

1997

## The impact of the coal industry on McDowell County, West Virginia

Charles Peter Davis  
*San Jose State University*

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**THE IMPACT OF THE COAL INDUSTRY  
ON MCDOWELL COUNTY, WEST VIRGINIA**

**A Thesis**

**Presented to**

**The Faculty of the Department of Geography**

**San Jose State University**

**In Partial Fulfillment**

**of the Requirements for the Degree**

**Master of Arts**

**by**

**Charles Peter Davis**

**May 1997**

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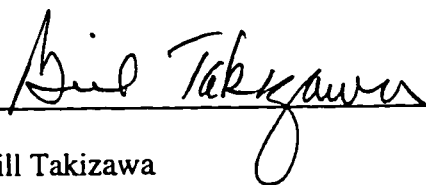
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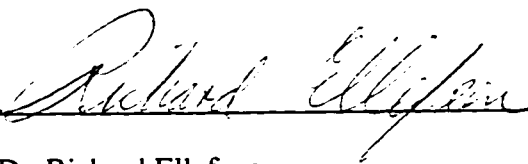
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## **ABSTRACT**

### **THE IMPACT OF THE COAL INDUSTRY ON MCDOWELL COUNTY, WEST VIRGINIA**

**by Charles Peter Davis**

McDowell County demonstrates the truth that regions are dynamic rather than static phenomena. The ties which connect regions with other regions vary with intensity and scope. How a region responds to changes in those ties reveals the complexity of such ties. In the case of McDowell County, as well as the rest of southern West Virginia, the ties have been simple—coal is the only important economic resource of this region.

The coal industry transformed McDowell County from a remote frontier into an integral part of industrial America. The county's identity as an important coal producing region has been dependent on exogenous factors, namely external demand and capital. Since the 1950's, there has been a large reduction of labor needs due to automation and production cutbacks. The lack of other industries to absorb surplus labor has meant out-migration and under- or unemployment. The economic prospects for the county are bleak.

## **Acknowledgments**

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## Foreword

The dynamic of change over time and the effects of changes on places is of importance to geographers. McDowell County, with the rest of southern West Virginia, rose from the backwaters of the national economy to become an important component in the nation's industrial machine. Its subsequent descent into a "has been" status is one of the great "might have been" stories of American economic history. For despite the large investments made by industrialists to extract its coal, the region's failure to develop a diversified economy, establish local control over the factors of production, and the lack of an alternative resource base, all contributed to long-term economic collapse once the forces of economic rationalization deprived the region of the jobs it came to depend on.

The coal industry came to a sparsely settled area, erected an entire society that formerly was nonexistent—imported population, established towns, erected an infrastructure—and built a regional economy based on the mining of coal, initially under the assumption that a thriving agglomeration economy based on local coal and iron ore would follow. Once technological changes allowed this industry, by the 1950's, to dispense with most of those mining the coal, general economic collapse followed, since there was no other industry capable of absorbing these displaced workers.

The great exodus of population that has occurred over the last four decades, as people have left the region in search of jobs, is suggestive of a *ghost town* scenario: the presence of something of value (profits and jobs) brought people in to extract it, followed by abandonment once the conditions which brought the people there ceased to exist, in this case the jobs. The fact that the region as a whole still produces an abundance of coal, however, suggests more of a *dead-beat daddy* scenario: although mining employment has drastically declined, the society created by the coal industry continues to exist, albeit in

reduced circumstances. Yet the industry has reduced its local involvement and responsibilities to a bare minimum.

Economic rationality has severed the economic ties of this society with the rest of the nation, leaving it either to live in the past and cease to exist or find a new meaning for existence. The resources for this latter option, however, seem to be nonexistent. A transitional economy has heretofore failed to develop, unlike other, more diversified regions of decline such as the anthracite region of eastern Pennsylvania. With the exhaustion of its most productive reserves, McDowell County has suffered more than its neighbor counties because of the great success it experienced during the early decades as a coal producer.

In order to manage a regional development problem it is imperative first to have a thorough understanding of the nature of the problem. Southern West Virginia, and McDowell County in particular, represent a “might have been” regional economy that has degenerated into a “has been” region of dereliction. This thesis is an attempt to gain knowledge of how one county in the southern Appalachian bituminous coal region has been impacted by the industry that created it and has abandoned it.

