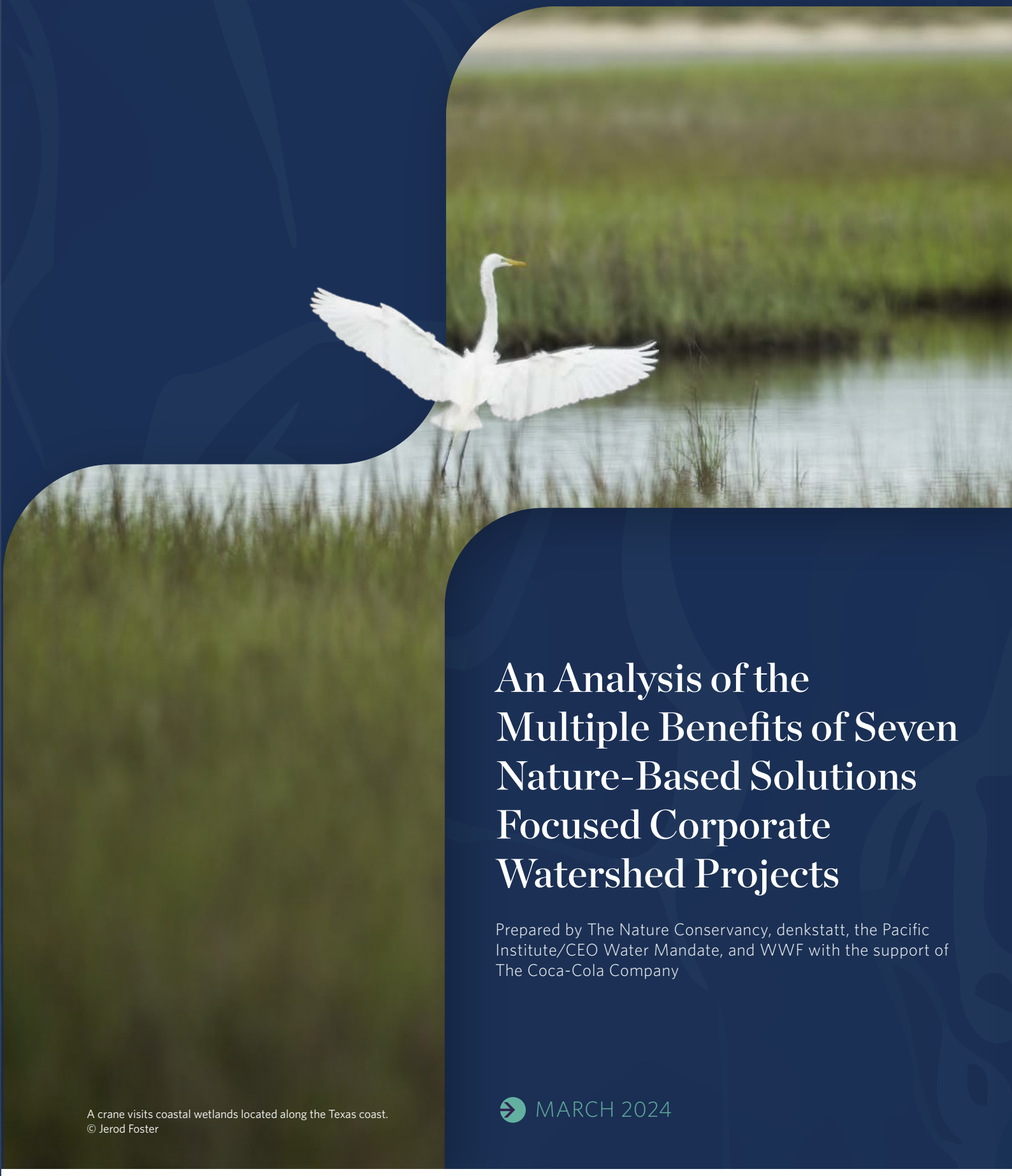


An Analysis of the Multiple Benefits of Seven Nature-Based Solutions Focused Corporate Watershed Projects

Prepared by The Nature Conservancy, denkstatt, the Pacific Institute/CEO Water Mandate, and WWF with the support of The Coca-Cola Company

MARCH 2024

A crane visits coastal wetlands located along the Texas coast.
© Jerod Foster

The Nature Conservancy

denkstatt
create sustainable value

PACIFIC INSTITUTE

UN GLOBAL COMPACT CEO WATER MANDATE

WWF

Project Team

Naabia Ofosu-Amaah
Michael Matosich
Kari Vigerstol
The Nature Conservancy | www.nature.org

Katrin Tomova
Radostin Rangelov
Ivan Paspaldzhiev
denkstatt | www.denkstatt.eu

Gregg Brill
Deborah Carlin
United Nations Global Compact CEO Water Mandate | www.ceowatermandate.org
Pacific Institute | www.pacinst.org

Gyan de Silva
WWF-US |www.worldwildlifefund.org

Recommended Citation

Ofosu-Amaah, Naabia, Michael Matosich, Kari Vigerstol, Katrin Tomova, Radostin Rangelov, Ivan Paspaldzhiev, Gregg Brill, Deborah Carlin, Gyan de Silva (2024). An Analysis of the Multiple Benefits of Seven Nature-Based Solutions Focused Corporate Watershed Projects. The Nature Conservancy. Arlington, Virginia, US. https://nature.org/reports

Acknowledgments

Thank you to the following reviewers who provided input on the content and structure of the document: Marissa Balfour, Samuel Barreto, Fred Kihara, Hayden Wilson, and Karla Vazquez Mendoza (The Nature Conservancy), Penelope Moskus (LimnoTech), Tona Simpson (Ducks Unlimited), Melike Kuş (Nature Conservation Centre), Rob Collins (The Rivers Trust), Nicole Tanner (WWF-US), Madhu Rajesh (Coca-Cola), Ian Woodcock (The Coca-Cola Company), and other members from Coca-Cola's global and regional teams. All the views expressed in this publication are those of the project team and do not necessarily reflect those of the project reviewers or sponsors. Grant funding for the finalization of this publication has been generously provided by The Coca-Cola Company. This paper also discusses several Nature-based solutions / programs that The Coca-Cola Foundation has funded.

Acronyms

CSRD	European Corporate Sustainability Reporting Directive
DU	Ducks Unlimited
EEA	European Environmental Agency
FAO	Food and Agriculture Organization of the United Nations
IUCN	International Union for Conservation of Nature
NBS	Nature-Based Solutions
SBTN	Science-Based Targets Network
TCCC	The Coca-Cola Company
TCCF	The Coca-Cola Foundation
TNC	The Nature Conservancy
TNFD	Task Force for Nature-Related Financial Disclosures
WRI	World Resources Institute
WWF	World Wildlife Fund

Contents

Executive Summary

Massapequa Pond © Michael Casalotti/TNC Photo Contest 2021

This summary report provides insights into the potential for corporate-supported nature-based solutions (NBS) projects aimed at achieving volumetric water benefits to deliver multiple co-benefits, including water quality, climate mitigation and adaptation, biodiversity and human health and well-being. Based on analysis of existing cases, this summary report provides lessons learned across the cases and a proposed framework for accounting for multiple benefits of replenishment projects.

The report begins with a review of seven NBS-focused water replenishment projects funded by The Coca-Cola Foundation (TCCF), The Coca-Cola Company (TCCC), its franchised bottling partners, and other affiliated Coca-Cola foundations. This review includes contextual information about each of the projects and documents the findings from identifying, accounting for, and valuing the multiple benefits of these investments. The report provides an analysis of multiple types of projects and the variety of benefits beyond water quantity (co-benefits) associated with these projects.

Based on these case studies, the report then presents trends, lessons learned and recommendations on how to apply this methodology to future water replenishment projects. The report also provides a framework to help corporate water stewardship and corporate philanthropy practitioners plan for future identification, quantification, and valuation of co-benefits in water replenishment projects. By taking several considerations into account before, during and after an NBS project is implemented, corporate water stewardship and corporate philanthropy practitioners will be able to optimize the number and type of co-benefits a project can have, and therefore be able to design and implement more holistic, context-based water stewardship projects.

While many companies have focused on the volumetric benefits of projects (Microsoft (2023)), this analysis reveals that these projects also have the potential to also generate water quality, biodiversity, climate, and socio-economic co-benefits. The analysis identified quantitative and qualitative estimates of co-benefits or actual results, based on post-project documentation. This work demonstrates the value to companies and corporate foundations of conducting baseline and post-project / endline evaluations and to considering potential multiple benefits of the projects from the outset, to help assess the true potential impact of the projects, beyond the volumetric benefits. Investing in NBS projects that have multiple benefits can help companies and corporate foundations contribute to several sustainability goals (e.g., climate adaptation, reducing or eliminating deforestation and implementing or scaling sustainable agriculture practices) and emerging corporate voluntary frameworks (e.g., Science-Based Targets Network (SBTN) and Task Force for Nature-Related Financial Disclosures (TNFD)), while they also support a wide range of social, economic, and environmental outcomes in their priority communities.

The approach to identifying, accounting for, and valuing the full spectrum of benefits accrued from NBS-focused water replenishment projects in this report provides additional insights in a rapidly evolving space. By understanding the benefits accrued from previous projects, we can improve the business case for understanding the full nature and scope of potential benefits from the outset of the project design phase, thus ensuring that implementation ultimately results in the maximum benefit potential.

Background

PURPOSE

This document provides an overview of the multiple benefits of seven water replenishment projects focused on nature-based solutions (NBS). These projects were funded by The Coca-Cola Foundation (TCCF), The Coca-Cola Company (TCCC), its franchised bottling partners, and other affiliated Coca-Cola foundations with whom the authoring organizations regularly collaborate. The aim is not to make any sustainability-related claims but only to raise awareness and share experiences and learnings amongst corporate water stewardship practitioners of the multiple benefits being generated by NBS projects to strengthen the business case for continued support of these initiatives.

This report analyzes the potential co-benefits of water replenishment projects and provides trends, lessons learned, and recommendations for scaling this work. By retroactively identifying, accounting for, and valuing the co-benefits of a representative selection of existing replenishment projects, the findings can help corporate water stewardship stakeholders identify key learnings and plan for future investments that will maximize the benefit to nature, to communities, and to their corporate sustainability efforts.

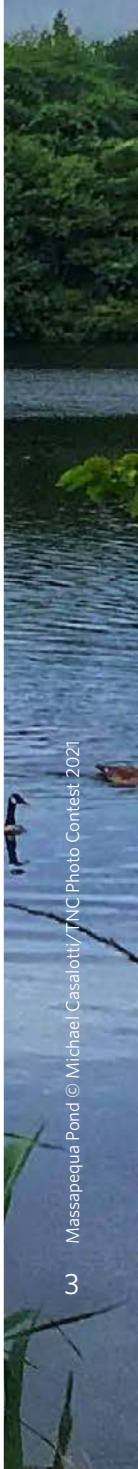
AUDIENCE

The intended audience is stakeholders engaged in water stewardship and philanthropy throughout the corporate sector, including those investing in NBS projects across different contexts or geographies.

METHOD

The information presented in the case studies was gathered from organizations that implement, measure, and monitor the reviewed NBS projects, which includes project developers (such as TNC, WWF, and others), as well as assessment partners such as LimnoTech (a US environmental consulting firm that quantifies the volumetric benefits of water replenishment projects (among other activities)). Data is sourced either from project reports, or via questionnaires sent to project partners, with auxiliary data in certain cases also gathered from public sources.

