

## Money Really Does Grow on Trees (and in Wetlands)

By Katherine Ellison and Gretchen Daily

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Two years ago, Adam Davis showed us a business plan that might have surprised science-fiction writer Ray Bradbury. His goal was grand, if not unique: He sought to save the world and make his fortune doing it. It was the method he proposed that caught our attention.

A committed environmentalist, Davis dreamed of quitting his Marin County, Calif., consulting job to launch a futuristic trading forum called the Conservation Exchange, which would generate billions of dollars by restoring and protecting nature. On the Con Ex, as he called it, traders would buy and sell shares in new commodities based on the day-to-day activities of forests and rivers, as if those commodities were as tangible as pork bellies.

We've kept in touch with Davis as we've traveled the world since then, a journalist and an ecologist investigating how humanity might stop squandering the environmental capital on which our lives depend. And in that time, to our surprise, his dreams have come to seem less fantastic.

Davis told us about the Con Ex when we met him at an environmentally-oriented business conference in Australia, where he'd come to debut the idea. He envisioned moms, pops and moguls trading "water-purification credits," derived from the way healthy watersheds filter our drinking supplies via fine roots and microorganisms hidden in the soil. "Carbon credits" would reap revenues from the way forests suck heat-trapping carbon dioxide from the air to help avert global warming. "Biodiversity credits" would fluctuate in value based on how well a company maintained habitats on its property.

"I *know* these things are valuable," Davis said, on a balmy April evening at a Sydney wharf-side cafe. "Not tree-hugging valuable, but *economically* valuable."

His reasoning was based on that linchpin of traditional economic logic, the law of supply and demand. As the services provided by healthy ecosystems such as forests, wetlands and coral reefs succumb to human appetites and grow rare, they become more precious, he said -- just like fine works of art. So why *not* trade them?

We first saw the logic of the Con Ex in action on a trip to the Catskill Mountains, where we started to realize that Davis's dream was no Enron-ish scam or mere eco-illusion. There, five years ago, New York City had embarked on a historic experiment. Instead of building a costly water-filtration plant, as it had been ordered to do by the Environmental Protection Agency, the city lobbied for a plan to keep its water pure by restoring the health of rivers and forests that could do the same job. The cost of restoration, including a scheme to buy up land adjoining the reservoirs, so far is still under \$2 billion -- less than a third of what a plant might have cost.

Touring the area in late autumn, we recognized the brilliant trees, sun-struck slopes and glistening streams as more than just picturesque. They were also part of an efficient machine, a complex natural system delivering water of exceptional quality to more than 9 million New Yorkers.

That water, born as rain and melted snow on mountaintops as far as 125 miles from Manhattan, is naturally cleansed as it makes its way downhill, through forests and wetlands, to the reservoirs.

The purification process had been breaking down after decades of uncontrolled development, with pesticides, sewage and other pollutants accumulating in the streams. But a few courageous city leaders managed, just in time, to recognize and preserve the value of their natural capital, and, not incidentally, to save New Yorkers an astronomical hike in water rates.

In the years since then, more than 140 other U.S. cities and many foreign ones have studied a similar approach, with several launching like-minded experiments. One day, we suspect, ecologists and economists will be able to reckon the financial contribution of a parcel of land to the task of purifying water. From there, it wouldn't be such a big step to start trading water-purification credits.

Consider Costa Rica, which once allowed one of the world's highest rates of deforestation. In a revolutionary turnaround, that government has been paying private landowners for the water-filtration, climate-stabilization and other services provided by forests they maintain. More than \$100 million has been disbursed.

Costa Rica also helped launch the odd global commodity known as a carbon credit. A kind of pollution permit, it's a measure of a reduction in emissions of carbon dioxide, a leading greenhouse gas. Such a reduction can be achieved by investing in energy-saving technology or, under some conditions, planting new forests. The Kyoto Protocol, the draft international treaty to combat global warming, recognizes carbon credits, and exchanges to trade them are being set up worldwide, including in Britain and Chicago.

Meanwhile, even though it's not mandatory, several U.S. businesses -- including coal-heavy utilities such as American Electric Power -- have invested more than \$75 million in the expectation of earning carbon credits from forests around the world. They're hedging their bets, worried that even though the Bush administration has put climate change on the back burner, future U.S. governments might be much more aggressive, and they want to be prepared for legislation that might require them to mitigate their greenhouse-gas pollution.

That's the stick side of the mix of incentives moving executives to think about investing in conservation. There are also some intriguing carrots.

One is the result of two federal laws, the Clean Water Act and the Endangered Species Act, which restrict development of wetlands and other habitats of protected plants and animals. These laws require developers -- state transportation agencies, for instance, or private builders of residential communities -- to compensate for the harm they do to such areas, which in the past led to many failed attempts to establish similar landscapes on or near development sites. But in recent years, a private, for-profit industry of "conservation bankers" has sprung up throughout the United States, making life easier for developers. Rather than tackling the hard task of managing ecosystems themselves, those companies can now buy credits in the "banks," which manage large, park-like properties, often quite efficiently.

In California, for instance, a conservation bank called Wildlands Inc. purchased a small island covered with fallow hay fields in the Sacramento/San Joaquin river delta. The firm invested \$2 million to make the land hospitable to endangered Delta smelt and steelhead trout, digging five miles of meandering channels and planting native sycamores and willows. It has since earned \$9 million by selling credits in the new bank.

Environmentalists have legitimate questions about the practice. Is it really a good thing to make developers' lives easier? Moreover, experts doubt that even the best conservation banks can fully replace the range of services provided by the original ecosystems. What's certain, however, is

that the banking scheme has raised tens of millions of dollars for restoration and conservation that would not otherwise have materialized.

A less controversial carrot is the large and growing chest of "socially responsible" investment funding -- roughly \$2.3 trillion, at last count, in the United States alone. Increasingly, conscientious investors want to back firms that not only refrain from harming the environment but take positive action to protect it.

Representatives of U.S. and European socially responsible firms met last month at a remarkable London reunion of experts from the worlds of business, science and environmental activism. The participants call themselves the Katoomba Group, after the resort town outside Sydney where they held their first workshops -- Davis's destination two years ago. Organizer Michael Jenkins, who heads the Washington-based, nonprofit Forest Trends, describes the group's mission as "incubating new markets for environmental services."

Such markets might, in time, help solve one of the great paradoxes of our age: the fact that our economic system can determine prices for such arcane phenomena as interest-rate derivatives and *feng shui* consultations while so much of the essential work of nature is still accorded no formal value. Today, virtually the only way investors can appraise the worth of land is by figuring out what might be built or farmed on it.

"Without prices being set, nature becomes an all-you-can-eat buffet," says Chicago financier Richard Sandor. "And I don't know anyone who doesn't over eat at a buffet." Once markets, and prices, are set for nature's services, conservation may become affordable -- even profitable.

One thing is certain. The record shows that conservation can't succeed by appealing solely to people's altruism. But it has a fighting chance with well-designed appeals to self-interest. What we've described doesn't approach what is needed to reverse our spendthrift liquidation of some of humanity's most precious capital assets. But while the impact of these experiments in conservation finance remains small on a global scale, their potential is enormous.

Take Adam Davis. He still hasn't realized that audacious business plan, but he's made progress. This past January, he got a full-time job figuring out ways to market "eco-assets." He's working for EPRIsolutions, part of the Electric Power Research Institute, a Silicon Valley think tank for utilities. The program Davis directs is focused on finding ways to profit from the work of forests, wetlands and streams instead of razing them for development.

It's not the Conservation Exchange. But give it time.

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