The Importance of Intact Forest Landscapes

Intact Forest Landscapes

An intact forest landscape (IFL) is a large forest area that is free from signs of human management or infrastructure, such as settlements, transportation corridors, agricultural fields or logging areas. An IFL may contain naturally tree-less areas such as lakes, wetlands and alpine meadows. An IFL is large enough to sustain viable populations of all organisms that occur naturally in it, including large predators and species which are sensitive to changing conditions. It is sufficiently large to protect the core area and extend disturbances from outside (so-called edge effects), e.g. logging, colonization by invasive species, poaching, etc. All areas shown as IFL on this map are at least 50,000 hectares in size and at least 10 kilometers wide (i.e. wide enough to fully contain a creek with this diameter).

The situation as of April 2004, with changes from 2000 through 2004

The map shows how the boundaries of intact forest landscapes have changed from the year 2000 to 2004. These changes are the result of logging, road construction, and associated fires, but some changes are also due to a higher precision in the analysis, made possible by the appearance of new sources of information (mainly high-quality satellite images with high resolution). Images from the satellite Terra MODIS, showing the situation for different years during early spring (March or April), were used for a preliminary change-detection analysis. A more detailed analysis was carried out using images of medium and high resolution from Landsat ETM (until 2002), Meteosat-7, Terra ASTR, IRS PAN and IRS LISS.

Threats to Intact Forest Landscapes

The area of intact forest landscapes has decreased during the period of study. The main cause of this loss is logging and associated construction of transportation infrastructure. The decrease has occurred in two ways: through direct transformation and through fragmentation. The latter happens when new roads cut off pieces of an intact forest landscape from the main area. Most of the logging is in the form of clearcuts with a size of up to 50 hectares. Thinning and other forms of selective cutting occur only rarely.

The average annual area logged within intact forest landscapes during the study period was 19,700 hectares, corresponding to an estimated volume of 2.3 million m³ per year. Most of this logging occurred in the southern and middle zones of the taiga, while the logging intensity in the northern taiga was very low. The reduction in area was most rapid south of the city of Kostamolokh - 1.9 percent per year, between the rivers of Northern Dvina and Pingo - 1.4 percent per year, and on the Oenga peninsula - 1.2 percent per year.

Top left: The map shows the situation for different years during early spring (March or April), were used for a preliminary change-detection analysis. A more detailed analysis was carried out using images of medium and high resolution from Landsat ETM (until 2002), Meteosat-7, Terra ASTR, IRS PAN and IRS LISS.

Protection of the Environment".

Fragmentation caused by logging and new infrastructure.