The method used for identifying, accounting for, and valuing these co-benefits was built off the Benefit Accounting of Nature-Based Solutions Guide (Brill et al. (2023)), which includes a valuation methodology developed by denkstatt following the Natural Capital Protocol framework (Natural Capitals Coalition (2016)). TCCC has been engaged in natural capital valuation since 2015, when the company was part of the piloting phase of the Natural Capital Protocol. Since then, TCCC – together with denkstatt – developed a standardized valuation methodology, that has been applied to 25 projects worldwide. This approach is being incorporated into the CEO Water Mandate's NBS Benefits Explorer V2. The methodology has also been applied for the projects assessed herein, and where possible local-scale project data has been used.



Massapequa Pond © Michael Casalotti/TNC Photo Contest 2021

The projects were categorized according to the following potential NBS categories to be considered for NBS projects that are outlined in Brill et al. (2023):

- **9** Major habitat types
- **4** Intervention types
- **21** Activities
- **4** Benefit categories (apart from water quantity) – water quality, biodiversity, climate, socio-economics

For valuation, projects are assessed in two steps:

1

First, changes in natural or social capital on-the-ground are identified – these are benefits measured in natural units (such as m3 of water, number of visitors, and kg CO_2)

- These are ideally measured quantitatively by project developers. If necessary, changes are estimated based on auxiliary data (e.g., using land-use change data for estimating changes in CO_2 emissions).
- If quantitative assessment is not possible, benefits are assessed qualitatively.

2

Second, changes in natural or social capital are converted into monetary benefits by valuing changes in ecosystem services. In this way, improvements to natural capital are linked to economic benefits, considering the local context in which projects are implemented. This is achieved via the valuation methodology incorporated in Brill et al. (2023), as elaborated above.

For consistency and to account for inflation over time, all valuation results are presented in units of USD at 2018 price levels. Some project benefits are a result of support from multiple funders, not just TCCF, TCCC, its franchised bottling partners and other affiliated Coca-Cola foundations; only the valuation benefits attributable to TCCF, TCCC, its franchised bottling partners and other affiliated Coca-Cola foundations are included in this report, relative to cost share. TCCC and its related organizations do not attempt or intend to make any claims regarding any of the impact data used in this report. The authors use impact data in the report to simply illustrate that the projects have co-benefits, that can often be assigned a monetary value to demonstrate the return on investment (if projects are maintained for 10 years) and help strengthen the business case for investing in such holistic projects. The table below provides a summary of the valuation methodologies used. The existing valuation approach covers common benefits that occur in typical projects but does not account for every single benefit observed – thus, the results of valuation are conservative and do not cover the full spectrum of societal benefits of each project. Valuation of benefits requires that relevant baseline and monitoring data has been gathered for each project. This is not always the case due to various limitations including human resources, lack of common methods, or lack of inclusion of requirements at the planning stage. Thus, not all relevant benefits have necessarily been valued for each assessed project. This was particularly the case for water quality benefits, which often require the collection of baseline data.

Benefit	What changes are due to the project?	What is being valued?	Source
Water quantity (Provisioning)	Increased m^3 freshwater retained in the environment	Consumptive use of water adjusted for water stress	Local water prices, usage breakdown, and water stress
		Contribution to achieving SDG6: Ensure availability and sustainable management of water and sanitation for all	Strong et al. (2020): Achieving Abundance: Understanding the Cost of a Sustainable Water Future
		Reduced risk from lack of water for other users	GIZ/NCD/VfU Water Credit Risk Tool (Ridley and Boland, 2015)
Water quality	Reduced concentrations of pollutants in freshwater	Avoided costs for infrastructure treating in-stream diffuse pollution	La Notte et al. (2017)
Flood Protection (Climate Resilience)	Reduced flood extent, depth, or frequency	Avoided costs of damages to man-made assets	Huizinga et al. (2017)
Carbon sequestration	Reduced or avoided GHG emissions compared to the pre-project state	Costs to limit global warming to well-below 2°C	World Bank (2017)
		Carbon sequestration	Dietz et al. (2018)
		Social Cost of Carbon	US EPA (2022)
Recreation	Increased visitation to the project site compared to alternatives	Value of consumptive recreation	Local visitation and travel expenditure information
		Value of cultural ecosystem services (non-consumptive recreation, amenity, and aesthetics)	Brander et al. (2008) Taye et al. (2021)
Socio-economic	Increased earnings or saved costs for stakeholders	Local-scale changes in costs and benefits for stakeholders versus the pre-project state	Local-level prices of different cost/benefit components.
Biodiversity	Hectares of ecosystems created or maintained	Value of habitat services – the ability of nature to provide resources for the maintenance of species habitats and genetic diversity.	De Groot et al. (2012)

Table 1: Valuation methodologies used in this report.

- Darker green = main valuation methodologies used.
- Lighter green = alternative methodologies used for sensitivity analysis.

THE IMPORTANCE OF NATURE-BASED SOLUTIONS AND ACCOUNTING FOR MULTIPLE BENEFITS

Nature-based solutions (NBS) refer to the effective restoration, adaptive management, and sustainable use of nature for tackling socio-economic and environmental challenges. The International Union for Conservation of Nature (Cohen-Shacham et al. (2016)) defines NBS as:

> "Actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits."

The challenges that NBS can address include climate change, water security, poor water quality, air and soil pollution, food security, economic opportunities, public health, and disaster risk management. Many of these challenges are top of the agenda for governments, NGOs, civil society, and businesses around the world (WEF (2024)).

NBS have the potential to deliver sustainable improvements in watershed health with multiple benefits, including water, climate, biodiversity and the environment, as well as social, cultural and economic benefits. Often, those looking to invest in NBS are trying to address multiple challenges simultaneously. To realize the maximum benefits of NBS, practitioners must work with local stakeholders to identify and assess all major environmental and societal challenges in the context of the landscape in which NBS projects are planned. Understanding these challenges can help to target specific habitats most in need of restoration, management or protection, or have the most potential to provide multiple benefits. Community engagement will also help to identify potential tradeoffs of different solutions, which is critical information for decision making and adaptive management (Brill et al. (2023)).

TCCF, TCCC, its franchised bottling partners and other affiliated Coca-Cola foundations have supported NBS projects for many years. TCCC's Natural Capital journey began in 2007 when it

set a goal to replenish all the water used in its finished beverages to nature and communities. TCCF, TCCC, its franchised bottling partners and other affiliated Coca-Cola foundations, and other strategic partners have been investing in NBS in multiple locations around the world. NBS are complementary to many investments in grey infrastructure and can help achieve multiple co-benefits beyond what solely grey infrastructure can provide. They can form part of a suite of water stewardship approaches in priority basins and communities. TCCF, TCCC, its franchised bottling partners, other affiliated Coca-Cola foundations, and other strategic partners focused on projects that had quantifiable water quantity benefits, often using NBS. This robust portfolio of NBS projects provides an opportunity to gain insights into the application of NBS for water stewardship, including an understanding of the potential to deliver on co-benefits beyond replenishment.

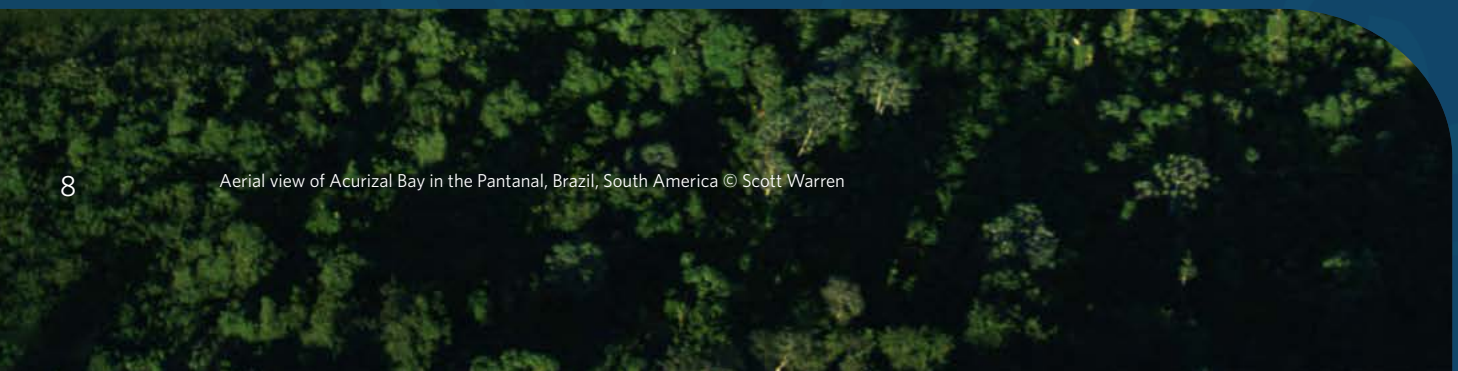
Investments in NBS that focus on restoring nature and reversing biodiversity loss can help increase water security. This is also suggested by corporate voluntary frameworks, such as SBTN and TNFD, which emphasize NBS. In SBTN, implementing NBS is identified as a best practice for target implementation because of the ability of NBS in many cases to deliver on climate mitigation and adaptation,

Gikururu falls/river in the Aberdare mountains
© Roshni Lodhia

land degradation, and food security all at once (IPCC (2019)). At the same time, the European Corporate Sustainability Reporting Directive (CSRD) and other nature-related European regulations require companies to act on nature and implement holistic restoration activities. As outlined by the European Environmental Agency (EEA (2022)), the EU aims to attract private capital and channel investment into NBS, biodiversity protection and restoration, and to provide a common basis for financial activities under the EU taxonomy. Therefore, it is important to show a successful track record of implemented NBS project with multiple benefits to support future investments.

Despite interest from TCCC and other companies and corporate foundations and growing momentum through the emerging voluntary frameworks and regulations, scaled implementation of NBS remains limited due to several challenges and barriers (Shiao et al. (2020)). One challenge is that there has not been a standardized approach to identify and account for the benefits accrued from NBS investments. A strategic partnership between the Pacific Institute, CEO Water Mandate, TNC, LimnoTech, denkstatt, TCCC and other partners has helped address this need for a standardized approach. Several outputs from this project (outlined in the method) help build the business case for investment in NBS and continued support of projects that benefit watershed health and provide numerous other co-benefits. Supporting NBS projects can build more resilient, healthy communities and help companies and corporate foundations contribute to multiple sustainability goals, like climate adaptation, biodiversity and implementing or scaling sustainable agriculture practices.

High-Level Summary of Projects



Aerial view of Acurizal Bay in the Pantanal, Brazil, South America © Scott Warren

PROJECT SUMMARY

This report presents seven water replenishment projects funded by TCCF, TCCC, its franchised bottling partners, and other affiliated Coca-Cola foundations that incorporate NBS. The projects were chosen due to their diversity in locations, habitat types and interventions. Analyzing projects across five continents can help to compare the co-benefits of each project and understand whether varying geographies and contexts can impact the co-benefits that are produced.

