

How fast are Indiana's trees growing, dying and being removed?

How much did Indiana's trees grow from 1986 to 1997? Are Indiana's trees dying and being cut at a faster rate than they are growing? The good news is that the trees are growing faster than they are being cut and are dying, combined.

This section compares two different sets of data gathered during the past two inventories (1986 and 1998), by comparing growth, removal, and mortality rates. Because the data for the 1998 inventory were collected from 1996 to 1998, all associated numbers are dated 1997.

Tree growth, death (mortality), and how much is removed (cut) are measured by total volume of trees. The volume of a tree is difficult to determine, as wood is wrapped in the bark of the tree. Volume is measured in cubic feet (1 cubic foot = 1 foot high x 1 foot wide x 1 foot deep). All volumes are based on timberland and on growing stock.

Growth is the annual average change in the volume of solid wood contained in living trees 5 inches DBH and greater *plus* the volume of trees that achieved at least 5 inches DBH since the last measurement.

Removal is the sum of the yearly average volume removed for roundwood forest products (harvesting), the volume of logging residues (tops of trees), and the volume of other removals (such as firewood cutting, thinning, specialty products), plus all land-use changes that permanently remove volume from the timberland base (for example, timberland that becomes reserved forest land or is permanently converted to nonforest use).

Mortality (death) is the yearly average volume of trees that died of natural causes. Natural causes include old age, death due to insect or disease stress, and environmental stresses such as drought and fire.

Total Volume 100%

Gross Growth 4%

Mortality 0.9%

Removals 1.3%

FIGURE 16

Figure 16 illustrates the total volume of wood present, total growth, removal and mortality rates in 1997. Figure 17 shows that the volume of growth greatly outweighed the volume lost due to removal and mortality from 1986 to 1997. The Northern Unit lost more volume resulting from mortality (natural causes) than from removal (human causes).

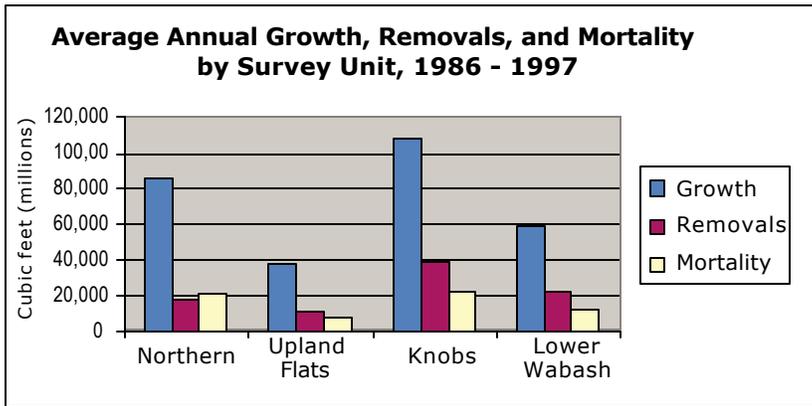


FIGURE 17

Another perspective can be gained by comparing the net growth (growth minus mortality) to removal. A net growth-to-removal ratio of 1.00 indicates that the volume of growth equals that being removed. A ratio of 2.00 means that twice as much volume is growing than is being removed. On average, Indiana trees are growing in volume more than 2½ times the amount being removed. The Lower Wabash and Knobs survey units grow more than twice the volume removed (Figure 18). The Upland Flats Unit grows nearly three times as many trees as those dying or being cut. The Northern Unit is approaching four times more growth than removal!

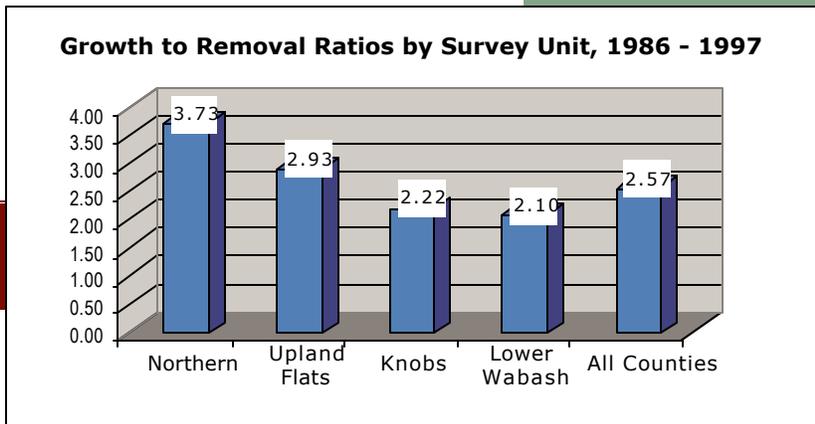


FIGURE 18

Another way to look at growth compared with removal is by analyzing major ownership classes. As shown in Figure 19, the Hoosier National Forest volume growth, excluding the Charles C. Deam Wilderness Area, was nearly 10 times greater than removals, and State lands volume growth, excluding state parks and nature preserves, was nearly 7½ times greater than removals. If forestlands excluded from the timberland base (wilderness, parks, nature preserves and other lands set aside by law from timber management) were added, these ratios would be even higher!

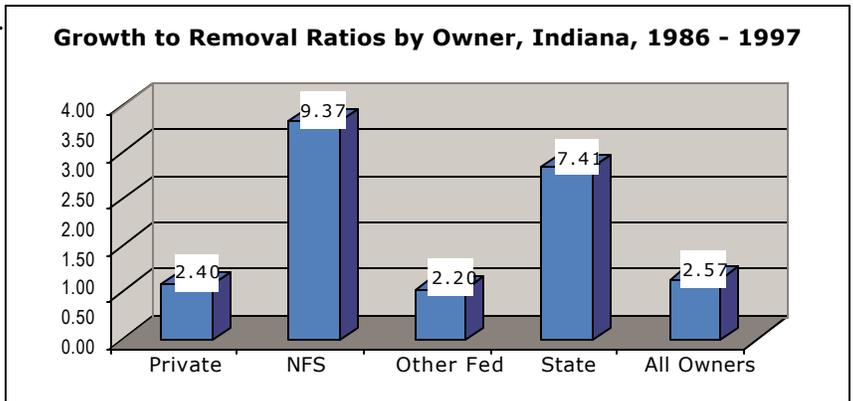


FIGURE 19

Proper forest management works! Indiana has long been a major, worldwide supplier of quality wood products (something every Hoosier can take pride in). The forest products industry drives many rural community economies and is Indiana's fifth largest manufacturing industry.

It is crucial that Indiana maintains balance in its timberlands. While the state provides the world with fine hardwoods, it also cares for and sustains the forests for domestic values such as recreation and environmental quality. With continued professional management of woodlands, Indiana forests will continue to provide high-quality wood products while growing at more than twice the utilization rate.