

Introduction

This report describes the social, cultural, and economic status of the Southern Appalachians. It is one of four technical documents that resulted from the Southern Appalachian Assessment (SAA), which was conducted to help federal land management agencies plan for the future.

The Southern Appalachians contain the largest concentration of federally owned land in the Eastern United States. Most of the land was acquired early in the 20th century. National forests, the largest single designation of public land in the region, were created to protect the headwaters of major streams from erosion, sedimentation, and floods caused by abusive logging and agricultural practices. The area's national parks were created to preserve areas with nationally significant scenic and recreational qualities. In addition, the Tennessee Valley Authority was established to control flooding and produce hydroelectric power from the Tennessee River system.

Early in the century, the Southern Appalachians were considered a poor area with an undereducated, undernourished, and underemployed population. Pockets of poverty still persist, but the mountains are now considered an excellent place to visit, to settle and raise a family, and to retire.

The federal land that once was purchased so cheaply has become an enormous asset to visitors and residents. The primary purposes of the SAA were to determine the health of the natural ecosystems in the area and to provide data that will help determine how the public land should be used, protected, and managed in the years ahead.

Much of the work in the SAA focused on the area's natural systems – its forests, its air, and its water. This portion focuses on human dimensions and human activities. The history of human influences is outlined, and recent changes in human communities and human influences are described in some detail. Since the Southern Appalachians are a tourism and recreation destination for people throughout the nation, supplies of and demands for

recreation are analyzed. Finally, the areas of public land where human activities are mostly restricted – the roadless areas and officially designated wildernesses – are described.

Ecosystems are important in themselves because they provide essential life functions, but they also are important because they are the places where people live, work, and play. In attempts to understand ecosystems, scientists often try to exclude human influences, but outside the world of research, human influences are pervasive.

The area for the SAA is the Southern Appalachian Mountains in Virginia, North and South Carolina, Georgia, Alabama, eastern Tennessee, and a small portion of West Virginia. The work was divided among four subteams that examined: (1) communities and human influences, (2) the timber economy, (3) outdoor recreation supplies and demands, and (4) roadless areas and designated wilderness.

For each of the four efforts, numerous meetings were held in the study area to discover public concerns. These concerns were used to frame specific questions that would be addressed in the assessment. These questions guided both the SAA and the structure of this report. In all but a few cases, the answers are based on information that existed at the start of this assessment.

All four subteams gathered far more information than we could present in this report. Much of the quantitative information was analyzed with a Geographic Information System to display patterns across the counties of the region.

Social and Cultural History of the Southern Appalachians

Studies of Appalachia have usually focused on the people, the geography, and the economy. Historically, the income of its residents has been described as lower, and their health status and educational attainment as poorer than in the rest of the nation. In the past, this region was often described as an American subculture.

Appalachia has certain unifying features, the most distinctive of which are its mountains (Ergood and Kuhre 1976). The mountains make access difficult, limit the amount of level, buildable land, and increase flood dangers. The general north-south orientation of the Appalachians restricts east-west access and divides the region into a number of north-south valleys.

Much of the nation's bituminous coal and virtually all of its anthracite are found in the Appalachians. Drastic reductions in employment in the region's mines have left many communities in serious economic straits.

The farmers of the region have had to cultivate steep slopes and narrow valleys that are less productive than the more level, richer soils in other parts of the nation. High-density plantings of cropland, a short growing season, a lack of level land, and high losses of topsoil to erosion have caused a continuing decline in the region's agricultural economy. Most Appalachian farms are small and undercapitalized and yield low incomes to their owners.

Another unifying feature of the Appalachians is the nature of its inhabitants. To a significant degree, the region's people are of Anglo-Saxon extraction. However, other ethnic groups, including Native Americans and African Americans, are represented in the region.

A fifth unifying feature is chronic economic problems that have plagued many parts of the region. In most counties, incomes were relatively low and unemployment and underemployment rates were high. Serious labor surpluses led to high rates of outmigration of people seeking improved economic opportunities.

We will examine some of these features as we take a closer look at a portion of this region – the Southern Appalachians. Our study area takes in several counties in north-eastern West Virginia. It includes all of the western portions of Virginia and North Carolina, and all of eastern Tennessee. Its southern boundary includes the northwestern tip of South Carolina, northern Georgia, and northeastern Alabama.

We will look at the settlement of the region – who the settlers were, how they lived, the uniqueness of their culture, how they adapted to their surroundings, and how their institutions were formed.

