
**Water insecurity is one of the most pressing challenges facing humanity. Already, 80% of the world's population is threatened with insufficient water quantity or quality. Climate change is causing more extreme fluctuations in where and when water flows. A water-secure future must be built on the foundation of healthy freshwater ecosystems and their watersheds.**

## Resilience at risk

Signs abound that freshwater ecosystems are in peril. Wetlands have declined globally by nearly 70% since 1900. Freshwater vertebrate populations have declined by 84% between 1970 and 2018. When rivers, lakes and wetlands are degraded, their ability to provide reliable supplies of clean water, regulate floods and support the food supply for millions of people is threatened.

And while we all rely on healthy freshwater ecosystems, vulnerable communities around the world depend directly on these environments for water and food. In effect, freshwater ecosystems are a safety net. When we invest in resilient ecosystems we are investing in resilient communities, especially in the face of climate change.

**There is still time — but only if we act now.**


## Building shared visions for healthy basins

CI protects and restores freshwater ecosystems around the world as a foundation for sustainable development. Using innovative strategies backed by science, we work in partnership with local communities, civil society, businesses, and governments.

### We do this by:

1. Measuring freshwater health and building consensus around sustainable water management

2. Advancing sustainable inland fisheries and aquaculture to improve food security and livelihoods for hundreds of millions of people worldwide

3. Employing nature-based solutions (forests, wetlands, etc.) to help achieve water security

4. Incorporating water, sanitation, and hygiene into our land and water stewardship programs to produce sustainable, long-lasting freshwater conservation

# Measuring freshwater health

To address the growing issue of water insecurity for people around the world, we developed a science-based platform that engages water users, water managers, government agencies and other stakeholders to look at freshwater health across a watershed – where water issues can best be resolved.

Managers and decision-makers can use the Freshwater Health Index (FHI) to analyze the health of their watershed, understand trade-offs that are being made, and discuss the best path forward for reaching a consensus vision for their watershed's future. Through a novel set of transparent indicators, the FHI measures the overall health of a watershed by making clear connections between the ecosystem, the benefits it provides to people, and the governance system in place.

## We have already deployed this tool around the world

CI uses the FHI in watersheds across Asia, Latin America, and Africa – and partners have begun to carry out independent FHI assessments – that together support more than 138 million people. Some examples:

- In southwestern Africa, we have partnered with the Permanent Okavango River Basin Water Commission, National Geographic, the Nature Conservancy, NASA and others to provide the first-ever comprehensive assessment of the region – home to the irreplaceable Okavango Delta. With the FHI assessment, CI is exploring unique opportunities for transboundary conservation, nature-based tourism, and sustainable development for Angola, Namibia and Botswana.

- In China, we have partnered with the government and local communities to implement an FHI assessment in Poyang Lake. Known for its remarkable biodiversity, this lake – the largest in China -- is a critical source of water for the inhabitants of Jiangxi Province and plays a key role in regulating floods in the Yangtze River Basin. The project has revealed the utility of the FHI to companies whose water stewardship goals extend beyond the fence lines of their operations.


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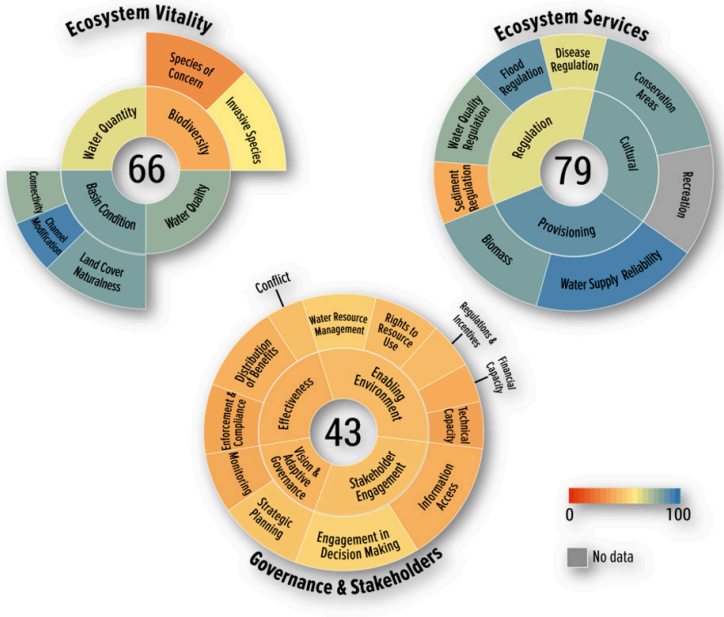
- In South America, we partnered with Centro del Agua para América Latina y el Caribe to apply the FHI in three locations – including Brazil's Guandu River Basin, which supplies water to Rio de Janeiro. The FHI assessment there catalyzed interest among local partners to expand the assessment to the larger Paraiba do Sul River basin, the source of more than 90% of the Guandu's water and critical to the region's water security.




