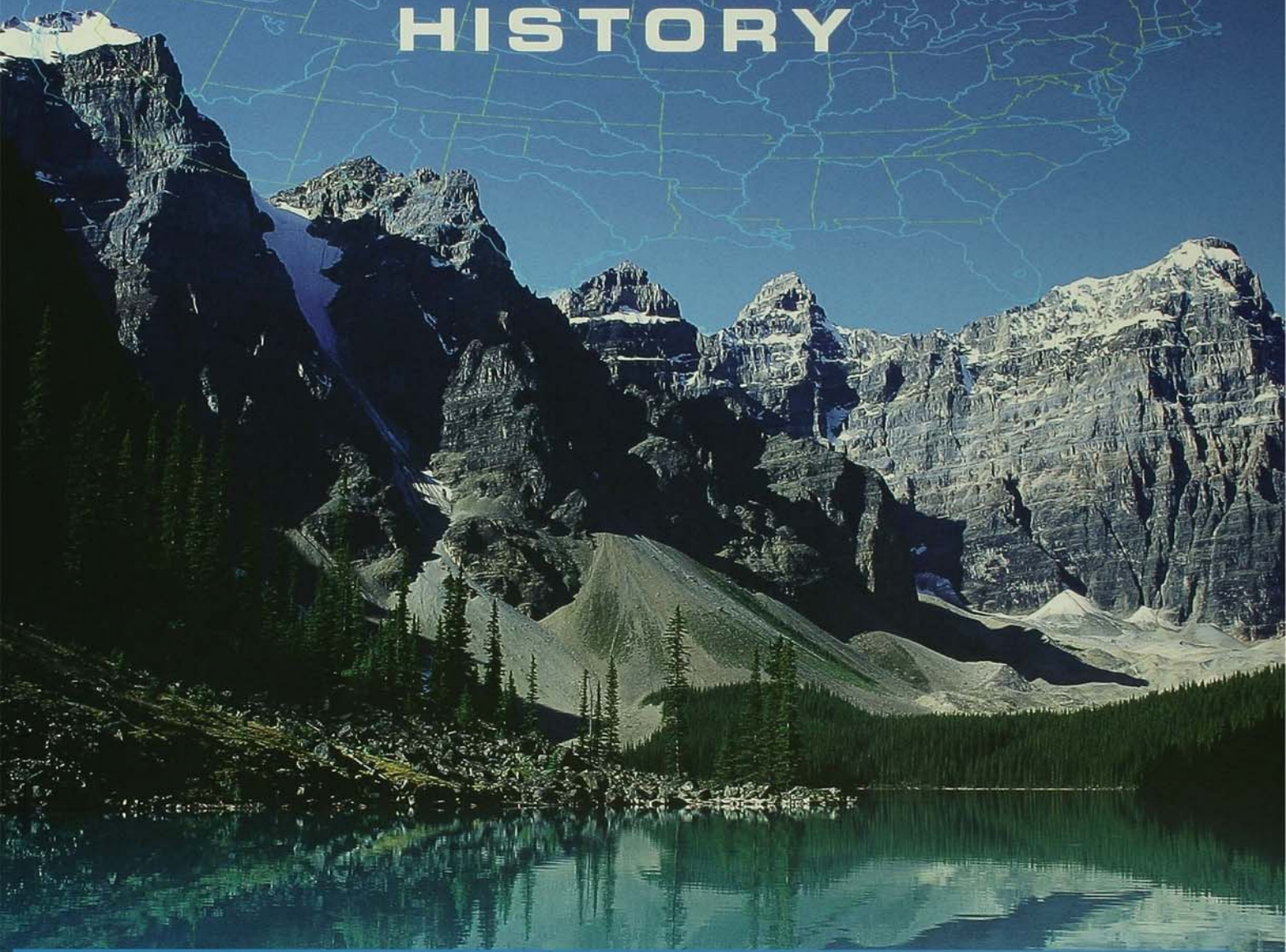


The ATLAS of U.S. and CANADIAN ENVIRONMENTAL HISTORY



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The Atlas of U.S. and Canadian Environmental History

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The Atlas of U.S. and Canadian Environmental History

C H A R M I L L E R , E D I T O R

ROUTLEDGE
NEW YORK AND LONDON

© 2003 by The Moschovitis Group, Inc.

Published in 2003 by
Routledge
29 West 35th Street
New York, New York 10001
www.routledge-ny.com

Published in Great Britain by
Routledge
11 New Fetter Lane
London EC4P 4EE
www.routledge.uk.co

Routledge is an imprint of the Taylor & Francis Group.
Printed in Hong Kong on acid-free paper.

Produced by The Moschovitis Group, Inc.
339 Fifth Avenue
New York, New York 10016
www.mosgroup.com

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2 4 6 8 10 9 7 5 3 1

Library of Congress Cataloging-in-Publication Data is available

ISBN: 0-415-93781-7

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Preface

In the 1970s, a small group of scholars launched the field of environmental history. These pioneers practiced a new approach to the study of history by considering humans' relationship to their environments and the effect that humans' interactions with their environments has had on historical developments. From its awkward beginnings to its transformation into a sophisticated academic field, environmental history has offered an important lens through which to view the past. Taking an interdisciplinary approach to the study of history, environmental historians investigate economic, political, scientific, technological, social, and cultural trends throughout history as they relate to both the natural and built environment. *The Atlas of U.S. and Canadian Environmental History* reflects the origins of the field, examining the role of the environment in our social institutions, political spheres, popular imagination, and daily life.

The Atlas of U.S. and Canadian Environmental History focuses on both Canada and the United States. With one of the longest borders in the world, these two nations share a remarkable landscape—including the Atlantic and Pacific Oceans, the Great Lakes and riparian watersheds, prairies and mountain chains, marine habitats and urban space. Since the first Europeans arrived in the New World, the environments and histories of Canada and the United States have been intertwined. These interactions date back even further, of course, given the intense interactions between native peoples over a landscape unmarked by our current political boundaries.

The North American environment—and American and Canadian attitudes toward nature—have developed and shifted throughout time. The continent's landscape has evolved continuously, from the establishment of farms in the colonial period, to the construction of rail networks across both nations in the nineteenth century, to the cleanup of toxic waste sites in the twentieth century. To best demonstrate these developments, the atlas has been arranged in seven chronological chapters, spanning the precolonial period to the present day.

Because environmental history is interdisciplinary, it often overlaps in focus with environmental science, which examines the relationship between humans and natural systems, and environmental policy, which considers legislation and current issues relating to the management of the environment. To help emphasize the recurring topics that appear in these interconnected fields, each chapter has been divided into six thematic categories: Agriculture; Wildlife and Forestry; Land Use Management; Technology, Industry, and Pollution; Human Habitats; and Ideology and Politics.

Maps, charts, tables, and photographic images illuminate many of the topics discussed in the articles. Some maps point out the specific location of geographic features, for example, mining regions, western dams, or public lands, that have been discussed in a particular article. Other maps show demographic changes, such as urbanization patterns during the late nineteenth and early twentieth centuries, or shifts in agricultural trends, such as the production of corn, wheat, and cotton before and after the Civil War. When appropriate, historical maps include present-day boundaries—even if the states, provinces, or countries did not exist at that point—to offer users a better sense as to how historical trends impacted current geographic areas. Charts and tables provide statistical information, for instance, timber production or levels of smoke pollution. Photographs and illustrations accompany many of the articles to document particular events, such as the first Earth Day in 1970, or offer readers a sense of a society's attitudes toward the environment, such as the Romantic painters' depiction of idyllic natural settings during the nineteenth century.

The atlas also features sidebars that highlight a particular subject related to the topic or, in some instances, provide excerpts of passages from books or documents. Many of the historical and environmental topics covered in the atlas recur within and across the various chapters, offering a sense of the interconnectedness of events, trends, and themes throughout U.S. and Canadian history. For this reason, the atlas includes in-text cross-references that will direct readers to pages with

additional information on the topic. Each article also includes a distinct Further Reading section that directs readers to important literature, such as books or scholarly journal articles, on the subject.

Measurements are given in English units, followed by their metric equivalents in parentheses. As the metric ton is almost equal to the English ton, we have not provided a conversion in an effort to conserve space. In statistical charts and tables, we have left the data in their original form. However, where the information in a chart or table is provided for comparative purposes, we have converted the data to equivalent units.

At the end of the book is a timeline spanning the pre-Columbian period to the present day; it highlights

important events, legislation, and trends that relate to the environmental history of Canada and the United States. An extensive bibliography offers readers a list of sources that will provide further reading on various topics. To make this list accessible to users, it has been divided into the following sections: general titles, sources dealing with the United States, sources dealing with Canada, an era-by-era section that mirrors the chapter divisions of the book, and a thematic section that reflects the six major categories repeated in each chapter. A list of contributors displays the vast range of expertise that has contributed to the production of this atlas. A detailed name, place, and concept index offers users an additional means of locating topics of interest.