Origins of Appalachian Identity

Long before there was a place called Appalachia, cultures flourished and faded in the southern mountains. According to Hudson and Tesser (1993), the first inhabitants came to Appalachia about 9000 B.C. during the Paleoindian period. They were small bands of nomads, who hunted big game such as mammoth and mastodon. Diverse forests supported a number of cultures that relied on combinations of hunting, fishing, and gathering. These cultures possessed woodworking tools, fish-hooks, harpoons, awls for basketry, and needles, together with stone vessels (Spencer, Jennings, and others 1977).

Later, agriculture developed, using native plants of the region, such as gourds, squash, and sunflowers. Seed crops, which are no longer known in their cultivated forms, were also important. The earliest of these were goosefoot and marshelder (Yarnell 1995).

By 2500 B.C., most of the groups depended heavily on agriculture for their survival. About 500 years before the first Europeans arrived in the Appalachians, dramatic changes occurred among the southeastern Indians – changes that signaled the beginning of the Mississippian Period (Hudson and Tesser 1993). The Mississippian civilizations left behind impressive burial mounds that are still being studied today (Hudson and others 1989).

The Mississippian culture was so named because its influence was very strong along the Mississippi River and its tributaries. People of this culture lived throughout the Southern Appalachians, as well as in present-day Oklahoma, Missouri, southern Illinois, and Ohio (Burt and Ferguson 1973).

Life was very different than in earlier cultures. For the first time, the bow and arrow was the major weapon and hunting tool. Farming was all important, and corn was the major crop.

In addition to the burial mounds each major Mississippian center had one or more temple mounds, which were surrounded by village dwellings and cornfields. At the top of the main mound was the temple containing the holy fire, which was kept constantly burning. Most mounds were no higher than 30 feet and no more than 250 feet around at the base, but some were as high as 75 feet and 600 feet around. Usually temple mounds were set to face each other, or the burial mounds, across

an open plaza that served as a meeting place for ceremonies and games (Burt and Ferguson 1973).

When Europeans entered the Southern Appalachians, they found a number of Indian groups so populous and well organized that they called them nations.

Many different languages were spoken among the nations in the region. Four predominant language families were Algonquian, Iroquoian, Siouan, and Muskegon. With the exception of Muskegon, these languages were also spoken by people in other regions.

The Cherokee Nation was the largest tribe in the region. Some of its cultural practices included a religious system with a priesthood, rituals and ceremonies centered around corn, a sacred perpetual fire symbolizing the sun, and temple mounds. In addition to village or town life, a military system existed in which skill in war could advance an individual in social rank. Government was usually by a chief or group of chiefs, and in some tribes the office was so honored that the chief was carried everywhere on a litter. Women were influential in council, and in some places they cast the deciding vote for war or peace (Burt and Ferguson 1973).

The first Europeans who explored the Appalachians were Spaniards looking for treasures in the mid-1500s. Spanish expeditions in the Southeast were led by Lucas Vasquez de Ayllon (1526), Panfilo de Narvaez (1528), Tristan de Luna (1559-61) and Juan Pardo (1566-68). However, the most famous Spanish expedition through the Southern Appalachians was by Hernando de Soto (1539-1543). After hearing stories from the Appalachee Indians in Florida of great stores of gold and silver in the mountains, de Soto came to the Appalachians in the mid-1500s. Although he searched extensively, he found no treasures. The first in a long series of travel narratives written about the Appalachians was by a member of de Soto's expedition – a man known today as the Gentleman of Elvas. Some accounts of history state that the Appalachians received their name from de Soto, who named them after the Appalachee Indians.

The Native American population in the Southern Appalachians was about 1 million when the first Europeans arrived. In addition to the Cherokee were the Powhatan, Shawnee, Catawba, Choctaw, Tuscarora, Seminole, Tunica, Yuchi, Natchitoches, and the

Chitmacha. Each had its own distinct language and culture and many of their words have become a part of our modern language. Words such as hammock, opossum, bayou, hominy, and persimmon are all of Indian origin. The names of many southern states are of Indian derivation: Alabama, Arkansas, Kentucky, Mississippi, Tennessee, and Texas. The same is true for the cities of Chattanooga and Tupelo.

As European settlements were established, the Indians were forced to relocate, and mass expulsions to the Indian Territory occurred between 1820 and 1840. At least 50,000 Cherokees, Chickasaws, Choctaws, Creeks, and Seminoles were driven from their home areas in several southern states. The Cherokees called their route the "Trail of Tears" because of the suffering and high mortality rate on the journey from northern Georgia through Tennessee, western Kentucky, southern Illinois, southern Missouri, and into Oklahoma. In 1989, the Native American population in the Southern Appalachians was estimated at 195,000 (Wilson and Ferris 1989).

