



Land and Water

To protect the natural resources of land and water, Cargill and our supply chain partners are focused on ensuring agricultural production is more sustainable in ways that support healthier ecosystems and support farmer resiliency so that people and the planet thrive for the long term.

Our approach: Land

Cargill's commitment to sustaining important natural resources begins with the stewards of our earth—farmers.

We are working with farmers as they transition to more sustainable farming practices through land-use programs designed to protect our planet's limited resources through nature-based solutions, while also supporting the economic viability of farming and rural communities.

As a connector across the food supply chain, we are partnering with farmers, customers, industry groups, NGOs, and governments to help scale our sustainability efforts around the world through four strategic land-management pillars:



Protect

We partner with farmers to protect forests and other important ecosystems.

Regenerate

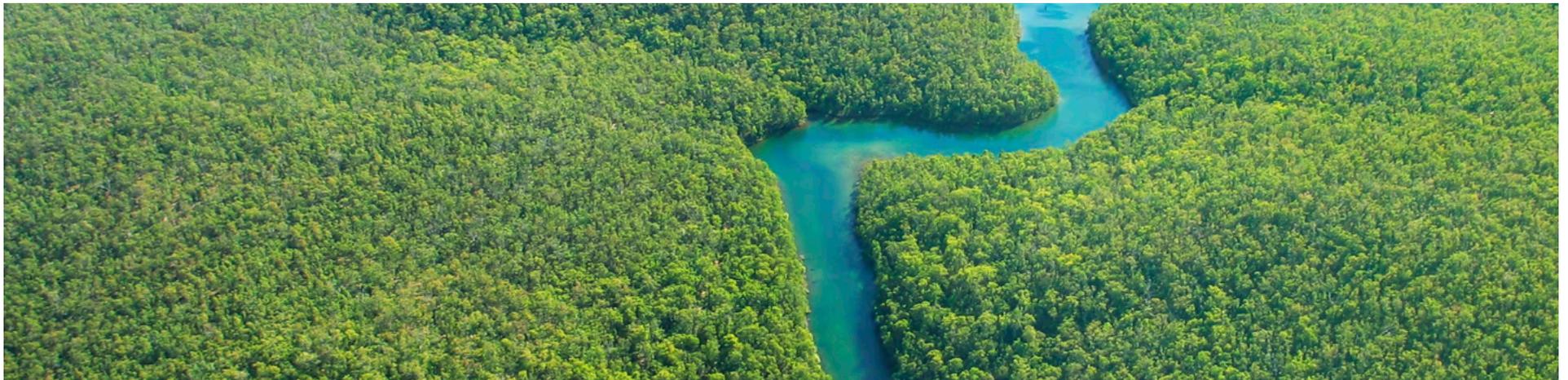
We promote regenerative agriculture practices to mitigate climate change and protect our water resources in ways that are beneficial to farmers.

Restore

We restore degraded land and champion biodiversity to create a forest-positive future.

Innovate

We deliver innovative solutions, often in alliances with key partners, to make agriculture more sustainable and productive.



Protect

Conserving land in the agriculture industry is critical to mitigating climate change and protecting biodiversity.

Cargill is working to eliminate deforestation from our supply chains in the shortest time possible. We are focused on assisting farmers in ecologically sensitive areas, as well as increasing transparency through supply chain traceability and offerings of verified Deforestation- and Conversion-Free (DCF) products for our customers.

Cargill's forest commitments and policy

Cargill is committed to transforming our global agricultural supply chains to be deforestation-free by 2030, and we are accelerating our efforts starting in areas of higher risk.

Our [Policy on Forests](#) lays out our approach for achieving this target globally, and is founded on our belief that farming and forests can and must coexist. Our top priorities for action are in our cocoa, palm, and soy supply chains. See [Sustainable Supply Chains](#) in this report for additional details.



Increasing supply chain visibility

To prevent deforestation, we are expanding supply chain transparency and investing in traceability solutions to identify risks and take action together with farmers, communities, and the food and agriculture sector. We geolocate farms in our supply chain by mapping their boundaries and creating polygon maps. We overlay these maps with geospatial data from satellites, including from the World Resources Institute's (WRI) business tool, Global Forest Watch Pro, and deforestation-alerting tools. This helps us assess changes in land use and forest cover when they happen and respond with appropriate interventions.



Protecting forests in Brazil

Brazil is one of the most diverse ecosystems on Earth, and the source of some of the world's top food ingredients. Supporting local farmers while at the same time protecting these vital ecosystems is crucial to mitigating global climate change and food security.