The Atlas of U.S. and Canadian Environmental History

European Exploration and the Colonial Era (1492–1770s)

John Smith, an English explorer who journeyed to the New World in the early seventeenth century, was a legend in his own mind. His *General History of Virginia* (1624) offers a much-revised account of how he led his fellow Jamestown, Virginia, colonists through the many hardships they endured to establish the settlement in the early 1600s. Despite its vainglorious quality, Smith's book, which he wrote after he returned to England in 1609, is a firsthand and vivid depiction of the interactions between indigenous peoples and the invading English settlers. As he identifies the sharp disparities between the two peoples' civilizations and level of technological development, he also catalogs the region's astonishing wealth of natural resources. He mapped many of its rivers and bays, noted the rich, well-watered soil, and praised the thick stands of timber.

The book's descriptions of the economic wealth of the landscape were designed to appeal to English readers who might invest in or immigrate to the colony. This appeal was heightened by Smith's mouthwatering descriptions of the natural abundance of food. As winter approached, he wrote, "the rivers became so covered with swans, geese, ducks and cranes that we daily feasted with good bread, Virginia peas, pumpkins, and persimmons, fish, fowl, and divers sorts of wild beasts as fat as we could eat them."

In dangle such sumptuous fare before his readers, Smith was contributing to the emergence of a colonial literature that contrasted New World vitality with Old World weariness. His claims would be confirmed by subsequent generations of settlers in British North America, New France, and New Spain. Along the Atlantic seaboard, hundreds of settlements would spring up that

would enjoy rapid and consistent population growth, develop a very productive agricultural and commercial economy, and build busy port cities whose trade networks extended around the globe.

Natural Resources. Early English and French colonists were both overwhelmed by and eager to exploit the vast forests they encountered and the variety of wildlife that lived within North America's woods. As with the indigenous peoples of the continent, the settlers made full use of this great plenty, searching for berries and nuts, hunting game, and burning and logging forests to create more open space. Unlike Native Americans, they let their domesticated animals, cattle, hogs, and sheep, forage freely in the woods, an easy way to feed the expanding numbers of animals and to eliminate forest cover.

Despite their cultural differences, all Europeans believed in the concept of private property and the necessity of constructing agricultural landscapes. The key material for their built environments was wood. Because of their large numbers, the English colonists consumed vast quantities for housing, fencing, and fuel. This demand sparked the development of a complex lumber business that cleared lands far beyond the population centers. The profit from this trade was reinvested in new lands, contributing to rapid deforestation and the spread of a farm-based economy in what is now the eastern United States and Canada.

European Settlements. The English communities grew swiftly; by the mid-eighteenth century, more than 1.5 million English lived in the New World, compared with seventy thousand French settlers, and even fewer Spanish. Each group established different patterns of land use. The "Little Commonwealths" of New England were small

towns built on the open-field system that granted individual settlers house lots, as well as rights to and responsibilities for common meadows and woodlots. Few towns existed in the southern Chesapeake Bay tobacco colonies, which developed around large-scale plantation agriculture that used slave labor to plant and harvest the crop, and river transportation to take it to market. Dependent on rivers, too, were the New France settlements in Canada. Under the feudal seigneurial system, narrow strips of land along the riverfront were parceled out to the Roman Catholic church and to elite individuals, who could either sell the property or rent it to tenants.

Far to the south and west, Spanish settlements formed around Roman Catholicism had also been established. Missionaries and civilian leaders worked with military forces to conscript local Native American populations into the labor force to clear agricultural land, dig irrigation ditches, and construct communal and religious buildings. The physical expanse of New Spain, which stretched from present-day California to Florida, resulted in the Spanish towns often being so far from one another, and from the larger

cities of central Mexico, that they remained small in population and limited in economic import.

Interactions with Native Americans. Unlike other European New World settlers, the Spanish interacted more freely with indigenous peoples, culturally and sexually, leading to the creation of a mestizo, or mixed, population. The English, by contrast, had no desire to mix with members of local Native American tribes; they saw themselves as a more advanced culture that was in direct competition with indigenous peoples for land and resources. Open conflict between these settlers and Native Americans intensified by the mid-eighteenth century as the English pushed beyond the Appalachian Mountains, where they replicated patterns of settlement and resource exploitation that they had employed along the Atlantic seaboard. The French, whose numbers were smaller and expansionary desires more muted, did not come into as much conflict with Native Americans.

Regardless of their motives or perspectives, the three major colonial powers in the New World forever changed Native American culture. The swelling European birthrate and immigration to the New World, when combined with the superiority of Europe's military technology, enabled settlers to extend their control over the land and its many resources. Despite the destructive impact of immigration and settlement on the indigenous human populations and on native flora and fauna, the Europeans brought different foods and animals that "Europeanized" North America, while concurrently influencing the cultures and diets of England, France, and Spain.

This so-called Columbian Exchange was not equal in its impact. Even before large-scale settlement, Old World diseases that European explorers and fishermen brought with them had devastated indigenous peoples who lacked immunity to measles and smallpox. Had the daring Captain John Smith been able to return to Virginia at the close of the eighteenth century, he would have been astounded by how thoroughly his dream of continental conquest had come to pass.

—Char Miller



A European view of the New World from Franciscan missionary Louis Hennepin's 1697 Nouvelle Decouverte. (From the collections of the Library of Congress)

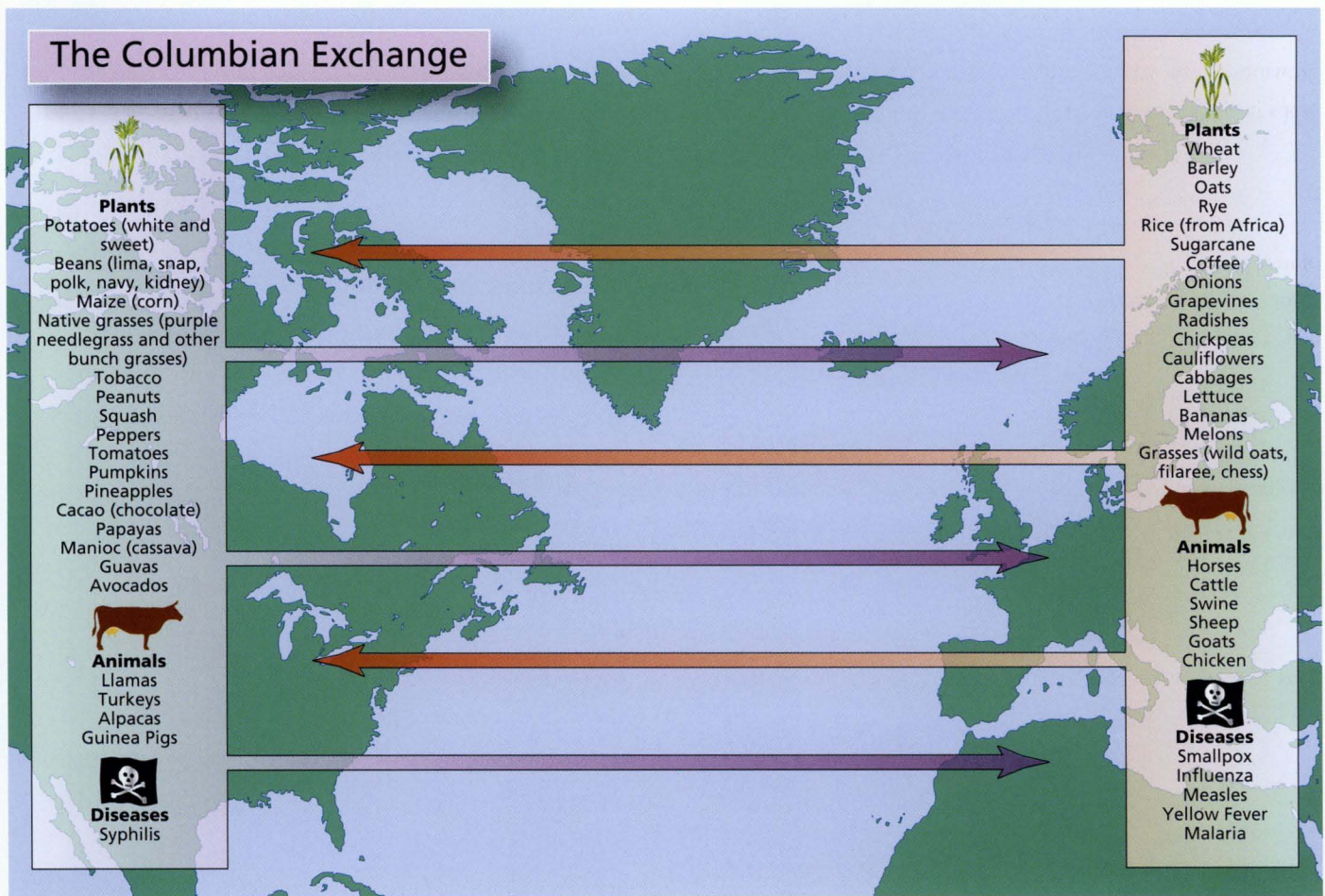
Columbian Exchange

The Columbian exchange refers to the exchange of plants between the Old and New Worlds and the introduction of animals from Europe to the Western Hemisphere following the arrival of Europeans in the fifteenth century. By introducing a host of crop plants and domesticated animals to their new environment, the Spanish, French, and British settlers attempted to “Europeanize” the North American continent. Beginning with the second voyage of Columbus in 1493, the Spanish introduced wheat, melons, onions, sugarcane,

grapevines, radishes, chickpeas, cauliflowers, cabbages, and lettuce, as well as horses, cattle, swine, sheep, goats, and chickens. This voyage began the exchange of plants and animals between the New and Old Worlds that would have significant effects on the environments and ecologies of both worlds.

