How to create
Natural Capital through Nature-Based Solutions
Progress Report

THE Coca-Cola COMPANY

Executive summary

Water stewardship is one of the four sustainable business priorities of The Coca-Cola Company (TCCC). Our 2030 global vision is to achieve water security for our business, communities and nature where we operate, source ingredients and touch people's lives. At its core is our commitment to return to nature the equivalent of all water use where it matters most. This we achieve through an extensive water replenishment program — we support nearly 300 local community water projects worldwide, implemented in partnership with leading nature conservation organizations.

The benefits of water restoration are not just about water volumes. Through restoring nature and providing ecosystem services, water replenishment can bring many benefits in addition to restoring water volumes. For TCCC as a company, water replenishment projects are an instrument for managing risks in the watersheds in which we operate.

Through the co-benefits of ecosystem services, water replenishment projects can also potentially serve as Nature-Based Solutions to societal challenges. **We need to build the business case.** The challenge lies in measuring, understanding and managing this potential across our diverse range of projects worldwide. And doing this in close collaboration and connection with other stakeholders and partners.

To enable this, we have developed and piloted a standardized methodology for accounting for the ecosystem service benefits of water replenishment in economic terms. Our pilot projects show that in different contexts, water restoration can enhance a range of ecosystem services in addition to **providing water, including carbon sequestration, water quality improvement, flood protection, recreation, as well as food & raw materials provisioning.** What is more, if done right, such projects have a positive return-on-investment for the society, with ecosystem service benefits "paying back" the original investment in limited period of time. In a limited period of time we have found that ecosystem service benefits tend to increase linearly with investment, though there are opportunities for "easy wins", where relatively modest investments can bring disproportionately large benefits.

The importance of good data gathered on-the-ground cannot be understated. One of the key learnings from engaging with project implementation partners during the development of our methodology has been that having clear data needs and structured approaches for valuation is strongly valuable. This allows for integrating necessary data collection from project onset, while also keeping the additional workload required for monetary valuation manageable. In addition, a structured set of data needs and valuation approaches allows for prospective screening of potential benefits at the planning stage.

There are benefits that are difficult to quantify in economic terms. Non-monetized indicators are also important for sound and useful decision-making. In particular, we have identified biodiversity as an area where collecting data for non-monetary indicators can be valuable, as current methods for monetizing biodiversity benefits offer limited practical utility. In some of our projects, Social Capital benefits can also be very important – while we plan to explore potential economic valuation for some Social Capital issues, there are some benefits such as from capacity building and outreach activities where potential ripple effects can be large but difficult to pin down in economic terms. In such cases, non-monetized indicators are an obvious and necessary alternative.

It is important to engage and receive feedback on our methodology. Throughout developing our approach, we have actively engaged with our project partners – all experienced conservation professionals with valuable practical insights, who are intended as the main users of our methodology. We have also conducted sensitivity analysis of our results — this can yield good additional insights by outlining the limitations of the methods used, as well as aiding in the interpretation of results. Finally, we have undertaken independent review of our methodology and pilot projects – an extremely valuable exercise, which has allowed for not just ensuring that our work rests on sound science, but also for identifying where it makes the most sense to focus efforts for further improvement. We plan to continue testing our methodology across different projects globally and will also take onboard suggested improvements as concrete next steps.

Continuing the work. In this progress report we show the outcomes of another 7 projects on top of the initial 7*. The focus was on projects that also could have climate benefits which we could explore further.

Going forward. We plan to further engage with ongoing initiatives for Nature-Based Solutions, as well as to leverage our influence as one of the world's leading brands in order to bring into the discussion additional businesses and investors. In addition, we are committed to test and refine our methodology on different water replenishment project types in additional territories across the globe.

Building back better. In the aftermath of 2021, we are faced with a unique opportunity to steer the state-of-play toward a "new normal" where enhancing nature and good business go hand-in-hand. We are convinced that Nature-Based Solutions through watershed restoration can be a powerful tool in this regard. We believe the business case for corporate investments is there.

* See previous report: How to create Natural Capital through nature-based solutions

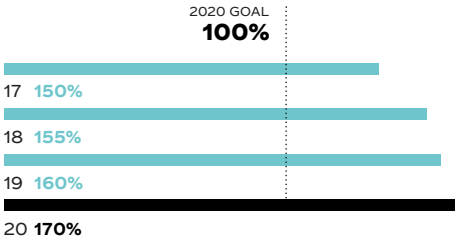
The Coca-Cola Water Replenishment Programme

Pursuing water security

We are working in our own operations, across our value chain and in watersheds worldwide to support water security.

GOALS

Replenish all the water we use in our drinks and their production by 2020. In each of the last 6 years, we met and exceeded our 2020 replenish goal.



As estimated working with our many external partners and using generally accepted, independently peer-reviewed scientific and technical methods. External assurance of 100% annual replenishment rate. Finished beverages based on global sales volume. Water in production is returned safely to nature and communities via high-quality wastewater treatment.

6 YEARS

we've met and exceeded our water replenishment goal.

We've replenished a total of

1.75+ TRILLION LITERS

of water since 2012 through about 300 projects each year.

170%

of the water used in our finished beverages was safely returned to communities and nature in 2020.

Since 2010, our community water programs with our partners worldwide helped to provide access to safe drinking water and sanitation to **13.5 million+ people**.

A IN 2021

Our 2021 CDP Water disclosure placed us in the leadership range of scores.

#1 RANKING

on water risk management in 2021 Ceres report among beverage company peers.

In 2021, The Coca-Cola Company earned a place on CDP's Water "A" List for the first time for our leadership in corporate transparency and action on water risk. Ceres released the fourth edition of its Feeding Ourselves Thirsty 2021 report, ranking The Coca-Cola Company #1 in terms of water management among food, beverage, and agriculture sector companies.

THE COCA-COLA COMPANY

Introduction

No resource is more precious to human life and the health of our global ecosystems and economies than water, which is under increasing stress due to rising demand and the effects of climate change. As the world's largest beverage company and because we are dependent on good-quality water, The Coca-Cola Company (TCCC) has a responsibility to protect water resources and provide leadership on water stewardship. This is why, in 2007, we committed to safely return to communities and to nature the equivalent of all the water we use in our products by 2020.

We achieved our goal in 2015, five years ahead of our original target. In practice, **we returned In 2020, we returned 277.8 billion liters of water to the environment through supporting nearly 300 local community water projects worldwide, implemented in partnership with leading local and international conservation organizations**[1]. Each project has a specific objective, such as providing or improving access to safe water and sanitation, protecting watersheds, improving water quality and supporting water conservation.

While water replenishment is the main goal of such projects, they undoubtedly bring multiple other benefits. We are looking at new ways to measure and manage these additional benefits – not just to enhance our water stewardship, but to help build the business case for investing in Capitalize Nature-Based Solutions (NBS).

We need to acknowledge that there are negative environmental impacts through our operations and our industry. We clearly understand that we must tackle this negative impact by making it more understandable from a financial or value / ROI perspective. Managing this impact through Nature-Based Solutions is a win-win – water stewardship allows us to reduce risks in the watersheds in which we operate, while also providing co-benefits for local stakeholders.

We believe that quantifying the co-benefits of investing in nature will help us to further drive the usage of Nature-Based Solutions to stregthen resilience into our operations, supply chains, and the communities in which we operate.

For this, we draw on the pioneering work being done on accounting for and managing natural capital and Nature-Based Solutions.

[1] See also in our latest Business and Sustainability Report:
2020 Business, Environmental, Social & Governance | Company Reports (coca-colacompany.com)
[2] As defined by the Natural Capital Protocol

THE Coca-Cola COMPANY

Why Natural Capital?