Cargill is connecting across agriculture, environmental, academic, and business stakeholders to implement programs that provide farmers with resources to implement more sustainable practices. We believe that in order to transform the supply chain to be deforestation- and conversion-free, we must provide economically viable solutions for farmers.



“Creating agricultural systems that provide economic returns to farmers while making efficient use of natural resources is imperative to creating lasting change in Brazil. We are proud to partner with Cargill in their efforts to support farmers in Brazil that, in return, will have a positive global impact.”

Pollyanna Câmara
Partner, Preserv Consultant, Maranhão, Brazil

Expansion of Triple S Soy

While working to transform our entire supply chain, we are increasing our offerings of verified DCF products. For example, our **Triple S (Sustainably Sourced & Supplied)** soy scheme is verified DCF and available to all our customers globally. Through Triple S, farmers receive the necessary technical assistance to make the transformation needed to achieve more sustainable agriculture practices. In addition, farmers are incentivized through premium payments.

In 2021, we expanded Triple S to Argentina, and to date have enrolled nearly 400 farms across South America. See **Sustainable Supply Chains: Soy** to learn more about the actions we are taking.



Sustainable change within the palm oil supply chain

Environmental and social sustainability issues have long challenged the palm oil supply chain. But Cargill is leveraging our presence and resources to make meaningful, sustainable change through targeted landscape programs that combat deforestation.

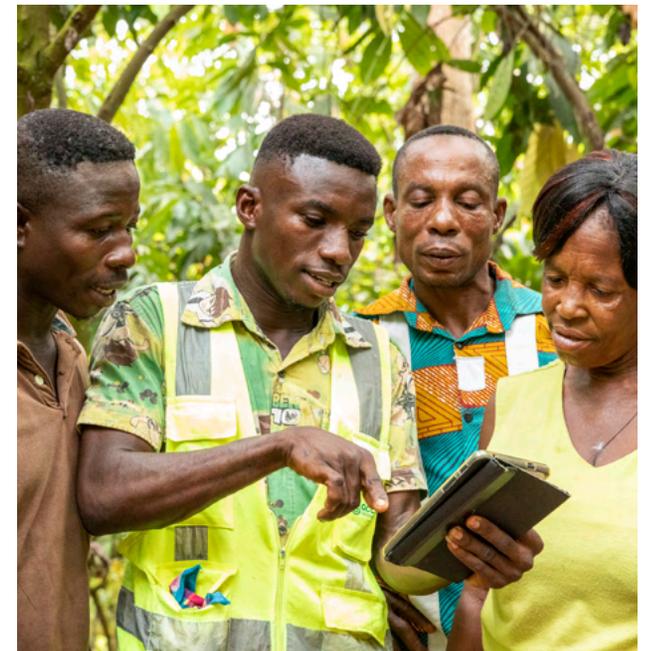
In Indonesia, Cargill is collaborating with local governments, NGOs, producers, and smallholders to achieve sustainable land use in the Siak and Pelalawan districts. These efforts—also underway in the areas of South Sumatra and West Kalimantan where our palm business operates—focus on developing and piloting sustainable approaches that also improve smallholder livelihoods.

In Colombia, we have undertaken a similar landscape program to scale up No Deforestation, No Peat, No Exploitation (NDPE) policy implementation in and near the Lebrija River Basin. See **Sustainable Supply Chains: Palm Oil** to learn more about the actions we are taking.



Mapping our cocoa supply chain

Protecting, regenerating, and conserving our planet's resources is a complex equation. We are deploying technology to give us unprecedented visibility into our cocoa supply chain which helps us map farms, trace cocoa, assess deforestation risk, and engage suppliers. We use GPS to map the polygon farm boundaries, and have mapped 70% of all farmers participating in the Cargill Cocoa Promise program. GPS polygon maps and geospatial data based on satellites allow us to monitor tree-cover loss and assess land-use change and deforestation risks. The data we obtain through this technology is very precise and it enables us to map and monitor the individual sources of cocoa, which are frequently very small farms. This way of monitoring benefits farmers, too, as it helps provide greater assurance to the market, consumers, and regulators that they are growing cocoa in a responsible and sustainable way. See **Sustainable Supply Chains: Cocoa & Chocolate** to learn more about the actions we are taking.



Regenerate

Soil does more than provide nutrients for plant growth. Healthy soil also uses plants' photosynthesis to pull carbon from the atmosphere, improve water quality, increase drought resilience, and enhance farmer livelihoods.

That's why Cargill is focused on unlocking the potential of farmland and natural ecosystems by advancing regenerative agriculture practices and policy solutions that benefit farmers, ranchers, customers, and the broader food system. Many of our major programs offer multiple environmental benefits, such as BeefUp and Cargill RegenConnect™, which are detailed in the **Climate** section. Below we have featured additional programs that work to scale up regenerative agriculture practices in key regions around the world.