Diseases. The Columbian exchange also spread Old World diseases, such as smallpox, influenza, and measles, among the indigenous populations—none of which had immunity to those diseases. Along the Atlantic coast of Canada, for example, fishermen and fur traders exposed indigenous

peoples to European diseases during the early sixteenth century. During the seventeenth century, diseases decimated Native American populations in present-day New England, while during the eighteenth century Russian explorers spread diseases among the Aleut, Eskimo (Inuit), and Tlingit in the Pacific Northwest. Although the Old World diseases introduced in the New World were often catastrophic to indigenous populations, the Columbian exchange brought nutritional benefits and improved food supplies with the addition of new crops and new animal species.



The exchange of flora between the New and Old Worlds was extensive by the seventeenth century. By the late eighteenth century, many agricultural plants had been traded, particularly between the Western Hemisphere and Europe and Africa. Although some native animals from the New World, such as turkeys and llamas, were introduced in Europe, the exchange of fauna for agricultural purposes was primarily from Europe to the New World.

Sources: James Lang, *Notes of a Potato Watcher* (College Station: Texas A & M University Press, 2001), 21; Elaine N. McIntosh, *American Food Habits in Historical Perspective* (Westport, Conn.: Greenwood Press, 1995), 65; and The Columbian Biological Exchange. Dr. Harold D. Tallant, Department of History, Georgetown College. 3 Dec. 1998.

<<http://spider.georgetowncollege.edu/htallant/courses/his111/columb.htm>>.

Plants. By 1500, the Spanish (*see also* 16–17) had made considerable progress in their attempt to transform the New World into the Old World; by the mid-sixteenth century the process was irreversible. Spanish settlers at St. Augustine in present-day Florida raised oranges by 1579. By 1660, Spanish farmers or their subjects in Mexico cultivated nearly all of the most important food plants from the Old World, including wheat, barley, oats, and rye. Slaves or slave traders introduced the African crop of rice to the Carolina lowlands by the early 1670s. Rice enabled white planters on the sea islands and low coastal plain to cultivate swamplands, while wheat and barley permitted settlers in the present-day United States and Canada to cultivate lands too high, dry, or cool for growing maize (corn) and other native crops in significant quantity.

Animals. The introduction of animals from the Old World was more significant in the use of the environment than the influx of new plants. By 1500, the major breeds of cattle and horses had arrived from Spain, which enabled New World people to use the environment in a different way by converting grass grazed by animals into meat, milk, and cheese. Spanish hogs and cattle readily adapted to their new environment. In 1539 Hernando de Soto began exploring present-day Florida, taking thirteen hogs to help feed his men. By the time of his death in 1542, they had multiplied to a herd of seven hundred.

Spanish horses also bred rapidly and, along with disease, moved faster across the North American continent than the people who brought them. By 1700, the Plains tribes south of the Platte River in present-day Nebraska were familiar with horses; by 1750, the tribes north of the river were also routinely using horses. During the mid-1780s, horses grazed on the banks of the Saskatchewan River in

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Lang, James. *Notes of a Potato Watcher*. College Station: Texas A & M University Press, 2001.

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Smith, Andrew F. *The Tomato in America: Early History, Culture, and Cookery*. Urbana: University of Illinois Press, 2001.

present-day Saskatchewan. On the North American plains horses revolutionized transportation, hunting, and war, particularly for Native Americans like the Sioux, Cheyenne, and Comanche.

Concurrently, sheep arrived in the American Southwest, soon outnumbered cattle, and became important sources of food and skins. The Navajo were particularly successful at adapting sheep into their culture and environment, and they became great herders on the arid grazing lands of the Southwest. By the early eighteenth century Spanish longhorn cattle roamed the grasslands of present-day southern Texas, easily adapting to the hot, dry climate. Cattle also became a new food source for some Apache bands that stole them from the Spanish ranchers in that region. In some areas, cattle, horses, and sheep required large grazing areas and frequently strayed into Native Americans' fields and damaged crops.

Impact. Although Old World diseases decimated native populations in the New World, the introduction of Old World plants and animals, particularly horses and cattle, and the adoption of New World corn by European settlers contributed to population growth and more extensive use of the land for agricultural purposes. European plants and animals significantly increased food variety, supply, and nutrition, particularly in the addition of animal protein, to New World populations. The great variety of European food plants enabled settlers to adapt quickly to their new environment.

In the New World, these plant and animal introductions readily adapted to the environment. Horses, cattle, and particularly sheep enabled Native Americans and immigrants

to use the lands of the arid Southwest and semiarid Great Plains. However, in the absence of natural predators, cattle, horses, and sheep occasionally overgrazed grasslands, eventually contributing to soil erosion, the elimination of native grasses, and the invasion of weeds such as dandelions. Newly introduced Spanish grasses had a high tolerance for drought and overgrazing, which made them perfectly suited for the dry Southwest. Eventually these grasses, for example, wild oats, filaree, and chess, competed with and forced out native grasses like purple needlegrass and other bunch grasses. Although Spanish grasses contributed to greater flora diversity on the North American continent, some native grasses became threatened with extinction.

The Columbian exchange had other environmental consequences. Many indigenous New World plants that had been domesticated by Native Americans were abandoned as crops. When found in fields of European crops, the settlers considered them weeds. European farmers plowed the land for their crops, rather than using hoes and digging sticks, which exposed more soil and made it susceptible to wind and water erosion. European sheep and Native American sheepherders also pushed the native bighorn sheep into higher elevations. Domestic sheep often grazed slopes too steep for plowing and destroyed plants that prevented soil erosion. Although the introduction of European plants and animals enabled the use of soils and seasons heretofore unavailable, the Columbian exchange often upset the balance of nature, a matter that future generations would accept and perpetuate.

—R. Douglas Hurt

Domestication of the Land: From Wilderness to Farmland

European settlers in the early seventeenth century encountered a North America covered with forests (*see also* 8–9) that were home to abundant wildlife, including deer, turkey, beaver, bear, wolf, cougar, and many smaller mammals. The Native American population had been significantly reduced over the previous century by diseases introduced by the early explorers (*see also* 4–6), leaving abandoned fields and clearings scattered along the Atlantic coast and major rivers. Most successful European settlements before 1650 made use of these clearings, but soon the growing population needed more land and domestication of the continent began in earnest.