Natural capital is defined as *the world's stock of renewable and non-renewable resources that combine to yield a flow of benefits to people*[2]. The concept of Natural Capital (NC) has emerged in recent years as a means to facilitate the assessment of a company's or project's net impact on the environment and society. By enabling "like-for-like" comparisons, it closes two gaps at once:

- **between different ecological metrics; and**
- **between ecological and monetary terms**

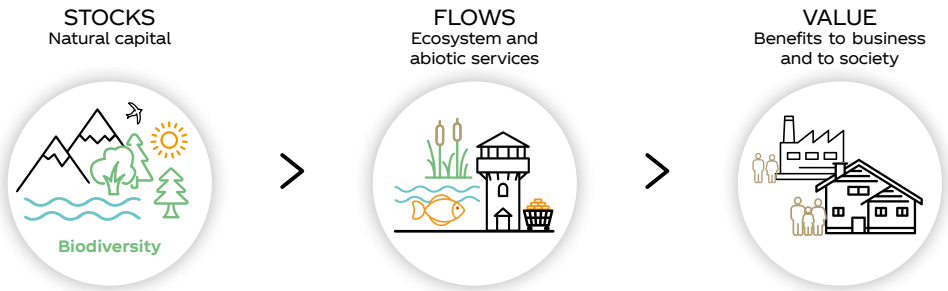
Bridging this gap is important – we are faced with multiple global challenges due to loss of nature, deforestation, climate change, and rising inequality, yet traditional decision-making falls short in recognizing business dependence on nature, people and society. Enhancing natural capital has **tangible economic value.** Economic valuation provides us with a tool to bring the benefits of nature to the economic realm. This offers a holistic way of thinking, which will allow for our replenishment projects to be evaluated not just as a means to restore water, but truly as **multi-benefit, Nature-Based Solutions to complex socio-environmental challenges and to achieve sustainable food systems.**

Water replenishment projects

Natural capital is the stock of renewable and non-renewable natural resources on earth (e.g., plants, animals, air, water, soils, minerals) that combine to yield a flow of benefits or "services" to people.

Ecosystem services are the flows of benefits to people from ecosystems, such as timber, fiber, pollination, water regulation, climate regulation, recreation, mental health and others.

By restoring nature and preserving resources, **water replenishment projects enhance the stock of natural capital, thus leading to increased flows of ecosystem service benefits to people.**



Measuring ecosystem services benefits of water replenishment projects

Measuring ecosystem service benefits for water replenishment in practice can be challenging. Project partners are typically conservation professionals but may not always be experts in economic valuation. They can benefit from easy-to-use guidance. What is more, without a unified method, it is difficult to compare results from different projects. In order to facilitate these, we have developed guidance that aims to be:

Relevant:
Providing a way to measure material benefits and be applicable to ideally any replenishment project.

Rigorous:
Based on up-to-date robust science, fit-for-purpose, and transparent in its assumptions and limitations.

Replicable:
Providing the necessary documentation and common tools in order to make valuation of ecosystem services accessible for non-specialists. Structuring the assessment in a way that allows for verification and auditing of results[3].

Consistent:
Providing methods that serve as a fit-for-future common standard, which would allow for a common and comparable way of assessing the value of ecosystem services of replenishment projects carried out in different countries, with different goals and scopes, and within different contexts.

We've developed and piloted a standardized methodology to account for the ecosystem service benefits of water replenishment. Our pilot projects prove, in different contexts, water restoration can enhance:

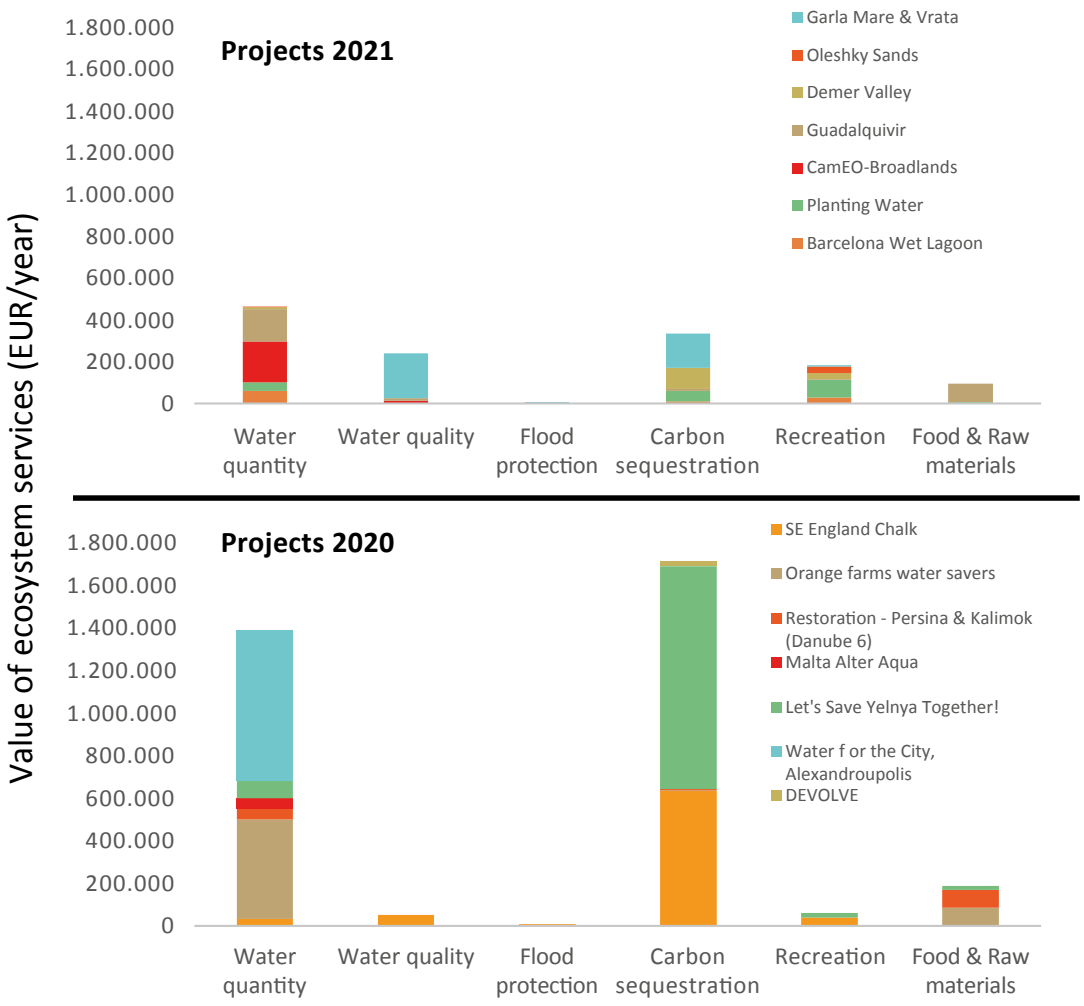
- Carbon sequestration and climate resilience
- Recreation and economic development
- Water Quality
- Food and raw materials provisioning
- Flood protection
- The overall biodiversity

[3] Independent auditing of results has been standard practice for TCCC's Water Replenishment programme since its inception.
[4] Our full methodological document is available at:
https://www.coca-cola.eu/news/supporting-environment/creating-natural-capital-through-nature-based-solutions

To this aim, we have used the Natural Capital Protocol as a framework for developing such guidance that we intend all project partners to use when reporting on water replenishment achievements[4].

Steps of the Natural Capital Protocol	Natural Capital Protocol	What we have done
01 Get Started		Our water replenishment projects bring ecosystem service benefits by enhancing natural capital.
02 Define the objective		We seek to systematically understand these benefits in order to guide the development of our ongoing water stewardship efforts.
03 Scope the assessment		In order to achieve this, we have developed a guide for measuring ecosystem services from water replenishment. We have used materiality assessment to decide which services to focus on. The guide seeks to be applicable to any water replenishment project globally. We have piloted its use on projects conducted in Europe.
04 Determine the impacts and/or dependencies		
05 Measure impact drivers and/or dependencies		Our guide includes a set of methodologies for measuring the changes in different ecosystem service benefits driven by water replenishment. All methodologies are based on collection of adequate data on changes in the state of natural capital (measured in physical units), which is subsequently valued in monetary terms.
06 Measure changes in the state of natural capital		
07 Value impacts and/or dependencies		
08 Interpret and test results		We have piloted this guide on a representative range of projects, covering 7 water replenishment projects in Europe. We have also conducted sensitivity analysis and have shared results with internal and external stakeholders for feedback. Our methodology has also undergone independent critical review by leading natural capital specialists - SustainValue and eftec.
09 Take action		We will use results in order to guide the direction of its replenishment programme.

Overall results | Pilot (2020) and current (2021) study



Our latest results support the findings from our previous assessment, but have also allowed us to gain deeper insight into the multitude of benefits that our Replenish projects can bring.

Water quantity benefits are again the most significant out of all assessed ecosystem services, which is not surprising, given that our projects are first and foremost designed to return high quality water to nature. The results from our 2021 assessment are not as substantial as 2020, primarily due to evaluating projects that have lower water replenishment volumes and are also in less water-stressed areas.