Along with the Native Americans, African-Americans were present in the region long before the major migration of European settlers. Black Appalachians, together with the Spaniards and the French, fought against the Appalachee and Cherokee native tribes in the 1500s. Historical records from this period indicate that Black Appalachians were some of America's first blacks – appearing almost a century before the landing at Jamestown (Turner and Cabbell 1985).

One of the first group of blacks to settle the area were the descendants of the first black arrivals to the New Land and of runaway slaves. This group of settlers were also relatively well assimilated, having become landowners at the time of emancipation. A second wave were the blacks who came from the lowlands of the South to work in the mines and on the rail lines. The largest number of blacks in the region migrated between 1900 and 1930, most notably from Alabama to southeastern Kentucky, West Virginia, and southeastern Virginia. Another generation of blacks was born in the region after 1925, the time of the precipitous decline of the black population in the coal mining sections, and a fifth generation of Black Appalachians was born after World War II (Turner and Cabbell 1985).

While Appalachia is usually identified as the

home of the “white mountaineer,” it is estimated that more than 1,400,000 Appalachians – about 1 in every 14 – are black (Turner and Cabbell 1985).

Early European Settlers

The most profound and lasting European influence in the Appalachians came in the 18th century when the Scotch-Irish flooded into the area. By 1700, one of the most heavily populated of the European settlements along the Atlantic shore was in the Chesapeake region. During the next century, additional footholds were established, especially in places such as Charleston, WV. In the 18th century, 250,000 Scotch-Irish and 200,000 Germans migrated to the colonies and spearheaded a movement from the Philadelphia area down the Great Valley of Virginia, then westward across the mountains (Wilson and Ferris 1989).

Anne DeWitt Watts (1981) describes the settlement of the region in this way: “In 1732, Joist Hite Of Pennsylvania, with his family and 16 other families, traveled down the Shenandoah (Great Valley) to settle in an area south of present-day Winchester, VA. This is thought to be the first settlement by white people east of the Blue Ridge Mountains. Other groups followed, going further south, and soon there was rapid settlement and “considerable” population.

From that point on, European settlers continued to filter into the Appalachian area. In his dissertation on “The Southern Mountaineer in Fact and Fiction,” Cratis Williams (1972) discusses these various patterns of settlement in Appalachia: “The valley of Virginia was being settled in the 1730s, the valley of East Tennessee a generation later, and favored spots in the Blue Ridge country of North Carolina by 1790. But such immense mountain areas as West Virginia, Eastern Kentucky, the Cumberland Plateau region in Tennessee, and the mountainous country of North Georgia were not settled in any kind of permanent way until after 1800.”

The early settlers in the Southern Appalachians were generally of three ethnic origins: Scotch-Irish, English, and German. Large numbers of Ulster Scots left the British Isles and came to America during the early part of the 18th century. They originally came to Maryland and Pennsylvania but found that the land along the Delaware and the Chesapeake had been occupied by early arrivals from England. Therefore,

they moved in a southwestward direction. Following the great Appalachian Valley, they journeyed southward into the Piedmont and mountains of North Carolina and Tennessee. These were the descendants of Scots who had survived hundreds of years of struggle against invaders who, repeatedly, had pushed them back into the hill country of the Scottish border, but had never conquered them. They were fierce warriors, willing to die for their freedom. The uncertainty of living in these barren lands taught them the value of hard work and frugal living. When the Protestant Reformation challenged the authority of the Catholic Church, they supported the Protestant cause and the stern doctrines of John Calvin. Their strong religious faith played a central role in their lives, and they withstood persecution for their beliefs. Consequently, their commitment to the Presbyterian Church grew even stronger.

When King James I of England decided to colonize northern Ireland, he chose some of these lowland Scots to help with the effort. Hundreds of Scottish families were moved to Ulster and given land. They flourished as farmers and then as manufacturers of woolen and linen cloth. James’ plan failed, however, because the Scottish Presbyterians had little influence on the independent spirit of the Irish Catholics. Furthermore, the English industrialists soon became angered by the Scottish competition in linen and woolen goods. Under pressure from the industrialists, Parliament took measures to eliminate the trade from Ulster, and the Scottish industries were ruined. Thousands were left without work, and many lost everything they had. There was only one alternative to poverty and starvation – migration to the New World. Such men and women, who had worked hard and made do with what they had, were good settlers for the new land (Boland and others 1979).

