy for future generations.”

Adriane Sanches and Rosines Luciana Motta  
Environmental Consultants and Partners, Hotspot Ambiental



# South America Timberland



## Strategic practices aim to harmonize conservation, production, community

### COLOMBIA

As the need for sustainable practices intensifies, our timberland team in Colombia has made the integration of forest conservation with production a strategic cornerstone.

- **Preserving while producing** – Given its unique geographical features, our Colombia property allocates roughly half of its total land to commercial production of two tree varieties in the lowland dynamics of the Magdalena River, tributaries, and the Momposina Depression, while the other half is dedicated to preservation and non-planted areas.
- **Protecting species** – More than 1,673 acres of undisturbed Dry Tropical Forest have been identified as a High Conservation Value area, to be monitored and protected. Threatened species live within these areas, including the Belencita nemorosa shrub, and a dung-beetle, Malagoniella astyanax.



- **Community engagement** – In addition to creating nearly 100 jobs for women from 2016 to 2023, our financial support has contributed to strengthening the local Monterrey Forestal Mixed School, serving 120 students in 2023.



## Positive impacts

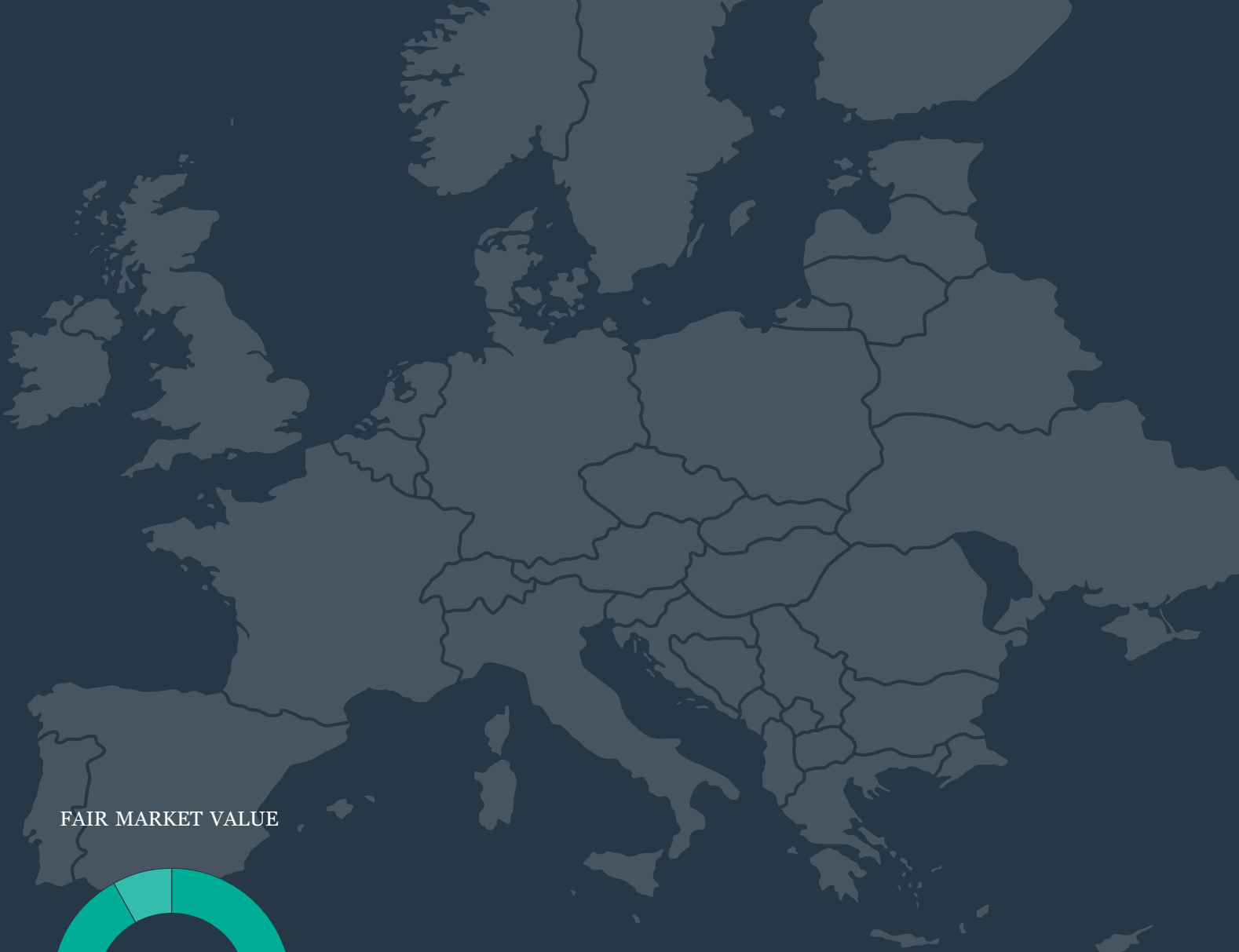
- *1,671 acres conserved, protecting native species*
- *Support for 120 students, jobs for 100 women*