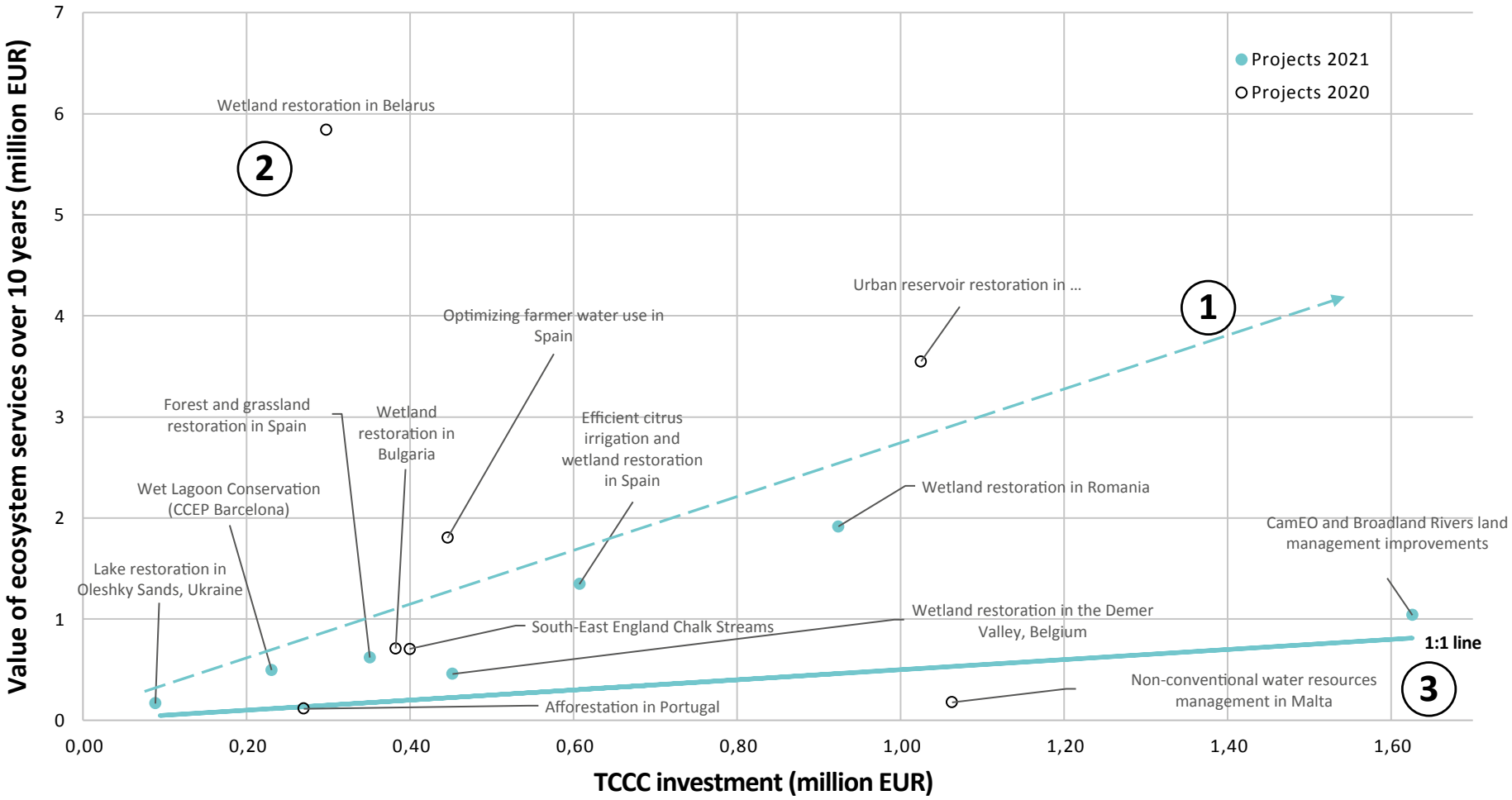
Certain projects can also bring non-negligible water quality benefits. Our 2021 assessment underscored their relevance in urban settings, while this year we can also claim benefits in agricultural contexts. Wetlands can be used as nature-based tools to both reduce agricultural runoff, and also to filter water.

Restoring nature is also crucial for enhancing carbon sequestration in order to meet global climate goals. Our results show that wetlands can have a role to play in this, but the benefits from reduced CO_2 from aerobic decomposition following rewetting are somewhat offset by anaerobic CH4 production. As well, compared to last year, our 2021 projects are also much smaller in terms of rewetted area, which also means proportionally lower benefits.

Recreational benefits should not be understated, especially given that our learnings from 2020 show that our methodology provides conservative estimates. Many of our projects are in less-developed areas where the added benefit of improved scenic quality due to nature restoration can have a non-negligible positive impact for local people via enhancing opportunities for tourism or recreational fishing & hunting, as well as overall quality of life (which at this stage is out-of-scope for our methodology). This is also true for food & raw materials benefits, which in our projects typically includes financial savings for farmers.

Finally, while flood protection benefits appear lower overall compared to other ecosystem services, this is also due to the fact that not all projects are designed with such in mind. Those that are however, can potentially have very meaningful contributions to well-being, especially projects in urban contexts. This is the case for our Demer Valley project, which is not included in the results shown due to uncertainties in our data, but we can still gain an understanding of the range of potential benefits for flood protection via sensitivity analysis.

Overall results | Investment vs Ecosystem service value: pilot (2020) and current (2021) study



1 *In general, our results show that the larger the investment, the bigger the ecosystem service benefits accrued. This result is further supported by our 2021 project evaluation.*

2 *Restoring nature in areas where ecosystems are severely degraded can lead to very large benefits with relatively modest investments.*

3 *Some projects perform poorly at first glance compared to initial investment. Our experience so far shows that this is not due to poor performance, but due to our method not measuring all possible benefits, esp. social capital benefits which are less readily quantifiable. This is why we accompany monetization of ecosystem services with qualitative assessment of other benefits.*

What did we learn?

Benefits from different types of projects

Wetlands provide a wide variety of ecosystem services – these vary depending on the local context and state, as well as based on ecosystem improvement achieved. Their benefit can be substantial. Wetland projects in particular seem an easy win in terms of environmental improvements, but their diversity demands **meaningful and accurate data collection.** This applies especially to **carbon sequestration benefits,** where on-the-ground data can do much to improve confidence in results. The large and varied benefits of wetlands make them a quintessential example for what Nature-Based Solutions can offer.

For projects in urban settings, water pollution prevention can have benefits potentially even larger than the benefits from use of replenished water itself. Simply put, urban settings provide plenty of pollution to be treated. It is likely that this would also apply to projects mitigating agricultural runoff. What is more, enhancing nature in urban environments has the dual purpose of increasing recreational opportunities and well-being. The benefits of this should not be understated[10].

Water projects in urban settings can also contribute to making communities more resilient to climate change effects like flood protection, or reducing high temperatures through evapotranspiration. Measuring such benefits is something to potentially be worked on in the future.

WASH & sustainable farming projects: Water savings can deliver substantial benefits where water scarcity is high and the ratio of replenished water to financial investment is high. Investing in agricultural water efficiency can have dual benefits for both nature and for cost savings for farmers. This added resilience is strongly important, given increasing pressures on water resources toward the future.

Sustainable farming can also have carbon sequestration benefits, but our projects so far show that these are only incremental. This is the nature to the projects that we have focused on so far – improving water and fertiliser use efficiency. Working with farmers for optimizing water and fertilizer use has clear benefits in terms of climate resilience in our value chain. Exploring how we can also work with our farmers to improve carbon sequestration (including through novel projects on regenerative agriculture and soil health) remains an avenue worth exploring.

Benefits from different types of ecosystem services

Looking into individual ecosystem service benefits can yield additional insights. Within the 14 projects we have assessed so far, **water quantity and carbon sequestration** generate the largest benefits. This reaffirms the value of our replenishment work for building resilience, especially in the face of future climate change.

Food & raw materials benefits can be large where there is a strong local dependence on a particular food or material source, such as for supplementing local incomes or for subsistence. This is important, as such benefits are directly accrued by the communities in which we operate. In 2021, the projects we have assessed also show clear benefits for cost savings for our farmers.

Projects that provide improvements for **recreational & educational** value have greater value the nearer they are to denser population centres, as there are more users who can benefit. This also suggests that much can be gained by improving not just the attractiveness, but also the accessibility of natural retreats. Our 2021 results reaffirm this, and also show the value of improving the tourism potential of natural areas.

