Change in the Hudson River Valley Since 1609

(*Based on research from Dr. Dorothy Peteet, Paleoecologist, Lamont-Doherty Earth Observatory)*

When Henry Hudson sailed up the Hudson River in 1609 in search of a new passageway to Asia, the Hudson Valley looked much different from what it does now. Prior to Hudson's exploratory trip, the river was called the "Grand River" or the "Groote", depending on the language of the explorers. The native people who lived in the area before the arrival of Europeans primarily spoke a dialect of Algonquin and called the river "*Muhheakantuck,*" or "the river that flows two ways." Though the Native Americans cleared some land for agriculture and villages, they used the land less intensively than the European settlers. The arrival of the Europeans brought many other changes to the region, such as the near-extermination of the Native Americans, who were highly susceptible to the new European diseases and were killed fighting with the settlers to retain their land. It is estimated that of the approximately 35,000 Native Americans who lived in the Valley in 1600, only about 1,000 survived past 1670. This dramatic population shift (fewer Native Americans and more colonists) caused changes in how the land was used.

Land use changes have continued in the Hudson Valley, including massive deforestation, the introduction of invasive species, and the burning of forest land to clear the way for agriculture. During this activity, you will discover what kinds of changes took place with the arrival of European settlers.

Layer	Date	Vegetation	Predominant Land Use
1	1920-present	Common reed, maple, some hemlock, purple loosestrife, some oak, yellow birch, white pine	After World War II, the US government supported high-yield agriculture, so that food was affordable to all Americans. The use of arsenic and DDT, both powerful pesticides, yielded larger harvests. These and other practices marked a sharp decline in small family farms. Invasive species such as purple loosestrife and the common reed increased dramatically. Some areas have been allowed to revert to forest, such as the Adirondacks and parts of the Catskills.
2	1850-1920	maple, yellow birch, charcoal, fewer salt meadow cordgrass, some chestnut	Introduction of Chestnut blight in 1904, an invasive species that devastated the native chestnut trees. With the increased use of coal, oil and natural gas for heating, less wood was cut for heating and cooking. However, there was a huge spike in fires during this period from railroads (sparks from trains), careless campers, and natural fires which increased in size and intensity because there was a buildup of dead tree material available. Farms changed from small, self-subsistent farming to orchards, vineyards or dairy fields to feed the

			growing metropolis of New York City. Wolves, hunted since the 1600s, were eliminated from this area. As a consequence, deer populations increased.
3	1800-1850	maple, yellow birch, salt meadow cordgrass	As the transcontinental railroad was being built, some Americans left Eastern farms and began settling out West. Tanneries became an increasingly large business, until the preferred trees (hemlock) became almost extinct and technology improved to allow other methods of tanning.
4	1750-1800	Fewer hemlock, maple, yellow birch, chestnut, salt meadow cordgrass	Tanning developed during this time as a large industry for New York. Early tanning used the bark of trees such as hemlock and oak to create the colors desired in leather. After the success of the American Revolution, many colonists expanded north and west, cutting trees and developing the landscape for farms and villages. Sawmills were erected wherever sufficient amounts of wood and water existed.
5	1700-1750	Hemlock, maple, yellow birch, fewer oak, chestnut, fewer hickory, salt meadow cordgrass	Clearing of the forests continued, but at a slow pace due to political instability. White pine was harvested for use as ships' masts and timbers. Oak and hickory were exported to Amsterdam and England, both of which suffered wood shortages.
6	1000--1700	Hemlock, maple, yellow birch, white pine, oak, chestnut, hickory, salt meadow cordgrass	Colonists brought domesticated animals like horses, oxen and cattle. Woodlands were cleared for agriculture, wood for homes and fuel. Native Americans began cultivation by expanding natural clearings in the forest, either by burning or girdling the trees. The ash would fertilize the soil, and then after a few years of cultivation, they would let the land return to forest, and clear another area nearby.

References:

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