Another group of settlers, equally large in number, was of English origin. These settlers were of dissenting faiths, such as Baptists, Presbyterians, and Quakers. Much like the Scots, the English settlers had an intense devotion to the constitutional principles of liberty, law, and justice.

A third and smaller group of settlers, the Germans, came during the second quarter of the 18th century. They fled war and religious persecution to find land and a better life in America. The Germans were generally

recognized as the best farmers in America, and many of them were also skilled craftsmen. Welsh, Irish, Swiss, French Huguenots, and other northern Europeans were among additional ethnic groups that settled the region in the 18th century. Cultural conflicts soon developed between these new immigrants and the more well-established New Englanders and Philadelphia Quakers. The conflicts led newcomers to look for land in the backcountry.

By the mid-18th century, the Mississippian Indian culture had been replaced by the Cherokee. War between the European settlers and the Cherokees was common, but cooperative efforts, especially in education, also occurred. As Sharlotte Neely (1975) points out, the Cherokees themselves encouraged the establishment of white-run schools in the early 19th century: "More formal education, at least in the southern part of the Cherokee area, came early in the 19th century, and surprisingly the establishment of white-run schools among the Cherokees of Georgia was encouraged by the Indians themselves. The Cherokee Council was assertive about the proper activities of white missionaries, and in 1802 the mission of the Moravian Society of United Brethren was threatened with banishment if measures were not taken to board and educate young Indians. The Moravians thereupon reluctantly diverted much of their time from purely religious activities to educational activities, and in the fall of 1804 the first Cherokee school began operations with eight students."

The Moravian educational efforts were disrupted by the enforced removal of the Cherokee Indians from North Carolina to Oklahoma in the late 1830s. By 1880, however, the Society of Friends (Quakers) had contracted with the U.S. Government to establish schools for Cherokee children. These efforts, which promised equal education for both sexes and encouraged the training of Cherokees to become teachers themselves, continued until the end of the 19th century, when the Quakers, to settle a dispute between the Cherokee and Quaker leaders, turned over the operation of the schools to the federal government (Neely 1975).

The idea of Appalachia as a unique place arose in the late 19th century. After the Civil War, a sense of national awareness swept the country. People became fascinated with the "hidden corners" of the country, where cultural

norms differed from the mainstream. Editors of periodicals, which also came into their own during this period, were quick to respond to reader interest by publishing countless travel narratives, sketches, and stories about these "hidden" regions; thus, the local-color school of writing was born.

The first story about Appalachia appeared in 1873. It was written by Will Wallace Harney, a physician who recorded observations from his first trip through the Cumberlands. The article, published in *Lippincott's* magazine, was entitled "A Strange Land and Peculiar People." Although no factual observations in his article support his title, the title and the idea stuck, and Appalachia became defined by its "otherness," as Henry Shapiro (1978) notes in *Appalachia on Our Mind*. Proclaiming that he had journeyed through a land of "geological and botanical curiosities" where the natives were characterized by marked peculiarities of the anatomical frame, Harney's article heralded the advent of numerous works of fiction and non-fiction about Appalachia.

Culture of the Southern Appalachians

Culture is the whole system of language, values, beliefs, knowledge, and norms that people in a society create. It is the way that they organize themselves to provide meaning for their lives. Culture is the whole system of practices and procedures that tells us what we can expect from each other. It lays out the rules of our society.

The early settlers shared many common characteristics that illuminate their way of life. Many of these traits can be found in modern-day residents who trace their ancestry back to early settlers.

These people were proud of their cultural heritage and proud of overcoming many obstacles to their survival. Because they had borne many hardships and struggled for their existence, they were willing to make the necessary sacrifices to get a better life for their children. They had a vision of America as a land of promise and independence, where they could become their own rulers – the masters of their own fate.

Their sense of pride made them very sensitive to the patronizing attitudes of "outsiders." Religion was an integral part of their lives, and they tended to be strongly individualistic and

self-reliant. Because they were conservative, they moved cautiously towards change before accepting that which was new or different.

A deep devotion to family gave rise to a kinship system that controlled politics, schools, and churches. The people loved the home place, the community where they were born and grew up. Although they might leave the area to find a job, they usually came back to retire, and when they died they were buried in the family cemetery. These same characteristics are evident today.

Even though Appalachian residents tend to be reserved towards strangers, they are courteous and hospitable when they become acquainted. They use politics as a means of expressing their opinions and securing their rights (Boland and others 1979).