TOTAL EUROPE PORTFOLIO

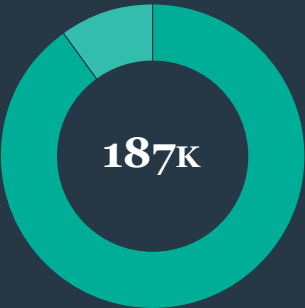
# Europe

*In Europe, Nuveen Natural Capital focuses its activities in Poland and Romania, which produce row crops and timber.*

● EUROPEAN OFFICE LOCATIONS

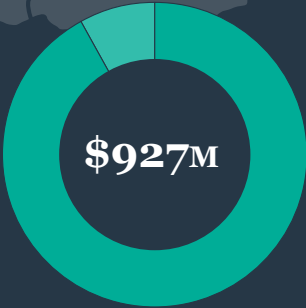


TOTAL ACRES



*Click crop names to view statistics*

FAIR MARKET VALUE




As of December 2023 in US\$. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

Europe



Nature-positive approach  
details on page 35

NATURE-POSITIVE PRINCIPLES	PRACTICES	INDICATORS	RESULT
 Regenerative land management	Soil health	Productive area practicing conventional tillage	24%
		Productive area practicing reduced till	66%
		Productive area practicing no till	10%
		Productive area with 3 or more crops in rotation	89%
		Productive area practicing cover cropping	14%
		Productive area maintaining over-winter stubble	11%
		Productive area where straw was chopped and incorporated	89%
	Resource optimization	Tenants soil testing at least once every 3 years	87%
		Tenants with nutrient management plans following 4Rs principles†	98%
		Tenants using crop protection practices that adhere to Integrated Pest Management principles	93%
		Tenants with water conservation management practices in place (on properties where applicable)	17%
		Tenants using precision irrigation systems or methods (on properties where applicable)	50%

Result coverage: 70% of area under management (as of December 2023)  
† 4Rs: right nutrients, at the right time, in the right place, and in the right quantity



Europe



Nature-positive approach  
details on page 35

	NATURE-POSITIVE PRINCIPLES	PRACTICES	INDICATORS	RESULT
	Nature-positive landscapes	Edge of field practices	Supporting land under management*	14%
			Buffers around watercourses in Poland	100%
	Enriching communities	Safeguard well-being	Tenants conducting health and safety training	85%
	Credible and transparent reporting	Certification	Acres certified or covered by third-party standard‡	80%

Result coverage: 70% of area under management (as of December 2023)  
\* Supporting land comprises native vegetation, watercourses, and other natural habitats. Result is estimated based on satellite imagery, and may not fully reflect conditions on the ground.  
‡ Including GLOBALG.A.P. and EU Organic Certification

## Europe



### Nature-Positive Farming Program engages tenants in holistic farming practices

#### POLAND

A new sustainable land management initiative – the Nature-Positive Farming Program – is engaging tenants in holistic farming practices. The program has four focus areas: preserving soil health, improving water management, enhancing biodiversity, and reducing greenhouse gas (GHG) emissions.

Through this program, interested tenants are offered longer-term (e.g., 10 to 15 year) lease contracts if they commit to implement a farming plan that spans practices tied to the focus areas. Among these practices are: cover cropping, four-crop rotation, and reduced tillage; limiting artificial inputs, placing buffer strips around water, and harvesting rainwater; and tree planting, bird boxes and bee-friendly planting.

In 2023, the program enrolled tenants who farm 11,100 acres, and we aim to expand it across the Poland portfolio over the next three to five years. The initiative has won *a 2023 Environmental Finance award* for its innovation and contribution to nature-based solutions in farming.



### Positive impacts

- Improved overall soil fertility and reduced GHG emissions
- Reduced risks of water pollution and efficient water use
- Enhanced biodiversity on and near farmland

**“We are looking forward to working with Nuveen Natural Capital over the next 10 years as we implement the Nature-Positive Farming initiative. Having a longer-term lease contract under the initiative allows us to plan our capital investments and implement a farm management strategy with the certainty of a secure land tenure while making our farming business more sustainable.”**

**Arek Grzech**

Farmer tenant, Poland

## Europe



### Associations formed to modernize irrigation capabilities

#### ROMANIA

Nuveen Natural Capital Romania seeks to improve how it accesses and uses water on 7,400 acres of its managed farmland through active participation in nine local irrigation associations. In partnership with local farmers, the company has supported the self-organization of end-users of water in local communities by establishing local irrigation associations in Constanta and Brăila counties. Each association will apply for European Union funding to co-finance the rehabilitation and modernization of irrigation infrastructure that often is non-functional, having been built as long as 50 years ago.