Scaling up regenerative agriculture

While pockets of regenerative agriculture systems exist around the world, there is a need to more rapidly scale soil health practices so that nature and people, including farmers, can reap the benefits. Cargill is working with partners, customers, and other stakeholders to spearhead the transition across the globe.



Our commitment: Regenerate 10 million acres

In support of our effort to build more sustainable supply chains globally, we are working with farmers to advance regenerative agriculture practices across **10 million acres of North American row crop** farmland by 2030. These include practices like planting cover crops, reducing tillage, and optimizing nutrient management.

Through our collaborative efforts with farmers, we have supported adoption of regenerative agriculture practices on more than 158,000 acres since setting this commitment in 2020, with agreements already in place to implement practices on more than 700,000 acres over the next year.

In addition to this goal focused on crops, we are exploring ways ranchers can adopt sustainable grazing practices to harness the potential of their cattle to restore and protect prairies and other natural ecosystems through our BeefUp Sustainability programs. And we're making sure it's all done in a way that offers long-term sustainability benefits to ranchers and local communities.



The Soil and Water Outcomes Fund

Cargill's partnership with the Soil and Water Outcomes Fund helps row crop farmers implement new regenerative agriculture practices. Farmers are incentivized on a per-acre basis for adopting practices like planting cover crops, reducing tillage, and optimizing nutrient management.

Between March 1, 2021 and February 15, 2022, Cargill supported the expansion of more than 81,000 acres of Iowa farmland in the program, and purchased Verified Emissions Reductions (VERs) of more than 72,000 metric tons of CO₂e.

Additionally, Cargill supported water quality improvements, including preventing more than 563,000 pounds of nitrogen and more than 38,000 pounds of phosphorus from entering rivers and streams.



Reducing carbon emissions in Europe

Cargill and **Soil Capital** are helping farmers in France and Belgium adopt regenerative agriculture practices like cover crops and reduced tillage. Through a pilot project in the wheat supply chain, farmers have been selecting practices that deliver a carbon farm management system designed to reduce carbon emissions on their farms. Cargill is committed to purchasing carbon certifications, which verify the emission reduction and carbon sequestration outcomes achieved through these regenerative agriculture farming practices.

Our goal for this pilot project is to demonstrate a meaningful reduction in the net greenhouse gas (GHG) emissions of participating farms, in line with our Scope 3 targets to reduce supply chain emissions 30% by 2030. Our initial results have shown success with this approach, and we are now initiating a scale-up phase that is Europe-wide in scope.



Measuring the economics of soil health

Cargill partnered with the Soil Health Institute to assess, demonstrate, and communicate the economics of regenerative soil health systems. The Institute interviewed 100 farmers across nine Midwest (U.S.) states to assess impacts of soil health management practices on farmers' profitability.

Key findings include:

Net income increased for **85%** of farmers growing corn and **88%** of farmers growing soybeans using a soil health management system.

Net farm income increased by **\$52** per acre for farmers growing corn and by **\$45** per acre for farmers growing soybeans with a soil health system.

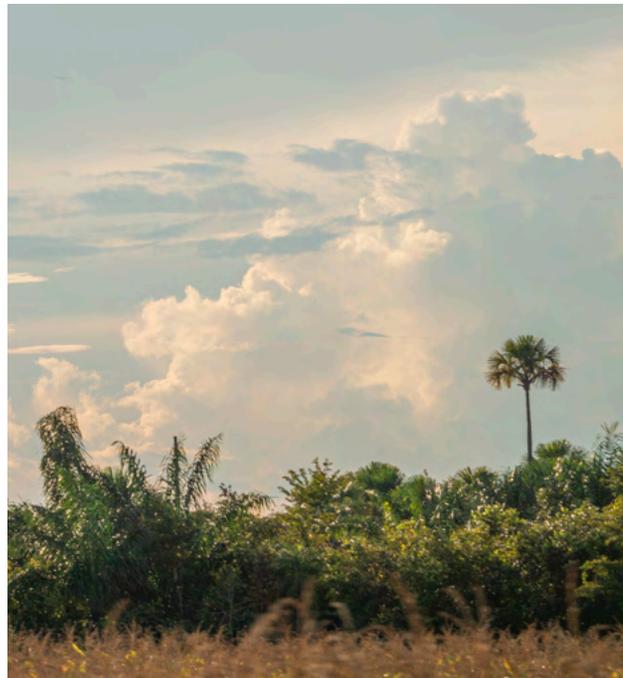
These practices reduced the average cost of growing corn by **\$24** per acre and soybeans by **\$17** per acre.

