



Water demand, projected to more than double over the next 50 years, is driving markets and public payment mechanisms in watershed ecosystem services.

- The United States Wetland Reserve Program invests **US\$275 million** per year for private landowners to manage land for watershed protection.
- New York City is investing **US\$1 billion** in watershed protection projects to circumvent spending between \$4 and \$6 billion on water filtration plants.
- In 2003, Mexico paid **US\$19 million** to landowners in Queretaro to cease farming land deemed valuable to the watershed. In 2004, it expects to increase the fund to **US\$30 million**.
- The Water Conservation Fund (Fundo para la Conservacion del Agua) in Quito, Ecuador has accumulated **US\$1.7 million** primarily through payments from water users including the Quito water company, municipal electric company and a brewery. The Fund supports watershed protection projects in the region.
- In Costa Rica, two private and two public hydroelectric utilities compensate upstream landowners for regulating water flow and reducing sedimentation through forest protection. The payment program is managed and partially funded by the National Forest Office and National Fund for Forest Financing with land owners receiving as much as US\$48 per hectare.
- Nutrient trading systems in the United States alone have the potential to lower the cost of meeting water quality regulations by at least **US\$650 million** and up to **several billion dollars**.
- In the U.S. Pacific Northwest, \$1 invested in watershed protection can save between an estimated \$7.50 and \$200 in costs for filtration and water treatment facilities.
- The Hunter River salinity trading scheme allows 22 salinity discharge license holders to freely trade salinity credits online and incorporates auctions into future license allocations.

Water quality and quantity problems are a leading cause of death and economic hardship for humans, and lead to severe damage to natural systems.

- 1.1 billion people lack access to clean water and over 2.4 billion people lack access to wastewater sanitation. These factors are seen as the primary cause for the 2 million deaths from infectious diarrheas in 2001.
- More than 20% of freshwater fish are extinct, endangered or threatened.
- There are 150 permanent or recurring coastal dead zones in seas worldwide.
- Lack of access to consistent high quality water prevents industry and electricity producers from establishing manufacturing facilities in many emerging economies.

Water markets reduce pollutants and improve land management practices to protect water quality and regulate the quantity of water while providing economic benefit to landowners and industry. Examples of transaction and types of markets include:

- *Easements and land practice restrictions:* payments to land owners to limit timber harvesting, restrict development, reforest cleared land and/or use organic farming techniques.
- *Land enhancement:* payments for farmers and timber harvesters to reduce soil erosion from their land by establishing vegetated buffer strips along waterways, retiring riverbank land and limiting timber harvesting or reforestation.
- *Treatment system implementation and upgrades:* payments by downstream water users to upstream inhabitants to build or improve treatment systems.
- *Pollutant trading systems:* pollutant dischargers with high costs of pollution reduction pay for pollutant offsets from dischargers with lower costs of reduction.
- *Nutrient trading systems:* payments to farmers to reduce the use of fertilizers or improve land management thereby reducing oxygen depletion and eutrophication in water ecosystems.

Government programs and private transactions give incentives to upstream landowners to alter land use practices and reduce pollutant discharges, resulting in specific benefits to downstream water users and the environment.

- Private parties and municipal governments pay to protect their water supplies.
- Companies with hydroelectricity generation assets pay to regulate the flow of water to reservoirs.
- Irrigation associations pay to regulate stream flows and reduce salinity in irrigation waters as well as in shallow groundwater.
- National governments give financial incentives for farmers and landowners to meet water quality standards and eliminate coastal dead zones.

The Ecosystem Marketplace will help water markets develop and grow. The Ecosystem Marketplace will:

- Illuminate established markets for water services and provide a venue for buyers and sellers of water services to identify each other.
- Provide practical information and tips through tools, library resources and articles to assist regulators in creating markets, and encourage the participation of buyers and sellers.
- Illustrate and evaluate past transactions, contractual conditions and financial mechanisms that buyers and sellers need to create robust and active markets.