### Positive impacts

- *More efficient and reliable crop irrigation systems*
- *Reduced water loss and greater productivity*
- *Improved access to water during dry seasons*

**“Rehabilitation of the irrigation system is very important to me as a farmer, especially considering the persistent drought in recent years. With better irrigation we can obtain good quality production and much better crop rotations. Our collaboration with Nuveen Natural Capital on this project was, and is, very good.”**

**Nicu T. Moroiu**

Farmer tenant, Romania



# Asia Pacific

*Nuveen Natural Capital's investments in the Asia Pacific region are concentrated mainly in Australia, where multiple crops are produced.*

● ASIA PACIFIC OFFICE LOCATIONS

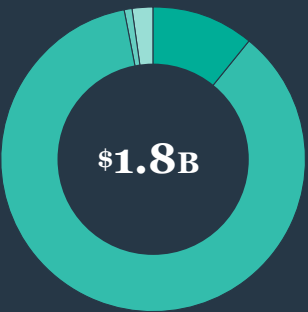


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TOTAL ACRES

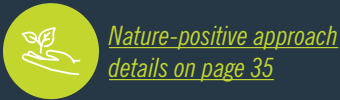


FAIR MARKET VALUE



As of December 2023 in US\$. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

Asia Pacific



NATURE-POSITIVE PRINCIPLES		PRACTICES	INDICATORS	RESULT
	Regenerative land management	Soil health	Productive area practicing conventional tillage	10%
			Productive area practicing reduced till	10%
			Productive area practicing no till	80%
			Productive area maintaining crop residues	81%
			Tenants applying erosion control techniques	67%
		Resource optimization	Tenants soil testing at least once every 3 years	61%
	Nature-positive landscapes	Edge of field practices	Supporting land under management*	10%
			Area of native vegetation in process of restoration	8.8K+ acres
	Enriching communities	Safeguard well-being	Tenants with a work, health and safety management system in place	100%
	Credible and transparent reporting	Certification	Acres certified or covered by third-party standard‡	63%

Result coverage: 100% of area under management (as of December 2023). Includes row crops only.  
\* Supporting land comprises native vegetation, watercourses, and other natural habitats. Result is estimated based on satellite imagery, and may not fully reflect conditions on the ground.  
‡ Including myBMP, Smartcane, Better Cotton Initiative (BCI), Freshcare, ISCC Canola, Bee Friendly Farming (BFF)

# Asia Pacific



## Environmental planting boosts biodiversity, sequesters CO<sub>2</sub>

### AUSTRALIA

Our team in Western Australia has launched a project designed to deliver environmental and biodiversity co-benefits. The project is establishing forest cover of permanent plantings, using at least 15 species of mixed native trees and shrubs, across 300 acres of land that in recent years has mainly been used for sheep and crop production. Projects such as this, which use the reforestation by environmental or mallee plantings FullCAM method, can earn Australian carbon credit units (ACCUs).

The project required strong collaboration across stakeholders, including the tenant, neighbors, the local community, contractors and multiple government agencies. Regulatory requirements included applying for and receiving approval for the development from federal and local government, as well as registering the project under the Clean Energy Regulator's Emissions Reduction Fund.

Planting commenced in July 2023. Project reporting will begin in July 2024 and geospatial technology will provide estimates of carbon abatement. The team's next steps include pest control, infill planting and enhancement of the corridor connectivity.

Over the life of the project we expect to sequester 9,000 tCO<sub>2</sub>e while expanding and protecting habitat for native fauna and flora species.



## Positive impacts

- Biodiversity and environmental co-benefits
- Mitigation of salinity and erosion risks to adjacent farmland
- Restoration of degraded land, improvement of water quality
- Eligibility to earn carbon credits for tCO<sub>2</sub>e stored in project trees

**“We were responsible for the supply and planting of native trees, shrubs and understory species across over 300 acres of the property, and found the Nuveen Natural Capital team to be highly engaged and committed to delivering a successful reforestation project. They embraced the project, allowing us to deliver it efficiently.”**

**Bill Davey**

Director, Plantation and Landcare Services



## Asia Pacific



### Fishway allows native species to thrive

#### AUSTRALIA

In 2023, a new fishway was created on one of Nuveen Natural Capital's properties in northern Queensland. The project involved replacing a pipe culvert causeway crossing with a concrete bed-level crossing, and installing a fish ladder farther along the creek. Fishways slow water flow and create resting pools for juvenile fish to ease their movement upstream. The passage also allows fish to breed, find waterholes in drier times, access food, and spread upstream.

