Amazonian forests falling faster
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by *William F. Laurance*

[Caption]

One of the world's most alarming environmental controversies appears to be worsening. Rates of forest destruction in Brazilian Amazonia exceeded the previous year's rate by about 40%. In total, 6.4 million acres were felled and burned, an area nearly the size of Belgium.

The latest deforestation numbers, based on analyses of satellite imagery by Brazil's National Space Agency, clearly signal a worsening trend for Amazonian forests. From 1990 to 1994, forest loss in the Brazilian Amazon slowed to around 3.4 million acres per year, but since then rates have climbed sharply, averaging 5 million acres annually. In 2002, an area the size of ten football fields was destroyed every minute.

"The latest numbers are just plain scary," said Carlos Peres, a Brazilian ecologist at the University of East Anglia, UK. "Forest clearing was appallingly high in 1995, but a lot of people attributed that to unusually robust economic conditions that year. What we're seeing now is that forest destruction can be really bad even when the Brazilian economy is slow."

It is particularly disappointing that the areas where deforestation rose most sharply in 2002 - including the densely populated states of Mato Grosso and Pará - had shown signs of improvement following intervention by the Brazilian government to slow rampant illegal forest clearing and wildfires (see image above). Illegal burning, in particular, had been substantially reduced in 2000 and 2001 by satellite monitoring and improved enforcement.

So why is forest destruction still increasing? Amazon-watchers agree on the main culprits - rapidly expanding road networks and the dramatic growth of industrial soybean farming. Since 2000, the Brazilian government has been engaged in an unprecedented effort to criss-cross the Amazon Basin with new highways, waterways, railroads, and other infrastructure projects. The goal is to greatly accelerate economic development - for timber, mining, and, especially, soybean farming.

Soybeans are big business in Brazil, which looks set to overtake the US as the world's largest soybean producer. The area of land under soybeans has grown sharply, increasing from 25 million acres in 1990 to over 45 million acres today. Most soybean production is concentrated along the southern margin of the Amazon, in drier woodlands and savannas, but each year the soybean farmers are encroaching further into the rainforest.

In addition to clearing immense expanses of woodland and forest, the soybean farmers have lobbied the government for major new highways and waterways, so they can transport their crops quickly and cheaply to the Amazon River, where they are then exported internationally. "These grandiose transportation projects are opening up the Amazonian frontier and promoting even greater forest loss at the hands of soybean farmers, cattle ranchers, and slash-and-burn farmers," said Philip Fearnside from Brazil's National Institute for Amazonian Research.

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Political factors have also played a role in accelerating deforestation, according to Fearnside. "Last year, Blairo Magei - the biggest soybean entrepreneur in Brazil - was elected governor of Mato Grosso State. That sent a powerful signal to soybean growers that they could go full-steam ahead," said Fearnside. "Now we're seeing severe environmental consequences."

Much of Brazil's burgeoning soybean crop is exported to Europe, where it is used as feed for cattle and pigs. These exports, totaling millions of tons annually, are drawing increasing fire from European environmentalists, who argue that they promote industrial factory farming and help to subsidize rainforest destruction.

In light of the latest deforestation figures, Brazil's environment minister, Marina Silva, said that "emergency measures" would be taken to deal with the crisis. Such measures may include real-time monitoring of deforestation, and efforts to force all government ministries - including those planning the road and infrastructure developments - to consider the environment when enacting their policies.

But many doubt whether the government's efforts to slow deforestation will succeed. "You can't have it both ways," said Brazilian ecologist Peres. "What we're seeing is government-subsidized deforestation, because the Brazilian government is paying for the transportation infrastructure. Because of soybeans it's suddenly become hugely profitable to attack the frontier. And you can't rely on restraints from the private sector to limit deforestation-you need very proactive government programs to slow exploitation. The incentives for deforestation are still huge."

This pessimistic view is echoed by Thomas Lovejoy, president of the Heinz Center for Science, Economics and the Environment, in Washington, DC. "What makes the increase especially disturbing is that there had been some concerted efforts to contain Amazonian deforestation," said Lovejoy. "It appears those were overwhelmed by expansion of soybeans and increased road access, exacerbated by a very dry year. Clearly all efforts combined are losing ground."

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Caption: Because of greater road access, destructive wildfires are becoming increasingly prevalent in the Amazonian frontier (photo by William Laurance).

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