Wilderness. New settlements were increasingly carved entirely from the forest wilderness. Tree species were used as an indicator of land quality. Basswood, sugar maple, walnut, ash, and cherry were thought to indicate the best soils; oak, hickory, red maple,

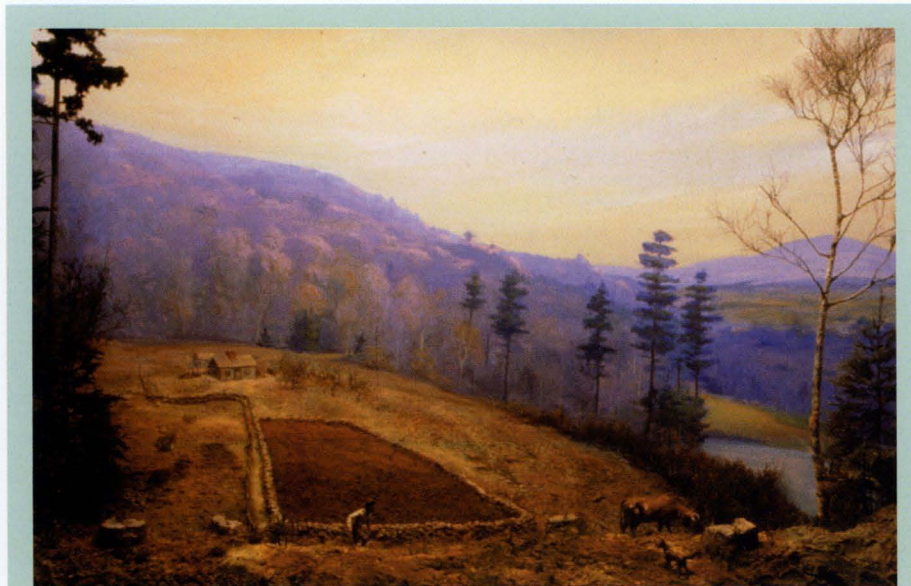
and beech indicated intermediate soils; and hemlock and pitch as well as other pines indicated poor soils. By the late eighteenth century most of the continent east of the Appalachian Mountains plus the Northeast, with the exception of the higher mountains, had been settled and transformed to farmland. Settlements spread from the coast up major rivers and streams to the rolling uplands and foothills (piedmont). The process differed somewhat among regions, but in all cases resulted in vast areas of forest being converted to agricultural use and the remaining woodlots being repeatedly harvested for timber, fuel, and many other uses. Habitat loss and hunting pressure significantly reduced or eliminated most large mammals and game species, turkey, for example, in settled regions.

Settlements. The kinds of settlements varied: In the Northeast (*see also* 18–19), most early towns followed the English open-field model, in which settlers, or proprietors,

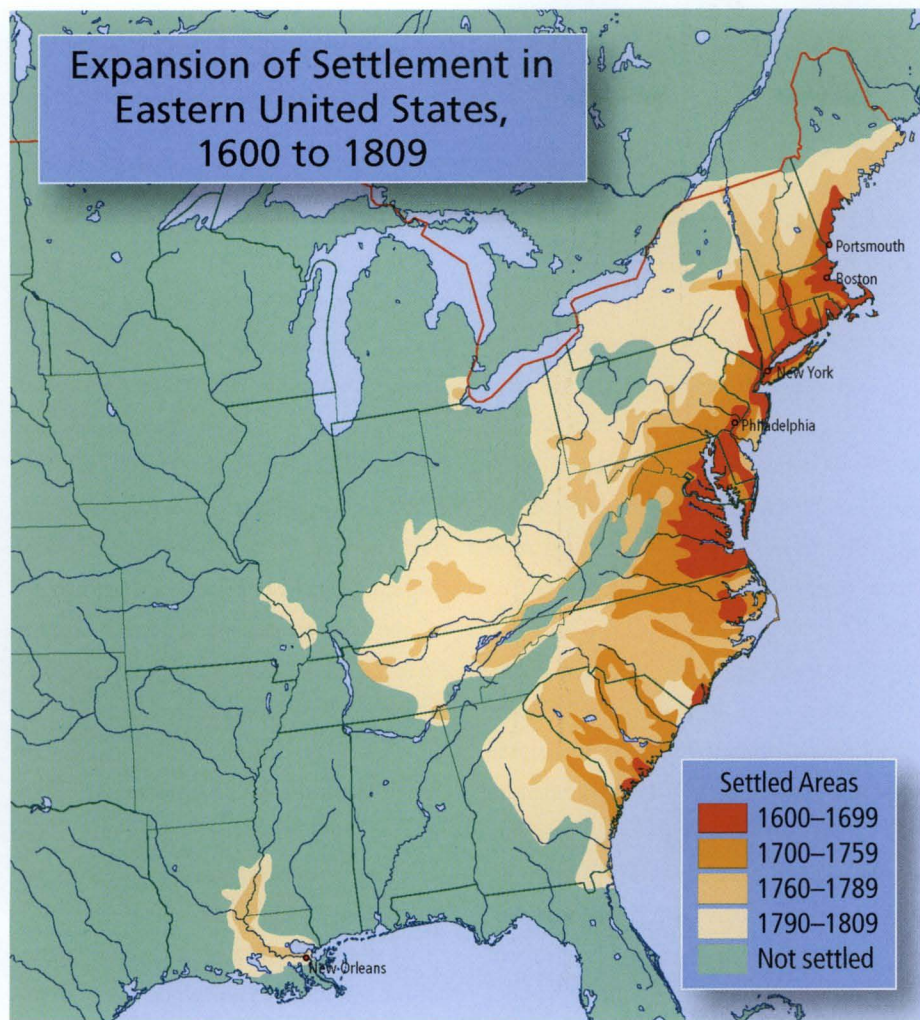
were granted large house-lots along a main street, plots in common fields and woodlots, and rights to common pastures. By the early eighteenth century the open-field system was less common in new towns. Proprietors received larger, often contiguous properties, but individual fields and pastures remained small and communities remained largely self-sufficient. In the South the plantation system was common (*see also* 20–21), with grants of one to several thousand acres allotted to an individual owner and large areas cleared for a single, valuable commercial crop. Agricultural patterns in the middle colonies often fell between these extremes.

Forest Clearing. Clearing forest was an arduous task. In the New England and Midatlantic colonies settlers often cleared only a few acres a year. The ability to clear and subsequently farm large tracts often depended on family size. Without easy access to water transportation, wood had little value beyond what was needed for local use, including construction, fencing, and, most important, fuel for heating and cooking. A typical New England household consumed 20 to 25 cords of fuel wood annually. Where river transport was available timber was harvested commercially, and towns at the mouths of larger rivers such as Portsmouth, New Hampshire, became lumber ports. As early as the mid-seventeenth century towns in outlying coastal areas were supplying wood for fuel to growing populations in Boston, New York, and Philadelphia.

Although certain crops, especially European grains, required clearing the land of stumps and plowing, most clearance was accomplished by simply felling the trees, using what wood was needed and piling and burning the rest. Farmers then employed



A photograph of a diorama built in the 1930s portraying typical land use in Massachusetts in the early eighteenth century. When new towns were established in the uplands, the new settlers slowly cleared forest-land for their homes, fields, pastures, and commons. (Fisher Museum Dioramas, Harvard Forest, Petersham, Massachusetts; John Green, photographer)



The original coastal settlements in the eastern United States slowly moved upriver and inland through the eighteenth century. As populations grew and agriculture became progressively more commercial, vast areas were cleared for crops and pasture and much of the remaining forest was harvested for fuel and timber. Most areas west of the Appalachian Mountains were not settled until the nineteenth century.

Source: Michael Williams, *Americans and Their Forests: A Historical Geography* (Cambridge and New York: Cambridge University Press, 1989), 54. Adapted with the permission of Cambridge University Press.

hoe agriculture to work around the stumps or used the land for pasture. This method of felling and burning, which worked well for corn, also produced potash from the piles of burned wood; this potash could be spread on the fields as fertilizer or collected and sold (it had a variety of chemical uses).

The less labor-intensive method of girdling (cutting a notch around the trunk) was used to kill trees without felling them; the trees eventually had to be removed when they rotted and fell several years later. Girdling was most commonly used in the South, often by slaves, for preparing large acreages of plantations for tobacco. This

very valuable crop depleted the soil of nutrients so quickly that planting had often moved to newly cleared areas before the girdled trees rotted and fell. On southern tobacco or cotton plantation fields, crops might be grown for only five to seven years, with the field then abandoned to regrow to forest for twenty to thirty years before being prepared for crops again.

Forest clearing accelerated in the middle and late eighteenth century, moving into the hills as populations grew and new homesteads and settlements were formed. Woodlands had traditionally been used for rough day pasture for cattle, with swine left

to roam the woods feeding on tree nuts and young roots. An expanding trade in beef with the West Indies and other colonies in the eighteenth century made domesticated animals more important commercially, which greatly increased the clearing of upland pasture. This clearing would accelerate in the early 1800s across much of New England to provide pasture for sheep producing wool for the developing textile mills.

Impact. As settlements spread across the land, little forest was spared. The best land became productive fields, rougher land became pasture, and woodlots on the poorest sites were harvested repeatedly for fuel, creating persistent young stands of saplings. In the Northeast stone walls replaced wooden fences as wood became more valuable as fuel than fencing. By the early nineteenth century crops and domesticated animals dominated an open landscape and the few remaining wild animals were either hunted as game or exterminated as predators. Ironically, today forests have reclaimed much of this landscape, especially in the Northeast, as agriculture has shifted westward, and deer, moose, bear, beaver, and coyote haunt the maturing forests, which many newcomers now mistake for wilderness.