The pioneers who settled the Southern Appalachians loved the land. They loved the majestic mountains, the beauty of the forests, the good and plentiful water, the rich soil of the valleys and coves, and the cool summers and mild winters. The region reminded many of them of the European homelands that they had left behind.

Until late into the 19th century, life for residents of the Southern Appalachians was tied to the land and its resources. During their migrations, most of the early families had only what they could carry on their backs or by pack horse. Later, when immigrants came by wagon, they were able to bring more bedding, utensils, tools, seeds and plants, and such items as a spinning wheel and loom. But for many years, all needs had to be supplied by the family from the resources at hand. Forests provided materials for houses, barns, household furnishings, tools, fences, and fuels. The first homes were simple cabins made of logs and covered with boards split from logs. When sawmills were brought in, sawn lumber replaced logs as a building material. The settlers turned walnut, cherry, maple, and oak lumber into furniture for their homes and tools for their farms. Good soil in the valleys and coves, and even on hillsides until erosion carried it away, provided food for the family and feed for livestock. Each family made its own clothing. Grazing sheep on the hillsides provided wool, and women spun the thread and wove the cloth for garments and blankets. Quilts were made from scraps and unworn parts of discarded clothing. Leather for shoes and harnesses was made by tanning

hides of cattle; deerskins provided a softer leather for britches and jackets.

Perhaps more than in other rural areas, physiography shaped the development of culture and social patterns in the mountains. Each community occupied a distinct cove, hollow, or valley and was separated from its neighbors by a rim of mountains or ridges. Land ownership usually terminated at the ridge top, reinforcing the community's identity and independence. Hillsides were often considered to be "public land" open to the use of all members of the community. Economic and social activities were largely contained within these geographic "bowls." Households relied upon themselves or their neighbors for both the necessities and pleasures of life. The land was such a dominant factor in the mountain culture that neighborhoods often drew their names from the creeks or branches that penetrated the settlement (i.e., Spring Creek community, Walker's Branch community), and which further divided the larger community into sub-communities (Boland and others 1979).

Although few modern-day residents make their living directly from the land, many continue to share this value. The land is to be used, to be cultivated, to bear the fruits of one's labor. Generally, those who place a different set of values on the land, and who want to make different uses of the land, are looked upon with skepticism. In the Appalachians, the belief is widely held that private ownership of land conveys a legal right to do with the land as one pleases.

A majority of long-term residents do not view land as something to be bought or sold. Rather, it is viewed as a common heritage, held by individuals on behalf of the family and community. Local customs extend rights of free access to and use of the land to all those who live in the area. Local norms allow for the communal right to gather firewood and blackberries, or to hunt and fish on what some may consider as their private property.

One can easily see potential conflicts when these norms run up against different norms from new residents or from various government agencies.

During the days of the pioneers, the family was at the core of social life. It provided the context for development of politics, government, and organizations for religion, education, and other social relationships. The family and

kinship group influenced almost every aspect of mountain life. For the mountaineer, the collective welfare of the family was a primary value, and individual needs were subordinated to the needs of the family.

After reproduction, the primary responsibility of the family was economic – to provide the subsistence of family members. In the Southern Appalachians, the family not only functioned as a self-contained economic unit, but it dominated the economic system. The mountain farm was a family enterprise, with family members as proprietors, laborers, and managers; and satisfaction of the needs of the family was the sole purpose for running the farm (Sorokin 1965).

As parts of a working and consuming unit, family members depended heavily on each other. The heavier work of clearing land and building houses was shared not only by the nuclear family, but often by other relatives and neighbors. In the daily rhythms of farm life, each family member had well-defined roles and responsibilities. Individuals were allowed to pursue their own needs and interests, but these were not allowed to take precedence over the collective needs of the family. Intense family loyalties not only insured the survival of the group, but provided a strong feeling of security and belonging for individuals.

This close-knit family system also dominated education in the mountains, especially after Reconstruction, when state support for public education declined. The family also provided practical on-the-job training and experience in interpersonal relationships. Whatever formal education the mountain youth acquired in the 19th century usually occurred in the small community school, which was often taught by an aunt or uncle and attended primarily by neighbors and relatives. Opportunities for higher education were always available outside of the mountains (and in some cases within), but advanced schooling was a luxury that only the wealthier families could usually afford. For most mountaineers, education took place within the family and community. This type of education provided continuity for the culture, reinforcing traditional values and beliefs (Frost 1915).