Benefits on biodiversity can be substantial – restoring projects can bring huge benefits by enhancing the naturalness of water bodies and their surrounding ecosystems. These benefits should be monitored on the ground in order to be able to glean systematic insights into the multi-faceted value that biodiversity improvements bring. Measuring biodiversity is challenging and we continue to engage with the international community on this topic.

Non-quantifiable benefits: finally, it is important to understand that not all potentially relevant benefits can necessarily be monetized. Biodiversity is one such example, but this also applies strongly to projects that focus on capacity building and awareness. The ripple effects of such projects may be substantial, which is why tracking non-monetized indicators and reviewing these in-line with economic performance is necessary. This also applies to other Social Capital benefits, though for some (such as upskilling and gender equality), we plan to explore potential options for monetization in the future.

[10] 10 Nearly 30 years, ago, in his memoir "The Thunder Tree", American naturalist and writer Robert M Pyle coined the term "extinction of experience", referring to the phenomenon of urbanization reducing everyday human-nature interactions. Today, it is well-recognized that such an alienation from the natural world can have important and detrimental effects on public health, attitudes, and emotional well-being. See for example: Ives, C.D., et al., 2018. Reconnecting with nature for sustainability. Sustainability science, 13(5), pp.1389-1397. Looking back at this quote in 2021 in the context of social distancing, the importance of nature for people seems more valuable than ever.

Sensitivity analysis: Carbon Sequestration

All our results undergo sensitivity analysis in order to explore the limitations of our methodology, which has been designed to work with limited input data that is readily measurable by project partners. Our 2020 assessment showed that we obtain reasonable estimates of the value of ecosystem services (ES), and our 2021 results reaffirm this.

In theory, our method has been designed to be applied to future projects. In practice, to better understand where to guide investment, we are also retroactively assessing existing projects. How project design influences ES has not been explored so far, for which sensitivity analysis is useful. Here we demonstrate this for carbon sequestration (C-seq).

Our C-seq method uses IPCC Tier 1 emission factors (EFs), which have associated uncertainties. We systematically explore this uncertainty using a Monte Carlo approach by generating 10 000 "synthetic" combinations of EFs, sampling from their underlying probability distributions. The results show the range of C-seq implied by the EFs used.

We see that wetland projects in particular can have a wide range of possible C-seq values. This implies that benefits can be even larger than calculated, but it is also possible for projects to be net emitters (positive values for C-seq). Whether projects lead to C-seq benefits (negative emissions) depends on the balance between reduced aerobic CO_2 from rewetting, and increased anaerobic CH_4 post-rewetting. Comparing our projects against independent studies gives confidence that the C-seq benefits we calculate are actually present, while sensitivity analysis shows us which EFs influence the results the most, which can inform measurement effort and project design.

		tCO_2e/year (minus = carbon storage i.e. negative emissions)			
	Size of project	Mean	Monte Carlo 2.75th percentile	Monte Carlo 97.5th percentile	Probability $tCO_2e < 0$ (C)
Wet Lagoon Conservation (CCEP Barcelona)	6.3 ha	-200	-268	-132	100%
Forest and grassland restoration (Las Cuencas Mineras, Spain)	1230 ha	-1 036(A)	-1 817	-619	100%
Guadalquivir Challenge, Spain (39% wetland, 61% energy and fertilizer savings)	3 ha	-241	-273	-208	100%
Demer Valley, Belgium (wetland)	142 ha	-2 047	-15 014	11 094	61%
Garla Mare, Romania (wetland)	620 ha	-3 297(B)	-120 337	115 304	54%

(A) A study by project partners places this at -1 998 tCO_2e/y. They do not subtract a pre-project baseline. Subtracting our estimated baseline (-425 tCO_2e/y) places this number within range of values.

(B) A separate study estimates C-seq potential for the Danube floodplain at -6.6 $tCO_2/ha/y$ --> -4092 tCO_2/y (close to our result).: Zehetner, F., Lair, G.J. and Gerzabek, M.H., (2009). Rapid carbon accretion and organic matter pool stabilization in riverine floodplain soils. Global Biogeochemical Cycles, 23(4).

(C) This is not an indication of whether a project is likely to be successful – it is an exploration of the uncertainty in the results implied by the EFs used.

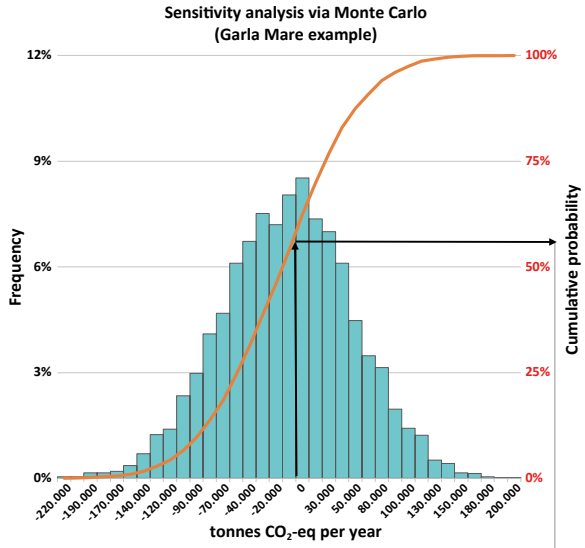
Relevance for our wider strategy

We aim to understand the C-seq benefits from our replenishment projects in order to guide our offsetting strategy in the context of our Net Zero Science-Based Target and upcoming SBTi guidance for targets in the FLAG (Forest, Land and Agriculture) sector.

Our 2021 analysis reviewed if and how replenishment projects can be used to generate carbon credits. We have assessed whether our current projects yield enough C-seq benefits in order to justify the costs of certification via internationally-recognized standards such as VERRA and Gold Standard. Historic projects cannot be used for credit generation – only new ones. Our assessment aims to see if this is worth pursuing for future projects.

With some exceptions, existing projects do not have enough C-seq benefits in order to justify costs for verification. Our sensitivity analysis shows that sufficient C-seq benefits may be achievable, but require dedicated project design. Projects that lead to direct emissions savings in our value chain (farm-level energy savings) can also contribute to reducing our Scope 3 emissions.

Understanding how to design replenish projects so that C-seq benefits are maximized, while also achieving water replenishment (and other benefits) is what we aim to work on in the future.



The probability of C-seq. results for Garla Mare being below zero (carbon storage) is 54%.

Sensitivity analysis: Flood Protection

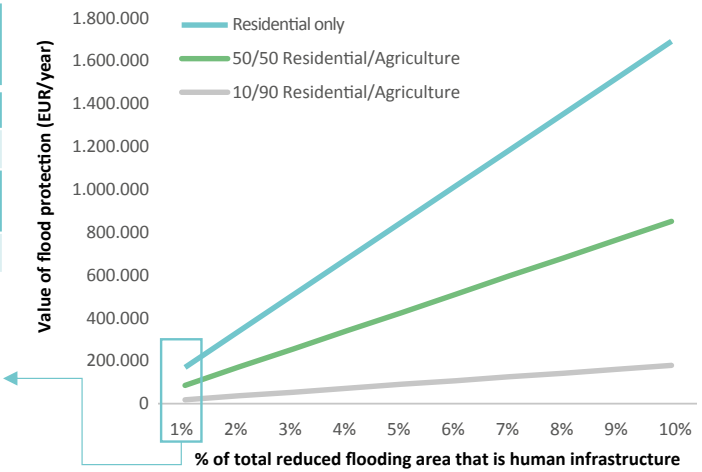
Retroactively evaluating projects sometimes faces the fact that such projects were not originally designed with the necessary data collection for assessing ecosystem services. This however does not mean that we cannot gain reasonable insights – sensitivity analysis can be used as a tool for understanding the range of values that we are likely to observe, using reasonable assumptions where data is not available.

In the case of our project for wetland restoration in the Demer Valley, Belgium, we had not originally designed the project in order to measure all parameters necessary for measuring flood protection benefits, which we estimate as the avoided costs of damages to human infrastructure. Project partners have been able to estimate the changes in flood area and depth due to wetland restoration compared to the baseline (these being the area and depth change of the rewetted wetlands), but understanding how the mix of flooded land uses changes due to the project is not possible without additional modelling.

We use sensitivity analysis to explore the range of possible results using reasonable assumptions. Firstly, not project all flooded area is human infrastructure – Demer Valley is a natural park, so a large amount of this area is natural land. Conservatively assuming that just 1% of this protected area is used by people, we can then see how results change if we assume different plausible mixes of land uses based on local maps.

