

## Pennsylvania's Forest Ecosystem

Pennsylvania has 17 million acres of forestland, which covers 59% of the state. Although it ranks 33<sup>rd</sup> among the states in land area, the commonwealth ranks 12<sup>th</sup> in total timberland.

### **A Renewable, Natural Resource:**

Forests are *renewable* resources (as opposed to *perpetual* resources like solar energy or *non-renewable* resources, such as fossil fuels).

In Pennsylvania, it is estimated that timber is growing faster than it is being harvested, i.e., less than the sustainable yield is harvested annually.

### **In Pennsylvania, there are two major forest-type groups:**

- Oak/hickory (47% of the forests, mainly in the central and southern areas)
- Northern hardwoods (38% of the forests, mainly in the north and northwest), including birch, sugar maple, and black cherry

Other forest-type groups are oak/pine (2%), elm/ash/red maple (4%), and white/red pine (5%).

Commercially valuable species include black cherry, red and white oak and sugar maple, with lower-value hardwoods being red maple and hemlock.

### **Ecological processes that influence our forestland include:**

- Succession and competition among species: e.g., the northern red oak expands its crown to out-compete shade-intolerant white ash trees, and the black walnut emits a chemical from its roots that prevents growth of nearby trees.
- Grazing: Deer browse on the twigs and leaves of young trees, inhibiting growth and forest regeneration. This also has a dramatic impact on wildlife habitat and species biodiversity.
- Disease and pests: Chestnut blight (a fungus) eliminates Chestnut trees, except for small rootstock and saplings. White pine blister root, Dutch elm disease, hemlock wooly adelgid, cherry scallop shell moth, pear thrips, fall cankerworm, forest tent caterpillar, and elm spanworm are all tree predators.
- Wind, lightening (fire), drought, and rain.

### **Human influences on the forest:**

- Clearing, as in clearing for development
- Harvesting for products
- Fire: Humans cause most wildfires, with debris burning and arson now the most common causes.
- Taxes: The need to pay property taxes influences landowner decisions regarding management or the sale of their land. Private landowners in Pennsylvania receive an estimated \$380 million a year from timber sales.