The Terrain Natural Resource Management (NRM) group identified this crossing as one of 18 priority locations among 3,500+ fish barriers they studied in the region. Over the next few years a project group will monitor the impact of the project on the vitality of native fish species.



### Positive impacts

- *Access from salt water to fresh water for juvenile native fish species*
- *More sustainable recreational or commercial fisheries downstream*
- *Reduction in soil erosion, added biodiversity for creek environment*

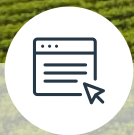


# Additional resources



## Global sustainability principles

Outlines sustainability principles for all of Nuveen Natural Capital, consistent with the UN Principles for Responsible Investment in Farmland. Our Zero Deforestation Policy is embedded within the Global Sustainability Policy.



## Farmland transparency map

Interactive mapping tool that provides an overview of property-level data for all farmland assets, including operating strategies, crop types and property boundaries.



## Faces from the field

Video vignettes that showcase the perspectives of our partnering tenants and crop managers, many of whom have been working with us for decades. Videos now feature: U.S. Timberland, Chile (Farmland), U.S. Farmland (Viticulture, U.S. Row).



## Sustainability Q&A

Document containing Nuveen Natural Capital's responses to sustainability-focused questions and concerns related to its investments in farmland. The Q&A is updated to maintain accuracy and transparency.



## Water management approach

Document sets out Nuveen Natural Capital's approach to optimizing and safeguarding water, where relevant.



## Carbon principles

Document outlining the principles that Nuveen Natural Capital uses to guide the development and execution of carbon projects generating credits.



# Closing statement

Nuveen Natural Capital is pleased with the progress achieved in 2023.

Moving forward, we will continue to strive to address the sustainability challenges facing the global food, fiber and timber value chains. Our solutions will be interconnected, strengthened by the synergies and contributions of our partners, property managers and tenants, and other stakeholders.

Guided by our values, we will continue to advance our sustainability objectives around Nature, Climate and People.



## Holistic strategy

- Nature, Climate, People
- Architecture to support
- Framework to measure



## Approach

- Embracing partnerships
- Striving for transparency
- Seeking continuous improvement



## Progress in 2023

- Disclosed responsible practices across business units, tailored to local contexts
- Upgraded methodologies for GHG accounting
- Embraced TNFD, built portfolio asset register

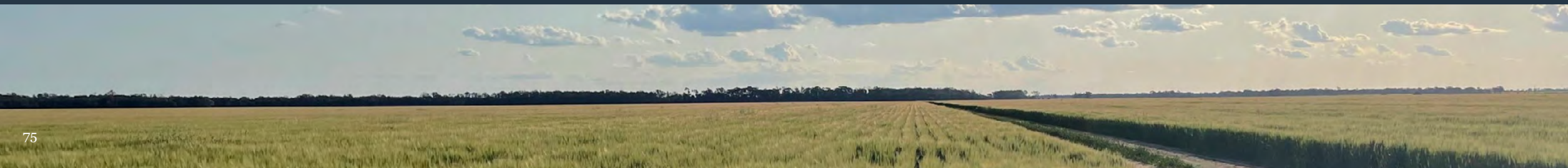


## 2024 and beyond

- Expand monitoring of outcomes and implementation of nature-positive practices
- Further integrate leading standards into our reporting
- Develop emissions-reduction roadmap



# Appendix



# Appendix – Natural capital balance sheet explanations

## Timberland natural capital balance sheet explanations:

**Asset values** and **Liabilities** are the aggregated flows of the estimated benefits and costs over the next 25 years. These are calculated as the present values using a discount rate of 5% for values to business (aligned with the Nuveen Natural Capital Weighted Average Cost of Capital) and 3% for values to society (aligned with U.S. policy guidelines).

**Total value** is the sum of value to the landowner (private) and society. Private benefits reflect current and estimated future income derived from the projected use of the property over the accounting period. Wider society benefits are provided to the general population and can be expressed in physical terms or, where possible, monetary terms. This breakdown sheds light on those values that are not immediately apparent if considered only through standard financial accounts.

**Asset values** will differ across properties, reflecting the varying benefits from nature they provide. There can be rounding differences in the numbers in the table.

**Total net asset value** is asset values minus liabilities. It is noted that the level of liabilities may not be sufficient to sustain the benefits in the account.

**Timber:** Timber production revenues are based on actual income for year 1, while years 2 to 25 relate to forecasts generated as part of Nuveen Natural Capital business and operational planning cycles.