## Goal: Expanding the FHI's reach

By 2025, we aim to catalyze widespread adoption of the tool to ensure that at least 1 billion people in the world's most water-insecure basins benefit from FHI assessments used to guide more sustainable management of freshwater resources.

We cannot achieve this goal on our own. We have already developed a downloadable version of the tool and will promote its use through an online course, to be launched in 2021. Companies interested in supporting FHI assessments are learning about the tool through networks like the Alliance for Water Stewardship. And we are building partnerships with other global organizations who see the FHI's value in advancing their own water-related objectives.

# Driving sustainability of inland fisheries and aquaculture

Inland wild fisheries provide livelihoods for more than 60 million people worldwide and the wild caught fish mean food security for many more. But these fisheries depend on the health of the fish and of rivers, lakes, and wetlands. Sustainably managed fish farming can be a complementary source of freshwater food and livelihoods, but irresponsible aquaculture practices imperil wild fisheries.

CI is advancing sustainability in both inland fisheries and aquaculture, recognizing the importance that both forms of freshwater food can play for many of the world's most vulnerable communities.

## Conserving Cambodia's fishery

Southeast Asia's largest lake, Cambodia's Tonle Sap, more than quadruples in size during monsoon season, flooding the region with water and life. Home to more than 3 million people, this floodplain provides roughly 500,000 tons of fish for people each year, and the flooded forests purify water and buffer communities from storms — an increasingly important benefit as climate change makes extreme weather more frequent. But, the Tonle Sap's health is suffering from a suite of threats, including upstream dams, local and upland deforestation, and overfishing.

Building on work that CI has done with local communities and government since 2008, we are implementing a Fisheries and Families Resilience Building Model in Tonle Sap that incorporates floodplain restoration, fish reserves, alternative livelihoods, microfinance, and strengthening local governance – and, importantly, a monitoring system for assessing the model's impact.

## Translating and scaling the model

We are taking the main elements of our Tonle Sap model and applying them to East Africa's Lake Victoria, another aquatic biodiversity and inland fisheries hotspot under threat. In 2020, our impact investing arm, CI Ventures, made a loan to the tilapia company Victory Farms, the fastest growing fish producer in East Africa. We are now working with the company, communities, and partners to develop and apply a 'three-legged stool' approach that combines fish habitat conservation, inland fisheries management, and sustainable aquaculture. And, we are looking ahead to translating key elements of these community-based inland fishery models to the Amazon.

Globally, moving inland fisheries and aquaculture toward sustainability requires leadership. To that end, CI has spearheaded a new Inland Fisheries Alliance, bringing together organizations to elevate inland fisheries within global development and conservation agendas. And, with partners in Africa, we are building sustainability principles into the growing inland aquaculture sector, based on our successful work on sustainable marine aquaculture.

## GOAL: Sustainable food from freshwaters

**By 2025, we aim to measurably improve the sustainability of inland fisheries and aquaculture in three high biodiversity basins – the Mekong, Amazon, and Lake Victoria -- where freshwater fish contribute to the health and well-being of millions of vulnerable people.**

'Blue foods' — foods produced from aquatic ecosystems – are gaining attention as essential components of global food security. But freshwater fish and other species that depend on healthy freshwater ecosystems are often forgotten – they are largely invisible, unreported, and undervalued. Now is the time for CI and partners to champion their importance, and to demonstrate successful models of sustainable management in critically important basins.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# Harnessing the power of nature for water security

Forests help to secure clean water for communities, wetlands reduce flood risk to cities and intact natural areas maintain reliable water flows to rivers and springs. These "nature-based solutions" leverage the services that nature provides, which might otherwise need to come from built infrastructure, such as levees or reservoirs.

We aim to take nature-based solutions for water to scale – generating meaningful and measurable results -- through a combination of strong science, new financing models, and demonstrated impacts.