## **One: Introduction to The Problem**

McDowell County is located in southern West Virginia where the Smokeless coalfields of southern Appalachia lie (Fig. 1.1, 1.2). The bituminous coal industry brought this region into the industrialized world. The quality of its coal is among the highest in the world: high in carbon and low in volatiles, ash and sulfur, these coals have been prized for both metallurgical and steam-raising uses for over a century. This region's fortunes, however, have changed over the past several decades due to technological advances and shifts in the U.S. economy. These changes have resulted in a reduction in coal production in the county and a drastic reduction in coal mining employment in the region.

The earliest of these technological developments were the transition to petroleum fuels by the steam navies of America and Europe and the emergence of the diesel locomotive after World War I, resulting in a reduction in the demand for coal. World War II brought with it a tremendous surge in coal demand; after the war, however, improvements in mining technology that had been developed in the 1930's were implemented in earnest. The result was a reduction of labor needs and, hence, a reduction in employment. Moreover, since the 1950's the U.S. Manufacturing Belt has ceased to exist as America's industrial core, largely due to changes in the international economy, namely the global division of labor (Agnew 1987). This development has left behind a "rust belt" as manufacturing in general, and heavy manufacturing in particular, either went overseas or shifted to the "Sun Belt." There has been a resultant decline in demand for metallurgical grade coals, the Smokeless fields' forte.

For decades McDowell County was touted by the state as the "world's largest coal producing county" (West Virginia Senate, Clerk's Office 1956). The combination of lower demand for its coal and a dramatic reduction in demand for its coal mining labor has left