GEOGRAPHIC SCOPE AND PROJECT LIST

1. Conserving and Restoring Watersheds for São Paulo, Brazil
2. Conserving Aso Grassland in Kumamoto Prefecture, Japan
3. Replenishing by Restoring the Upper Tana Watershed for Nairobi, Kenya
4. Rehabilitating Ipo Watershed – Sapang Munti, Philippines
5. Conserving Water: Agriculture of the Future, Konya Province, Turkey
6. Replenishing Aquifers and Chalk Streams in Southeast England, UK
7. Protecting Water and Grassland Resources in Florida's Everglades Headwaters (DeLuca Easement), USA

HABITAT TYPE

The projects selected for this report cover six of the nine habitat types, and the number of projects for each habitat type (one project can have multiple habitat types) is summarized below:

Forests	3	Grassland	3	Rivers and Floodplains	4
Wetlands	3	Agricultural	4	Urban	1

Estuaries, lakes, and mangroves were not represented.

INTERVENTION TYPE

The seven identified projects cover all four intervention types, including restoration 5, management 6, protection 3, and creation 1. These four intervention types are not mutually exclusive, and many interventions may require the inclusion of other intervention activities.

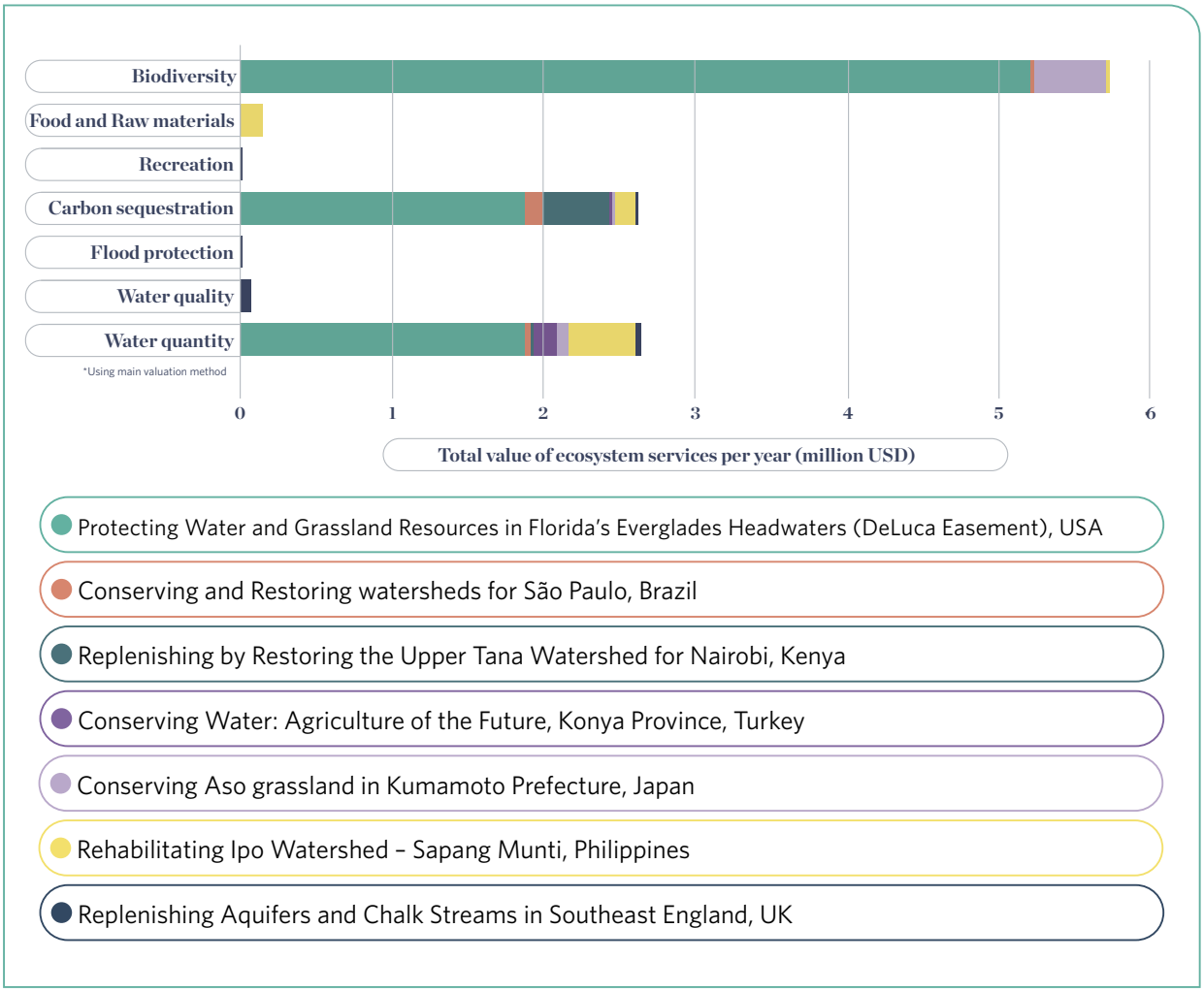
ACTIVITIES

Each intervention type is made up of varying activities (physical actions) related to geomorphology, hydrology, soil and water chemistry, ecology and socio-economics. The identification of such activities during the design phase will assist those planning to invest in NBS with resource allocation, budgeting and other operational elements needed during the implementation phase. The seven projects covered 9 of the 21 activities identified in the Guide (Brill et al. (2023)). The number of projects for each activity category (one project can have multiple activities reported by project partners) is included below:

- Avoid/limit habitat conversion 4
- Construct natural treatment systems 1
- Plant vegetation buffers 2
- Plant/restore/maintain native vegetation 6
- Recharge aquifers 4
- Reestablish hydrologic connection 1
- Restore/improve soil health 4
- Restore/improve/stabilize substrates 3
- Undertake mulching and fertilizing 2

Florida © St. Johns River Water Management District

From the seven projects assessed, these are the estimated benefits resulting from the project activities:



IMPORTANT NOTES

- Some project benefits are a result of multiple funders, not only TCCF, TCCC, its franchised bottling partners and other affiliated Coca-Cola foundations.
- Only the valuation benefits attributable to TCCF, TCCC, its franchised bottling partners and other affiliated Coca-Cola foundations are included in this report, relative to cost share.
- Carbon sequestration estimates included are not meant to indicate that the projects generated carbon credits with which the company offset its GHG emissions. Carbon credits require the application of an approved carbon standard methodology and third-party verification such as the American Carbon Registry (ACR), the Verified Carbon Standard (VCS), the Climate Action Reserve (CAR) and others. As these projects demonstrate, mechanisms to attract and channel private finance are critical, and investments in nature can have positive carbon co-benefits without relying on the voluntary carbon market.

Case Studies

Fred Kihara, of TNC's Africa Program, looking at the Chania Falls in Thika near Nairobi in the Upper Tana Watershed, Kenya. © Nick Hall

Jundiaí-Mirim microwatershed (part of PCJ watersheds) © TNC/Henrique Bracale

CONSERVING AND RESTORING WATERSHEDS FOR SÃO PAULO WATER FUND (GREEN-BLUE WATER COALITION), BRAZIL

Project Partner	The Nature Conservancy
Location	Cantareira and Jundiaí, São Paulo, Brazil
Habitat	Agricultural land, forests, rivers and floodplains, grasslands
Interventions	Protection, restoration
Activities	→ Recharge aquifers → Reestablish hydrologic connection → Restore/improve soil health → Restore/improve/stabilize substrates → Plant/restore/maintain native vegetation → Avoid/limit habitat conversion → Plant vegetation buffers
Social return on investment if project is maintained for 10 years	9x value compared to original investment (main valuation method). This varies between 7x and 28x if alternative valuation is considered.[1]

1 The broad range in benefits observed for this project is mainly owed to the different ways of valuing the benefits of GHG emission reductions. In brief, the methodology used values GHG benefits from three perspectives:

- The necessary carbon price (cost) consistent with the central aim of the Paris Agreement – "keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels". The value is sourced from the World Bank shadow pricing guidance for project appraisal (2017).
- The necessary carbon price (cost) to limit global warming to 1.5 degrees above pre-industrial levels till 2050. This value is consistent with the goal of the Paris agreement to "pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius". The value is sourced from Dietz et al. (2018) and is more than 2x higher than the cost for 2 degrees Celsius.
- The avoided damages from climate change (benefit) as represented by the US EPA Social Cost of Carbon. The value of avoided damages is higher than the cost to reduce emissions, which is consistent with the broad consensus that climate mitigation is cheaper than adaptation in the long run.

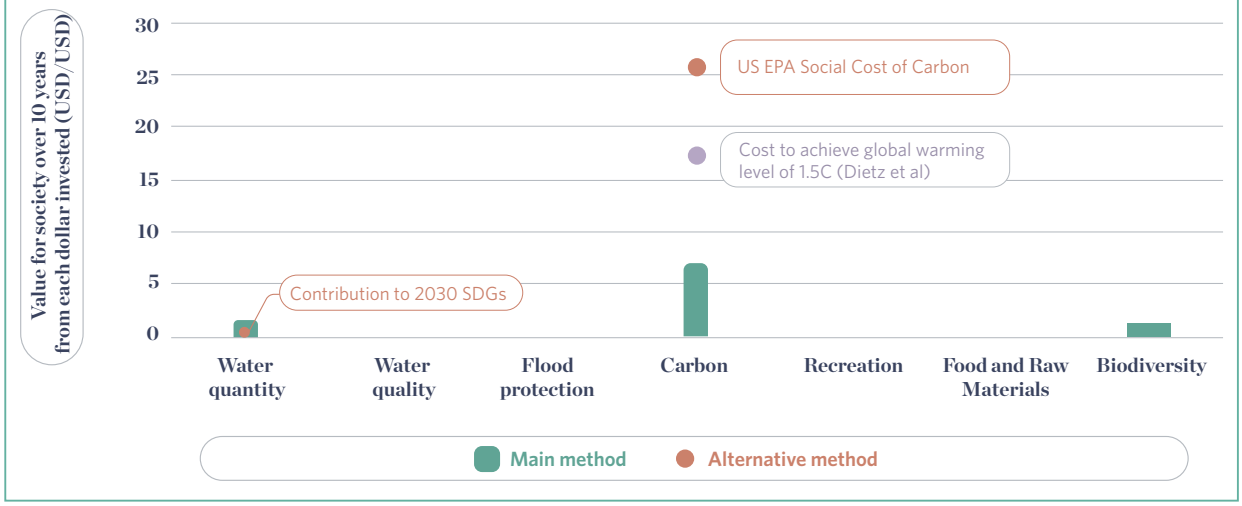
Different users may encounter different values depending on their geography, project purpose and value perspective. Thus, a range of results is presented.

Project Summary and Context:

São Paulo's most important watersheds, the Piracicaba, Capivari, Jundiaí and Upper Tietê, have experienced severe deforestation, worsening water pollution, sedimentation of reservoirs, and increasing severity of floods and droughts. When the city of São Paulo faced a severe drought in 2007, it caused an important change in water consumption habits. Before the crisis, São Paulo consumed more water than was available in its rivers. After this crisis, the consumption rate decreased. But with a growing population, investment in both green and grey infrastructure are needed to ensure continued water security objectives for São Paulo. The São Paulo Water Fund, created in 2007, supports green infrastructure activities to restore and regulate water supply with funding from TCCF and Instituto Coca-Cola Brasil and others. Activities focus on ecological restoration of degraded pastureland in rural areas by planting native species, fencing targeted areas to keep livestock out of sensitive areas, and protecting native forests and associated ecosystem services (e.g., water purification and regulation).