Farmers also reported additional benefits, with **97%** reporting increased crop resilience to extreme weather, **93%** reporting increased access to their fields, and **67%** reporting higher yields with soil health management systems.

Restore

In addition to protecting land from deforestation, we are also working to restore previously altered land by bringing back the most effective natural climate solutions—trees and soil.

Cargill’s investments in restoration projects are primarily focused on some of the most critical regions in our cocoa, palm, and soy supply chains—from Côte d’Ivoire to Brazil, which are home to farming communities and environmentally significant biomes like Brazil’s Cerrado. We are working with restoration specialists, NGOs, and community partners to scale restoration programs regionally and locally in these important ecosystems.



Agroforestry in cocoa-growing communities

In Côte d’Ivoire and Ghana, increasing pressure from a wide range of sources, including migration, logging, and other crop production, threatens the ecological integrity of forests.

Cocoa farmers are often exposed to a variety of external variables that make it hard to secure stable livelihoods and may push them to expand further into forest areas, converting new lands to meet the increased demand for cocoa and other crops to support their livelihood needs. This contributes to a cycle that creates long-term problems for forests and farmers alike.

That is why Cargill and PUR Projet are collaborating on an agroforestry project that is helping to restore depleted areas, while also further diversifying the incomes of cocoa farmers. Cargill helps fund the cost of seedlings, provides expertise on the ground, and offers direct engagement with cocoa growers whose soil for farming improves in quality when nearby forests regenerate.

To date, Cargill’s collaboration with PUR Projet has enabled close to

500,000 trees

from 17 different species to be planted on the cocoa farms of more than 4,600 farmers.



“I am replanting trees for my children, to keep living from cocoa and provide a livelihood for my family. Trees are our common heritage; that’s why we must take care of them.”

Ouatara Shaka
Cocoa Grower, Bossoha, Côte d’Ivoire

Restoration in South American ecosystems

Cargill committed to providing \$1.8 million to WRI as the secretariat for Initiative 20x20, a country-led effort seeking to protect and restore 50 million hectares of land by 2030. The partnership aims to change the dynamics of land degradation in Latin America and the Caribbean, uniting 18 national governments, three regional governments, and more than 100 technical and financial partners. Cargill's grant has supported actions to build the investment foundation for transformative projects with innovative approaches to restoration.

Some of these include:

Establishing a more than **146,000-hectare** carbon concession (a concession with the objective of maintaining the existing vegetation and thus the carbon it contains) in the State of Rondônia, Brazil.

Developing capacity to propagate native species for commercial use and for restoration on **50,000 hectares** of land.

Using native species as anchors in agroforestry programs across **280,000 hectares** of land.

Analyzing the applicability of new financial mechanisms to restore degraded pastures.

In addition, Cargill recently launched new partnerships and programs to restore 100,000 hectares of altered land over the next five years in Brazil. This is an area similar in size to New York City. From carbon sequestration to conserving biodiversity, soil, and water, work is underway to restore many altered areas—including Matopiba in the Taquaruçu Grande River Basin, which supplies drinking water to a city of more than 300,000 people in central Brazil.



Innovate

Cargill is investing in all areas across our supply chain, developing state-of-the-art products, programs, tools, and services that empower farmers and customers to be the best stewards possible of the world's ever-limited natural resources.

We prioritize investments in innovations that have the potential to scale impact—across multiple supply chains, geographies, and customer segmentations. We also emphasize technologies that are both practical and beneficial to farmers, customers, and other partners in the supply chain.

Land Innovation Fund

The **Land Innovation Fund for Sustainable Livelihoods (LIF)** [☑]—which Cargill launched with a commitment of \$30 million—is actively funding projects that will empower farmers and protect forests across South America.

One of the LIF projects, in partnership with Brazil-based AgTech Garage, is the Sustainable Soy for the Cerrado Program. Launched in 2021, 21 startups have been supported to design, test, and pilot innovative solutions to transform the soy supply chain to deforestation- and conversion-free in the Cerrado biome of Brazil. Under this program, the agribusiness startup ecosystem, the academic sector, and soy farmers are engaged in the process to help ensure farmer relevancy. See **Sustainable Supply Chains: Soy** for additional details.