—John F. O’Keefe

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Early American and Canadian Forests

Prior to European settlement, forests covered about 1 billion acres (0.4 billion hectares), or about half of what was to become the United States, including Alaska. About three-quarters of that forest was in the eastern third of the country. Of Canada's nearly 2.5 billion acres (1 billion hectares) of land, just 48 percent was forest. Trees stretched from coast to coast below the Arctic Circle. Fire, disease, and wind created open areas that extended for miles, and the areas near many rivers and salt marshes were also naturally clear.

Forest Types. Two types of forests have dominated the United States and Canada since the pre-Columbian era. Temperate forests, which stretch from the southern United States into southern Canada, contain both broadleaf (oak, maple, and beech, for example) as well as coniferous (pine) trees. They receive about 30 to 60 inches (0.8 to 1.6 meters) of rain annually, with rainfall distributed evenly throughout the year. The second forest type is the boreal forest, which lies in a wide swath across the middle of Canada and on into Alaska. The boreal forest receives

12 to 40 inches (0.3 to 1.2 meters) of precipitation annually, much of it in the form of snowfall. Conifers, such as spruce, larch, and fir, predominate because they can survive and grow in a short growing season and in poor sandy soil with relatively little water.

Native Practices. The population of pre-Columbian North America (*see also* 14–15) is estimated to have been between 9.8 and 12.5 million. Although these figures are regularly revised, any sizable population would have had a noticeable impact on the land. Contrary to the popular myth of Native Americans living lightly on the land, they did, in fact, clear land and alter the landscape around them to suit their needs. At the time of European settlement, Native American agriculture and use of fire for clearing and hunting had changed portions of the woodlands to a more open, park-like vegetation where populations of deer, rabbits, and wild turkey thrived. Native Americans felled trees for housing and fuel, and also used them for fibers, foods, and medicines. Native Americans hunted black bear and used that animal's fat in ointments as protection against

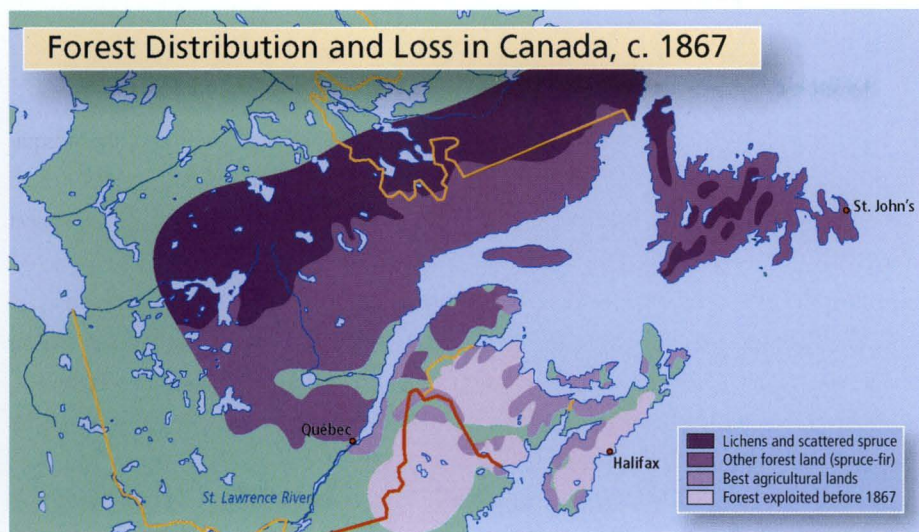
winter winds and summer insects like mosquitoes. They burned the understory and ground cover adjacent to settlements to reduce insect problems, to improve the habitat of the game animals they hunted for food, to clear the land to plant crops, and to remove protective cover that could be used by enemies for concealment. About every ten to fifteen years, a typical Native American settlement would be abandoned because the resources of the surrounding land had been exhausted. With the majority of game either consumed or driven off and the soil no longer as fertile as it had been, the entire village would move to a new location, leaving behind large clearings that early European settlers used. As Europeans moved westward in the 1600s and 1700s, they regularly found open patches of land in the forests that indicated the former presence and industriousness of Native Americans.

European Practices. Like Native Americans, early European farmers also found the dense forests of the New World to be a major source of sustenance. The forest provided berries, nuts, and maple sap from which to make maple syrup, and also forage



Note: Each dot represents 25,000 acres (10,000 hectares). Some variations in forest density from 1620 to 1850 reflect the increasing accuracy of land surveys in later periods. In 1620, during the early settlement of the New World, forests covered the eastern United States. By 1850, however, the land clearing practices of colonists (who desired both farmland and timber) had caused the edges of the forests to start to recede as settlers moved westward.

*Source: Michael Williams, *Americans and Their Forests* (New York: Cambridge University Press, 1989), 436. Underlying data from W. Greeley, "The Relation of Geography to Timber Supply" (*Economic Geography* 1, 1925), 4, 5. Adapted with the permission of Cambridge University Press.*



The distribution of forests and areas that were exploited in Canada's Atlantic region.

Source: Robert D. Mitchell, and Paul A. Groves, eds., *North America: The Historical Geography of a Changing Continent* (Totowa, N.J.: Rowman & Littlefield, 1987), 231. Adapted with the permission of Rowan & Littlefield.

for cattle and hogs. Additionally, it was the source of wood for utensils, tools, and furniture, as well as potash (fertilizer) for farming. Like Native Americans, settlers burned trees to clear land for farming or for safety. They abandoned farms when they had exhausted the land's fertility and cleared new forests to start the process over again. Unlike Native Americans, however, Europeans established permanent settlements. After using all the timber in surrounding areas, the settlers imported wood from the frontier for fuel and construction rather than moving on.

Consumption of Wood. Other cultural differences meant colonists consumed more wood than Native Americans. Native Americans did not fence in land because they did not believe in private ownership of land; colonists usually delineated their property with wooden fences—in part to prevent other farmers' animals from trampling their crops. A square 40-acre (16-hectare) field enclosed by a wooden split-rail fence required about eight thousand rails. (A mile of that fence represented enough timber to saw 75,000 feet [23,000 meters] of boards, according to historian Hu Maxwell.) The United States had about 3.2 million miles (5.1 million kilometers) of wooden fence by 1850.

Home construction used wood extravagantly. A simple one-room log cabin required eighty logs of 20 to 30 feet (6 to 9 meters) in length for the walls, plus additional logs for the gable and roof. Once a sawmill was established in a settled area and could produce clapboards for siding, housing styles began to change to reflect a desire for a more "English" or sophisticated type of home. Wealthier colonists built frame houses with siding to replace the log cabin, whereas less affluent settlers simply nailed clapboards over the logs to "modernize" their homes. Still, the log cabin remained the dominant style. As late as 1855, New York state had 33,092 log cabins housing roughly one-fifth of all farm families.

As the United States grew, the demands it placed on the environment increased. In the

eighteenth century the establishment of ironworks would put heretofore unknown pressure on the forests. Furnaces used to produce iron, a critical industry for the U.S. economy, required huge quantities of wood charcoal to smelt the iron ore. A 1,000-ton ironworks, of which there were many by the late 1700s, required between 20,000 and 30,000 acres (8,000 and 12,000 hectares) of forest over a twenty-year period to sustain itself. Iron furnace operators found themselves competing with urban households for fuel wood. Between 10 and 20 acres (4 and 8 hectares) of forest were needed to supply the wood burned by one fireplace annually. By the 1780s, competition between iron furnaces and home consumption in urban areas drew farmers into the lumber supply trade, and provided them with an extra source of income.

Europeans in the 1600s and 1700s rapidly decimated the forests of the eastern seaboard. Cities and towns dotting the map from the St. Lawrence River to Georgia had consumed surrounding woodlands and began importing wood from the interior of the continent. By the mid-1700s, colonists had cleared forests for agricultural lands as far west as the Appalachian Mountains and now looked to the Great Lakes region (*see also* 34–35) and the southern colonies for new sources of timber as well as farmland. After the American Revolution, with the British government no longer restricting movement, the expansion westward accelerated.

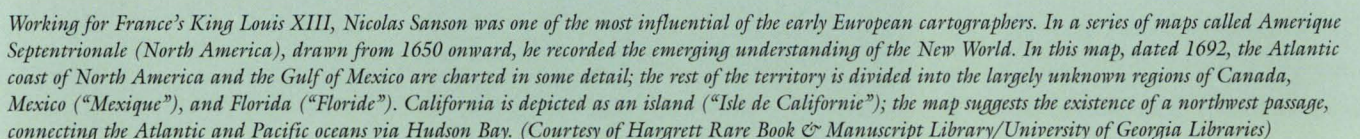
—James G. Lewis

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Columbus's explorations led to Spain's domination of the southern part of the North American continent during the 1500s (*see also* 16–17); other explorers, including John Cabot, explored the north. Cabot was an Italian navigator sailing under the mandate of England's King Henry VII “to seek



out, discover, and find whatsoever isles, countreys, regions or provinces of the heathen and infidels whatsoever they be, and in what part of the world sooner they be.” When he reached the North American mainland in 1497, Cabot established England’s claim to the entire northern continent. The claim to such a vast area was tenuous, not least because French and Dutch mariners were also actively exploring the region. Some, such as Italian navigator Giovanni da Verrazano and Frenchman Jacques Cartier, both of whom sailed on behalf of King Francis I of France, were seeking a westward route to Asia with its lucrative spice trade. The quest for this fabled “northwest passage” inspired others, including English navigators Martin Frobisher, who explored the Canadian Atlantic coast, and Henry Hudson, who charted the Atlantic coast as far north as Greenland and Svalbard (in the Arctic Ocean). The existence of the northwest passage was disproved only in the 1770s by the voyages of England’s Captain James Cook, who explored both the Atlantic and Pacific coasts of North America.