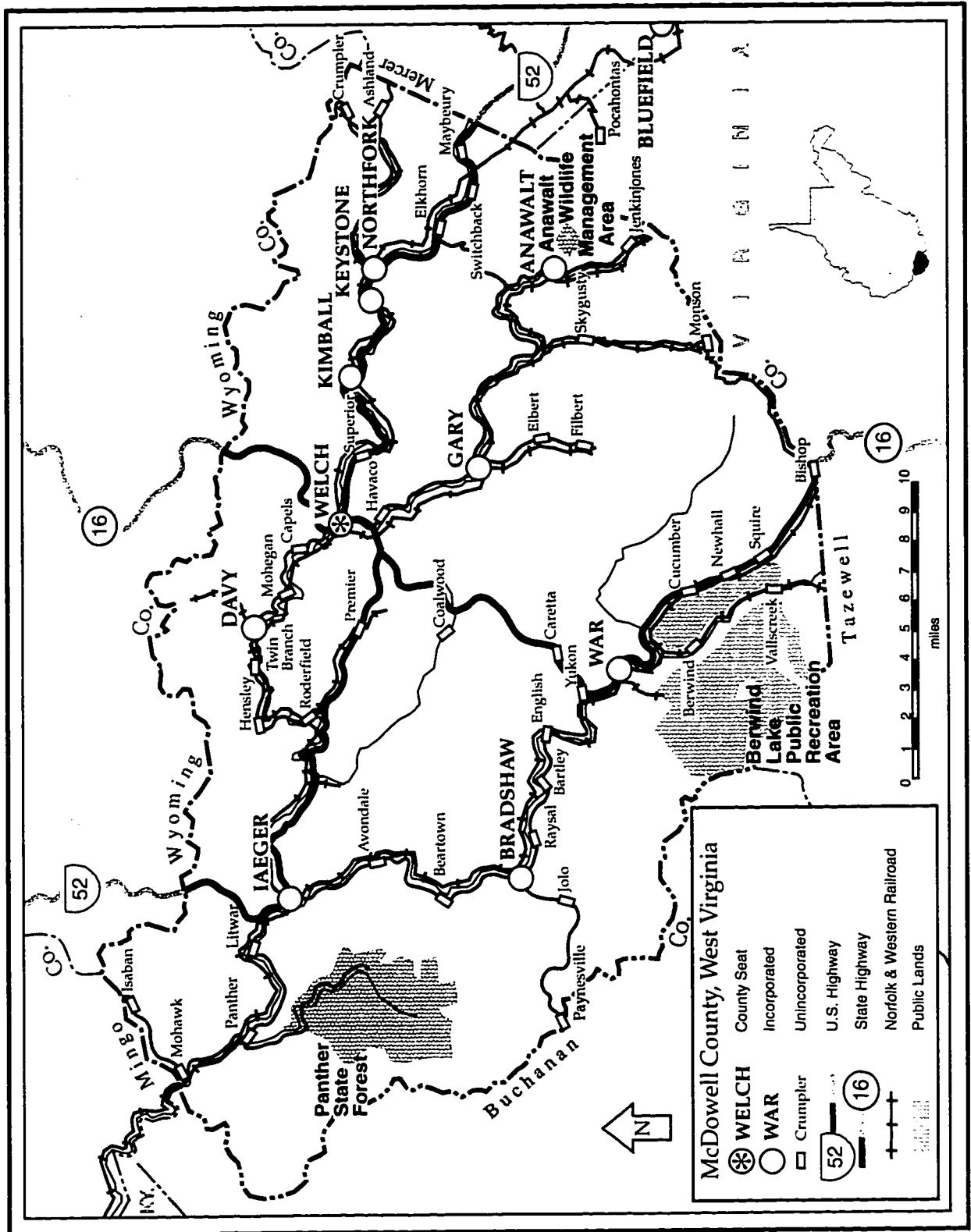


Fig. 1.1. McDowell County, West Virginia

**Fig. 1.2. West Virginia Counties, and the Smokeless Coalfields.**

McDowell County in a state of economic decline. Though still not the poorest county in the state in terms of per capita income, it has experienced the most precipitous decline of any of southern West Virginia's coal counties, simply because it had so far to fall. From being the top-ranking coal producer in the state it has dropped to eighth of the state's thirty-three coal producing counties. McDowell County has been superseded by other counties in the state, such as Mingo and Logan to its west and Monongalia in the north of the state. Although state production has remained high, McDowell County's share has decreased (Fig's. 1.3, 1.4) from 15.25 percent (20,912,416 tons) in 1955 to 4.4 percent (5,891,336 tons) in 1993, a 71.83 percent decline in total county production, 1955-93 (West Virginia Coal Association 1994).

This decline in production has had a detrimental effect on the county's economic outlook. Since this region's economy is based on this one resource, the general responses have been under- or unemployment, welfare, or out-migration.

Just as this single industry has been responsible for the development of this county, so too has its decline resulted in economic collapse. The cyclical nature of the coal industry has made this an inconstant but downward spiral, buffeted by minor booms and busts, but always trending downward. Development came rapidly during the last two decades of the nineteenth and the first two decades of the twentieth century; decline has occurred just as rapidly. Yet the world is a far different place today than it was in 1880—no less for McDowell County than the rest of the nation. The coal industry created a society—built coal towns, imported population, established infrastructure, and modernized what essentially was a frontier. This one resource has so dominated this region that without it, and the benefits it brings in the form of jobs and investment, there is nearly nothing left for its inhabitants, for these people cannot return to the lifeways of their preindustrial forebears.