Bringing digital traceability to scale

Cargill deploys advanced technology to give unprecedented visibility into our supply chains, helping us map farms, trace commodities, assess deforestation risk, and engage suppliers. Among our digital traceability initiatives are:

CocoaWise™

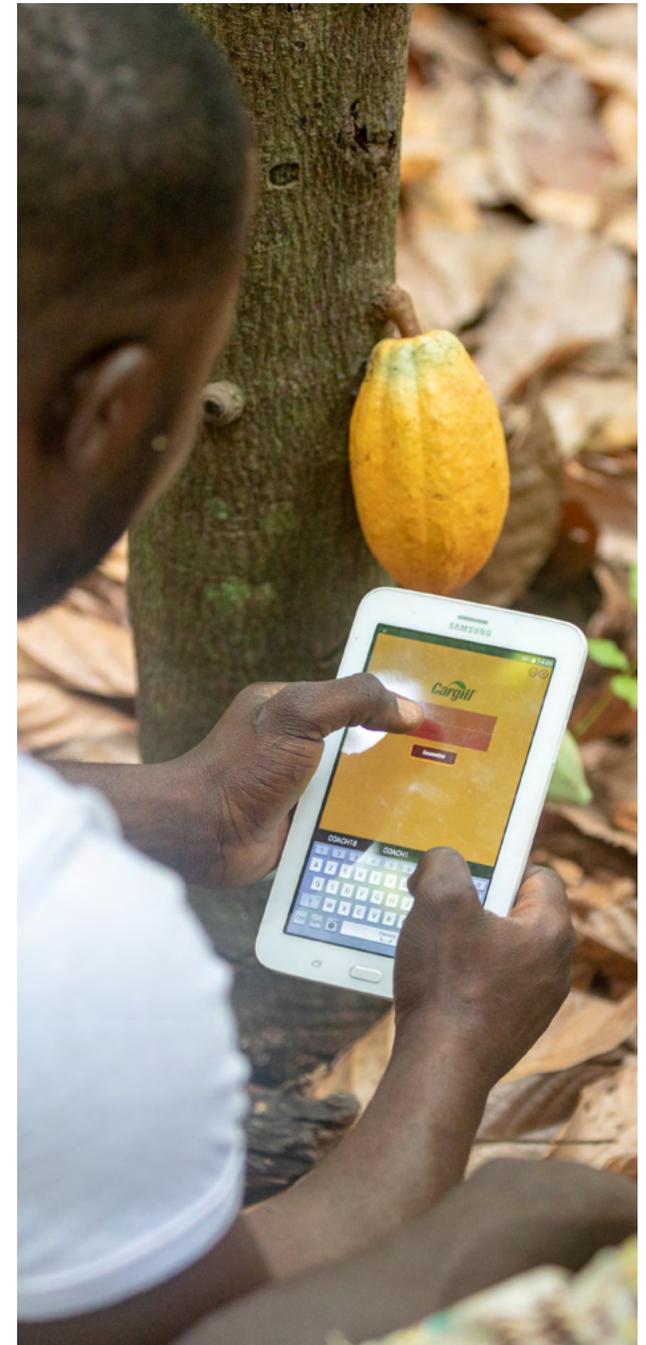
A digital suite of tools aimed at providing services to both ends of the value chain: for farmers and their communities as well as customers and other stakeholders. The platform provides detailed information about sustainable product deliveries and cocoa origins, along with the impact of that financial investment among farmers and farming organizations.

PalmWise™

A portal to inform us—in near real-time—of potential risks at the origin market which could impact our downstream customers. This portal provides advanced traceability and monitoring data within the supply chain.

SoyaWise™

Our soy traceability portal, provides our customers with greater transparency about their individual soy purchases, certification details, and an understanding of deforestation risks. Customers can follow their soy shipments back to the region and even the municipality of origin.



Supporting biodiversity for land and sea

Through biodiversity, the ecosystems that form the basis of life on our planet coexist and intermingle. It's a delicate balance.

One example of how we are protecting aquatic biodiversity is through fishery improvement projects (FIPs) that protect—and can even restore—biodiversity in aquatic ecosystems by improving fishery management and fishing practices.

