FOREST CONSERVATION TARGETING TOOL (FCTT)

BRIEF OVERVIEW OF METHODS AND DATA

⚠ More detailed information on the FCTT's methods and data is available
under "Metadata"

Accessing the FCTT: The FCTT is available at: http://fc-targeting-tool.net,
http://conservationroi.net and http://fctt.servirglobal.net

A. Background

According to United Nations Food and Agriculture Organization, the rate of deforestation in tropical countries remains "alarmingly high." In Latin America, it averaged one-half of one percent per year in the first decade of the 2000s, five times the global rate. This deforestation, along with forest degradation, has contributed to a host of local and global environmental problems, including soil erosion, water pollution, biodiversity loss, and greenhouse gas emissions.

Unfortunately, the financial and human resources available to address this problem are limited. In many countries, unsustainable deforestation and degradation are widespread geographically, but regulatory agencies, nongovernmental organizations, and other policymakers do not have the funds or personnel to invest in programs and projects that cover all of their forested areas.

Therefore, policymakers must choose where to invest. For example, they must choose where to establish protected areas, where to set up payments for environmental services initiatives, where to provide forest management extension services, and where to promote forest certification.

How should stakeholders make these choices? That is, how should they target forest conservation investments? A critical input into such decisions is an understanding of where forest conservation will generate the greatest possible the greatest possible conservation benefit per dollar spent (bang-for-the-buck).

Such information is particularly important in the context of Reducing Emissions from Deforestation and Degradation (REDD+) which makes funds available to developing countries conditional on verifiable reductions in forest carbon emissions. Decisions about investing REDD+ resources can benefit from an understanding of how conservation benefits per dollar spent vary across forests.

B. Goal

The goal of the Forest Conservation Targeting Tool (FCTT) is to provide the data and analysis that policy makers need to geographically target conservation investments so as to maximize their bang-for-the-buck, or more technically, the expected conservation benefit per dollar spent.

C. Method

The FCTT aims to inform forest conservation targeting decisions by

- displaying fine-scale spatial data on the three key drivers of conservation bang-for-the-buck: (i) deforestation risk, (ii) forest ecosystem services, and (iii) conservation costs;
- using these three types of data to calculate a single measure of expected conservation benefit per dollar spent for each parcel of forest in a user-defined study area; and most important
- identifying the forest parcels in the study area that generate the greatest bang-for-the buck.

D. Geographic scope

The FCTT's current geographic scope is Mexico, Central America, the Dominican Republic, and South America.

E. Data

Note that the FCTT allows users to substitute their own data layers for the on-board layers if they wish.

Our on-board data on deforestation risk are econometrically estimated. These estimates purport to capture the historical relationship between forest cover change and land characteristics. Our econometric models use 2000-2012 annual fine-scale data on forest cover change along with detailed information on land characteristics including rainfall, temperature, population density, distance to cities, slope, altitude, aspect, soil quality, the opportunity costs of forest conservation, distance to clearing, and legal protection status.

The FCTT accounts for three types of forest ecosystem services: carbon storage, provision of biodiversity habitat, and provision of hydrological services. Our data on carbon storage are derived from existing data sets based on satellite images. Our data on biodiversity are derived from digital maps of species ranges of mammals, amphibians, reptiles, and birds. And our data on forest hydrological services are derived from an off-the-shelf model of the nexus between forest cover and hydrological services.

Finally, our data on conservation costs are derives from original and off-the-shelf estimates of the gross revenues from agriculture and ranching, a proxy for the opportunity costs of forest conservation.