# West Virginia Coal Production: 1890 - 1993

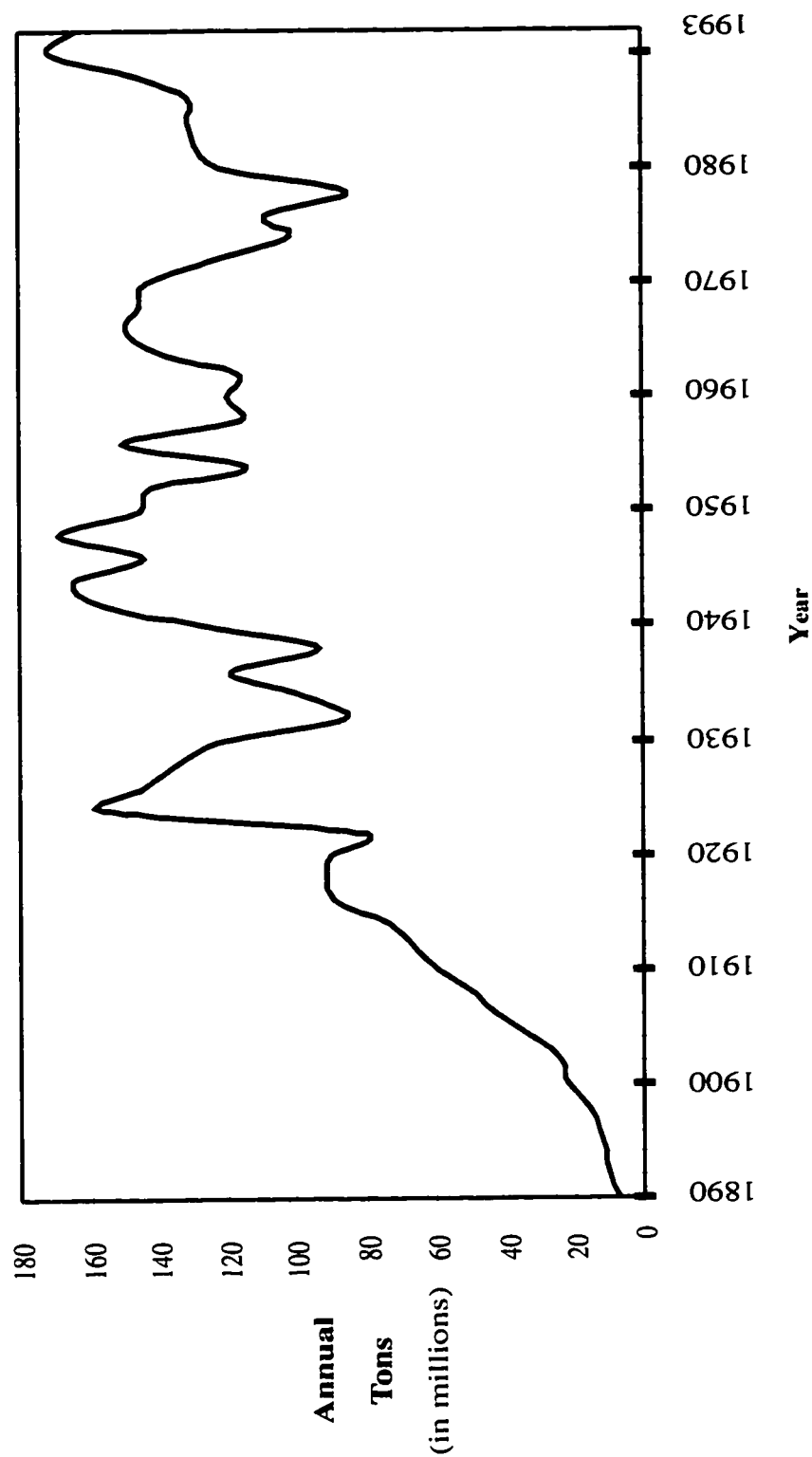


Fig. 1.3. West Virginia Coal Production, 1890-1993. Data source: West Virginia Senate, Clerk's Office (1994), West Virginia Coal Association (1994).