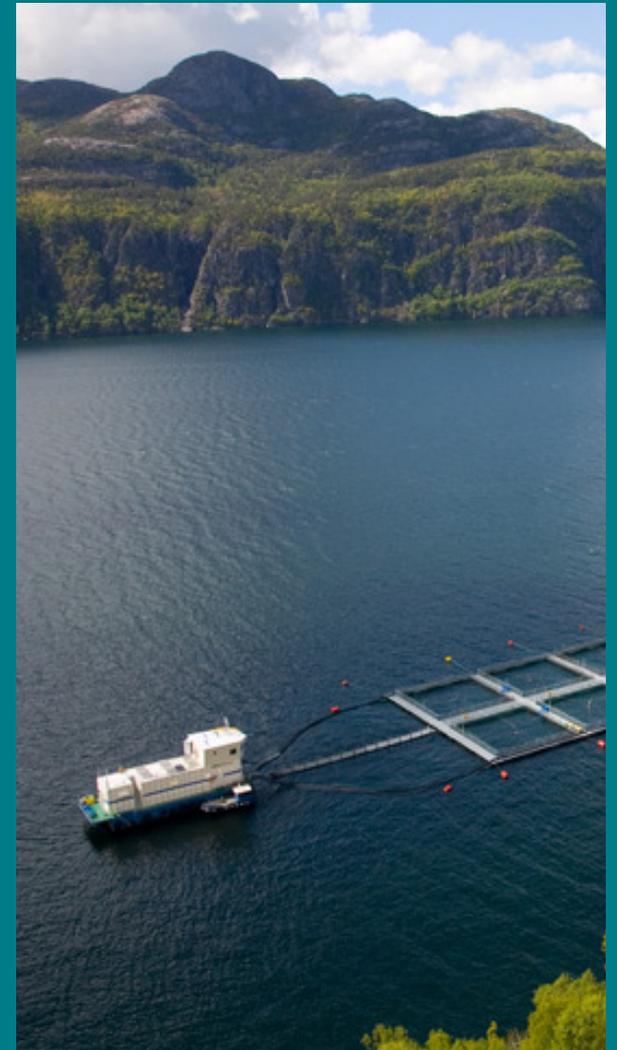
The specific improvements vary, as each fishery has its own unique sustainability challenges. However, common themes include:

- Ensuring that the targeted species is not fished beyond its maximum sustainable yield, helping previously over-fished species recover to sustainable numbers
- Minimizing bycatch, which are other species caught incidentally with the target species that can include predatory species like sharks and rays, and avoiding altogether the bycatch of species that are endangered, threatened, or protected
- Ensuring the fishing gear used does not have severe or lasting damage to physical marine habitats like reefs, kelp forests, and seagrass beds
- Creating robust governance policies, including laws on fishery management and their effective implementation, that deliver a clear and systematic strategy to protect species and the environments they call home

By working credibly to meet these principles, the fishery improvement projects that Cargill participates in give wild populations the chance to thrive, and in turn, protect aquatic biodiversity. To ensure credibility, FIPs are run with a broad range of stakeholders and publicly reported on to show progress towards timebound goals.

In 2020, when a key source of marine ingredients—blue whiting from the North Atlantic—lost its certifications, we stopped buying from that fishery. Collaborating with other stakeholders—including our aquafeed competitors—we joined the North Atlantic Pelagic Advisory Group (NAPA) and encouraged the fishery to act. They're now in an approved fishery improvement project, working towards multilateral agreements for catch quota allocation that are in line with scientific advice and an overall better, long-term fisheries management strategy.

Further south in the Atlantic, in Mauritania, a fishery improvement project we are contributing to is making important progress. By working with scientists, the fishing industry, and the government, the fishery has improved its data collection. In turn, this has provided a better understanding of stock status, and, hence, more informed revisions to the fishery's management plan. And because this ocean ecosystem provides a source of food and livelihood for millions of people across the region, the fishery improvement project is also working to ensure that the impact of the fishery is positive socially as well as environmentally. See [Sustainable Supply Chains: Aqua Nutrition](#) for additional details.



Our approach: Water

About 70% of the world's fresh water is used to produce the food we eat. But water is often not given the respect and care it requires as a finite and irreplaceable resource. Water shortages affect more than 40% of the global population, a number destined to rise.

For that reason, Cargill and the farmers, customers, and NGOs we work with play a vital leadership role in developing and advancing agricultural solutions that protect and replenish water resources. In doing so, we are also devoted to supporting farmer livelihoods and community resilience.

While water conservation is a global issue, it requires a local approach—and that drives us to focus our efforts on the supply chains and regions where it matters most. Our emphasis is on enabling pathways to address water challenges related to availability, quality, and access by empowering farmers and protecting nature. Together, we are driving positive changes in water usage in our operations, in the communities where we operate, and in the water-stressed regions where farmers grow food that feeds the world.



Water stewardship commitment

In 2020, Cargill developed a set of industry-leading water targets—centered on our global ambition to enable a water positive impact across our operations, supply chains, and communities by 2030.

Our performance against these targets this year indicates we have made progress on the successful implementation of water stewardship practices at priority facilities, as well as scaling our pipeline of regenerative agriculture programs to drive greater impact in our supply chains.

We recognize this issue requires industry collaboration and action to scale solutions. Cargill is a proud signatory of the CEO Water Mandate and a member of the Water Resilience Coalition. Both are UN Global Compact initiatives that mobilize business leaders to develop solutions with respect to water and sanitation.