Data needs (change from baseline)	Data available
Flood area	150 ha
Flood depth	0.3 m
Flood return period	0
Mix of land uses	No data

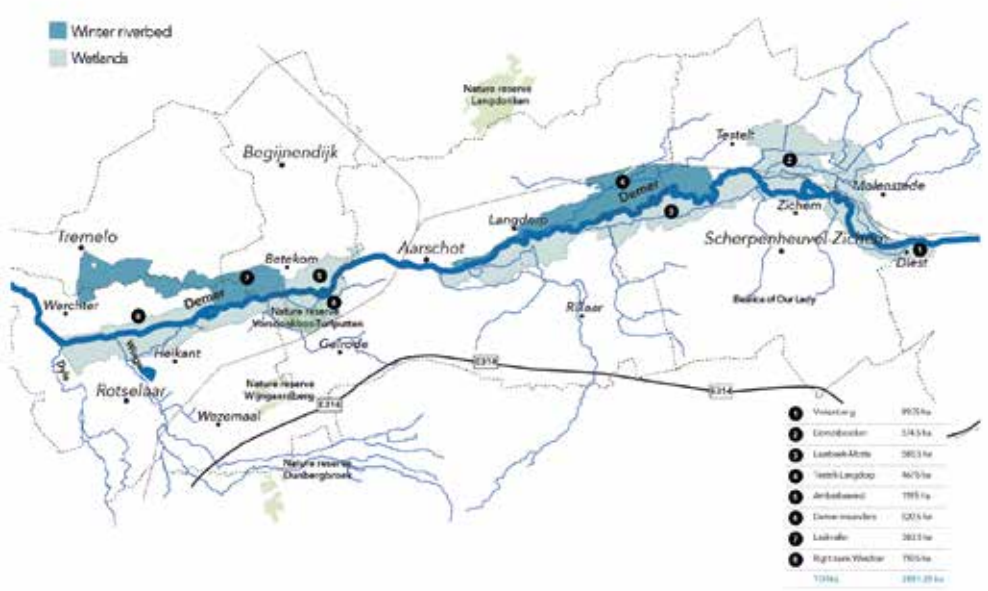
Conservatively assuming only 1% of the protected area is used for human infrastructure give at least **~18 000 to 169 000 EUR benefit per year** depending on the mix of land uses pre- and post-project.



Relevance for our wider strategy

Our net-zero target is only part of our climate strategy. We are also proactively working toward ensuring resilience to the impacts of climate change in the watersheds and communities in which we operate. Thus, the flood protection benefits of replenishment projects are valuable for our risk management and fore ensuring business continuity.

The 2021 floods experienced in Belgium make the results our Demer Valley project all the more relevant, showing the value of nature-based solutions for climate adaptation. What is more, while our method gives good estimates, it currently excludes intangible flood damages to human health and well-being, including mental health. From our 2020 sensitivity analysis, we know that including also these effects can increase results twofold*.



* See e.g. Fernandez, A., Black, J., Jones, M., Wilson, L., Salvador-Carulla, L., Astell-Burt, T. and Black, D.. (2015). Flooding and mental health: a systematic mapping review. PloS One, 10(4), p.e0119929.
Map of the Demer Valley project area via Sigmaplan.be

Natural Capital Next Steps

We continue testing our methodology across different projects globally and will also take onboard suggested improvements as concrete next steps.

We will further engage with ongoing initiatives for Nature-Based Solutions, such as the CEO Water Mandate's Benefit Accounting of Nature-Based Solutions for Watersheds project, which we are currently part of. We wish to make our natural capital methodology readily accessible by developing a dedicated toolkit for its implementation. This would significantly reduce technical barriers and allow us and the industry to drive natural capital work at scale.

We will implement criteria for carbon sequestration into the quality requirements for new water replenishment projects and adjust the selection process accordingly. When selecting projects, evaluation of the carbon sequestration potential should be undertaken before project implementation or alternatively, carbon credits could be a requirement for project selection.

We will pilot project verification for carbon credits to experience process, complexity and outcomes of these types of projects. Once the project is verified, project certification via TCCC can be analyzed for its feasibility. In order to link water replenishment with climate action, we need to ensure the supply of carbon removal credits for SBTi Net-Zero Standard & achieving FLAG targets.

We remain to be committed to help lead the change for mainstreaming nature-based solutions and welcome the opportunity for further conversation and potential partnerships going forward.

Acknowledgements

This report is a product of cooperation between partners.
The Coca-Cola project team was formed by Jan Burger, Sofia Kilifi and Susana Pliego. We would like to thank our partners and colleagues who provided us with invaluable data and expertise.

- **Coca-Cola project team support:** Madhu Rajesh, Wouter Vermeulen
- **denkstatt project team:** Ivan Paspaldzhiev, Katrin Tomova, Lara Loske-Garcia, Fatima Bertran De Lis, Willibald Kaltenbrunner, Gustav Voitl
- **Easton Consulting:** Peter Easton

We would also like to thank our project implementation partners who helped make this report possible:

- **WWF CEE**
- **Natuurpunt**
- **ECODES**
- **WWF UK**
- **WWF Spain**
- **USPB/Birdlife Ukraine**

THE Coca-Cola COMPANY

In partnership with

denkstatt
create sustainable value

Easton Consult
water · environment · sustainability

Report cover: Persina Nature Park on the Danube, Bulgaria. Photo by Alexander Ivanov.

Wet Lagoon Conservation (CCEP Barcelona)

Project description:
A green corridor including a wet lagoon, was integrated into the construction of the Coca-Cola European Partners (CCEP) Barcelona bottling plant. This corridor enables the free movement of wildlife between the Park of the Sierra Litoral and the Besos River. The project maintains the water levels in the lagoon by replenishing it with wastewater from the bottling plant (compliant with relevant treatment standards). Additionally, extra natural vegetation has been planted in order to improve the quality of the wildlife corridor. The lagoon's conservation is also a topic for regular school visits to the bottling facility.

The project is managed and monitored by the bottling plant and intended to continue operating under current conditions. The water from the bottling plant is discharged at the beginning of the biological corridor, where it recharges groundwater and eventually flows to the lagoon, as authorized by the respective environmental authorities. This project is unique because it directly ties the water consumption of Coca-Cola business to water replenishment, making used water available further downstream.

Interpretion of results:
The primary benefit of the project is from the recharged water, which goes into groundwater and is then used in the wider watershed. Due to the area being a water-stressed region*, this benefit is significant. We currently do not account for biodiversity benefits from maintaining the lagoon as part of a wildlife corridor in monetary terms. Post-project monitoring shows an increase in fish and bird populations, as well as more wildlife successfully navigating the wildlife corridor, which exists to mitigate the barrier effect of industrial parks, infrastructure and housing projects in the area.

The project is also a topic of regular school visits, which is what we account for under "recreational benefits" – the travel costs to and from the site. The lagoon is also visited by residents in its vicinity (incl. birdwatchers), which is currently not accounted for.

Carbon sequestration is another benefit provided by the project. The annual amount of sequestered carbon of is approx. 200 tCO_2-eq/year. This is primarily due to the lagoon itself (rewetting land that would otherwise be cropland), with a small benefit also from planted native vegetation.

Project key achievements

- Water replenished: 85.7 ML/year
- C sequestration: 200 tCO_2-eq/year
- Groundwater is recharged in a water stressed region
- Additional visitors: approx. 9 000/year (school visits to the CCEP plant)
- Biodiversity benefits: significant change, improved wetland habitat & biodiversity, maintenance of a biodiversity corridor.