Value for society over 10 years from each dollar invested (USD/USD):

Conservation and Restoration through the São Paulo Water Fund, Brazil



Key project achievements:

Water quantity

Water supply benefits to local and downstream communities

Water quality

N/A

Climate

Carbon sequestration potential

Biodiversity

Improved terrestrial habitat availability and quality

Socio-economic

Economic benefits to the rural community - production of fruits

Noyaki - controlled burning of the Aso grasslands has been documented for over 1000 years. The burning prevents shrub and tree encroachement, and converts biomass into charcoal which seals carbon into the soil.

CONSERVING ASO GRASSLAND IN KUMAMOTO PREFECTURE, JAPAN

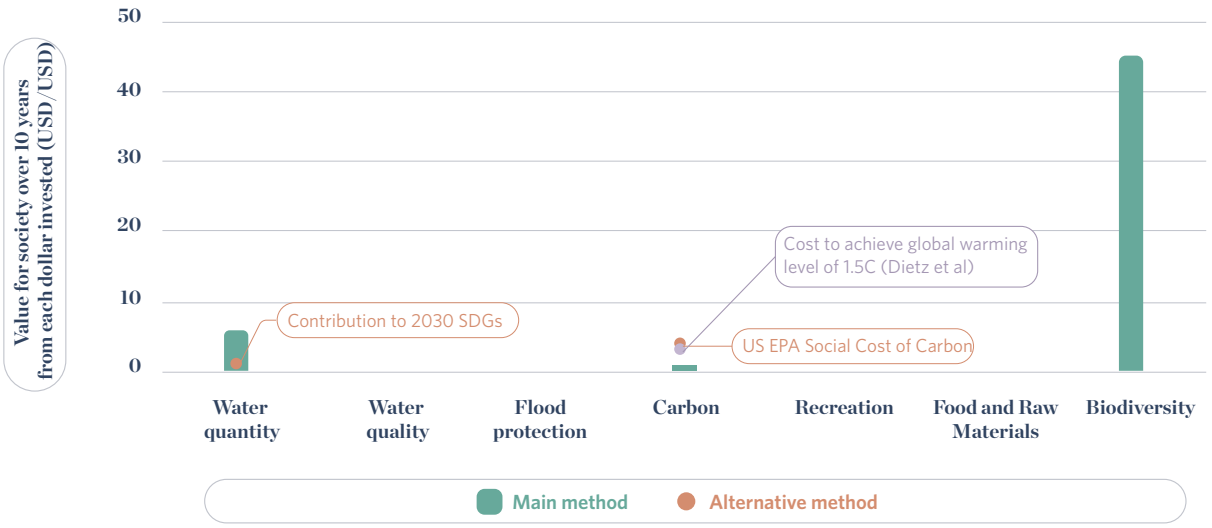
Project Partner	Aso Grassland Restoration Committee
Location	Aso Grassland in Kumamoto Prefecture, Japan
Habitat	Grassland
Interventions	Protection, restoration
Activities	→ Avoid/limit habitat conversion → Plant/restore/maintain native vegetation
Social return on investment if project is maintained for 10 years	52x value compared to original investment (main valuation method). This varies between 47x and 55x if alternative valuation is considered.

Project Summary and Context:

The Aso region has grassland area of some 22,000 hectares for grazing (FAO (2013)). Maintenance of the grassland is important to prevent further loss or degradation of the grass cover. This maintenance is increasingly difficult because of changes in farming and lifestyles, livestock industry depression, aging and scarce successors in the farming populations, and other social and economic changes. Efforts have been underway to restore the historic grassland environment. The project provided funding to the Aso Grassland Restoration Committee to support grassland management. The project included development of a preservation plan, certification of the current grassland condition through scientific research on the flora and fauna, and execution of the conservation initiative titled "Sustainable grassland utilization and maintenance: traditional cattle grazing as well as controlled burns."

Value for society over 10 years from each dollar invested (USD/USD):

Conservation of existing land cover in the Aso grassland, Japan



Key project achievements:

Water quantity

Increase in infiltration and baseflow

Water quality

N/A

Climate

Potential for carbon sequestration through improved grazing

Biodiversity

Positive impacts on terrestrial habitat and biodiversity

Socio-economic

Preservation of a historic grassland environment for future generations

Improved livelihoods through sustainable grazing practices

Agroforestry and livelihoods improvement project © Roshni Lodhia. ©Plan Vivo

REPLENISHING BY RESTORING THE UPPER TANA WATERSHED FOR NAIROBI, KENYA

Project Partner	The Nature Conservancy
Location	Project activities take place in Thika-Chania, Maragua, and Sagana-Gura sub-watersheds, Upper Tana River Watershed, Murang'a, Nyeri, Laikipia and Nyandarua Counties, Kenya.
Habitat	Agricultural, rivers and floodplains
Interventions	Restoration, management
Activities	→ Recharge aquifers → Restore/improve soil health → Restore/improve/stabilize substrates → Undertake mulching and fertilizing → Plant/restore/maintain native vegetation
Social return on investment if project is maintained for 10 years	20x value compared to original investment (main valuation method). This varies between 18x and 64x if alternative valuation is considered.

Project Summary and Context:

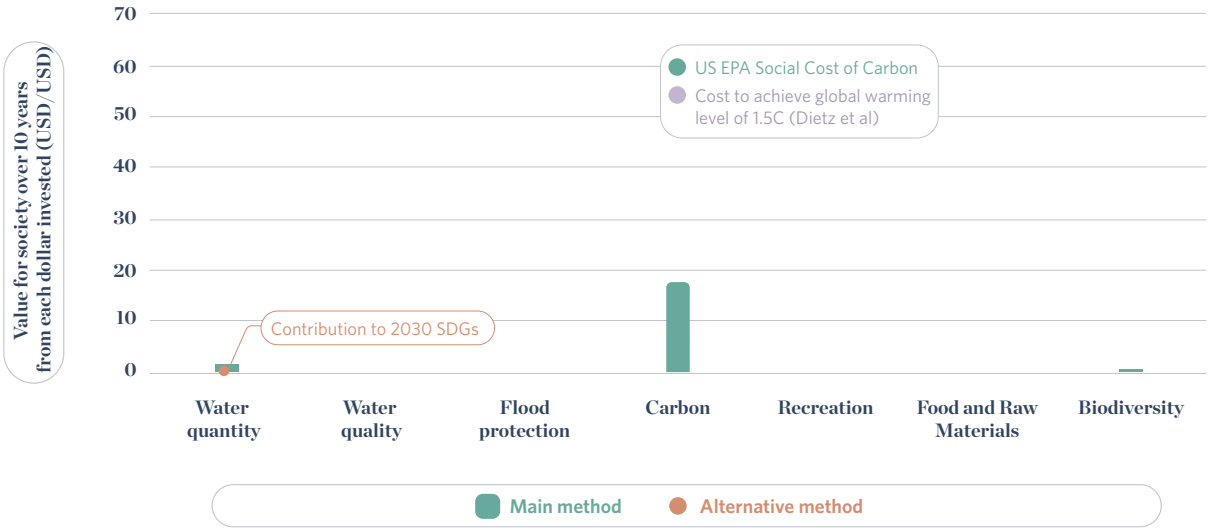
The Upper Tana Watershed is a vital water source for Kenya, providing 95% of Nairobi's water and 50% of Kenya's electricity through five hydropower dams (IWA (n.d.)). Existing treatment and distribution facilities are not adequate to meet the current and growing water demands from population growth. Additionally, unsustainable land use (farming) and other issues in the watershed are impairing the ability of the city to receive and treat water from this area. The Nairobi Water Fund was started by The Nature Conservancy and several organizations in Kenya with funding from TCCF and other funders to allow downstream water users, aid agencies, and private donors to invest in upstream watershed conservation activities designed to reduce sediment loads and ensure more consistent, reliable delivery of water to Nairobi and throughout the basin. The project focused on planting tree seedlings to restore vegetative cover on vulnerable, barren lands. Tree planting, or reforestation, helped to reduce runoff

volumes and stabilize soil to prevent erosion and high turbidity events. Adding tree cover also helped to result in more rainfall being captured, filtered, and stored locally rather than quickly running off barren land and moving downstream.

→ **Note:** The carbon sequestration that is mentioned as a co-benefit (coming from trees planted as part of a formal agroforestry system by the participating farmers) has been separately validated for sale on a carbon market. TCCC was not involved in this process nor are they selling or purchasing carbon credits related to this project.

Value for society over 10 years from each dollar invested (USD/USD):

Replenishing by Protecting the Upper Tana Watershed for Nairobi, Kenya



Key project achievements:

Water quantity

Harvesting rainwater for tree support

Water quality

Reduced suspended solids and turbidity especially during the wet season

Climate

Carbon sequestration due to trees planted

Biodiversity

Increased abundance and diversity of native species

Improved terrestrial habitat availability and quality

Socio-economic

Improved livelihoods and food production

Restoration at Ipo watershed. © WWF-Philippines

REHABILITATING IPO WATERSHED - SAPANG MUNTI, PHILIPPINES

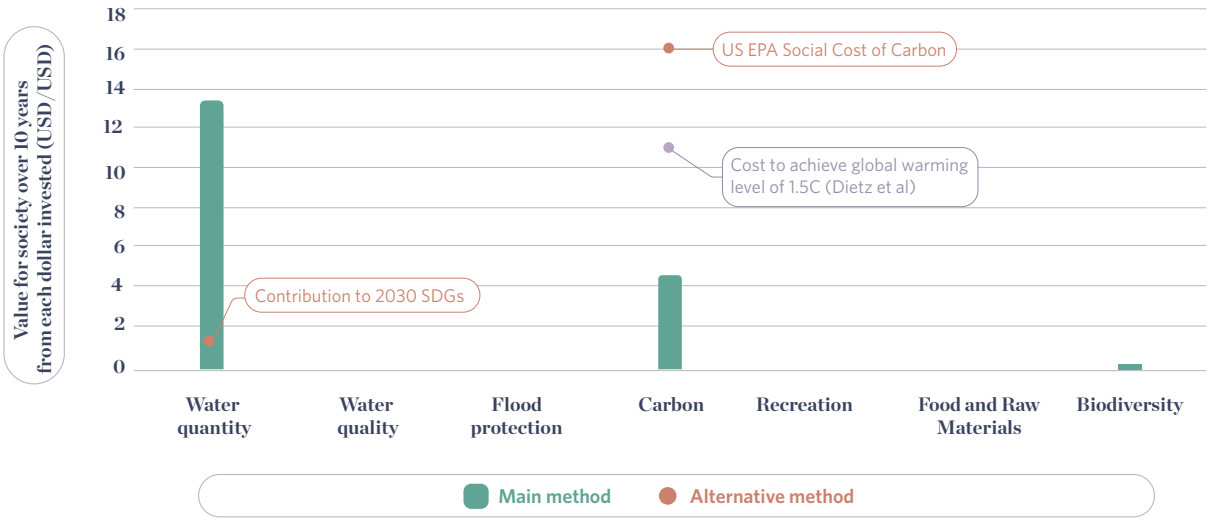
Project Partner	WWF-Philippines
Location	Ipo watershed, Bulacan province which serves Metro Manila in the Philippines
Habitat	Forests, wetlands, rivers and floodplains
Interventions	Restoration, management, protection
Activities	→ Avoid/limit habitat conversion → Plant/restore/maintain native vegetation → Restore, restore/improve soil health → Undertake mulching and fertilizing
Social return on investment if project is maintained for 10 years	33x value compared to original investment (main valuation method). This varies between 11x and 35x if alternative valuation is considered.