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## Building the case with Bogotá's 7.5 million citizens

Working with public, private, and civil society partners, CI has led the development of a blueprint for conserving 606,000 hectares of páramo wetlands and other high Andean ecosystems critical for securing Bogotá's water supplies in the face of expected climate change impacts. Financing the blueprint is a key challenge. Through a combination of hydrological and economic studies to quantify the return on investment of protecting and restoring Andean vegetation, field science to validate those models, and pilot projects implemented with local communities, we are building the case for diverse financing mechanisms to allow for enduring ecosystem conservation alongside sustainable livelihoods.

## Scaling the model

Protecting and restoring natural systems like forests, grasslands, and wetlands are not only core nature-based solutions for water security -- they also figure prominently as natural climate solutions deployed to mitigate climate change. Growing interest in natural climate solutions provides an opportunity to take water security projects to scale. CI is working with leading companies and researchers to build integrated projects that can simultaneously expand nature-based solutions for water and contribute to meeting other U.N.Sustainable Development Goals. One example: CI's partnership with Starbucks includes the integration of freshwater benefits into climate-driven forest restoration projects in Peru and Colombia.


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## Measuring impact

How do we know that nature-based solutions are generating intended impacts like reduced flood risk, improved water quality, and more reliable flows? Our answer: HydroRAP, a framework that will target quick, cost-effective measurement of a critical set of hydrologic parameters to establish the viability of a project and provide a baseline against which to measure project impacts over time.

## GOAL: Mainstreaming nature-based solutions for water

**By 2025, CI will have partnered with governments, communities and companies across six globally important landscapes to deploy nature-based solutions for measurable water security improvements.**

CI's sustainable landscape approach embraces a development model in which nature conservation improves human well-being. In sustainable landscapes like the Bogotá Conservation Corridor, improving water security is our primary objective. In others, like North Sumatra, water security may be a co-benefit of natural climate solutions. In either case, we have an opportunity and a responsibility to bring the best science to bear to the design of protection, restoration, and management interventions to achieve water-related outcomes, and to the measurement of those impacts over time.

# Healthy watersheds for healthy communities

Communities around the world depend directly on healthy freshwater ecosystems for food, drinking water, protection from damaging floods and more. However, the management of water for people and water for nature are often treated as distinct and separate agendas and leave local people out of the picture. We want to change that.

## WASH in Watersheds

When a community lacks reliable access to water, sanitation, and hygiene (WASH), pipes, taps and toilets are broken or nonexistent; women and girls spend hours each day fetching water; general health is poor among community members; and people struggle to find the time, energy, resources, and motivation to take care of their lands and waters. A vicious circle forms, with water sources further degraded.

Our vision is for local communities to be watershed stewards, for WASH systems to be resilient, and for watersheds to provide ecosystem services long into the future. Our WASH in Watersheds (WiW) approach provides the pathway for empowering local stewards to be at the center of that vision.

We are translating our WiW model in West Java, Indonesia, where two forested national parks protect the freshwater supply for 30 million people. Forest degradation for farming plots poses a serious threat to the water-related benefits that these forests provide. With the support of partners, we are working together with national parks authorities, village governments, and community to restore forests, build clean water facilities, protect native biodiversity, and conduct environmental education courses to support local communities to conserve the freshwater ecosystems upon which they depend.


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## Improving community well-being in places

CI works to foster enduring environmental stewardship and build community resilience through WiW in multiple sites around the world.

In South Africa's uMzimvubu basin, destructive grazing practices, invasive plant species and inadequate sanitation infrastructure reduce the quality and quantity of water flowing to communities downstream. Many rural communities there lack access to piped water and sanitation, and where taps exist they often run dry. Conservation South Africa is working with these communities to increase access to water by protecting springs from contamination while also removing water-thirsty invasive plants. To help pastoralists understand the importance of adopting good sanitation practices to protect water resources in grazing lands, we disseminated a tailored manual. And, we are advocating with the local water service provider to increase investment in watershed conservation.

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## GOAL: Healthy watersheds, supported by healthy communities

**By 2025, the WiW approach applied in four landscapes will have resulted in meaningful increases in watershed stewardship among communities with access to improved WASH services.**

For too long, rural communities have been asked to protect watersheds that serve millions downstream without a thought to the local water challenges that compromise those communities' health and wellbeing. WASH and conservation actors have historically worked independently to achieve distinct goals without recognizing that healthy, engaged water stewards are essential to ensuring clean water for all.


## WE ARE ASKING YOU TO JOIN OUR CALL TO ACTION

**By joining our efforts to protect freshwater ecosystems, you are also supporting the billions of people — and countless species — that depend on them. The future of freshwater ecosystems may look grim. But you can help change that by acting today.**