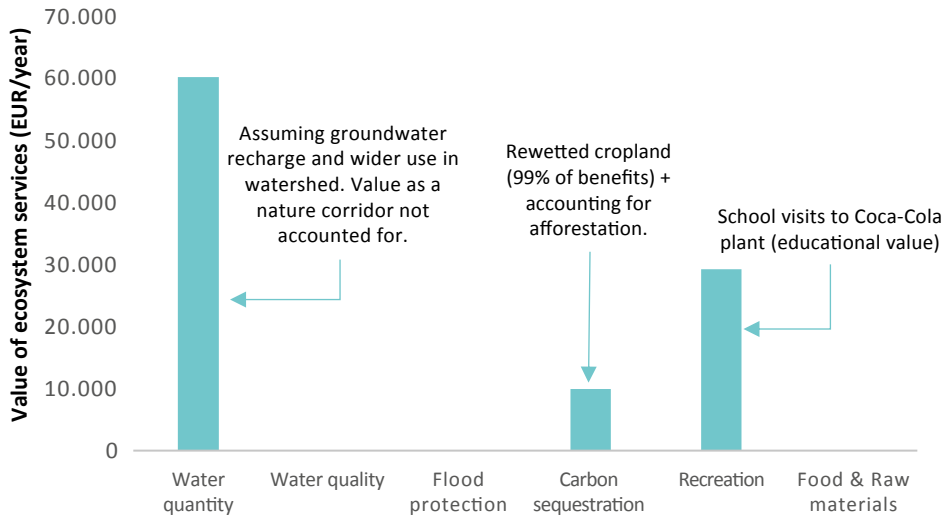
Total TCCC investment
230,752 EUR

Total ecosystem services value per year
99,300 EUR/year

Project payback time
2.32 years

Total value after 10 years
993,714 EUR

Total investment multiplier after 10 years
4.30



*Extremely High baseline water stress based on WRI Aqueduct, used for all projects.

Forest and grassland restoration in Spain

Project description:
The project area of Las Cuencas Mineras has been subject to a devastating forest fire that destroyed a significant are of woodland mostly made up of non-native trees. As a consequence, the project was established to reforest the area with native vegetation that is more fire resilient. The project was developed as a result of large-scale stakeholder consultations, aiming to strike the optimum balance between afforestation (to reduce erosion and provide habitats for wildlife incl. ibex) and grassland (protected under the EU Habitats Directive).

The project's water replenishment benefit comes from additional, land management practices that avoid uncontrolled non-native vegetation growth and protect rare local grassland habitats. As grasslands have lower evapotranspiration requirements, more water remains available in the ecosystem in order to recharge aquifers*. The project was managed and is under the responsibility of ECODES, with support from additional local partners.

Project key achievements
- Water replenished: 629.2 ML/year
- C sequestration: 1 036 tCO_2-eq/year
- Fire risk reduction due to local vegetation that is less prone to forest fires
- Additional visitors: ~50 extra tourists annually + 10 visitors for hunting trips
- Improved scenic quality: minor change
- Biodiversity benefits: significant change, protection of rare local ecosystems

Total TCCC investment
350,874 EUR

Total ecosystem services value per year
124,000 EUR/year

Project payback time
~2.83 years

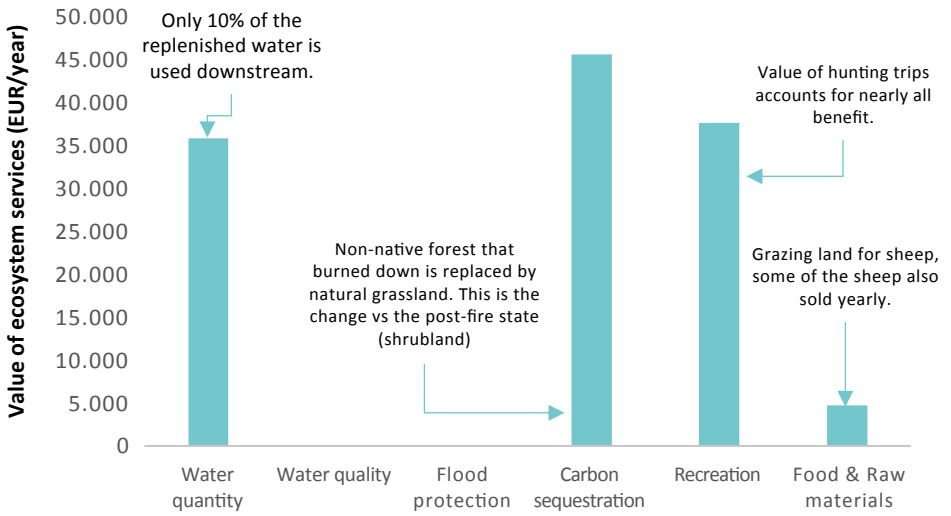
Total value after 10 years
1,240,000 EUR

Total investment multiplier after 10 years
3.54

Interpretion of results:
The project's largest benefits stem from improved carbon sequestration due to land restoration. However, we must acknowledge that while carbon benefits are present compared to the post-fire state (which would otherwise undergo natural succession), there is a trade-off between water replenishment (conserving grassland --> lower evapotranspiration but also lower carbon storage) and carbon sequestration (afforestation --> higher evapotranspiration but also higher carbon storage).

The project also brings significant recreational benefits, with the bulk of the observed value stemming from spending for hunting trips provided by local agencies. Hunting is a commercially important sector, and a measure for controlling the local ibex population. The grassland conserved by the project is also used for grazing by ~300 heads of sheep, contributing to food & raw materials benefits.

Finally, the project has significant water replenishment and the overall water quantity benefits are comparatively high, but tempered overall due to the low water stress in the region, meaning smaller marginal benefits from each extra unit of water.



* This is a well known effect, see e.g. Birot, Y., Gracia, C. and Palahi, M., 2011. Water for forests and people in the Mediterranean region: a challenging balance. European Forest Institute (EFI).

CamEO and Broadland Rivers land management improvements

Project description:

The CamEO and Broadland River catchments collectively cover 6900 km2, a large portion of which high quality agricultural land. CamEO has over 30 chalk streams and rivers, while the Broads are a National Park with over 90 Sites of Special Scientific Interest (SSSI), Agricultural pollution is a major issue, with 80-90% of all water courses failing to meet Good Ecological Status under the EU Water Framework Directive. The project involves working with farmers and landowners In three major areas:

- Land management improvements for reducing sediment runoff and increasing infiltration
- Installation of silt traps and small wetlands which intercept sediment runoff, as well as nitrate and phosphate runoff from fertilizers. 71 interceptors have been installed as of 2020.
- Disruption of compressed tractor tyre tracks ("tramlines") which typically concentrate runoff and lead to erosion and loss of water that would otherwise infiltrate the ground.

The project has been running since 2015, led by WWF UK, in partnership with The Rivers Trust and Norfolk Rivers Trust. The water treatment performance of its silt traps has been independently studied by Cranfield University.

Project key achievements

- Water replenishment: 1 458 ML/year
- Water purification: Reduction of pollution for N, P and suspended solids
- Erosion protection: Major benefits
- Aquifer recharge: Significant change due to infiltrating water
- Capacity building: Significant change, innovative use of nature-based infrastructure in a farming/land management context

Total TCCC investment
1,626,027 EUR

Total ecosystem services value per year
161,400 EUR/year

Project payback time
~7.8 years

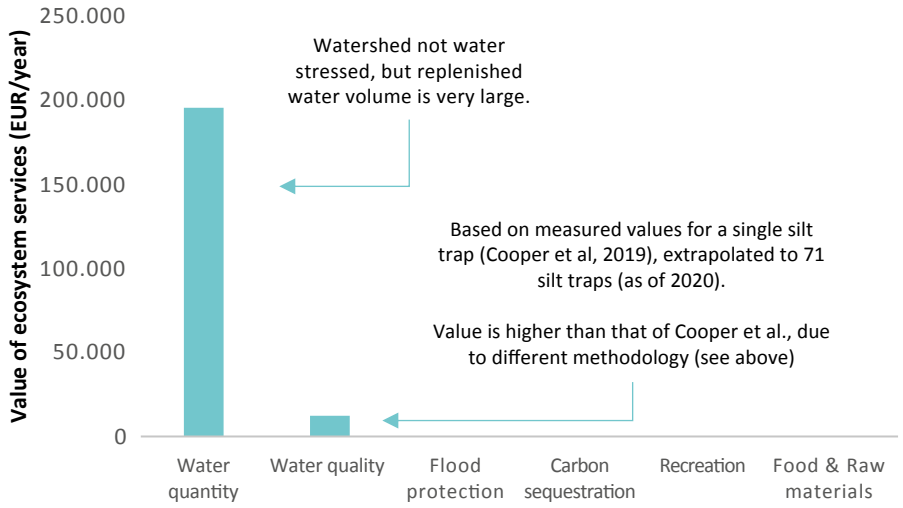
Total value after 10 years
2,079,848 EUR

Total investment multiplier after 10 years
1.28

Interpretion of results:

The project contributes to replenishing high-quality water through reducing runoff (which can then infiltrate the soil) and also by filtering agricultural pollution. The CamEO and Broadlands catchments have low water stress, which implies smaller marginal benefits of replenished water, but its large volume nevertheless leads to significant positives.