Other social institutions functioned in a similar manner. Religion was organized around family and kinship units, and a few families often dominated the neighborhood church. These families maintained a strict independence

from mainline denominations and usually drew their ministers from the local congregation. Religious beliefs and practices varied among communities and churches, and differences over doctrine and interpretation of the scriptures led to a proliferation of small churches throughout the region. The mountain church was an important center of social control, legitimizing and sustaining the moral standards of the community. In rural areas, where law enforcement was sparse, the family and its church were responsible for policing the wrong-doing of community members. Violations of social standards cast a shadow not only upon the individual but also upon the larger family unit. Thus, social order was maintained not so much through legal institutions and governmental agencies as through kinship and primary family group relationships.

The basic unit of political organization was the kinship group. Family membership, rather than economic class, determined the voting patterns of mountain communities, and family patriarchs became the brokers of local political power. Office seekers measured their support by the size of their family, neighbors, and kin, and office holders considered the interests of families to be among their top priorities. Although such a system was not always efficient, it encouraged a high rate of participation and a feeling of local control. Throughout most of the 19th century, the influence of government on the lives of the mountain residents was marginal and had much less impact than the family group itself.

The Economy of the Southern Appalachians

The backbone of the preindustrial Appalachian economy was the family farm. Each mountain homestead functioned as a nearly self-contained economic unit, depending upon the land and the energy of a single family to provide food, clothing, shelter, and other necessities of life. Whereas farms in the Midwest and non-mountainous South moved steadily toward single cash crops, mountain family farms remained essentially diversified and independent. By 1880, Appalachia contained a greater concentration of noncommercial farms than any other area of the nation.

The typical mountain farm of the preindustrial period consisted of a mixture of

bottomland and rugged mountainside. On the average, these farms contained about 190 acres, of which about 25 percent was cultivated, about 20 percent was cleared pasture, and the remainder was forest.

Corn was the staple crop, occupying about 50 percent of the acreage under cultivation, but oats and wheat were also harvested as were hay, sorghum, rye, potatoes, buckwheat, and other crops. By the late 19th century, large portions of the mountain hillsides had been cleared (usually by burning or girdling of trees) for the raising of cattle, sheep, mules, and fowl. But the greatest proportion of the farm acreage remained in woodland, and it was here that the family hogs grazed throughout much of the year.

New economic prosperity after the turn of the century accelerated the exploitation of Southern Appalachian forest and mineral wealth. Private companies accumulated large holdings of timberland. A 1908 report on the Southern Appalachians estimated that 50 percent of its timberland was owned by large companies. A 1901 report estimated that 75 percent of the region remained forested and that 10 percent was in virgin growth (Yarnell 1995). From 1900 to the 1920s, this forest cover would be substantially reduced by heavy cutting. Sawmills served by narrow-gauge logging railroads spread throughout the southern mountains, even to the spruce forests at the highest elevations. Overhead cables and yarding machines speeded the removal of trees in rough terrain, and new bandsaws speeded milling. With this logging came an increase in soil leaching, erosion, flooding, and forest fires. In 1908, the Secretary of State's report estimated that 86 percent of the acreage in the Southern Appalachians was cleared, in various stages of regrowth, or in young, secondary forests. According to the report, "practically all of it, whether cut or not, had been burned" (Yarnell 1995).

In addition to hastening deforestation, the economic upswing after 1900 tripled the production of coal in the Southern Appalachians. Eastern Kentucky and southern West Virginia were primary coal regions; secondary centers were in southwestern Virginia and eastern Tennessee. The population of the coal counties in southern West Virginia increased 400 percent from 1890 to 1920. Increased demand for coal during World War I promoted further expansion of the coal industry. Both the

number of mines and the rate of production per mine rose to meet the needs of wartime industry. Peak years of production were between 1915 and 1926.

Even today, the economy of the Southern Appalachians is greatly influenced by mineral and energy resources. Coal, oil, and natural gas provide most of the power for industrial, commercial, and personal activities, such as transportation, heating, artificial lighting, and refrigeration. Crushed stone and aggregate provide the base of and surfacing for most of the roads, railways, and airports. Limestone is used for purifying water, treating sewage, and conditioning soil for agriculture (Collins and others 1995). Many different minerals go into the manufacture of items ranging from chainsaws to china, from white-water rafts to recliners.

Coal accounts for about 45 percent of total mineral production in the region. Coal mining is centered in the extreme western counties of Virginia. In Buchanan, Lee, Tazewell, Dickenson, Russell, and Wise Counties, it accounts for up to 47 percent of the total number of jobs. Between 1960 and 1993, coal production rose from 26,694 tons to 40,096 tons. Because of mechanization, the total number of miners decreased by 40 percent over the past 20 years.