Commercial Ventures. Searching for a northwest passage to Asia was only one of the driving forces behind European exploration. While Spain aimed to expand its empire by claiming territory, many English, Dutch, and French expeditions were commercial ventures, often sponsored by private companies. The English Muscovy Company (formed by English merchants in 1555 to improve trade with Russia) funded the early voyages of Hudson, for whom the Hudson Bay was named. The Dutch East India Company (founded by the Dutch in 1602 to advance trade in the Indian Ocean region) underwrote Hudson’s later explorations. Cabot’s voyages led to the development of the bounteous Newfoundland fisheries (*see also* 178–79), following reports from his sailors that “The sea is swarming with fish, which can be taken not only with the net but

in baskets let down with a stone.” Exploring for gold and spices, Cartier laid the basis of the French government’s claims to Canada. Cartier also began the lucrative fur trade (*see also* 32–33) along the St. Lawrence River; from the 1670s onward, the fur trade was controlled by the English Hudson’s Bay Company. Distracted from his quest for the northwest passage, Frobisher sought gold, but found only fool’s gold in the bay—now named for him—near Baffin Island, Canada.

Cartography. Charting seas and mapping land were central to the idea of possessing and exploiting the New World. But maps of the territory were usually produced by European cartographers who seldom saw the lands they charted, relying instead on often highly romanticized letters and journals of individuals like the Franciscan missionary Louis Hennepin, who brought his religion to the Great Lakes and Mississippi regions. The sensational accounts were sometimes the reflection of equally sensational discoveries. Hennepin, the first person to reach the Niagara Falls, described it as “a vast and prodigious cadence of water, which falls down after a surprising and astonishing manner, inasmuch that the Universe does not afford its parallel. . . .”

European cartographers slowly pieced together maps of North America from the sixteenth century onward. German cartographer Martin Waldseemüller drew the first map to separate America properly from Asia and gave the country its name (after Amerigo Vespucci). The first atlas devoted exclusively to the New World, produced in 1597 by Flemish cartographer Cornelius Wyfliet, contained nineteen regional maps. Although later explorers used these maps during their North American voyages, the maps were far from complete or accurate. The maps had more than one purpose; some showed not only the actual geographic features of the New World, but also what explorers hoped might be found in unexplored territories.

Another purpose was to convince potential sponsors that future explorations would be financially worthwhile. Mistakes on early maps of the continent commonly showed a “Sea of Verrazano” off North Carolina, depicted California as an island, and included a northwest passage to the Pacific via the St. Lawrence or Hudson rivers.

Impact. European explorers and mapmakers were not responsible for the first settlements in the New World; Native American peoples had lived in the region for fifteen thousand to twenty thousand years before Columbus arrived (*see also* 14–15). By charting the romantic ideas and hopes of the explorers and making clear how much more land remained to be explored, settled, and exploited, mapmakers helped make possible sponsorship of further expeditions. In addition, by charting the limits of the continent, the resources it could offer, and the best navigation routes, they made the decision to sail to and settle in the New World more realistic to the average person. Settlers and adventurers did not begin just the exploitation of natural resources, they also began the seizure of land, spread disease that decimated Native American populations, and introduced nonnative species (*see also* 4–5), such as foreign cattle. European exploitation and mapping led as much to the destruction and disappearance of the virgin American continent and its peoples as to the creation of a New World.

—Chris Woodford

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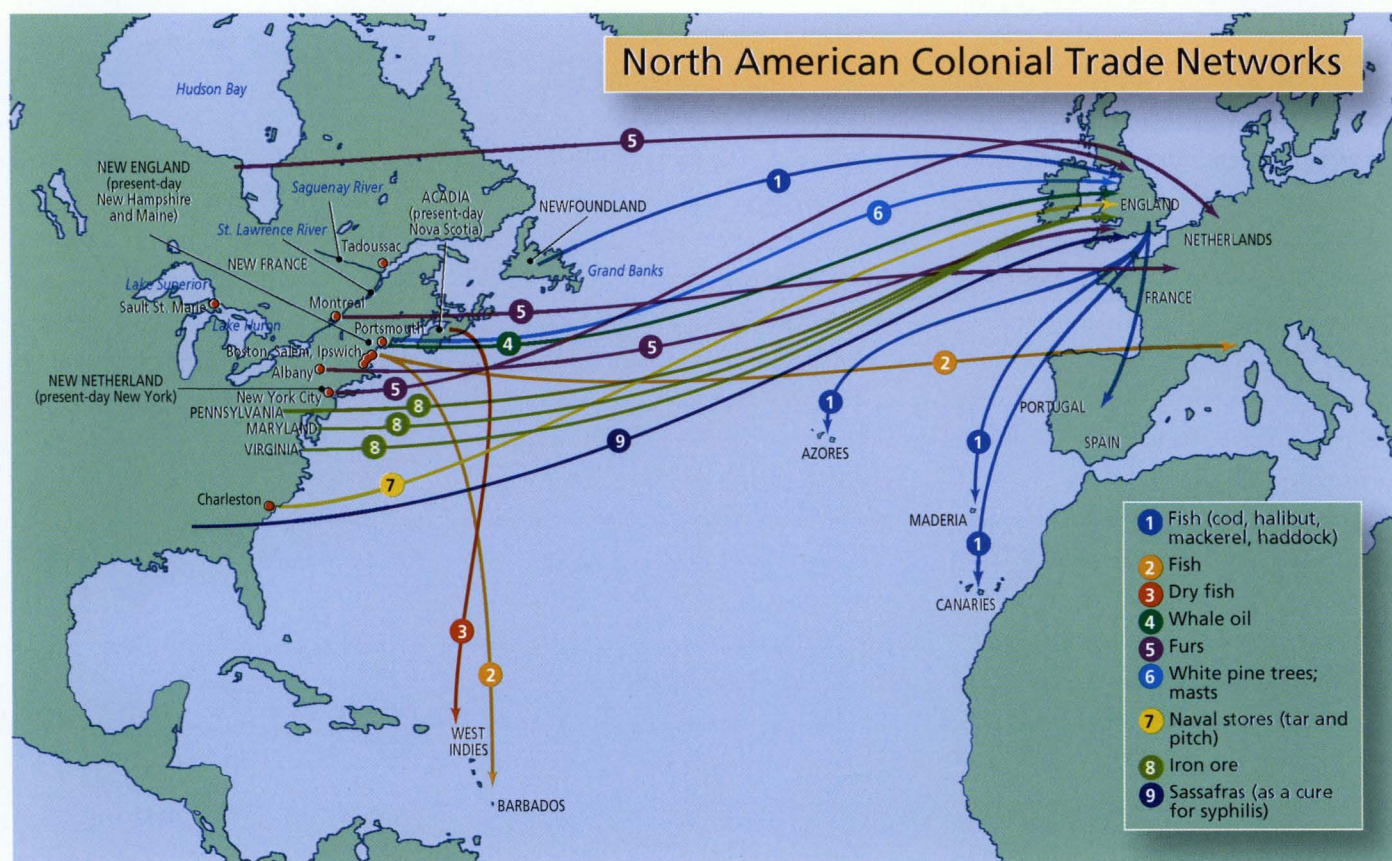
Commodification of Nature: Export of Resources to the Old World

European governments, in France and England particularly, believed that the North American continent would provide the resources needed to ensure and expand their power. Colonies could supply raw materials or semifinished goods that manufacturers in the mother country would process into finished goods for sale at home or trade abroad. European nations applied this economic policy, which became known as mercantilism, as they sought economic, political, and military power. Between 1492 and the late 1770s, mercantilism fueled the international rivalry for the exploitation of nature, particularly for fish, furs, and forest products on or near the North American continent.