The benefits for water quality appear low in comparison, but this does in no way lessen their importance. Constructed wetlands are a cost-effective way to reduce agricultural runoff, and an independent study by Cranfield University (Cooper et al., 2019) estimates that their payback time in terms of ecosystem services is approx. 8 years. Our results estimate an even higher value (and lower payback time) due to the different methods used, but the conclusions are not affected – wetlands can be efficient nature-based solutions for tacking agricultural runoff.



Cooper, R.J., Battams, Z.M., Pearl, S.H. and Hiscock, K.M., 2019. Mitigating river sediment enrichment through the construction of roadside wetlands. Journal of environmental management, 231, pp.146-154.

Guadalquivir Challenge: efficient citrus irrigation and wetland restoration

Project description:
The project "Misión Posible – Desafio Guadalquivir" is led by WWF, with 2 main objectives: First, the restoration of a local wetland (so-called „lucio", typical for the region) in the estuary of the Guadalquivir and implementation of sustainable farming practices to reduce energy, fertilizer and water use by farmers in the immediate watershed.

- Restoration of a characteristic marsh ecosystem (so-called "lucios", typical for the region) on the delta of the Guadalquivir river in South Spain. The wetland has an approximate surface of 3 ha, supports biodiversity and is used by the public for recreational uses, enhanced by building a bird hide, an observation tower and walkways.
- Implementing sustainable farming practices in the Guadalquivir valley by optimizing irrigation water use and fertilizer application by installing soilclimateplant sensors and providing training and advise to local farmers.

Interpretion of results:
The largest benefit from the project is due to the availability of the replenished water for further use, as the area is significantly water stressed.

The second largest benefits are due to costs savings for the farmers themselves, i.e. reduced spending on water, energy and fertilizers, as well as additional benefits from increased yields. Reduced fertilizer use also means reduced runoff into local watercourses, which has an additional water quality benefit. Reduced energy and fertilizer use also accounts for 2/3 of the carbon sequestration benefits achieved by this project. Reducing farm emissions directly contributes to reducing our own Scope 3 emissions.

Restoration of the native wetland also has carbon sequestration and flood protection benefits, but these are small overall due to its small area (3 ha). Finally, the area is used for recreational purposes, which brings a small but non-negligent additional benefit.

Project key achievements

- Water replenished wetland: 12.4 ML/year
- Saved water at farms: 384.8 ML/year*
- C sequestration: 241 tCO_2-eq/year* (39% wetland, 61% energy and fertilizer savings)
- Additional visitors: ~200 visitors per year, mostly locals
- Water quality is improved due to less fertilizer use and thus runoff into rivers
- Educational value: major change
- Biodiversity benefits: significant change

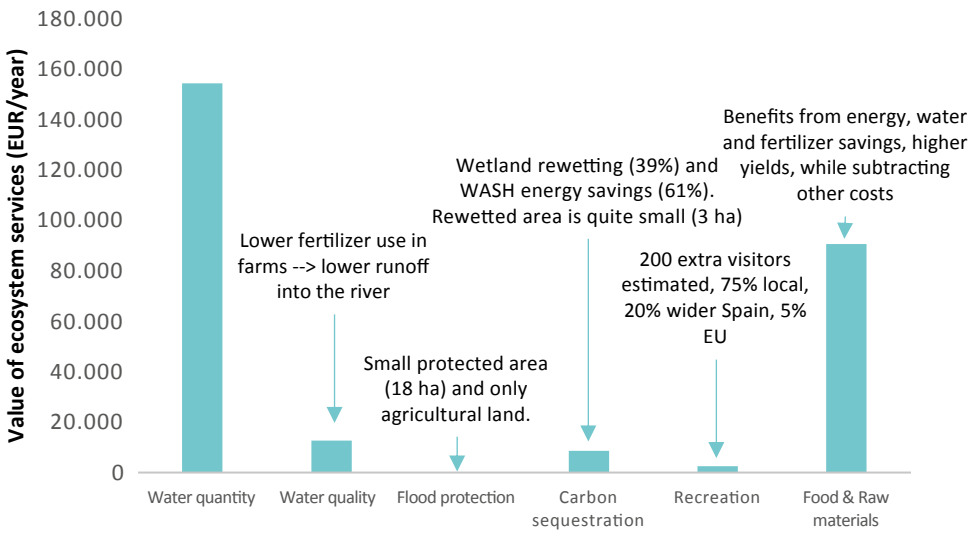
Total TCCC investment
607,200 EUR

Total ecosystem services value per year
269,200 EUR/year

Project payback time
~2.26 years

Total value after 10 years
2,692,000 EUR

Total investment multiplier after 10 years
4.34



* The actual averaged annual water savings due to improved irrigation is 513.3 ML/year. However, the projects success relies on farmers consistently implementing best practices, which cannot be expected to continue 100% in the future. We thus claim only 75% of this benefit, based on expert judgement by the project partners

Lake restoration in Oleshky Sands, Ukraine

Project description:
The Oleshky Sands are a 1 612 km2 desert ecosystem and national park near the lower reaches and left bank of the Dnieper River. They are considered one of the Seven Natural Wonders of Ukraine. Like many deserts, the Oleshky Sands have their own oases. The sands are underlain by an aquifer of high quality groundwater, typically 30-40 meters in depth, which are part of a wider system providing important drinking water resources. Where the groundwater intersects the surface, between and around the edges of the sandy zones, lakes are formed. When in good condition, these oases are a hub for wildlife, as well as a tourist attraction.

Restoring and protecting these lakes is essential to avoiding a transition to a full desert condition. Over years, a number of the lakes have become dried out, silted up and overgrown with vegetation, restricting outflow from these springs into the wider aquifer, leading to stagnant and eutrophic conditions. The project sought to restore three lakes – Drovge, Solene and Didove – by removing accumulated silt and vegetation, as well as clearing out 13 natural springs feeding these lakes. The total area of the restored lakes is approx. 71 ha.

The project is implemented and managed by USPB/Birdlife Ukraine

Project key achievements
- Water replenishment: 97.7 ML/year
- Extra visitation: ~50 extra visits per day over the summer.
- Scenic quality: Major change, now a focus for visitation
- Biodiversity benefits: Significant change, oases are a hub for wildlife
- Improved aquifer recharge: Significant benefits

Total TCCC investment
88,593 EUR

Total ecosystem services value per year
33,100 EUR/year

Project payback time
~2.6 years

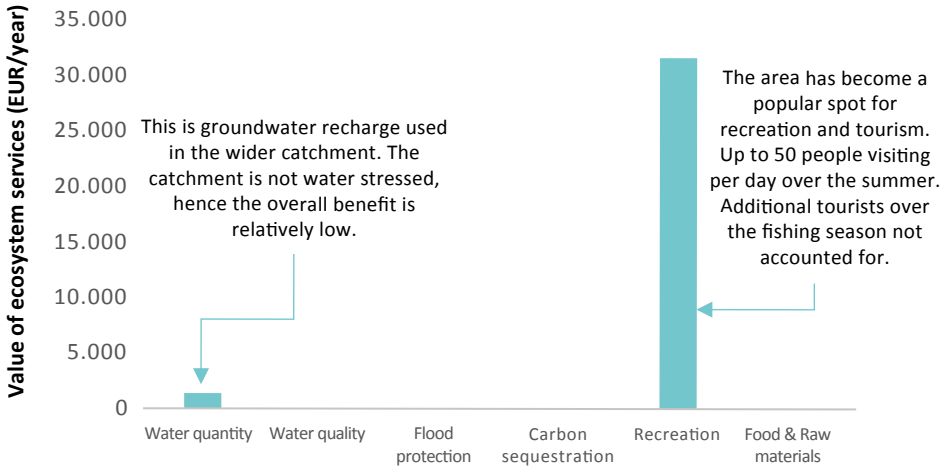
Total value after 10 years
331,000 EUR

Total investment multiplier after 10 years
3.5

Interpretion of results:
The largest benefits stemming from the project are due to its increased recreational potential. Project partners estimate up to 50 extra visitors per day over the summer season, who come specifically for the oases. In addition, the oases are also popular fishing destinations, the additional benefits of which are not accounted for. Postproject monitoring has also demonstrated improved fish and bird biodiversity.

The additional groundwater recharge is also used for various purposes in the wider catchment. The overall water stress in the area is low, thus also the relatively modest value of water quantity benefits.