Miscellaneous nonmetallics form the next set of important minerals extracted in the region. These nonmetallics include barium, perlite, phosphate, feldspar, mica, olivine, gemstones, lead, and zinc ore. The bulk of these minerals are found in Tennessee and North Carolina, but they are mined across the region.

After 1900, extractive industries such as logging and coal mining competed with mountain farmers for the use of the woodlands. During the first three decades of this century, private companies acquired large tracts of mountain woodland. Entire valleys were given over to railroads, coal mines, and coal towns, while forested slopes were denuded to provide timber for underground mines and lumber for coal towns. By 1930, only 60 percent of the land in Appalachia was still owned by farm families (Eller 1978).

Losing their woodlands to extractive industries, mountain farmers turned from livestock grazing to growing corn. While they raised corn to feed their families, some also earned a living by selling corn whiskey or by taking part-time jobs in the timber and mining industries.

The rapid depletion of forest resources in

the Southern Appalachians led many to advocate better conservation practices. In 1902, the National Hardwood Lumber Association and the National Lumber Manufacturer's Association came out in support of a Southern Appalachian forest reserve. This idea was endorsed by many large corporations, as well as the American Forestry Association (AFA). The AFA led the efforts to establish national forests in the East (Yarnell 1995). Severe floods such as those on the Monongahela and Ohio rivers in 1907 heightened public concern for watershed protection. Proponents of eastern forest reserves linked the two issues, resulting in the passage of the Weeks Act in 1911.

The Weeks Act cleared the way for establishment of National Forests in the East. In 1911 and 1912, 11 national forest purchase units were designated in the Southern Appalachians, in portions of Georgia, North Carolina, South Carolina, Tennessee, and Virginia. Virgin timber covered 30 percent of the lands purchased in the first 5 years. The rest was partially or completely cut over and the proportion of purchased land that was cut over rose with time. Most of these areas had lost population and were out of the hands of local residents, but some were caught in a web of overlapping land titles. The National Forest Reservation Commission chose not to use condemnation to acquire land, fearing that it would cause ill will and undermine public support for conservation. Most of the conflicts were resolved, but the Smoky Mountain Unit was abandoned due to title difficulties. In 1923, a movement began to have the area designated a national park instead.

Between 1911 and 1916, the Forest Service purchased much of the land that became the Pisgah, Nantahala, Chattahoochee, Cherokee, and Jefferson National Forests. The Vanderbilt estate provided the foundation of the first eastern National Forest, the Pisgah, in 1916. In 1918, northern Alabama received its first national forest, now known as the William B. Bankhead National Forest. Additions that followed included the Monongahela (West Virginia), Chattahoochee (Georgia), Sumter (South Carolina), Talladega (Alabama) and Cumberland (Kentucky), later to be renamed the Daniel Boone.

During the 1920s Congress passed additional legislation facilitating the expansion of National Forests in the East. The Clark-McNary

Act of 1924 allowed the purchase of land for growing timber. It also broadened the joint Federal-State work in fire protection and forestry. In 1930, the Knutson-Vandenberg Act provided funds for reforestation and timber stand improvement. (Allen and Sharpe 1960).

Through the 1920s, the renewed movement for a National Park in the Southern Appalachians gathered momentum. After the Organic Act of 1916 created the National Park Service, the Southern Appalachians was one of the first sites considered for a new park. The Secretary of the Interior formed the Southern Appalachian National Park Committee in 1924 to study the question. Over 20 sites were under consideration, including the Great Smokies, the Grandfather Mountain-Linville Gorge region, and the Skyland district of the Shenandoah. Finally, in 1926, Congress passed a bill authorizing the creation of two parks in the Southern Appalachians – Shenandoah National Park and Great Smoky Mountains National Park. A third eastern park was also included at Mammoth Cave in Kentucky (Yarnell 1995).

Three new federal entities for conservation joined the Forest Service and National Park Service in 1933: the Agricultural Adjustment Administration (AAA), the Tennessee Valley Authority (TVA) and the Civilian Conservation Corps (CCC). The AAA bought "submarginal" farmlands and resettled farm families on better farms elsewhere. This program was later shifted to the Farm Security Administration and finally dismantled due to insufficient funding.

The Tennessee Valley Authority (TVA) was created in 1933 by Franklin D. Roosevelt's New Deal administration. The area that it was named for, the Tennessee Valley, extends for 650 miles along the Tennessee River and its tributaries, which together form America's fifth largest river system (Van Fleet 1987). The Tennessee Valley includes parts of seven states: Alabama, Georgia, Kentucky, Mississippi, North Carolina, Virginia, and, of course, Tennessee.