### Carbon in the balance sheet:

- **Carbon sequestration** refers to the transfer of carbon between the atmosphere and non-atmospheric carbon pools. Here it is calculated as the difference between sequestration into the forest and emissions from activities conducted at the property. Data limitations mean emissions presented relate only to methane emitted from livestock held at the property, and not those resulting from business activities. Carbon stock data is derived from Nuveen Natural Capital's own modelling of forest habitats at the property (2023). Carbon gains (sequestration) are linked to projected annual growth rates in timberland standing volumes and are valued at the projected U.S. Government social cost of carbon.
- **Carbon in timber removed from property:** carbon leaves the property embedded in the harvested timber. This is recorded separately from sequestration because the carbon is not emitted into the atmosphere (where it contributes to climate change). The subsequent profile of storage in wood products or decay into atmospheric carbon will depend upon consumer use, which would be recorded in a life-cycle assessment (LCA). This is beyond the scope of this account (which is Scope 1 as defined in the BSI 8632:2021 standard). An appropriate \$ value per tCO<sub>2</sub>e of embedded carbon in timber has not been identified, so it is recorded in 'material non-monetized asset values'.

**Air quality value:** health benefit from vegetation removing PM<sub>2.5</sub> particulate pollutants from the air, based on i-Tree Canopy tool data derived from Nowak et al. (2014).<sup>8</sup>

**Recreation:** The property generates some private benefit from hunting lease sales, albeit an amount too small to be material. Data limitations do not allow us to estimate broader societal value from recreation.

**Material non-monetized asset values** report any material costs and benefits that could only be measured in units other than money at this stage. Biodiversity data is primarily from IBAT.<sup>9</sup> The management of riparian buffers contributes to maintaining soil quality, reducing flood risk and protecting water quality. For carbon removals embedded in harvest timber, see 'carbon' notes.

**Production costs:** costs for the production of timber, sourced from Nuveen Natural Capital's accounts.

**Natural capital maintenance:** maintenance costs are costs needed to sustain the quality and quantity of natural capital assets and the flow of benefits over the accounting period (e.g., riparian forest buffers). These costs are from Nuveen Natural Capital's own data.

**Disclaimer:** While eftec and Nuveen Natural Capital have endeavored to provide accurate and reliable information, they are reliant on the accuracy of underlying data provided and data readily available in the public domain. Neither eftec nor Nuveen Natural Capital will be responsible for any loss or damage caused by relying on the content contained in this report.

# Appendix – TNFD disclosures

## Core global disclosure indicators and metrics

Metric no.	Indicator	Farmland	U.S. Timberland
	GHG emissions	Scope 1: 50,326 tCO2e	Scope 1: 59,325 tCO2e Scope 1 biogenic: 102 tCO2e
		Scope 2: 6,011 tCO2e	Scope 2: 3 tCO2e
		Scope 3: 524,220 tCO2e	Scope 3: 87,507 tCO2e
C1.0	Total spatial footprint	Total surface area controlled/managed: 2M+ acres (8.1K km2)	Total surface area controlled/managed: 424K+ acres (1.7K km2)
		Total disturbed area: no data available	Total disturbed area: no data available
		Total rehabilitated/restored area: 14K+ acres (57 km2) in progress of restoration across Brazil, Chile and Australia	Total rehabilitated/restored area: no data available
C1.1	Extent of land/freshwater/ocean-use change	Land/freshwater/ocean ecosystem use change: Nuveen Natural Capital's Zero Deforestation Policy outlines our approach to ensuring that our investments do not deforest / convert as per the UN and FAO definition, while abiding by all local regulation. Read more at nuveen.com/naturalcapital	Land/freshwater/ocean ecosystem use change: Nuveen Natural Capital's Zero Deforestation Policy outlines our commitment to ensuring that our investments do not deforest as per the UN and FAO definition, while abiding by all local regulation. Read more at nuveen.com/naturalcapital
		Land/freshwater/ocean ecosystem conserved or restored: <ul style="list-style-type: none"><li>• 508K+ acres (2K+ km2) of supporting land under our stewardship across our portfolio</li><li>• 210K+ acres (850 km2) of native vegetation within farmland properties in Brazil that is protected voluntary or required by regulation</li></ul>	Land/freshwater/ocean ecosystem conserved or restored: <ul style="list-style-type: none"><li>• 39K+ acres (158 km2) of supporting land under our stewardship across our portfolio</li><li>• 77K+ acres (310 km2) of conservation area that is protected voluntary or required by regulation</li></ul>
		Land/freshwater/ocean sustainably managed: proportion of the farmland portfolio that is third-party certified: 1.1M+ acres (4.4K km2).	Land/freshwater/ocean sustainably managed: proportion of our U.S. timberland portfolio that is third-party certified: 424K+ acres (1.7K km2)
C2.0	Pollutants released to soil split by type	Managing for soil health includes: monitoring of agricultural inputs (e.g., fertilizer and pesticides); and applying beneficial soil management practices (e.g. cover cropping and minimum till or no-till methods). We collect data on practices applied and fertilizer usage annually.	Pesticide application in forest management is one component of an integrated pest management strategy, and is implemented after assessing alternative control methods. Following regulatory and certification standards, pesticides are applied prioritizing the protection of employees, neighbors and wildlife habitat.
C2.1	Wastewater discharged	Not applicable. Where irrigation is necessary in our operations, water management practices are applied, including water-saving infrastructure (e.g., drip and micro-sprinkler systems) or technology to monitor water use (e.g., remote soil moisture sensors). We also seek to improve water supply by recycling or recovering water overflows or developing water recharge facilities. Please refer to our water management approach at nuveen.com/naturalcapital	No data available
C2.2	Waste generation and disposal	No data available	No data available