Project Summary and Context:

The Ipo Watershed in Bulacan province in the Philippines supplies water to Metro Manila, the second most populous region of the country. Forest cover within the watershed has dramatically dropped from 85% to just 40% in recent years (WWF (n.d.)) due to illegal logging and unsustainable forest practices, which has resulted in a reduction in the natural water storage capacity of the basin. Malnutrition is also a pervasive challenge in local communities. Since 2016, The Coca-Cola Foundation and Coca-Cola Foundation Philippines have worked in partnership with WWF-Philippines to protect rainforests of the area, replant trees and provide livelihood opportunities. The project has reforested 165 hectares of degraded land in the watershed and supported local communities to start household gardens to grow food.

Value for society over 10 years from each dollar invested (USD/USD):

Ipo rehabilitation and enhancement of forest and wetlands



Key project achievements:

Water quantity

Decreased runoff of the afforested slopes

Water quality

Potential for water quality impacts due to decreased runoff

Climate

Potential for carbon sequestration through tree planting

Biodiversity

Potential biodiversity impact through tropical afforestation

Socio-economic

Edible fruits produced which help tackle food security issues

Awareness raising and capacity building was provided among the local community

Improved water access for the local community

Konya Province, Turkey© Nature Conservation Centre

CONSERVING WATER: AGRICULTURE OF THE FUTURE, KONYA PROVINCE, TURKEY

Project Partner	Doğa Koruma Merkezi (Nature Conservation Centre)
Location	Konya Province, Turkey
Habitat	Agricultural
Interventions	Management
Activities	→ Plant vegetation buffers → Restore/improve soil health → Restore/improve/stabilize substrates
Social return on investment if project is maintained for 10 years	1.1x value compared to original investment (main valuation method). This varies between 1.0x and 1.4x if alternative valuation is considered.

Project Summary and Context:

Turkey is experiencing high water stress. The Konya Province, situated in Central Anatolia, is particularly vulnerable. The project, funded by TCCF, is implemented in areas that have some of the driest climate in the country and suffer from aridity and desertification. Wind erosion is a significant problem in the region due to soil type and low precipitation, intensive agricultural techniques, and overgrazing, these factors contribute to loss of soil productivity and an increase in soil salinization. Project activities are directed at keeping the soil on the land and increasing soil moisture holding capacity, and include

implementation of a variety of activities as appropriate:

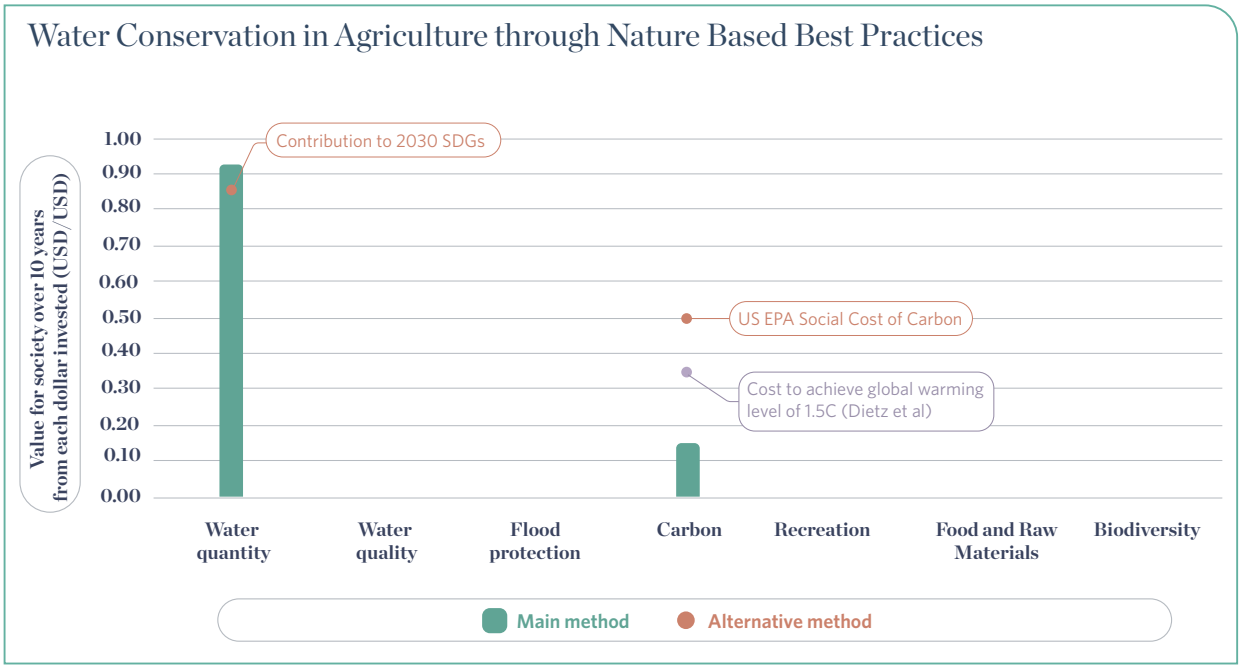
- Direct seeded fields (conservation tillage)
- Wind breaks
- Crop rotation strategy report
- Ecosystem services map
- Ecosystem services vulnerabilities map
- Monitoring report
- Crop calendar adopted to climate change
- Biological control of rodents

The project activities are also in line with the basic principles of "conservation agriculture" promoted by FAO (n.d.): to minimize soil disturbance to stabilize soil structure, increase fertility and balance the ecosystem.

Wind break with silverberry and acacia trees. ©Nature Conservation Centre

Biological control of rodents with owl and kestrel nests ©Nature Conservation Centre

Value for society over 10 years from each dollar invested (USD/USD):



Key project achievements:

Water quantity

Improved water holding capacity of soil to promote efficient utilization of both rain water and irrigation water by the crop

Water quality

N/A

Climate

Reduced greenhouse gas (carbon dioxide emissions) emissions from reduced diesel use

Biodiversity

Windbreaker trees and kestrel nests contribute to biological control of rodents by providing habitat for birds of prey and

Socio-economic

Education and awareness activities for farmers

Improved yields for most of the farmers

Ham Fen, Kent, UK. This project with Kent Wildlife Trust saw the restoration of approximately 14 hectares of peatland and further re-wetting of the nature reserve using engineered and nature-based solutions, including the re-introduction of beavers. ©Kent Wildlife Trust

REPLENISHING AQUIFERS AND CHALK STREAMS IN SOUTH EAST ENGLAND, UK

Project Partner	The Rivers Trust and WWF UK
Location	London and Kent, UK
Habitat	Wetland, urban
Interventions	Creation, restoration, management
Activities	→ Recharge aquifers → Construct natural treatment systems → Restore/plant/maintain native vegetation
Social return on investment if project is maintained for 10 years	4x value compared to original investment (main valuation method). This varies between 4x and 5x if alternative valuation is considered.

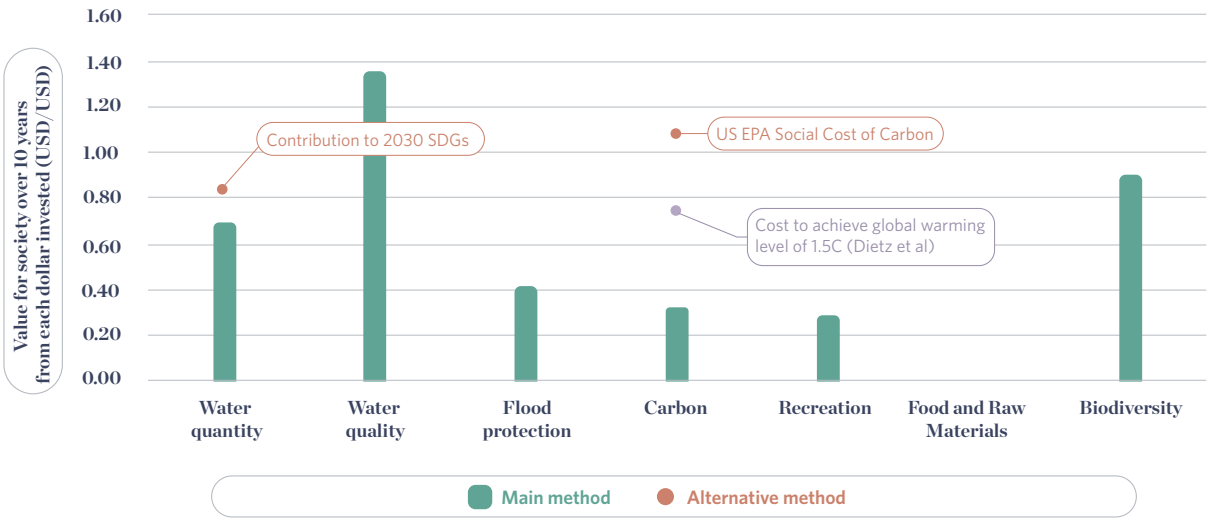
Project Summary:

Chalk (white soft limestone) defines much of the landscape and water resources of southeast England, both surface and groundwater. Many of the water resources and their associated natural environments are under stress due to high water abstraction and pollution. With funding from TCCF, two nature-based solutions projects were established across the region to address these issues. A wetland was created in a North London Park to improve water quality in the nearby Pymmes Brook, a tributary of the highly polluted Lower Lea River. The project diverted the flow of water from an urban runoff pipe into a newly

constructed wetland, planted with reeds, marginal flowers, and grasses, which will help reduce the effect of pollution before it reaches the brook. Separately, the Ham Fen (a wetland of peat, plants and water combined) located near Sandwich in Kent, was restored. The project has focused on increasing the volume of water retained within the fen and restoring the water table so that the dry surface of peat has become saturated again, supporting recovery of plants and wildlife, as well as carbon sequestration due to dry peat no longer being oxidized. Various techniques are used including the installation of water control structures, planting reeds and the creation of 'scrapes' – shallow depressions that hold water seasonally.

Value for society over 10 years from each dollar invested (USD/USD):

Replenishing aquifers and chalk streams in South East England



Key project achievements:

Water quantity

Amount of water made available for potential human use through the wetland/ marshland

Water quality

Improved water quality in urban river and streams (ammonia removal by wetland)

Climate

Rewetting of Ham Fen: GHG sequestration benefits

Broomfield Park wetland and Ham Fen: flood protection benefits

Biodiversity

Provided habitat for amphibians, insects and birds

Socio-economic

Created an attractive natural feature for urban residents

Provided aditional research opportunities

A typical depression marsh wetland at DeLuca with emergent native grasses which provide seeds and invertebrates for waterfowl and other wildlife. . © Elizabeth Guthrie (Ducks Unlimited).