Along its crescent-shaped path, the Tennessee River flows through some of America's most beautiful mountains and forests and through some of the South's most prominent cities. But it also flows through many polluted, poverty-stricken areas. This economic and ecological diversity presented a challenge and an opportunity to proponents of regional planning in the 1930s. President Roosevelt intended for TVA to serve as the model for future regional

development across the country.

The TVA was designed to improve regional conditions – by enabling river navigation, controlling frequent flooding, and producing electricity – and to serve the nation as a testing ground for new ideas. From the beginning, the TVA was an experiment in regional planning and in government. When President Roosevelt signed the TVA Act in 1933, he created a unique organizational design: a federally owned corporation that was part government and part business. In a message to Congress supporting the TVA, Roosevelt charged it with “the broadest duty of planning for the proper use, conservation, and development of the natural resources of the Tennessee River (Valley) . . . for the general social and economic welfare of the nation” (Van Fleet 1987).

For more than 60 years, TVA's responsibilities have been as varied and diverse as the region it serves. For example, in its early years, the agency designed and built high-voltage lines to carry electricity to homes, schools, and factories throughout the Tennessee Valley. Today, it operates the country's largest electricity-producing system and maintains its role as an innovator in the utility industry.

The TVA has also developed techniques for measuring and reducing air pollution for coal-burning power plants, and many utility companies use these techniques today. The TVA's pioneering efforts have even extended to the research and development of new fertilizers and fertilizer production processes. Methods based on these processes today produce about three-fourths of all fertilizers in the world.

The CCC, the Federal Emergency Relief Administration, and the Works Progress Administration provided jobs to thousands of workers. The first beneficiary of this labor supply was the Forest Service, which was in charge of at least half of the CCC workers until the program ended in 1942. The first camp in the nation was located on the George Washington National Forest, and additional camps were located throughout the region. They were run by the Forest Service, TVA, the National Park Service, and the Soil Conservation Service. Workers planted trees; improved timber stands; built recreational facilities, trails and telephone lines; and worked as firefighters. They also did similar work in various state parks.

As mountain families abandoned their farms after World War II, the coal companies

expanded their landownership and introduced the new technique of strip mining. Companies found that bulldozers and power shovels removed the overburden covering coal seams at a fraction of the cost of underground mining. Unfortunately, strip mining removed soils and vegetation, as well as overburden, transforming mountain lands into barren slopes (Caudill 1963).

The introduction of strip mining, the expansion of federal forests, and the migration of marginal farmers contributed to the decline of agriculture in the Appalachians. For example, the area of harvested cropland in the Appalachian Mountains of Kentucky, West Virginia, and Tennessee plummeted from 600,000 acres in 1939 to 35,000 acres in 1974 (Otto 1983). In the contemporary mountains, agriculture is essentially confined to larger valleys, where level terrain permits intensive commercial agriculture for cash crops and livestock. The traditional practice of open-range grazing has vanished, and patch farming has survived only on a limited number of small farms.

The Appalachian Redevelopment Act, passed in March of 1965, established the Appalachian Regional Commission (ARC). The goal of the ARC is to provide a cooperative federal-state framework for planning coordinated social and economic development for the region. The Act was passed in response to the severe economic and social conditions that existed in large sections of Appalachia in the late 1950s and early 1960s.

In part, this distress sprang from the rapid mechanization of coal mining, the sharp decline in farm employment, and shifts in markets and technology for several other basic components of the Appalachian economy. For example, between 1950 and 1960, employment on railroads in Appalachia dropped by 40 percent as a result of the shift from trains to highway transportation and changing rail technology (Appalachian Regional Commission 1970).

Appalachia historically has possessed a highly specialized economy, heavily dependent upon the exploitation of the region's abundant supply of natural resources. Still half rural, the region is deficient in service and light manufacturing employment.

In 1945, 10 percent of Appalachia's labor force worked in coal mines. In the 1950s, however, new technologies made it possible to

mine more coal with far fewer workers. Moreover, other fuels, such as oil, gas, and nuclear power started to capture many of the markets once served by coal. In 1970, mining accounted for only about 3 percent of all the jobs in Appalachia, although in the central part of the region, over 20 percent of the labor

force was mining coal. Since Appalachia lacked alternative job opportunities to absorb those displaced from its traditional industries, about 2.2 million persons left the region during the 1950s (Appalachian Regional Commission 1970).