Metric no.	Indicator	Farmland	U.S. Timberland
C2.3	Plastic pollution	No data available	No data available
C2.4	Non-GHG air pollutants	Non-GHG air pollutants: no data available. Nuveen Natural Capital focuses on calculating its greenhouse gas emissions from crop production which includes CO2, N2O and CH4.	Non-GHG air pollutants: no data available. Nuveen Natural Capital focuses on calculating its greenhouse gas emissions from timber production which includes CO2, N2O and CH4.
C3.0	Water withdrawal and consumption from areas of water scarcity	Nuveen Natural Capital recognizes the criticality of sustainable water management and has consistently set out to optimize efficient water use in our operations. Our approach to water management in areas of water scarcity is guided by six principles: 1) prioritize long-term water supply reliability when selecting properties, 2) optimize land use based on water characteristics, 3) pursue opportunities to improve water supply, 4) prioritize efficient water demand management through farming operations, 5) develop local and global expertise in water management and 6) continuous improvement and collaboration mindset. Read more at nuveen.com/naturalcapital	Not applicable. The water use involved in forest management operations is immaterial when compared to other industries. We take measures to protect water quantity through responsible management practices including minimizing water use for chemical application and planting of species appropriate to the site to minimize water use in areas of water scarcity.
C3.1	Quantity of high-risk natural commodities sourced from land/ocean/ freshwater	63% of our farmland portfolio is third-party certified (e.g. GLOBALG.A.P., Bonsucro, Better Cotton Initiative, RTRS).	100% of U.S. timberland properties are certified to the Sustainable Forestry Initiative® (SFI®) Standard.
C4.0	Placeholder indicator: Measures against unintentional introduction of invasive alien species (IAS)	Integrated pest management (IPM) is employed to manage invasive species, pests, and pathogens. Our application of IPM tools and strategies may include rotating pesticide modes of action or adopting biological pest control methods.	Integrated pest management (IPM) is employed to manage invasive species, pests, and pathogens. This involves both mechanical and chemical control of IAS coupled with education and outreach regarding the issues that allow them to proliferate. We also support research and sponsor co-operatives focused on forest health.
C5.0	Placeholder indicator: Ecosystem condition	We recognize the potential for all lands to increase natural capital; this includes “productive” land for generating food, timber and fiber, as well as “supporting” land, which includes native vegetation, buffer zones and wildflower strips. Where possible, we seek to measure the condition of natural capital as well as promote practices that improve condition over time through protection, restoration and other nature-positive practices.	We recognize the potential for all lands to increase natural capital; this includes “productive” land for generating food, timber and fiber, as well as “supporting” land, which includes native vegetation, buffer zones and wildflower strips. Where possible, we seek to measure the condition of natural capital as well as promote practices that improve condition over time through protection, restoration and other nature-positive practices.
	Placeholder indicator: Species extinction risk	A number of practices applied on our farmland properties seek to protect and support biodiversity in-field. These include tailoring agricultural processes to limit disruptions to wildlife activity. Additional practices are applied on the edge-of-fields such as restoration and protection of native vegetation or planting wildflower strips and wind breaks.	A number of practices applied on our timberland properties seek to protect and support biodiversity. These include tailoring forestry processes to limit disruptions to wildlife activity. For the properties that we currently manage, we screen for threatened or endangered species and any globally imperiled species.



