



Fact Sheet: Emerging Markets for Climate Mitigation or Forest Resilience

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Healthy ecosystems provide vital benefits including clean air and water, flood prevention, drought mitigation, forest products, wildlife habitat, and cultural values. Forest landowners contribute to the public good when they implement land management practices that sustain forest health and resilience. Many of these benefits, or ecosystem services, are not recognized in traditional market transactions. Environmental markets account for the value of ecosystem services and formalize interactions between “buyers” and “sellers” of benefits. Market-based solutions attract resources to private land conservation and create additional revenue streams for landowners, which can then be re-invested in forest management activities.

Carbon Markets

Carbon markets can provide a financial incentive for farmers, ranchers, and forest landowners to voluntarily reduce greenhouse gas (GHG) emissions, or increase carbon sequestration, by implementing eligible practices. A carbon market refers to an economic framework that supports the buying and selling of “carbon credits”—environmental commodities that signify GHG emission reductions, avoidance, or sequestration. Carbon markets generally take one of two forms:

- *Compliance* carbon markets support a regulatory program that requires GHG emission reductions from particular sources. A traditional example of such a mandatory program is a GHG emission cap-and-trade system, which creates a limit on GHG emissions for covered entities. In some cases, these regulated entities may be able to use carbon offsets as a compliance option.
- *Voluntary* carbon markets encompass the voluntary buying and selling of carbon offsets outside of a regulatory framework. There is no single voluntary carbon market or authoritative marketplace. Carbon offset transactions can occur directly between those who generate credits (landowners) and buyers, or they can be mediated by other parties or programs.

Compensatory Mitigation and Conservation Banks

Local, state, and federal laws require that developers compensate for the negative impacts of their projects on regulated resources like wetlands, streams, and species, with the overarching goal of ‘no net loss’ and ideally ‘net gain’. Compensation activities can include restoring, enhancing, or preserving existing resources, as well as establishing new ecological resources. In contrast, the objective of conservation banks is to preserve, protect, or restore land that is inhabited by species deemed threatened or endangered by the U.S. Fish and Wildlife Service under the Endangered Species Act. Parcels or plots of private, Tribal, state, and local government land are permanently set aside as a conservation bank and those that operate it sell credits to others to offset impacts to endangered or threatened species within the conservation bank service area.

Examples	
Bullock Bend Mitigation Bank	At Bullock Bend, wetland habitat of California’s Central Valley is being restored with the support of a mitigation bank. Since 2016 the site has been offering compensatory mitigation credits to projects that impact species of salmon and steelhead. Credit purchases fund floodplain restoration activities.

Florida Panther Conservation Bank	Established in 2010, this 475-acre ‘bank’ aims to protect the endangered Florida panther. The U.S. Fish and Wildlife Service determined the number of credits that local landowners would generate based on the bank’s size and ecological significance. It is operated according to a panther-specific management plan that controls invasive species and promotes habitat of prey species.
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Water Rights Trading

Water scarcity, especially in the arid parts of the Western United States, has driven the development of market-based mechanisms that allow water users to buy, sell, and lease water rights for agricultural production and other uses. In some cases, these rights are leased or sold to governments or nonprofits to restore or enhance waterways or habitats.

Examples	
Arizona Water Trading Market	Arizona allows for the trading of both surface and groundwater rights. Water can be permanently traded to the State of Arizona to increase instream flows, with the goal of supporting wildlife and recreation.
Columbia Basin Water Transactions Program (CBWTP)	The CBWTP is managed by the National Fish and Wildlife Foundation, with funding from the Bonneville Power Administration in cooperation with the Northwest Power and Conservation Council and the USDA Forest Service. To enhance stream flow for resident fish species, the program works through locally based entities to acquire water rights voluntarily from willing landowners.

Water Quality Trading

The Clean Water Act regulates discharges of pollutants into waters of the United States and sets quality standards for surface waters. Water quality trading is a market-based approach providing economic incentives for voluntary pollutant reductions from point and nonpoint sources of pollution to improve and preserve water quality. Landowners who adopt management practices that reduce pollutant runoff or leaching from agricultural fields may generate credits that can be purchased by polluters seeking to offset their impacts or meet regulatory requirements.

Example	
Ohio River Basin Water Quality Trading Project	Regulated entities (such as wastewater treatment and power plants) in the Ohio River Basin must comply with discharge limits for nitrogen, phosphorous and sediment. Water quality trading allows for the purchase of credits from landowners that implement practices that reduce pollutant loads and provide co-benefits such as improved soils, carbon sequestration and wildlife habitat.
Medford Water Quality Trading Program	The City of Medford, Oregon is compensating landowners to plant trees along the Rogue River to offset the temperature impacts of treated wastewater. In this case, temperature is the regulated “pollutant” to sustain cold water habitats for migrating salmon.

Water Funds

Water Funds are institutionalized collective-action platforms that bring together upstream and downstream water users in watershed protection/restoration projects. These funds pool resources from multiple water users in a basin (and sometimes from nonprofits or governments acting in the public interest) to pay for coordinated ecosystem services conservation actions across a landscape.

Example	
Rio Grande Water Fund	After the 2011 Las Conchas fire burned 150,000 acres of northern New Mexico’s forests, The Nature Conservancy and partner organizations launched the Rio Grande Water Fund. Their

	pooled capital funds the large-scale restoration of upstream forests for the sake of cleaner water downstream.
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Payments for Watershed Services

Payments for watershed services are voluntary transactions between a beneficiary (water utility, municipality, industrial water user) and landowners where financial value (cash or in-kind) is exchanged for activities or outcomes associated with the maintenance, restoration, or enhancement of watershed services.

Example	
Denver Water	Denver Water is partnering with the USDA Forest Service, the Colorado State Forest Service, and the Natural Resource Conservation Service to invest in restoration on public and private forest lands to sustain water quality and flow from Denver's source watershed.
Eugene Water and Electric Board (EWEB)'s Pure Water Partners Program	The Pure Water Partners Program directs financial incentives to landowners in Eugene, Oregon's source watershed to conserve and restore lands that enhance water quality and reduce water treatment costs. EWEB also offers carbon offsets to customers through the American Carbon Registry, with a focus on forest management practices that provide co-benefits for water quality and salmon habitat.

Certification

Certification and labeling programs assure consumers or "buyers" that products meet social or ecological standards related to land management. Some markets require certification and include a price premium. Certification can also facilitate market entry even if participation is voluntary.

Example	
Salmon-Safe Certification	Salmon-Safe works with farmers and landowners in the Pacific Northwest to certify sites and land management practices that enhance water quality and native salmon habitat, providing public-facing endorsement of environmental performance. Salmon-Safe certification also contributes to the point system of other high-performance building certifications such as LEED and Built Green.

Innovative Financing

Conservation finance leverages private capital through innovative mechanisms to increase the pace and scale of environmentally beneficial projects. These approaches can operate within markets, reduce risk, and include a financial return for "investors" that contribute upfront capital for forest management activities that provide critical ecosystem services.

Example	
Blue Forest Conservation's Forest Resilience Bond	Developed by Blue Forest Conservation, the Forest Resilience Bond (FRB) is a multi-stakeholder model that uses upfront capital from private and philanthropic investors to fund forest restoration projects. The FRB is based on assessments of ecosystem services provided by forests to beneficiary partners and fosters relationships between public and private entities with a shared interest in forest health. Beneficiaries, including public agencies and utilities, reimburse investors with principal and returns following project completion. By drawing on private investment capital, the FRB model aims to increase the pace and scale of restoration activities across the U.S.