PROTECTING WATER AND GRASSLAND RESOURCES IN FLORIDA'S EVERGLADES HEADWATERS (DELUCA EASEMENT), USA

Project Partner	Ducks Unlimited (DU)
Location	Osceola County, Florida, United States of America
Habitat	Agricultural, forests, grasslands, wetlands, rivers and floodplains
Interventions	Management, protection
Activities	→ Recharge aquifers → Avoid/limit habitat conversion → Plant/restore/maintain native vegetation
Social return on investment if project is maintained for 10 years	319x value compared to original investment (main valuation method). This varies between 285x and 478x if alternative valuation is considered.

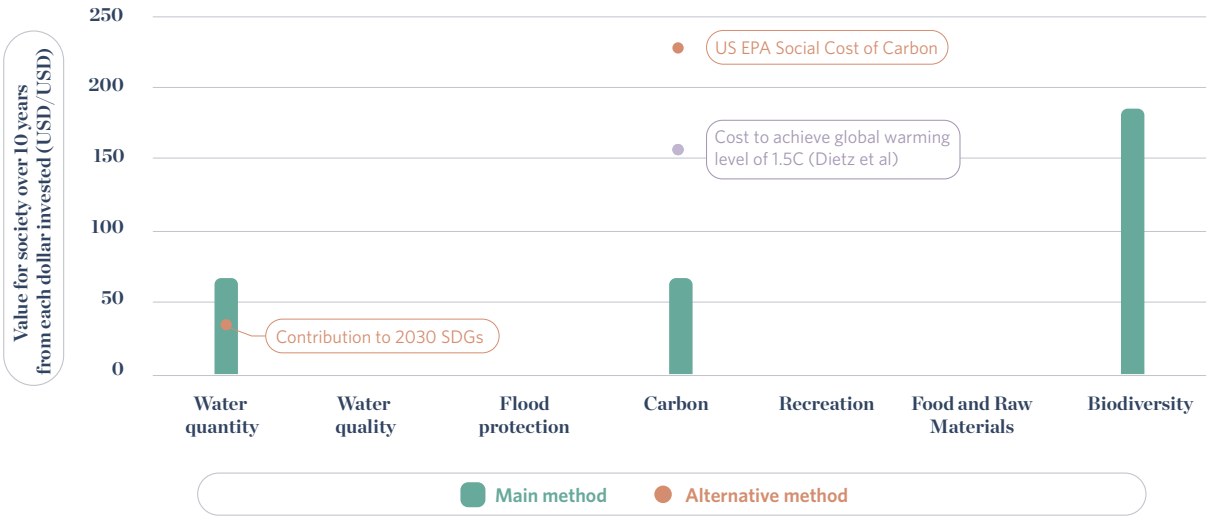
Project Summary and Context:

The DeLuca property comprises 27,000 acres of semi-improved pasture, citrus groves, freshwater marsh, swamp, wet prairie and bogs, longleaf pine flatwoods and dry prairie (Ducks Unlimited (2022)) that was donated to DU for long-term stewardship. According to the National Wetlands Inventory, there are approximately 7,000 acres of wetlands on the property (Ducks Unlimited (2022)). The DeLuca property also provides important habitat for several notable and threatened species and is home to half of the world's remaining nesting pairs of Florida grasshopper sparrows and Florida panthers, both listed on the U.S. Endangered Species Act, and endemic Florida black bears. (Ducks Unlimited (2020), Ducks Unlimited (2021) and US Fish and Wildlife Service (n.d.)) Grasslands such as those on the DeLuca property are one of the most threatened ecosystems in the country. Rates of grassland

conversion in the U.S. have continued at a rapid pace, with a sizable portion lost to non-agricultural uses. Thanks to the project funded by TCCF, TCCC and partners, this property will continue to be grazed using sustainable livestock grazing methods, which is a highly compatible and economically important management strategy on this landscape. As part of the agreement, Ducks Unlimited also monitors the site annually to ensure compliance and ongoing land conservation.

Value for society over 10 years from each dollar invested (USD/USD):

Protecting Water and Grassland Resources in Florida's Everglades Headwaters (DeLuca Easement)



Key project achievements:

Water quantity

Maintenance of a groundwater recharge area

Avoided runoff through land protection

Water quality

N/A

Climate

Preserved carbon storage capacity

Biodiversity

Land protection to preserve local habitats resulting in supported species and expanded ecosystem connectivity

Socio-economic

Economic livelihoods supported through sustainable grazing and educational and research opportunities

Summary and Lessons Learned

Northeast Kingdom Sunrise © Allen Karsh /TNC Photo Contest 2019

The approach to identifying, accounting for, and valuing the full spectrum of benefits accrued from NBS-focused water replenishment projects is generating additional insights in a rapidly evolving space. By understanding the benefits accrued from previous projects, we can improve the business case for understanding the full nature and scope of potential benefits from the outset of the project design phase, thus ensuring that implementation ultimately results in the maximum benefit potential.

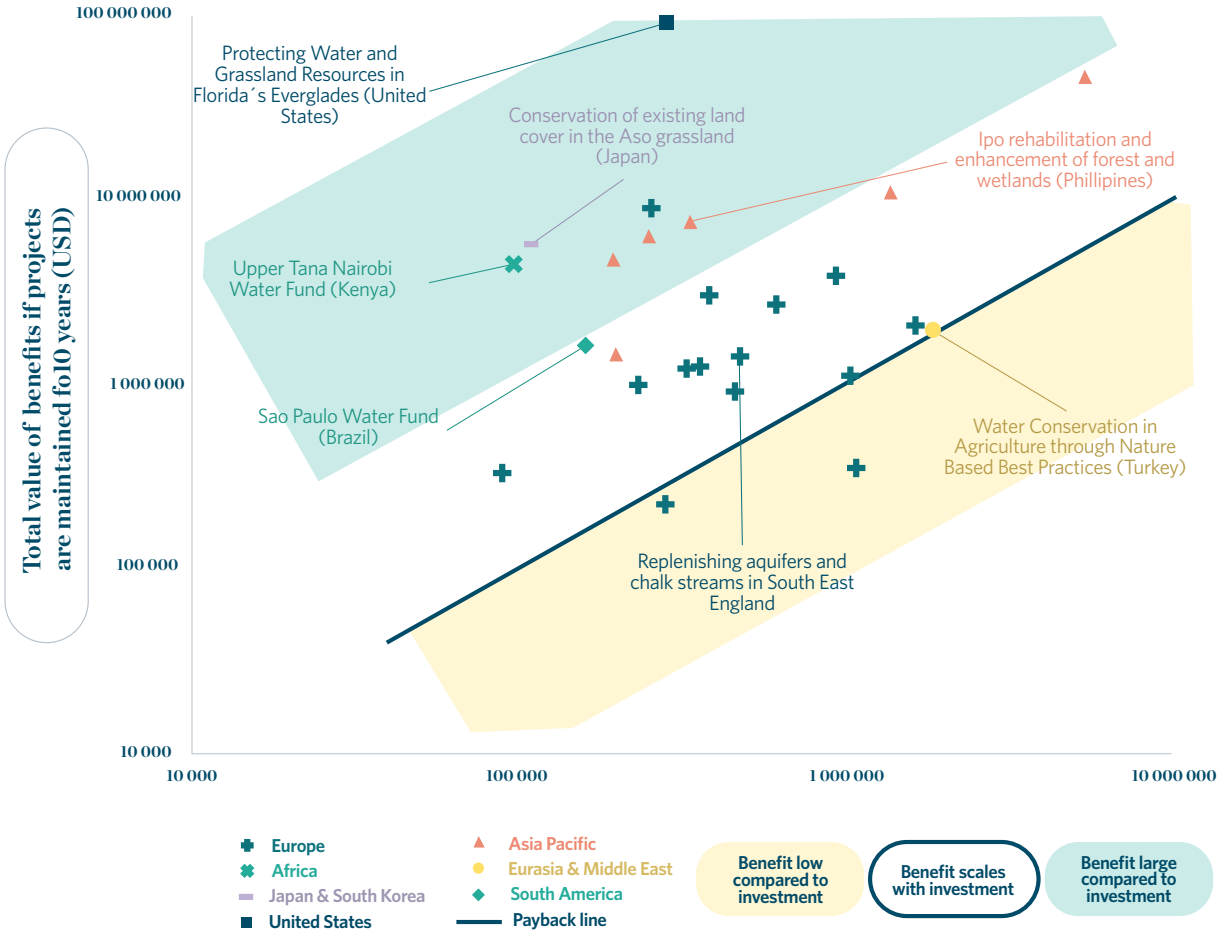
TRENDS

It is difficult to generalize which project types deliver which co-benefits, because it was not originally planned to quantify the co-benefits of these projects. On the other hand, natural capital valuation allows comparison of the results across water replenishment programs and identification of learnings to support increasing societal value added per dollar invested. Over time, there are notable trends worth mentioning:

- Projects that span multiple habitats often reported more types of co-benefits.
- The number of interventions and activities that take place within a project do not seem to directly correlate with the number of types of co-benefits (i.e., a project with limited activities can still produce a lot of different types of co-benefits, or a project with many activities may not provide as many types of co-benefits as might be expected).
- Projects with a larger geographic (e.g., watershed-scale) and thematic scope generate more types of benefits; scaling is key.
- Agricultural projects that did not involve other habitat types were skewed toward socio-economic co-benefits.
- In general, benefits scale with investment – every additional dollar for nature adds benefits for society.
- Some projects bring disproportionately large benefits compared to the original investment. These are typically projects that: 1) restore severely degraded nature; 2) protect existing high-value natural sites; 3) address pertinent societal concerns at the local scale.
- Some projects do not "pay back" in terms of societal benefits after 10 years. The existing benefit valuation methodology does not cover all possible project benefits. In certain projects, the benefits that cannot yet be valued are the bulk of the project's value to society. Thus, qualitative assessment of benefits is both valuable and necessary for a holistic view.


©Bobby Neptune

In the graph below, a comparison between the total investment made by TCCF, TCCC, its franchised bottling partners and other affiliated Coca-Cola foundations, and the total value of benefits over 10 years in USD, is presented. The graph shows all projects which were quantified over the years, using the methodology developed by denkstatt based on the Natural Capital Protocol.



Total investment made by TCCF, TCCC, its franchised bottling partners and other affiliated Coca-Cola Foundations (USD).

LEARNINGS

This retroactive quantification of seven replenish projects revealed several learnings:

- Identifying and accounting for multiple benefits beyond water quantity was not in the scope of most projects during their implementation.
- Monitoring and evaluation of the range of types of co-benefits were not in most project scopes (during or after implementation); incorporating monitoring and evaluation for multiple benefits will make it easier to quantify co-benefits upon project completion.
- All habitat types can provide significant co-benefits. Many interventions and activities also produce several co-benefits. Notably, enhancements to water availability (volume) can have co-benefits for aquatic and terrestrial biodiversity.
- NBS can help address agriculture-related water security challenges that growing regions are facing; projects can be directly involved with a crop via an agricultural project, or can be upstream from crops via a source-water protection project (e.g., forest restoration).
- Water quality benefits have proven to be more difficult to quantify than water quantity benefits if a pre-project baseline is not available. At time of publication, there is also lack of standardized methodologies to quantify water quality benefits (forthcoming from WRI, TNC and LimnoTech in 2024).
- Aside from the number of people receiving training, there were not many benefits people (socio-economic benefits) that could be quantified due to the lack of a baseline. With prior planning, projects should be able to provide more socio-economic benefits for farmers and communities (e.g., increase in incomes and jobs, and increased number of beneficiaries from improved climate adaptation).
- As outlined in the Volumetric Water Benefit Accounting Practical Guide (Reig and Vionnet (2021), when relevant, allocation of co-benefits is required to determine the co-benefits associated with the contribution of each project partner and to avoid double counting and overclaiming of co-benefits by the partners involved. More work is required to determine how to allocate co-benefits for some of the benefit categories (e.g., how to allocate species that are active over one entire area or "proportions" of people that have been trained).
- Retrospectively accounting for co-benefits is quite time-intensive and is less effective than planning to account for co-benefits when implementation is originally undertaken.
- Some projects do not "pay back" in terms of societal benefits after 10 years. The existing benefit valuation methodology does not cover all possible project benefits. In certain projects, these benefits are the bulk of the project's value to society. Thus, qualitative assessment of benefits is both valuable and necessary for a holistic view.