The project continues to be maintained by the Oleshky Sands National Park authority, and is expected to over time lead to the rewetting of significantly larger areas up to a depth of 1 meter. These extra benefits are not accounted for, as they represent activities that are continuing without Coca-Cola's financial support.



Wetland restoration in Romania: Gârla Mare and Vrata

Project description:
The Gârla Mare and Vrata sites are two adjacent marshlands in a former side branch of the Danube River, and both fall within the Natura 2000 network. Historically, the area was modified for fish farming, including a fish breeding nursery and ponds. The natural marsh was isolated from the river and divided by dykes, causing succession over time and transforming the marsh into a reed bed. Without intervention, the reed bed would develop into a terrestrial ecosystem in the future. The water supply of the fish ponds is from both springs and from the Danube. The marsh area received water only from the springs and through a small water supply channel from the Danube.

The project worked to improve the volume of water entering the marshes via modification of a water supply channel, sluice and, dredging, increasing overall flood storage capacity by 5.2 million m^3. Existing dykes have been reinforced in order to protect active fish ponds against flooding. These are projected benefits as the project is still being finalized.

The project is implemented and managed by WWF CEE.

Project key achievements
- Water replenishment: 5 197 ML/year
- Water purification: Reduction of pollution for N and P
- Carbon sequestration: ~3 300 tCO_2e/year
- Flood protection: 620 ha of agricultural land protected
- Extra visitation: ~100 extra visits per year, all locals
- Improved wetland habitat & biodiversity: Significant change

Total TCCC investment
924,000 EUR

Total ecosystem services value per year
388,800 EUR/year

Project payback time
~7.8 years

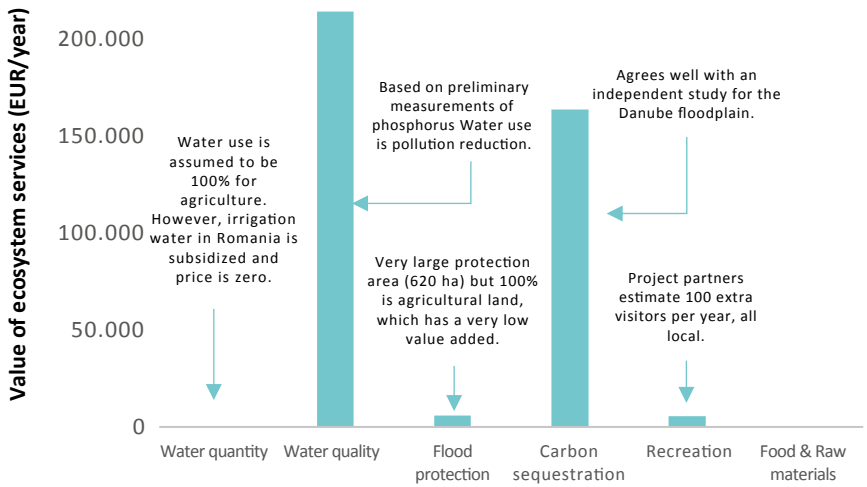
Total value after 10 years
3,888,000 EUR

Total investment multiplier after 10 years
4.21

Interpretion of results:
The largest benefits from the project stem from improved water quality due to filtering phosphorus runoff, based on preliminary measurements by project partners. The project also has significant carbon sequestration benefits, which agree well with an independent study for the Danube floodplain[(A)]. The potential of wetland restoration for increasing carbon sequestration is significant but requires careful management (see also p. 6).

The two wetlands also protecs nearby agricultural land from flooding. The benefits from this are comparatively low as our method considers avoided restoration costs, which are relatively small compared to the size of the protected area. The improved area is also used for recreational purposes by local visitors, which has a small but non-negligible extra benefit.

The largest limitation in our assessment stems from the fact that our water use methodology is based on prices of water for end-users, adjusted for water scarcity. In the case of Romania, irrigation water is subsidized by the state (cost of zero), which in our case accounts for 100% of its use[(B)].



(A) Zehetner F, Lair GJ, Gerzabek MH (2009) Rapid carbon accretion and organic matter pool stabilization in riverine floodplain soils. Global Biogeochemical Cycles 23:1–7
(B) Sensitivity analysis places this value between 70 000 – 177 000 EUR/year, based on value transfer (low end) or Water Framework Directive environmental and resource cost estimates for Romania (high end).

Wetland Restoration in the Demer Valley, Belgium

Project description:
The valley of the Demer is a fairly intact midstream valley of a typical lowland river in Flanders, Belgium, near the cities of Brussels and Leuven. While modified by humans, the valley still retains some natural features of high conservation value. Its land typces include peatlands, sandy areas, and remnant iron sandstone hills ("getuigenheuvels") from an earlier geological period. It is an area of high recreational value with visitation from local urban centres. The adjacent area is also used for farming, with associated water quality problems. Most of the peatlands in the valley have been historically excavated during past centuries for use as fuel in open fires, with a small number surviving.

The river was originally straightened for boat navigation, and deepened and channeled for flood protection. After large historic floods, it was realized that this is ineffective and the valley has progressively undergone restoration as a natural floodplain. This project contributes to this restoration by restoring the natural flow regime of the river as part of the Sigma Plan of Flanders – a flood management and protection initiative started in 1977. Via this, it also contributes to increased water retention in the ecosystem and rewetting of peatlands. The project is implemented and managed by Natuurpunt.

Project key achievements
- Water replenishment: 143.2 ML/year
- Flood protection: significant benefits (see p. X)
- Carbon sequestration: ~2 047 tCO_2e/year
- Extra visitation: ~6500 extra visits per year, all locals
- Improved wetland habitat & biodiversity: Significant change

Total TCCC investment
452,000 EUR

Total ecosystem services value per year
91,500 EUR/year

Project payback time
~4.94 years

Total value after 10 years
915,000 EUR

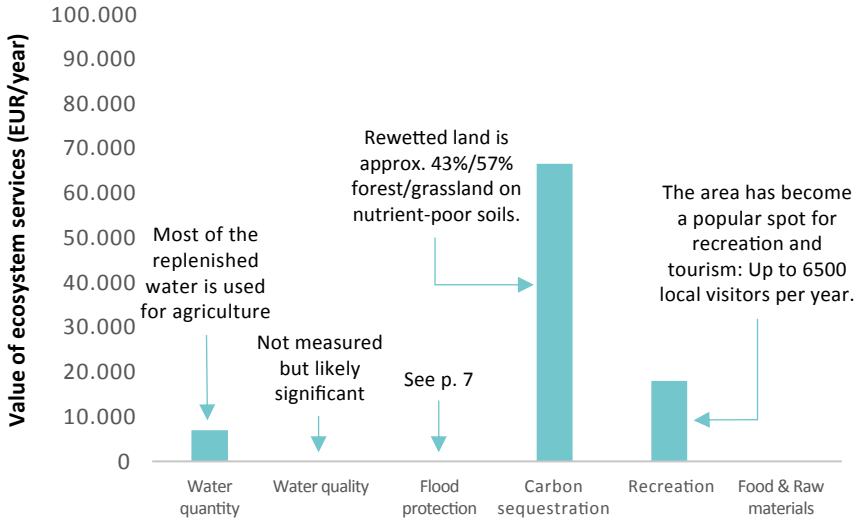
Total investment multiplier after 10 years
1.3

Interpretion of results:
Carbon sequestration is the largest benefit stemming from the project, rewetting a significant amount of area and restoring natural peatlands. The sensitivity of these results is further explored on page 7.

The project also has significant recreational benefits, as it is a nature park adjacent to major population centres, attracting an estimated 6500 local visitors per year. Our methodology currently only accounts for travel costs to the area, but through our 2020 assessment we know that the additional amenity and well-being benefits of naturebased recreation can increase these results several-fold.

The use of replenished water is also a relevant benefit, mostly used for agriculture in the wider watershed, with is moderately water-stressed. The increased filtration capacity of the restored wetlands can also be expected to bring benefits for ameliorating water quality issues from agricultural runoff, but this benefit has not been measured, as our original project design did not provision for this.

Finally, the benefit of the project for flood risk reduction is not included in our calculations due to lacking all necessary data to assess this. Nevertheless, we use sensitivity analysis to explore a range of possible results, which indicate that this benefit is very much significant (see p. X).



THE

COMPANY

In partnership with

denkstatt
create sustainable value

Easton Consult
water · environment · sustainability