Water Funds in Latin America

Prioritizing Investments in Watershed Services

The Natural Capital Project (NatCap) supports water funds across Latin America to represent the interests of multiple stakeholders and optimize the water-related benefits of improved land management.

Water Funds gather contributions from water users to finance conservation and help secure water quality and quantity.

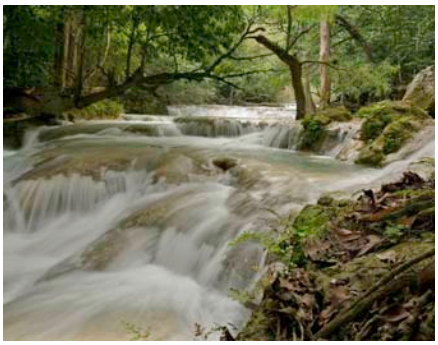
Our work in Latin America aims to create a scientifically rigorous, yet flexible return on investment approach to guide water fund design and fund investments. Based on the lessons and best practices from across the region, we hope to contribute a standardized, scientific approach to managing water fund investments that is applicable in any location.

Water is critical to individual livelihoods, supply chains of private enterprise, and national infrastructure. A nation's water resources greatly impact its development; public health, energy use and economic stability are highly correlated with the efficacy of its water management. In the face of mounting water scarcity, water funds offer a way to restore watersheds and secure water resources through the participation of water users and rural land managers.

In Latin America, watersheds are a crucial source of natural wealth that supports economic growth. Building roads and ports for trade, improving agricultural yields and exploring domestic energy sources are critical endeavors that depend on clean water provided by Andean watersheds. Failure to account for the environmental costs of these projects can cause dezgraded water sources to hinder growth and human prosperity.

Water Funds Promote:

- **Inclusive decision-making in resource management.** Water funds emphasize collective innovation among all water-related sectors of society.
- **Diverse public and private donors.** Water funds can enable investment in conservation not feasible under government budgets.
- **Sustainable infrastructure.** Water funds facilitate a balance of 'built' with 'natural' infrastructure development to protect natural services that supply and clean water.
- **Distribution of watershed benefits**. Water funds aim to support development yielding more equitable economic and environmental benefits.



Results

- **Landmark commitment to water funds**: In 2011 the Latin American Water Funds Partnership committed to implementing and capitalizing 32 new water funds over 5 years, pledging $27 million to restore over 7 million acres of watersheds. NatCap's software tools are improving conservation returns for several of these funds.
- **Launched RIOS (Resource Investment Optimization System) software tool,** to standardize water funds investment design and optimize the feasibility and ecosystems returns of conservation activities. A team of scientists, practitioners and managers designed the software with the input of over 11 water funds across Latin America.
- **Built capacity across water funds** and hosted trainings for data analysts throughout Latin America. Provided scientific counsel to high-level managers and project implementers.
- **Optimizing returns on investments (ROI)**. RIOS compares ROI for a RIOS-designed portfolio to returns from more ad-hoc investments. Early applications of the RIOS approach in Colombia resulted in watershed returns up to six greater than typical approaches.

Life Support Systems

Drinking Water

Watersheds are critical to providing safe water to urban centers. Improved land-use practices reduce erosion and nutrient pollution, cleaning water supplies for those downstream. Beyond what flows from the tap, clean water arriving at cities is also used to make bottled drinks such as sodas and beer.

Flood Protection

Water fund investments in natural capital can slow overland flow of water and increase travel time of water to the river, decreasing the peak magnitude of floods. Reducing peak flow can reduce damage to infrastructure and private property, and reduce risk to human life.

Hydropower

Erosion control that keeps sediment out of waterways can also keep sediment from settling in reservoirs where it can reduce the production capacity of hydropower facilities, shorten the lifetime of the reservoir, or increase dredge costs.

Poverty Alleviation

Some water funds also have social objectives in addition to the benefits people receive from ecosystem services. For example, the World Bank has assessed the potential to use payments from water funds as a means to alleviate rural poverty in Guatemala.

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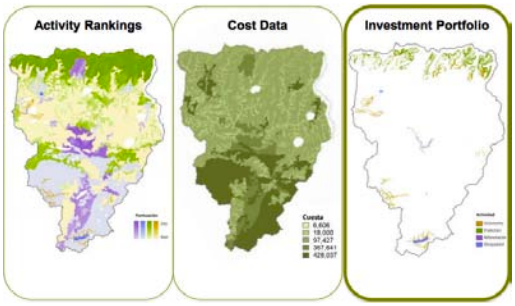
Communities in Colombia, Costa Rica, Peru, Brazil, Mexico, and other nations recognize that sustainable growth requires protection of watersheds and appropriate accounting of costs resulting from their degradation. The Latin American Water Funds Platform oversees several water funds throughout Latin America, pictured in the map to the right. The Quito Water Fund, or the Fondo de Protección del Agua (FONAG), was first established in 2000, to abate threats to rivers that provide drinking water to Ecuador's capital city. FONAG is a successful illustration of a mature water fund that continues to invest in conservation efforts such as vegetative reforestation, training of park management, environmental education, and a hydrological monitoring program. FONAG's success spurred its replication elsewhere in Latin America. With support from the Natural Capital Project, 12 water funds are operating, 16 are in design, and 15 more areas are being evaluated for establishment of future water funds.

Bolstering Returns on Investment: RIOS Software



The Natural Capital Project developed a specialized water fund tool, **RIOS (Resource Investment Optimization System)**, to design cost-effective investments in watershed services. The software enables companies, government agencies, or non-government organizations to develop investment plans that maximize desired water benefits within the constraints of their budgets. The software ranks landscapes according to biophysical data and social information on where investments in restoration and protection activities are feasible and acceptable. Combining this information with economic data that describes the cost of activities and investors' budgets, RIOS produces an investment portfolio like the one shown above. RIOS then uses NatCap's InVEST software to estimate how much return is expected for commonly desired water benefits such as erosion control, water quality purification, and flood mitigation.

RIOS Can Answer Key Questions for Water Fund Investors:

- What set of investments will give the greatest returns towards multiple water fund objectives?
- How much improvement in objectives can we expect from making the set of investments identified through a scientific analysis?
- How much better are the estimated returns than what we could be achieved under 'Business-As-Usual' investments?