Fish. During the first decade of the sixteenth century, fishermen from England, France, and Portugal worked the Grand Banks off Canada's eastern shore, and many processed their catches on Newfoundland. By 1578 English fishermen regularly trolled their nets for cod (*see also* 178–79), halibut, mackerel, and haddock over the Grand Banks. London merchants collected the fish and sold them in Spain or the Wine Islands of Madeira, the Azores, and the Canaries. Traders from New England (present-day New Hampshire and Maine) also sold the best grades of fish to the Roman Catholic regions of southern Europe, while they traded the poorer grades to Barbados to feed the slave population. The Treaty of Utrecht

(1713) transferred Acadia, present-day Nova Scotia, from France to England, and British fishermen began to use its coast to dry fish for sale in the West Indies. By 1750 some four hundred vessels employing six thousand men from Massachusetts took an annual catch, primarily cod, valued at a quarter million dollars. Whaling had also become an important industry by the mid-eighteenth century. By 1775, New England produced 30,000 barrels of whale oil annually, most of which merchants sent to Great Britain for lighting lamps, lubricating machines, making soap, and finishing leather.

Furs. The Europeans' exploitation of animals for furs (*see also* 32–33) began as an offshoot of their fishing expeditions for cod



Fish, furs, and forest products, particularly naval stores, were major extractive industries that took advantage of the environment on the North American continent. British and American colonials traded these products to Europe and the Caribbean in an extensive network that supported their economies as well as the slave trade.

off Canada from the 1490s through the 1580s. In 1581 French merchants sent ships to the St. Lawrence River to trade with Native Americans for furs. By 1600, the French traded extensively for furs at their settlement of Tadoussac at the mouth of the Saguenay River on the St. Lawrence. In 1606, the Dutch entered the northeastern fur trade, and the economy of New Netherland (present-day New York) soon became dependent on this trade. The West India Company monopolized the fur trade, although considerable smuggling occurred within New England and Virginia for shipment to London. By the 1650s, the Dutch shipped more than 45,000 pelts annually from the Hudson Valley.

The British entered the fur trade soon after the Pilgrims arrived in 1620. Beginning in the 1630s, the Puritans controlled the fur trade until the beaver became extinct in southern New England late in the seventeenth century. By 1680, the British fur trade centered at Albany, New York, and the government actively worked to protect it from the French. French interests remained along the St. Lawrence River and at Sault St. Marie between Lake Superior and Lake Huron where Native Americans from many western nations met to trade. Montreal served as the French center for the fur trade. The British, however, controlled the fur trade of the Hudson Bay region. By the mid-seventeenth century the fur trade had become an international business with a complex system of management structures and supply chains.

Although the beaver population declined during the first decade of settlement in the English colonies, the fur trade remained important for the French, who penetrated far into Canada trading and trapping until the British drove them from New France in 1763. To the south, deerskins (*see also* 24) for the manufacture of gloves and other leather apparel replaced the beaver and

mink pelts in the international trade as those animal populations declined. During the 1760s the southeastern Native Americans killed more than 1 million deer annually for the fur trade. By the turn of the nineteenth century, British and American fur traders also began exploiting the sea otters along the Pacific Northwest Coast. British traders primarily sold those pelts in Macao, China, while American traders returned to Boston and New York City with their cargoes for use in domestic manufacture or shipment to Great Britain and France.

Timber. The New World was rich with more than just animal life; forests (*see also* 8–9) covered 90 percent of British North America and provided masts for the British navy and merchant marine as well as plank for shipbuilding. In 1651 British ships arrived in Boston to acquire masts for the Royal Navy, and the cutting of white pine trees became extensive in New England by 1665. The British government encouraged such use by paying a premium of £1 per ton on masts, yards, and bowsprits. In 1691, the Massachusetts Charter reserved all trees measuring 24 inches (0.6 meter) in diameter 3 feet (0.9 meter) from the ground for the British Crown.

The North American colonies also gave England an assured supply of timber products to keep its merchant marine and navy strong without relying on customary suppliers in the Baltic, especially Sweden, where international politics and changing alliances could interrupt or close off supply. In 1705

the British government offered a bounty to encourage the production of naval stores and, by 1718, 82,000 barrels of tar and pitch were exported from the colonies annually. The production of naval stores, especially tar and pitch, was centered in the Carolinas. Sawmills also produced large quantities of lumber and staves, the latter used for making barrels for the shipment of tobacco (*see also* 20–21), molasses, rum, and other products. By 1676 Charleston, South Carolina; Portsmouth, New Hampshire; and Boston, Salem, and Ipswich in Massachusetts were major shipbuilding towns.

Great Britain also exploited the North American forests for the smelting of iron ore (*see also* 72–73), which it needed for its army, navy, and industries. Because of the technology of the age, iron could be smelted only with wood charcoal; England had decimated its forests, thus the New World supply was crucial. Previously, England had re-lied on Sweden for iron ingots (blocks of metal) that it processed into various products, but the forests and iron ore deposits of the North American continent presented the opportunity to end English reliance on Swedish iron. American iron furnaces used the forests to fuel the smelters, and innumerable trees were felled for fuel. By 1775, Pennsylvania, Maryland, and Virginia produced approximately 21,000 tons of iron annually; the American colonies ranked third in world production behind Russia and Sweden.

The British, French, and Dutch exploited the North American continent for fish, furs, and forest products, but the fur-bearing animals suffered the brunt of this exploitation. Indeed, the greatest European damage to the North American environment was the decimation of the fur-bearing animal population in the northeastern and southeastern areas of the present-day United States and the sea otter population in the Pacific Northwest.

—R. Douglas Hurt

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Pre-Contact: Indigenous Populations in the United States and Canada

Native Americans are descendants of Eurasian people who crossed the Bering Strait from present-day Siberia to western Alaska via a land bridge during the last Ice Age. The ancestors of Native Americans probably migrated to the North American continent between twelve thousand and sixty thousand years ago; by 9500 B.C., these bands of hunters had completed their migration. The ice-free

corridor permitted movement from north-western Alaska to the Great Plains, and the ancestors of Native Americans moved south with relative ease. On the eve of European contact, an estimated fifty million Native Americans occupied the North American continent, from the Inuit (Eskimo) in the Arctic to a host of peoples in Mexico. Speaking as many as two thousand languages, a great number of complex Native

American cultures had developed, inhabiting the desert Southwest, the humid East, the cool Pacific Northwest Coast, and the cold subarctic. Native Americans adapted to their environments and used the natural resources of their regions.

East and Great Lakes. The Algonquian-speaking cultural groups occupied the eastern seaboard from present-day Nova Scotia to North Carolina, while the



Major Native American cultural groups and lands at the time of European contact.

Source: Adapted from Alice B. Kehoe, *North American Indians: A Comprehensive Account* (Englewood Cliffs, N.J.: Prentice Hall, 1992), 104, 161, 225, 288, 430, 481.

Iroquois claimed present-day central New York and lands into the Ohio Valley. The Muskogean, including the Chickasaw, Choctaw, and Creek, occupied the region from present-day South Carolina and Florida westward across the lower South to the Mississippi River. These Native American groups lived in temporary villages and skillfully used the environment to meet their food needs by hunting, fishing, and raising crops, particularly corn (maize), beans, and squash.

In the region of the Upper Great Lakes, many tribes or cultural groups gathered wild rice, but the Ojibwa also sowed wild rice seed and weeded the crops. Wild rice was a different variety from the numerous varieties of domesticated African rice, which African slaves or their masters introduced to the Chesapeake region and Carolinas during the seventeenth century.

Prairies and Great Plains. When the Europeans arrived in the New World, several Native American cultural groups, including the Caddo, Pawnee, and Mandan, lived on the eastern fringes of the Great Plains because they could not easily traverse or hunt across that vast grassland without horses. These tribes also raised corn, beans, and squash as well as sunflowers and tobacco. During the eighteenth century, horses introduced by the Spanish made their way north from Mexico primarily by trade and capture, and the Sioux (Dakota), Cheyenne, and Comanche, among others, soon spread onto the Great Plains and created a new cultural identity based on buffalo hunting (*see also* 36–37) and the ownership of horses as a measure of wealth and prestige.

Southwest and Great Basin. In the Southwest, indigenous cultural groups, including the Pueblo, O'odham (Pima and Papago), and Yuman, as well as the Navajo who belonged to the complex Apache culture, lived by hunting, gathering, and raising a few crops along river floodplains. Southwestern natives who practiced

agriculture also raised cotton from the Rio Grande to the Hopi country in present-day Arizona. In the Great Basin of Nevada, Utah, and California, Native American bands, such as the Paiutes, lived by gathering seeds of sage, sunflower, and goosefoot (chenopod). They also dug camas (a meadow lily bulb) and wappato (a tuber), for drying and pounding into meal, and they harvested pinyon nuts as well as hunted antelope, rabbits, marmots, and occasionally a few bison and deer.

