

Indicator 13. Annual Removal of Wood Products Compared to the Volume Determined To Be Sustainable

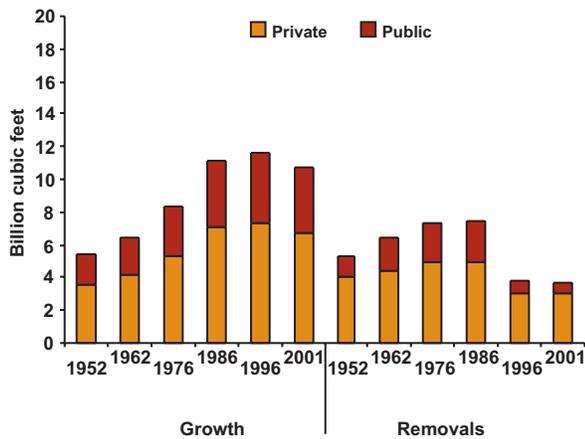


Figure 13-1. Growth and removals of growing stock on timber land in the West, 1952–2001.

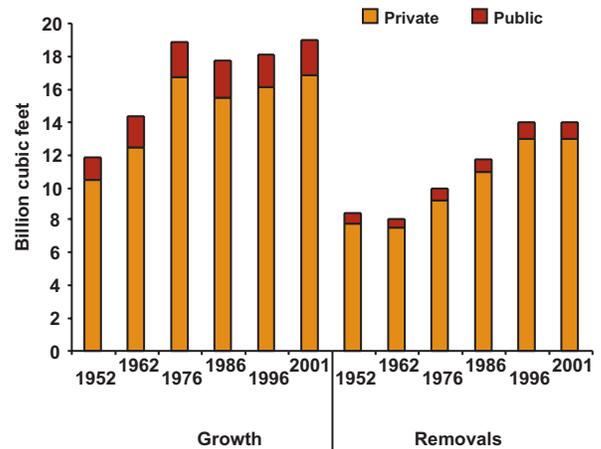


Figure 13-2. Growth and removals of growing stock on timber land in the East, 1952–2001.

What Is the Indicator and Why Is It Important?

This indicator compares net growth of growing stock with wood harvest (removals) of products on timber land. This method is frequently used to assess whether wood harvesting is reducing the total volume of trees on forest available for timber production. Growth is the net annual increase in the volume of growing stock between inventories after accounting for effects of mortality but before accounting for the effects of harvest. Removals measure the average annual volume of living trees harvested between inventories. Timber land is the subset of forest land on which some level of harvesting is potentially allowed. The volume of trees on timber land is considered sustainable as long as growth (net of mortality) exceeds removals.

What Does the Indicator Show?

Growth has exceeded removals on U.S. timber lands for several decades, while the area of timber land has remained relatively stable. The result has been a substantial increase in the volume of growing stock on U.S. timber lands. In the 1990s, growth continued to exceed removals for both publicly and privately owned timber lands in the East (North and South regions) and West (Rocky Mountain, Pacific Coast, and Alaska regions).

Trends in growth on timber land since 1952 are attributable to several factors. In general, positive growth trends reflect regrowth and maturation of forests on lands that had been harvested before 1952. Growth trends also reflect investments in fire protection, land owner education, and silviculture. Changes in harvest patterns in the 1990s resulted in shifts in growth and removals by ownership and region. Historically, most harvesting occurred on private timber lands in the East. Recent data shows a further shift of removals from public timber land in the West to private timber land in the East. Thus, growth has been exceeding removals by a wider margin in the West, while the gap has been decreasing in the East. Currently, total removals are 76 percent of net growth in the East and 45 percent of growth in the West.

Comparing net growth on timber land to removals conveys no information about quality, biodiversity, other attributes of ecology, or management objectives, and should be considered in conjunction with other indicators to monitor the overall sustainability of forest management.