BEST PRACTICES TO CONSIDER

Corporate water stewardship and corporate philanthropy practitioners should consider the following tips when planning future projects to maximize the co-benefits that can be reported:

- It is essential to identify potential co-benefits that are associated with a project before the project begins (see the NBS Benefits Explorer Tool).
- Project implementers should be made aware of the co-benefits of interest, which should be informed by key local challenges, so that they can collect the relevant data and budget appropriately during the project's lifespan. These data could also help companies meet targets defined by the SBTN (released in May 2023). See Framework below for data to consider collecting.
- Partner with a third-party organization that will be responsible for quantifying outcomes.
- Monitoring and evaluation of project outcomes should take place on an annual basis during the project's life cycle to improve efficiency and accuracy of quantification; ongoing annual project site visits post-implementation are also necessary to validate any claims for ongoing co-benefits .

Framework for Accounting for Multiple Benefits of NBS Projects in Watersheds

© Elizabeth Guthrie (Ducks Unlimited)

This framework provides guidance for corporate water stewardship and corporate philanthropy stakeholders on key actions to take and aspects to consider before, during and after project implementation to facilitate increased accounting of the multiple benefits of NBS projects in watersheds.

Before you start:

- Identify co-benefits of interest
  - Talking with local partners and using the NBS Benefits Explorer Tool can assist with this process
- Agree with project implementers on what co-benefits will be tracked, along with cost share for each co-benefit
- Establish and fund a monitoring and evaluation plan
- Identify and fund a third-party quantifier that will quantify co-benefits during and after the project
  - Third-party quantifiers can also provide pre-project estimates and provide quantifications throughout the project, rather than solely upon project completion

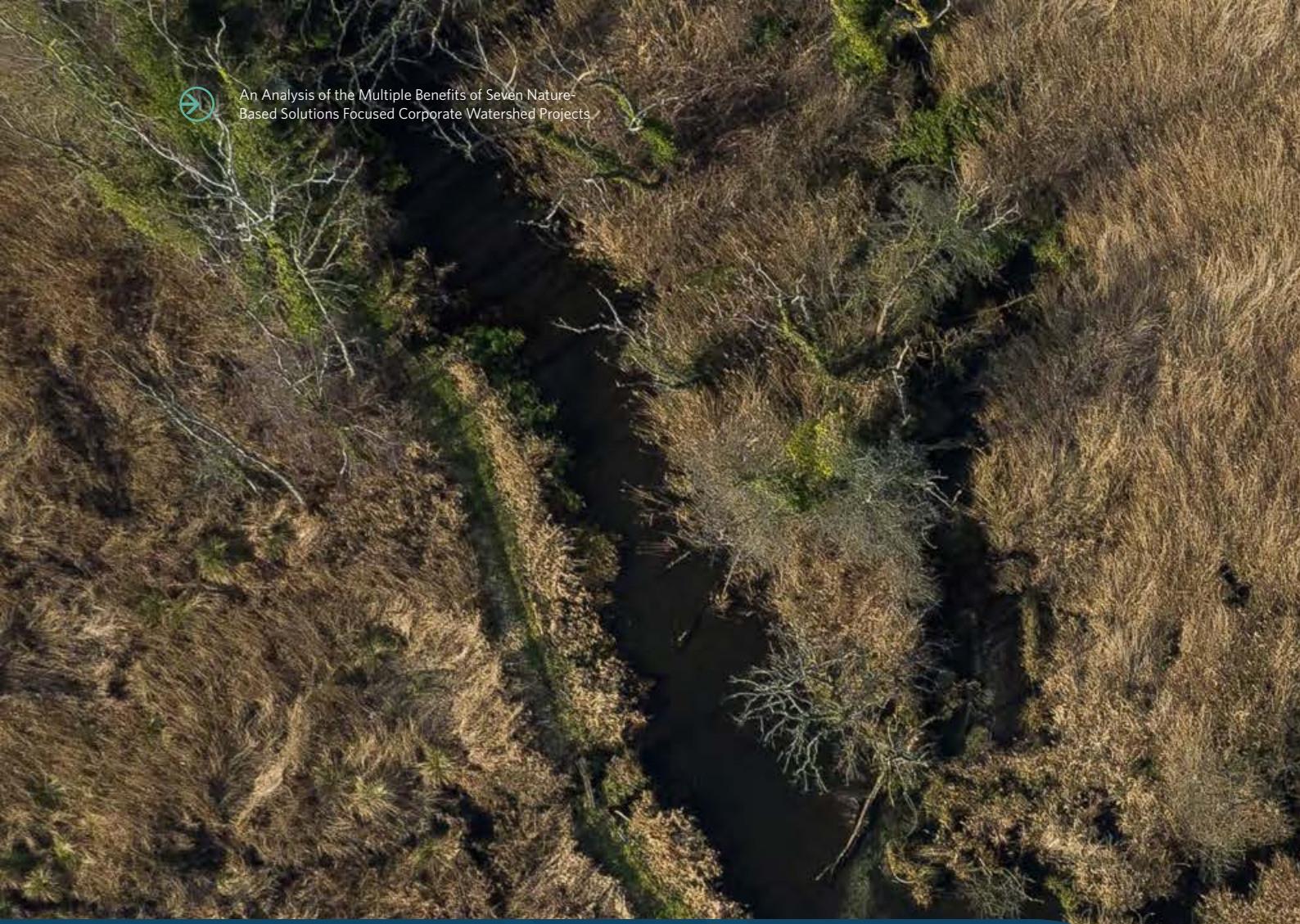
During the project:

- Collect data annually
- Analyze data and use it to adaptively manage the project as needed
- Compile data, share data, and confirm findings with project implementers as often as possible
- Data to consider collecting for each benefit type beyond water quantity:
  - Water quality benefits
    - Size of project area (ha of terrestrial or aquatic habitat, km of river)
    - Type of agricultural practices implemented & on what scale (size of implemented field)
    - Nutrient pollutant load (e.g., nitrogen, phosphorous)
    - Number and species of trees/grasses/plants planted
  - Climate benefits*
    - Number, species and size of trees planted or protected
    - Hectares of terrestrial or aquatic habitat restored, managed, protected or created
    - Number of beneficiaries from improved climate adaptation and mitigation
  - Disruptive events (# of events, size of destruction) like wildfires, storms, floods or logging that decrease climate benefits
  - Biodiversity benefits
    - Number of species (terrestrial & aquatic) protected, supported or counted
    - Number and species of trees/grasses/plants planted
  - Socio-economic benefits
    - Number of jobs created or maintained
    - Tourism opportunities (# of people participating, # of opportunities created or supported and/or # of companies created or supported)
    - Increase in income
    - Number of individuals receiving training
    - Increase in property value
    - Increase in food security
    - Increased access to reliable drinking water
    - Increased access to sanitation
    - Currency value contributed to local economy

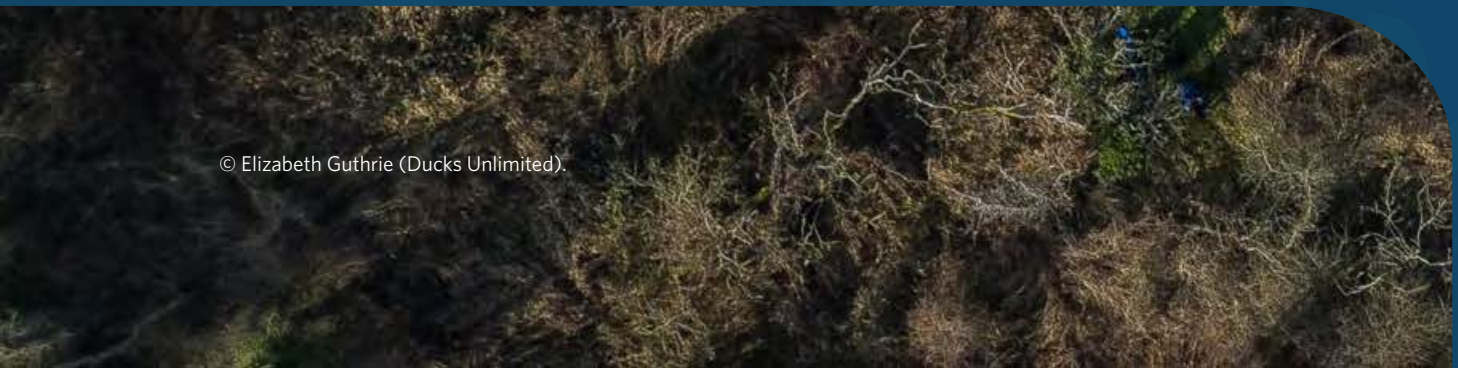
*Check the Verified Carbon Standard, Climate Action Reserve, American Carbon Registry or the California Air Resources Board for more information about verifying carbon offsets.

After the project:

- Ask project implementers to compile data and determine cost share
- Share data with third-party quantifier
- Share results of third-party quantifications with project implementers to confirm accuracy
- Analyze results and compare to expectations
- Take learnings and apply to future projects
- Consider dedicating resources to more rigorous monitoring and evaluation at a basin scale to meet target setting verification requirements (like SBTN)



Conclusion and Next Steps




© WWF Phillipines project

The analysis conducted for this report has shown that identification, quantification, and valuation of NBS is a dynamic space. As the science and practice improves, innovative approaches can be taken to further advance our understanding of benefits and beneficiaries. Companies and corporate foundations that have a portfolio of NBS investments, like Coca-Cola, are well placed to apply new thinking to their projects, share key lessons learned, and ensure that people and the planet benefit to the full extent from such investments. The report has also shown that by retroactively accounting for the benefits accrued from previous projects, **we can make the case for the need to build in consideration of multiple benefits from the outset of a project in order to maximize on the project's full potential.**

Companies and corporate foundations supporting NBS in watersheds are encouraged to continue to quantify the multiple benefits generated from their various investments in NBS globally using the tools and resources outlined below. We thank our partners from TCCF, TCCC, its franchised bottling partners and other affiliated Coca-Cola Foundations for collaborating in this effort and helping us to showcase the application of emerging methodologies and tools in diverse geographies and contexts. For those interested in learning more, supporting this work, and helping drive the NBS agenda, please contact the project team to see how you can get involved.