Northwest. Along the Pacific Northwest Coast, Native American cultural groups, from the Tlingit of southeastern Alaska and the Tsimshian of northern British Columbia to the Wakashan and Salish linguistic families in the south, fished, hunted, and gathered for subsistence. During the late eighteenth century, British and American traders seeking sea otter pelts found the natives to be willing participants in trade, and together they nearly brought the sea otter population to extinction while driving the fur trade (*see also* 32–33) inland for the exploitation of the beaver.

Subarctic and Arctic. To the north, the Inuit lived in the subarctic region from present-day Alaska to Baffin Island and Newfoundland. The Inuit divided into small bands linked by culture and language. In Alaska the northern Inuit are known as Inupait. Along the Arctic coast where the sea froze during the winter, the Inupait's ancestors hunted seals; during the summer they hunted caribou and fished in the Arctic Ocean. Along the Pacific Coast, the sea did not freeze and the Inuit, here known as the Yupik, hunted seals, sea lions, and whales from boats throughout the year. Yupik men also hunted caribou, moose, and fished for salmon, whitefish, cod, and pike. To the south, the Dene, an Athabaskan-speaking people, occupied the region from southern Alaska to the Hudson Bay. The Dene adapted to the forested valleys and primarily depended on caribou for their food supply.

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On the Alaskan Peninsula and Aleutian Islands, the Aleut took advantage of the Japanese Current that kept the water of the Pacific Ocean relatively warm and drew whales, which they hunted, to the area in the summer. The rocky islands provided breeding areas for sea lions, seals, walruses, and birds, which the Aleut also hunted; the absence of sea ice permitted fishing throughout the year. The Aleut harvested berries and kelp for their major plant food, and those who lived on the peninsula also hunted caribou and bear.

At the time of European contact, each Native American cultural group had adapted to its environment, using it for food, shelter, and articles for trade, but the arrival of Europeans would significantly disrupt the indigenous way of life. Native American populations were decimated by European-borne diseases to which they did not have immunity. As Native Americans adopted European plants and animals (*see also* 4–5), they began to use their environment differently, shifting from their earlier forms of subsistence. European demand for furs destroyed fur-bearing populations as Native Americans hunted and trapped them to exchange their hides for European goods. In time, many Native American groups would clash with or retreat from the European peoples (*see also* 24–25) who had vastly different views about the appropriate use of the environment and the use of the natural resources on the North American continent.

—R. Douglas Hurt

Spanish in Florida and the Southwest

In the 1500s the Spanish founded settlements in the present-day U.S. Southwest and Florida. The additional lands enlarged the territorial jurisdiction of New Spain (present-day Mexico), established a defensive zone against rival European powers, and were a possible source of mineral wealth. The indigenous inhabitants of these lands were equally important to the Spanish Crown as potential converts to Roman Catholic Christianity, laborers, mates, tax-paying subjects, and military allies. To establish permanent settlements the Spaniards had to adapt to the environment by creating irrigation networks, devising land policies, and introducing crops and animals suitable to the Southwest's dry climate.

Early Exploration. Spaniards began visiting Florida and the Southwest in the early sixteenth century in search of mineral wealth and indigenous laborers. Explorers on an expedition to Florida in 1513 failed to

find gold, but they did claim the land for the Spanish Crown and attempted to make slaves of Native Americans for shipment to Spain's Caribbean colonies. Alarmed by the establishment in Florida of a colony of French Huguenots in 1562, Spanish officials sent a military expedition to construct a series of presidios (forts) to guard the peninsula's coasts. Accompanying the soldiers were Franciscan missionaries who established Christian missions in northern Florida. Conflicts with Native Americans led the Spanish to abandon most of these settlements except St. Augustine, which is the oldest continuously inhabited European settlement in North America.

The exploration of the Gulf Coast and the Southwest by Spaniards was the unplanned result of an expedition to Florida in 1528 that lost its direction. The written account of a member of the lost party, featuring tales of large native civilizations and

cities of gold in the vicinity of New Mexico, inspired future expeditions. The search for these fabled mines and a desire to convert Native Americans to Christianity eventually led to the establishment of Spanish settlements, Santa Fe and Albuquerque for example, among the Pueblo tribes of New Mexico in the early 1600s.

Settlement. In the seventeenth and eighteenth centuries, the Spanish spread throughout the Southwest as missionaries sought more Native American converts and as a defensive measure against other European powers that were colonizing North America. To claim more land for the Spanish Crown and additional souls for the Catholic church, Jesuit missionaries moved into southern Arizona in the 1690s to work among the Pima tribe. Threatened by French colonization along the Mississippi River and in Louisiana, Spanish officials also sent colonists to establish a series of presidios and Franciscan



Spaniards expanded into Florida from the Caribbean and into the present-day southwestern United States from northern Mexico beginning in the early sixteenth century. The settlements included missions, presidios (forts), and towns.

Source: Adapted from Helen Hornbeck Tanner, ed., *The Settling of North America: The Atlas of the Great Migrations into North America from the Ice Age to the Present* (New York: Macmillan, 1995).

missions throughout Texas in the 1710s. The forts served to protect the missions from attacks by Native Americans and to guard against incursions by rival European powers. This defensive colonization led to the founding of San Antonio and Nacogdoches in Texas as well as Tubac and Tucson in Arizona. A rumored Russian invasion of the Pacific Northwest caused Spanish officials to establish a string of protective settlements in California, including four presidios, twenty-five missions, and several towns, among which were San Diego, Monterey, and Los Angeles.

The Southwest's arid climate limited the spread of the Spanish throughout the borderlands. Scarcity of water restricted the construction of Spanish settlements to areas along rivers where the colonists could build irrigation networks. The need for water led Spanish colonists in each settlement to build irrigation channels before constructing permanent homes. A special administrator in each town oversaw the irrigation system and distributed water rights among residents, each of whom had a responsibility to build and maintain the community's irrigation channels. The scarcity of water made allocations of water rights for grazing and irrigation equally as important as distributions of land, if not more so. Land grants to individuals and communities were typically larger in arid regions than in areas where animals could graze on lush vegetation. The tracts were usually long, rectangular parcels instead of square grants, with small segments bordering rivers to assure the greatest number of grantees with access to water.

The large distances between towns in the borderlands and population centers in central New Spain also limited the growth of settlements. Colonists throughout the Southwest had difficulty obtaining trade goods and military supplies because Spain's mercantile system required all trade to pass through official channels, which resulted in delays and scarcity. The restrictions on trade undercut the incentive to produce surpluses and forced Spanish communities to rely on trade with Native Americans, pay exorbitant prices for common goods, or engage in contraband trade with French or British colonists.

Colonists throughout the borderlands replicated the urban layouts familiar to them by organizing towns along Spanish models. Most towns were built near presidios and missions because civilians needed military protection and religious counsel. The center of each settlement was the main plaza, which was lined with government structures, church buildings, and shops. Surrounding the main square were residential streets laid out in a grid pattern, common pasture, municipal property, and private farmlands. Although the lack of building supplies and money for capital improvements often prevented colonists from achieving the ideal city design, the Spanish urban model influenced the layout of their most prominent towns at the end of the eighteenth century: St. Augustine, San Antonio, Santa Fe, and Los Angeles.

Natives. Faced with a labor shortage throughout the Southwest, the Spaniards competed with other European colonists for control over Native Americans. The friars

gathered the indigenous peoples in missions and sought to convert them to Christianity. In addition to religious instruction, the missionaries educated Native Americans about Spanish society and language in an effort to transform them into loyal Spanish subjects. Newly converted Native Americans provided the labor to both feed the mission population and finance its operations by constructing the missions' buildings, harvesting crops, tending livestock, and processing raw materials into finished goods. Failing to find large mineral deposits, Spaniards focused on subsistence agriculture (including corn, wheat, and cotton) as well as sheep and cattle breeding. Civilians secured Native American workers through *encomiendas* (legal titles to their labor), *repartamientos* (rotary labor draft), or *rescate* (ransoms paid for Native American captives). The dearth of workers combined with Spanish soldiers' low pay prompted the soldiers to capture Native Americans and sell them into slavery.

Impact. As the first Europeans to settle the Southwest and Florida, Spanish colonists transformed the environment and culture of the regions. They introduced European crops, livestock, buildings, and tools as well as Spanish law, language, societal norms, and the Roman Catholic religion. Interactions with the region's indigenous peoples, in turn, changed the Spaniards. Spanish society altered as European colonists adopted indigenous crops, construction methods, and hunting techniques. Spanish culture also changed with the incorporation of indigenous religious, language, and dietary practices, and, perhaps most important, as a result of the increase in the number of children resulting from Spanish-Native American unions. Future communities would continue to see the legacy of the Spanish-Native American intermixture in the place names, building styles, food, and population of the Southwest and Florida.

—Omar Valerio-Jiménez

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