Creating a new set of industry-leading water targets

Working in partnership with WRI, in fiscal year 2021 Cargill undertook a comprehensive process to develop bold yet pragmatic context-based water targets.

As a result, Cargill was one of the first companies in the world to set contextual water targets across the value chain.

We used a three-step approach to direct this process:

1. Assess water impacts and dependencies across the value chain and prioritize the most important activities. This resulted in Cargill prioritizing the upstream agricultural crop supply chain and our direct operations.
2. Assess water-related risks and prioritize locations focusing on water availability, water quality, and access to water for each catchment in which Cargill operates or from which we source agricultural crops.
3. Set targets that are proportional to the company's contribution to the water challenges and the desired change within sustainable boundaries.

In an effort to share key learnings from this process, WRI published a case study, [Developing Enterprise Water Targets Informed by Local Contexts: Cargill's Approach](#)².

Targets	Progress as of 2022
Achieve sustainable water management in all priority watersheds by 2030	7 priority watersheds (6% progress)
Restore 600 billion liters of water in priority watersheds by 2030	More than 5 billion liters
Reduce 5 million kg of water pollutants in priority watersheds by 2030	394 thousand kg nitrogen-equivalent
Improve access to safe drinking water in 25 priority watersheds by 2030	7 priority watersheds
Implement our Water Stewardship program at all priority facilities by 2025	77% average implementation of water stewardship practices across all priority facilities

Water in our operations

Within our operations, Cargill has implemented a set of global requirements that address our commitment to eliminating unsustainable water impact by reducing our own footprint and guarantee understanding, compliance, and reporting of water usage, impact, and risk.

Our priority facilities account for more than 80% of our total operational water use and were selected based on water stress exposure and water usage. Each of these facilities has set site-specific targets for water efficiency and yield-loss reduction through wastewater. They have focused on measuring and monitoring water use and discharge in their operations to better understand their water dependency and impact. Additionally, they have developed water balances, benchmarked unit operations, and completed site risk assessments to more clearly identify shared water challenges in their local context.

This information and context are critical to help us fully implement our water stewardship program at all priority facilities by 2025.



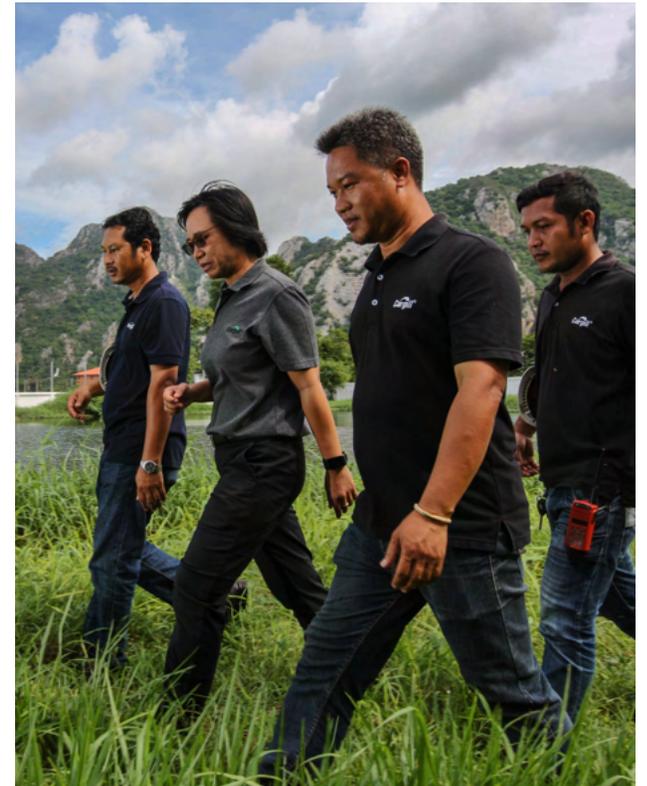
Reducing water usage in Costa Rica

At our chicken processing plant in San Rafael, Costa Rica, we have successfully implemented the first phase of the water stewardship program—focusing on measurement, monitoring, and reporting, and finding ways to drive water-resource efficiency. Prior to applying learnings from phase 1, the facility's average weekly water consumption was 18,000 cubic meters. After assessing opportunities for improvement, including reducing the amount of water used throughout processing, installing new flow meters, and leveraging automation, the team was able to reduce the average weekly water consumption by 2,000 cubic meters.



