

Amazon still faces threats old and new

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MANAUS, Brazil --

In the 1980s, scientists sounded the alarm: The Amazon was burning and would be gone by the end of the century.

Two decades later, the dire predictions have not come to pass. Around 80 percent of the world's largest remaining tropical wilderness is still standing - a vast carpet of green crisscrossed by the Amazon river and its 1,100 tributaries.

But scientists warn that the destruction only has slowed, and a Connecticut-sized chunk disappears every year for ranching, farming, and logging.

The reasons for the rain forest's survival have more to do with economics and a political change of fortune than because of the worldwide environmental campaign to save the Amazon.

In the 1980s, Brazil was under a military dictatorship with ambitious plans to develop Brazil's portion of the rain forest - 1.6 million square miles. Had the country not suffered in a massive debt crisis in the late 80s, "everything would be gone by now," says Philip Fearnside, an American scientist at the Brazilian government's National Institute for Amazon Research.

But that's no reason for complacency, he warns. While the rate of deforestation has dropped dramatically over the past few years, it remains alarmingly high and new threats loom, among them corporate farms armed with the latest agricultural technology to grow soy, raise cattle and plant crops for biofuels.

"Total investment in the region over the last 500 years is equal to what is projected for the next 10," said Joao Meirelles, director of the Peabriu Institute, who estimates private and public sector investments over the next decade will top \$50 billion.

The plight of the Amazon, highlighted by celebrities such as pop star Sting, is closely linked to climate change, because every year, burning rain forest releases millions of tons of carbon dioxide, the main greenhouse gas blamed for global warming.

The Amazon is an important absorber of carbon dioxide, and the smaller it gets, the greater the risks to the climate, the World Wide Fund for Nature warned in a report released last week at the U.N. conference on climate change in Bali, Indonesia.

"The importance of the Amazon forest for the globe's climate cannot be underplayed," said Daniel Nepstad, the Amazon-based scientist with the Woods Hole Research Center who wrote the report.

The warnings come as Brazilians are dusting off plans to pave long neglected jungle roads, threatening to open vast swaths of pristine rain forest to development of commodities such as soybeans, sugar cane and iron ore that underpin the Brazilian

economy. Scientists say each paved road typically brings with it 30 miles of destruction on each side, and draws influxes of poor settlers in a region where 45 percent of the population lives on \$2 a day.

There are also ambitious plans for a series of huge hydroelectric dams to feed the appetite of Brazil's 184 million people for electricity. The dams would flood tens of thousands of acres of forest, submerging and killing millions of trees that would emit greenhouse gases as they decompose.

Money vs. ecology represents a huge challenge for Marina Silva, Brazil's environment minister. Brazil is heading into an election year for congress, some governors and mayors, and the world's appetite for commodities is growing, after a slump that had led to a reduction in rain forest destruction.

"Right now is our trial by fire," Silva says. To defend the Amazon, "we are mobilizing all our resources."

To balance development and environmental concerns, Brazil since 2000 has required landowners to leave 80 percent of their forested areas standing. Enforcement has been stepped up, and 40 percent of the forest now lies in protected areas, up from 11 percent in 1991.

But protecting the rain forest means influencing the behavior of 20 million people, in groups that are difficult to regulate, in an area larger than Western Europe.

The battle often turns violent. In 1988, a rubber tapper and foe of logging named Chico Mendes was shot to death and became an international icon of the environmental movement. In 2005 Dorothy Stang, an American nun and rain forest defender, was killed in land dispute, suggesting to many that little had changed since Mendes' death.

About 90 percent of all logging in the region is carried out illegally, and national parks, forest reserves and Indian reservations are full of squatters. Some 300,000 Indians live mostly on reservations deep in the jungle.

The Amazon also lures throngs of old-fashioned fortune seekers following the latest rumor of a new gold or diamond find.

The roads are lined with sawmills and igloo-like charcoal furnaces. The thick, valuable trunks of tropical trees like mahogany and bulletwood are sent floating down rivers or piled high on trucks.

As commodity prices recover, recent figures show rates of deforestation in some Amazon states more than doubled between June and September compared with the same period a year earlier. Fires this year were among the worst ever, sometimes setting forest canopies ablaze - a rarity in the humid rain forest.

Many environmentalists maintain that the government isn't trying hard enough to enforce protection laws. Silva vigorously denies this, pointing out that over the past three years Ibama, the federal environment agency, has levied \$1.7 billion in fines and

arrested 665 people for environmental crimes, including some 120 of its own agents suspected of corruption.

Silva has proposed new programs such as auctioning off forestry concessions to companies that agree to eco-friendly logging practices, and creating an international fund where rich nations would subsidize Brazil's environmental services to keep the forests standing.

But even programs that safely take advantage of the rain forest's unique environment are problematic, and bedeviled by conspiracy theories widely believed by the public and even some officials.

These suggest that the conservation movement is cover for plots by the United States and other industrial giants to steal the Amazon from Brazil and gain control of its water, oil, medicinal herbs and minerals.

Serious scientists have been thrown in jail, accused of trying to steal the genetic heritage of Brazil's flora and fauna. Top military commanders openly discuss borrowing tactics from the Viet Cong to repel the purported American invasion.

Critics say, however, the government lacks a broader plan for the region. It needs to find a way for Brazil to profit from the rain forest without destroying it, says Charles Roland Clement, a senior researcher at the government's National Institute for Amazon Research.

"We have the biggest forest in the world and it's supposed to be the green gold of the future," he said, "but its biodiversity contributes to less than 1 percent to the Gross Domestic Product."