

Indicator 5. Fragmentation of Forest Types

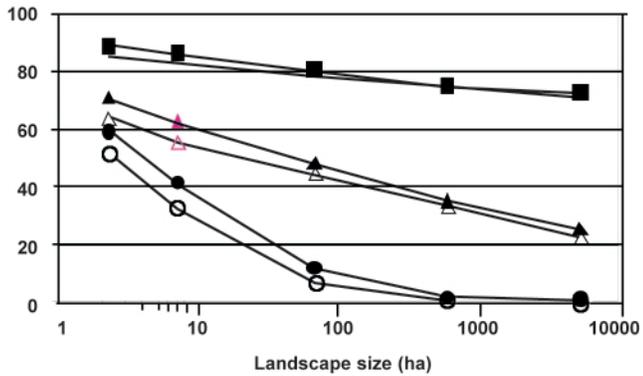


Figure 5-1. Forest land fragmentation from national land-cover maps. The chart shows the percentage of forest land in the coterminous United States located in landscapes of different sizes meeting the criteria for "core" (●, completely forested landscape), "interior" (▲, >90 percent forested), and "dominant" (■, >60 percent forested). Open and closed symbols represent western and eastern Resources Planning Act (RPA) regions, respectively.

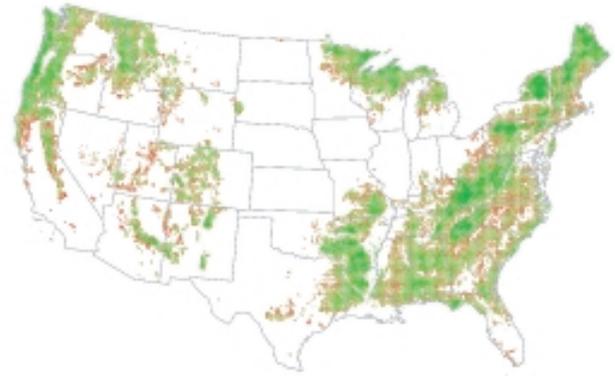


Figure 5-2. The map shows the relative amount of "interior" forest at 7-ha scale (corresponding to the pink symbols in the chart), shaded from low (red) to high (green) for areas containing >60 percent forest overall. The large green areas contain the major areas of less-fragmented forest land.

What Is the Indicator and Why Is It Important?

The fragmentation of forest area into small pieces may change ecological processes and reduce biological diversity. This indicator includes several measures of the extent to which forests are distributed as large blocks.

What Does the Indicator Show?

Maps of forest land derived from satellite imagery at 0.09-ha resolution (circa 1992) show that about three-fourths of all forest land is found in or near the boundaries of large (>5,000 ha), yet heavily fragmented, forest land patches, and the rest exists as smaller patches in mostly nonforested regions. Fragmentation is scale-dependent; while 57 percent of all forest land is "core" in 2-ha landscapes, the proportion decreases rapidly with landscape size, and <1 percent of forest land is "core" in 590-ha or larger landscapes. Similarly, while 69 percent of all forest land is "interior"

in 2-ha landscapes, less than half is "interior" in landscapes larger than 66 ha. Overall, 44 percent of forest land is within 90 meters of forest land edge, 62 percent is within 150 meters of forest land edge, and less than 1 percent is more than 1,230 meters from forest land edge. Nevertheless, where forest land exists, it usually is "dominant"—at least 72 percent of all forest land is in landscapes that are at least 60 percent forested for landscapes up to ~5,000 ha in size.

Why Can't the Entire Indicator Be Reported at This Time?

The available data does not permit an analysis of forest type fragmentation, only overall forest land fragmentation, and does not reflect land ownership ("parcelization") or small roads. Regional baseline conditions and the specific ecological implications of observed levels of fragmentation are mostly unknown.