Replenishing watershed in Thailand

Cargill is helping address water shortages and drought conditions in Thailand. Through our Smart Farming project, we are piping treated water from our protein processing facilities in the Chok Chai District to rice farms in the province of Nakhon Ratchasima. By strategically linking our nitrate-rich discharge water with the agri-irrigation needs of farmers, we are helping them find a more sustainable solution for the water and fertilizer they require.



Water in our supply chains

Cargill works with farmers, ranchers, and other partners to advance sustainable water practices that improve soil health, water resiliency, and quality. Many of those solutions also reduce GHG emissions and improve farmer livelihoods by reducing costs and improving yields. Our priority supply chains and geographies include beef production and row crops in the United States, and we're applying learnings from our work and scaling them across these businesses to drive greater impact.

We also work to protect and restore watersheds in critical geographies of our supply chains, such as Colorado and Kansas, which provide water supply that irrigates much of the row crops grown in the Midwest. We partner with leading conservation organizations to invest in programs that improve water quality and protect watershed biodiversity.



Conserving water across Arkansas

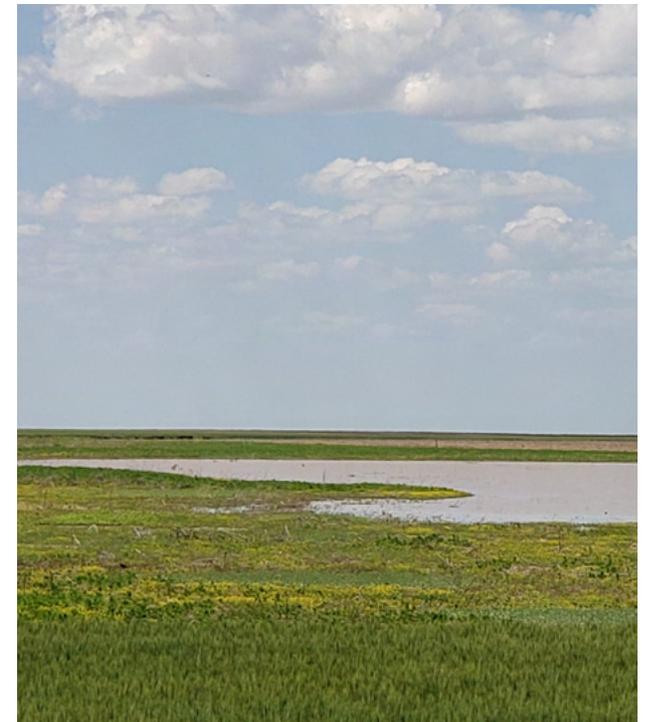
Roughly 80% of Arkansas's annual water consumption is dedicated to agriculture, and more than 60% of the water used annually for row crop irrigation comes from the Mississippi Alluvial Aquifer in the Arkansas Delta. That is why Cargill is supporting The Nature Conservancy in Arkansas by funding the Water Sustainability in Arkansas Agricultural Irrigation project to help conserve water in the Arkansas Delta. The three-year project began in 2021 and, to date, has helped establish irrigation conservation practices on half of the 25,000 acres of cropland targeted. This work entails engaging 50 farmers, including underrepresented farmers (including women, Black, and Hispanic farmers), by providing technical assistance and installation of 250 irrigation timers on farmland. Through these efforts, we expect several billion liters of water per year to be conserved on row crop fields in the region.



Restoring rural watersheds

Through a \$400,000 grant from longtime-partner Cargill, Ducks Unlimited is undertaking watershed restoration projects in Colorado and Kansas.

In Kansas, at least 6,000 acres of playa wetlands and associated uplands are being restored along the Ogallala Aquifer/Playa Recharge. In Colorado, crucial habitats for waterfowl and other wildlife are being restored in the Tamarack Ranch State Wildlife Area while also enhancing Platte River recharge.



Water in our communities

Reliable access to clean, safe water as well as sanitation and hygiene are essential for communities to thrive. Increasingly, poor water availability and quality threaten many communities around the world.

Cargill is working to drive positive change, tailoring the specific needs of target communities in priority watersheds around the world.

Cargill Currents: Addressing clean water challenges across the globe

Up to 150,000 people in Brazil, Cameroon, Côte d'Ivoire, Ghana, and India will benefit from improved access to safe drinking water and sanitation and enhanced water security, thanks to a three-year, \$3 million community water initiative launched last year.

Cargill Currents^{EQ}, a partnership between Cargill and Global Water Challenge, addresses water challenges in priority watersheds by tailoring to the specific needs of the target communities. The program is also building community resilience, promoting economic development, and delivering socio-economic and sustainability co-benefits, including improving farmer livelihoods, community health, women's empowerment, and climate change resilience.