NBS Benefits Explorer Tool

Benefit Accounting of Nature-Based Solutions Guide

NBS Stakeholder Engagement Guidelines

References

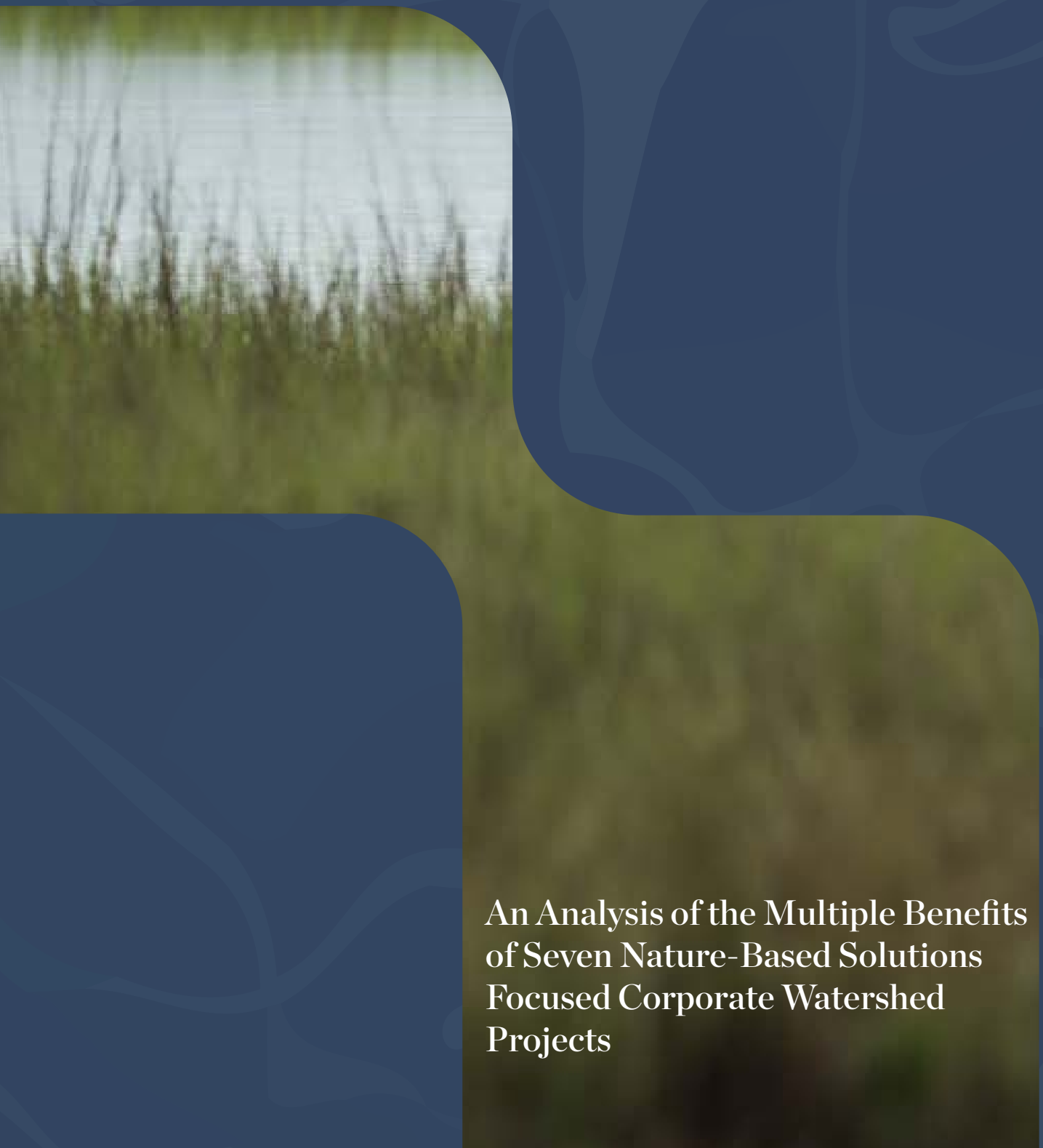
- Brander, L.M., Ghermandi, A., Kuik, O., Markandya, A., Nunes, P.A.L.D., Schaafsma, M. and Wagtendonk, A. (2008). Scaling up ecosystem services values: methodology, applicability and a case study. European Environment Agency, Copenhagen (Final report).
- Brill, Gregg, Deborah Carlin, Cora Snyder, Hannah Baleta, Kari Vigerstol, Naabia Ofosu-Amaah, Michael Matosich, Wendy Larson, Nate Jacobson, Tim Dekker, Ivan Paspaldzhiev (2023). Benefit Accounting of Nature-Based Solutions for Watersheds: Guide V2. United Nations CEO Water Mandate and Pacific Institute. Oakland, California, US. Available online at: https://ceowatermandate.org/nbs
- Cohen-Shacham, E., Walters, G., Janzen, C. and Maginnis, S. (eds.) (2016). Nature-based Solutions to address global societal challenges. International Union for the Conservation of Nature. Gland, Switzerland. Available online at: https://portals.iucn.org/library/sites/library/files/documents/2016-036.pdf
- De Groot, R., Brander, L., Van Der Ploeg, S., Costanza, R., Bernard, F., Braat, L., Christie, M., Crossman, N., Ghermandi, A., Hein, L. and Hussain, S. (2012). Global estimates of the value of ecosystems and their services in monetary units. Ecosystem services, 1(1), pp.50-61.
- Dietz, S., Bowen, A., Doda, B., Gambhir, A. and Warren, R. (2018). The economics of 1.5 C climate change. Annual Review of Environment and Resources, 43, pp.455-480.
- Ducks Unlimited (2020). Ducks and Gators Forge New Partnership. Memphis, Tennessee, US. Available online at: https://www.ducks.org/newsroom/ducks-and-gators-forge-new-partnership
- Ducks Unlimited (2021). Ducks Unlimited Receives Award at the University of Florida Institute of Food and Agricultural Sciences Annual Dinner of Distinction. Memphis, Tennessee, US. Available online at: https://www.ducks.org/newsroom/ducks-unlimited-receives-award-at-the-university-of-florida-institute-of-food-and-agricultural-sciences-annual-dinner-of-distinction
- Ducks Unlimited (2022). Ducks Unlimited Honors Elisabeth DeLuca. Memphis, Tennessee, US. Available online at: https://www.ducks.org/newsroom/ducks-unlimited-honors-elisabeth-deluca
- European Environmental Agency (2022). Financing Nature as a Solution. Available online at: https://www.eea.europa.eu/publications/financing-nature-as-a-solution/financing-nature-as-a-solution/download.pdf.static
- Food and Agriculture Organization of the United Nations (FAO) (2013). Globally Important Agricultural Heritage Systems (GIAHS): Managing Aso Grasslands for Sustainable Agriculture. Rome, Italy. Available online at: https://www.fao.org/giahs/giahsaroundtheworld/designated-sites/asia-and-the-pacific/managing-aso-grasslands-for-sustainable-agriculture/en/
- FAO (no date). Conservation Agriculture. Rome, Italy. Available online at: https ://www.fao.org/3/cb8350en/cb8350en.pdf
- Huizinga, J., Moel, H. de, Szewczyk, W. (2017). Global flood depth-damage functions. Methodology and the database with guidelines. EUR 28552 EN. doi: 10.2760/16510
- International Water Association and The Nature Conservancy (no date). The Upper Tana-Nairobi Water Fund. Available online at: https://iwa-network.org/upper-tana-nairobi-water-fund/

Massapequa Pond © Michael Casalotti/TNC Photo Contest 2021

36

- IPCC (2019). Summary for Policymakers. In: Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems [P.R. Shukla, J. Skea, E. Calvo Buendia, V. Masson-Delmotte, H.- O. Pörtner, D. C. Roberts, P. Zhai, R. Slade, S. Connors, R. van Diemen, M. Ferrat, E. Haughey, S. Luz, S. Neogi, M. Pathak, J. Petzold, J. Portugal Pereira, P. Vyas, E. Huntley, K. Kissick, M. Belkacemi, J. Malley, (eds.)]. In press. Available online at: https://www.ipcc.ch/srccl/
- La Notte, A., Maes, J., Dalmazzone, S., Crossman, N.D., Grizzetti, B. and Bidoglio, G. (2017). Physical and monetary ecosystem service accounts for Europe: A case study for in-stream nitrogen retention. Ecosystem services, 23, pp.18-29.
- Microsoft Corporation (2023). Water replenishment: Our learnings on the journey to water positive. Redmond, Washington, US. Available online at: https://query.prod.cms.rt.microsoft.com/cms/api/am/binary/RW1eAAY
- Natural Capital Coalition (2016). Natural Capital Protocol. Available online at: www.naturalcapitalcoalition.org/protocol
- Ridley, M. and Boland, D. (2015). Integrating Water Stress into Corporate Bond Credit Analysis – Benchmarking companies in three sectors. Available online at: http://www.naturalcapitaldeclaration.org/bonds-water-scarcity/
- Reig, P., and S. Vionnet (2021). Volumetric Water Benefit Accounting (VWBA): A Practical Guide to Implementing Water Replenishment Targets. Bluerisk, Valuing Nature, and CEO Water Mandate. Available online at: https://ceowatermandate.org/wp-content/uploads/2021/01/VWBA_Guidebook_F_Web.pdf
- Science Based Targets Network (2023). Technical Guidance: Step 3 Freshwater: Measure, Set & Disclose. Available online at: https://sciencebasedtargetsnetwork.org/wp-content/uploads/2023/05/Technical-Guidance-2023-Step3-Freshwater-v1.pdf
- Shiao, Tien and others (2020). Benefit Accounting of Nature-Based Solutions for Watersheds Landscape Assessment. United Nations CEO Water Mandate and Pacific Institute. Oakland, California, US. Available online at: https://ceowatermandate.org/nbs/wp-content/uploads/sites/41/2020/08/landscape.pdf
- Strong, C., Kuzma, S., Vionnet, S. and Reig, P. (2020). Achieving abundance: understanding the cost of a sustainable water future. World Resources Institute: Washington, DC, US.
- Taye, F.A., Folkersen, M.V., Fleming, C.M., Buckwell, A., Mackey, B., Diwakar, K.C., Le, D., Hasan, S. and Saint Ange, C. (2021). The economic values of global forest ecosystem services: A meta-analysis. Ecological Economics, 189, p.107145.
- U.S. Environmental Protection Agency. (2022). EPA External Review Draft of Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances. Docket ID No. EPA-HQ-OAR-2021-0317. Pp 131. Available online at: https://www.epa.gov/environmental-economics/scghg
- U.S. Fish and Wildlife Service (n.d.). Listed Animals. Available online at: https://ecos.fws.gov/ecp0/reports/ad-hoc-species-report?
- World Bank (2017). Guidance note on shadow price of carbon in economic analysis (English).: World Bank Group. Washington, DC, US. Available online at: http://documents.worldbank.org/curated/en/621721519940107694/Guidance-note-on-shadow-price-of-carbon-in-economic-analysis
- World Economic Forum (2024). The Global Risks Report 2024. World Economic Forum, Cologny/Geneva, Switzerland. Available online at: https://www.weforum.org/publications/global-risks-report-2024/
- World Wildlife Fund Philippines (no date). Ipo Watershed. Available online at: https://wwf.org.ph/what-we-do/water/ipo-watershed/

Massapequa Pond © Michael Casalotti/TNC Photo Contest 2021



An Analysis of the Multiple Benefits of Seven Nature-Based Solutions Focused Corporate Watershed Projects