# Appendix – TNFD disclosures *(continued)*

## Proposed core Forestry sector disclosure indicators and metrics

Indicator	U.S. Timberland
Forest certification	100% of U.S. timberland properties are certified to the Sustainable Forestry Initiative® (SFI®) Standard
Forest conservation/restoration	30K+ acres of our U.S. timberlands are designated protected areas

## Proposed core Food sector disclosure indicators and metrics

Indicator	Farmland
Deforestation-free products	Nuveen Natural Capital's Zero Deforestation Policy outlines our commitment to ensuring that our investments do not deforest as per the UN and FAO definition, while abiding by all local regulation. Read more at nuveen.com/naturalcapital
Regenerative or sustainable land management	On an annual basis, Nuveen Natural Capital collects and reports on key performance indicators (KPIs) for practices that seek to contribute to nature-positive outcomes. These practices are context specific (crop type, climate, etc.) so results are reported at a business unit level. <a href="#">Read more starting page 35.</a>
Waste management	No data available
Products from areas of water stress	<p>The following data presents a water risk assessment of our managed agriculture assets as scored by the Verisk Maplecroft tool, which provides geographic assessments of water risk under the topic of water stress. The data is weighted by asset count, and each asset is given a risk rating on a 10 point scale. The risk rating does not account for asset-level water supply characteristics (such as if the asset is part of a water district or has access to multiple water sources) or water management plans that Nuveen Natural Capital employs that may partly or wholly mitigate the water risks identified by the risk tool. The percentage of agriculture properties' baseline water stress according to the tool are:</p> <ul style="list-style-type: none"><li>• Extreme: 34%</li><li>• High: 15%</li><li>• Medium: 19%</li><li>• Low: 32%</li></ul>

## Proposed additional Forestry sector disclosure indicators and metrics

Indicator	U.S. Timberland
Land use change: area of high biodiversity value or high conservation value protected	5K+ acres Forests with Exceptional Conservation Value in the U.S.
Water use: water withdrawn per tonne of saleable production	Not applicable
Water use: water consumed in regions of high water stress	Not applicable
Other resource use: area used for the production of natural commodities	424K+ acres of land is managed for the production of sustainable forest products. 100% of U.S. timberland properties are certified to the Sustainable Forestry Initiative® (SFI®) Standard.
Biological alterations: non-purposefully introduced species, varieties or strains	No data available
Ecosystem services	The expansion of Nuveen Natural Capital's suite of Natural Capital Accounts has bolstered our ability to monitor flows of ecosystem services provided by natural capital at our timberland properties. These include flows relating to provisioning services (timber), regulating services (carbon sequestration and storage, air quality), and cultural services (recreation). <a href="#">See details starting page 17.</a>

# Appendix – TNFD disclosures *(continued)*

## Proposed additional Food sector disclosure indicators and metrics

Indicator	Farmland
Land-use change: > 10%, >20% natural vegetation	15% of properties with $\geq$ 10% of their acreage in supporting land
	12% of properties with $\geq$ 20% of their acreage in supporting land
Land-use change: actual and potential yield by crop	Nuveen Natural Capital endeavors to estimate protein, calorie and fiber provisions from our portfolio. These estimates are based on harvested, not processed, amounts from our farmland production. <a href="#">See page 32</a> for more details.
Land-use change: crop breed diversity	50+ crop types in production across our horticulture, viticulture and row crop portfolio.
Greenhouse gas emissions: refrigerants	Not applicable
Water pollution: water discharged per tonne of crop	No data available
Water pollution: wastewater discharged	Not applicable
Water pollution: loading rate	No data available
Waste: food loss and/or waste	No data available
Waste: nutritional density of food waste	No data available
Waste: weight of non-plastic packaging	Not applicable
Waste: % non-plastic packaging from recycled, renewable, compostable materials, % that is recycled, reused or composted	Not applicable
Soil pollution: avoided pesticide use per hectare	No data available
Soil pollution: nitrogen use efficiency	No data available
Biological alterations	Not applicable
Ecosystem condition: soil degradation	No data available
Ecosystem condition: litter in water column	Not applicable
Ecosystem condition: eutrophication	No data available
Ecosystem condition: pesticides by location	No data available
Ecosystem condition: volume of discharge flow and mass of nutrients	No data available

Indicator	Farmland
Ecosystem condition: changes in soil organic carbon stocks over 5+ year	Soil Organic Carbon is an indicator of soil health. As part of our Nature-Positive Farming Program in Europe, SOC levels will be monitored through soil sampling as well as satellite imagery. This will help us understand the changes in soil health as improved sustainable farming practices are implemented. <a href="#">See page 67</a> for more details about the Program.
Extinction risk: Species Threat, Abatement and Restoration (STAR)	Nuveen Natural Capital uses the Integrated Biodiversity Assessment Tool (IBAT) which provides access to the Species Threat Abatement and Restoration metric (STAR) data layer. Analysis is conducted at an asset level for those assets where natural capital accounts are being produced, or for areas deemed high-risk.
Extinction risk: Red List Index	Nuveen Natural Capital uses the Integrated Biodiversity Assessment Tool (IBAT) which provides access to the IUCN Red List of Threatened Species. Analysis is conducted at an asset level for those assets where natural capital accounts are being produced, or for areas deemed high-risk.
Population size: local species population index	Enhancing biodiversity is a pillar of our Nature-Positive Farming Program in Europe. For each farm under the program, a biodiversity evaluation is conducted to assess the population of local flora and fauna species and actions for improvement are proposed. <a href="#">See page 67</a> for more details about the Program.
Population size: diversity of pollinators and natural predators	No data available

# Important information

For more information, please visit [nuveen.com](https://nuveen.com).

### Endnotes

- 1 UNFCCC. 2023. COP28 UAE Declaration on Sustainable Agriculture, Resilient Food Systems, and Climate Action. UAE. <https://www.cop28.com/en/food-and-agriculture>
- 2 FAO. 2023. The State of Food and Agriculture 2023 – Revealing the true cost of food to transform agrifood systems. Rome. <https://doi.org/10.4060/cc7724en>
- 3 U.S. Department of Agriculture (n.d.) FoodData Central. <https://fdc.nal.usda.gov/index.html>
- 4 U.S. Department of Agriculture and U.S. Department of Health and Human Services. (December 2020) Dietary Guidelines for Americans, 2020-2025. 9th Edition. [https://www.dietaryguidelines.gov/sites/default/files/2021-03/Dietary\\_Guidelines\\_for\\_Americans-2020-2025.pdf](https://www.dietaryguidelines.gov/sites/default/files/2021-03/Dietary_Guidelines_for_Americans-2020-2025.pdf)
- 5 British Nutrition Foundation (n.d.) Protein. <https://www.nutrition.org.uk/healthy-sustainable-diets/protein/?level=Health%20professional>
- 6 California Cotton Ginners & Growers Association (n.d.) How Much Cotton Does It Take? <https://ccgga.org/cotton-information/much-cotton-take/>
- 7 Kilgore, G. (2023) How Many Trees Does it Take to Build a House? (Every Home Type) 8 Billion Trees. <https://8billiontrees.com/trees/how-many-trees-does-it-take-to-build-a-house/>
- 8 Nowak J.D., Hirabayashi, S., Bodine, A., Greenfield, E. (2014). Tree and forest effects on air quality and human health in the United States. Environ Pollut. 193:119-129. DOI: 10.1016/j.envpol.2014.05.029
- 9 IBAT PS6 & ESS6 Report. Generated under license 33359-42366 from the Integrated Biodiversity Assessment Tool on 03 May 2023 (GMT). [www.ibat-alliance.org](http://www.ibat-alliance.org)

### Risks and other important considerations

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**Past performance is no guarantee of future results.** All investments carry a certain degree of risk, including the possible loss of principal, and there is no assurance that an investment will provide positive performance over any period of time. Certain products and services may not be available to all entities or persons. There is no guarantee that investment objectives will be achieved.

As an asset class, agricultural investments are less developed, more illiquid, and less transparent compared to traditional asset classes. Agricultural investments will be subject to risks generally associated with the ownership of real estate-related assets and foreign investing, including changes in economic conditions, currency values, environmental risks, the cost of and ability to obtain insurance and risks related to leasing of properties.

Timberland investments are illiquid and their value is dependent on many conditions beyond the control of portfolio managers. Estimates of timber yields associated with timber properties may be inaccurate, and unique varieties of plant materials are integral to the success of timber operations; such material may not always be available in sufficient quantity or quality. Governmental laws, rules and regulations may impact the ability of the timber investments to develop plantations in a profitable manner. Investments will be subject to risks generally associated with the ownership of real estate-related assets and foreign investing, including changes in economic conditions, currency values, environmental risks, the cost of and ability to obtain insurance and risks related to leasing of properties.

Responsible investing incorporates Environmental Social Governance (ESG) factors that may affect exposure to issuers, sectors, industries, limiting the type and number of investment opportunities available, which could result in excluding investments that perform well.

ESG integration incorporates financially relevant ESG factors into investment research in support of portfolio management for actively managed strategies. Financial relevancy of ESG factors varies by asset class and investment strategy. Applicability of ESG factors may differ across investment strategies. ESG factors are among many factors considered in evaluating an investment decision, and unless otherwise stated in the relevant offering memorandum or prospectus, do not alter the investment guidelines, strategy or objectives.

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