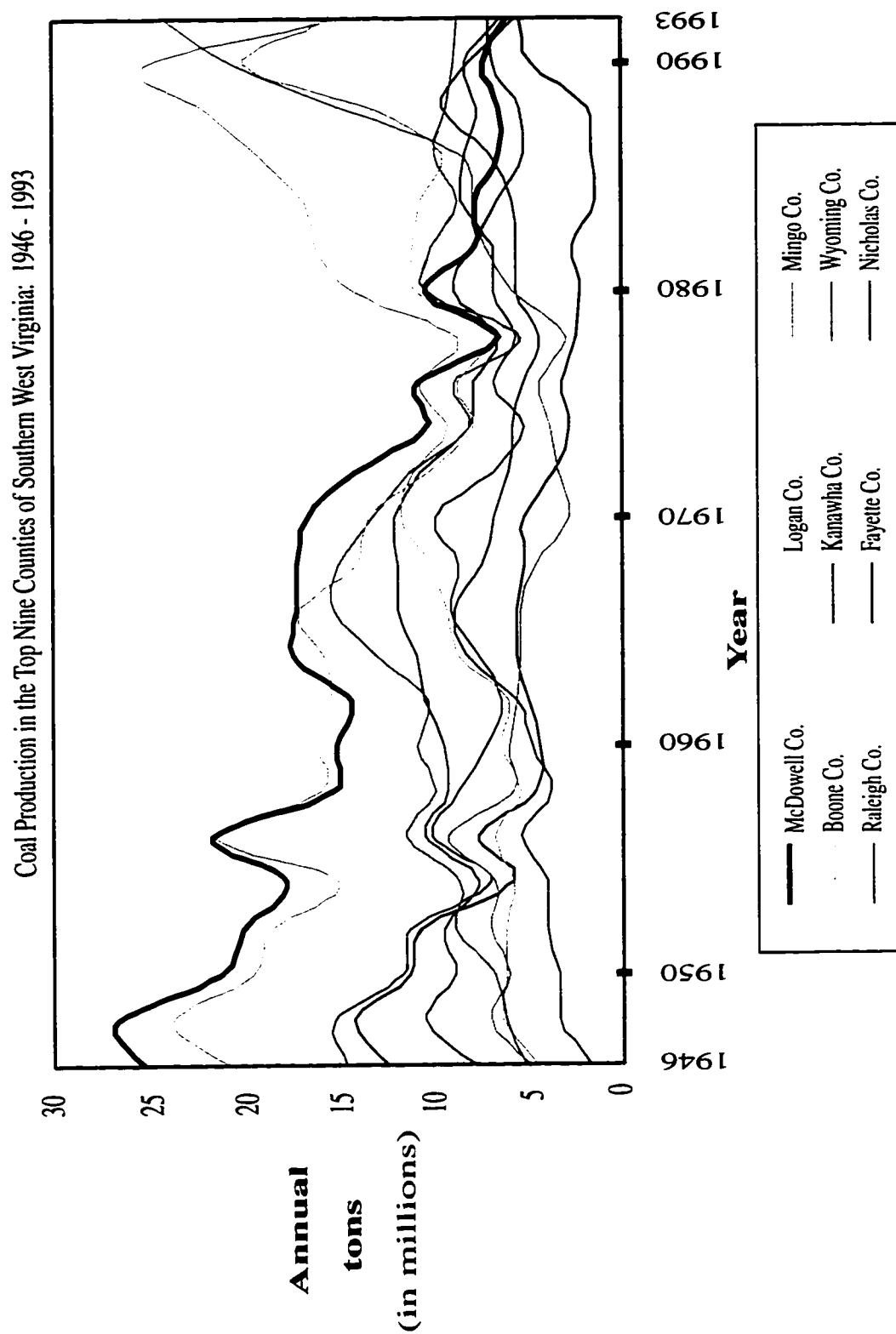


Fig. 1.4. Coal Production in the top nine coal producing counties of Southern West Virginia, 1946-93.  
Data source: West Virginia Senate, Clerk's Office (1994), West Virginia Coal Association (1994).

Geographers writing on the regional impacts of changes in the coal industry have concentrated on the problems of the anthracite region of eastern Pennsylvania (Deasy and Griess 1965, Marsh 1987, Miller 1989). Though there has been some discussion of the bituminous region of the Appalachian Plateau since World War II (Clements 1977, Deasy and Griess 1967, Gibbard 1962, Raitz and Ulack 1984), treatment either has been cursory or is outdated. Detailed treatment of southern Appalachia as a troubled region largely has been the realm of historians (Corbin 1981, Salstrom 1994, 1995), sociologists (Ergood and Kuhre 1991, Weller 1966), and popular polemicists (Caudill 1963). The history of the early development of the southern West Virginia coal fields has been dealt with in considerable detail (Eller 1982, Lambie 1954, Sullivan 1989, Tams 1963, Thomas 1971), such that the spatial patterns involved are well-known and readily available to researchers. However, there has been little recent discussion of the geographical impacts of post World War II changes in the coal industry on the southern Appalachian coal fields. Since this region over the last few decades has entered the national consciousness as a problem area (e.g., the 1960 Presidential race, the War on Poverty, and the motion pictures *Harlan County USA* and *Matewan* ), a discussion of the dynamics of its decline is in order.

### **The Anthracite Region of Pennsylvania**

The United States was a century behind Europe in the adoption of coal as an important resource. The predominance of agrarianism over industry, the lack of an adequate transportation infrastructure to move such bulky cargo, and the abundance of local timber resources combined to ensure that charcoal, water, and wind-power would fuel America's entrance into industrialization. In fact, the malleability of charcoal iron was considered ideal for the tools needed by farmers and artisans. Moreover, the location of coal reserves was inconvenient to the early centers of industrialization (Thomas 1971).

Once the railroad began to penetrate the interior in the 1830's and 1840's, and timber resources began to peter out, anthracite came to assume its place in the developing industries of eastern Pennsylvania. Anthracite fueled the American steel industry until bituminous coal took over during the last quarter of the nineteenth century (Benhart and Dunlop 1989, Miller 1989). It also was used as a domestic fuel. It was considered a vast improvement over wood due to its heating capabilities and its clean-burning qualities.

The industrial demand for anthracite was sharply reduced once the coking process for bituminous coal was introduced from England in the 1870's. The steel industry has since been dominated by coke made from bituminous coals. After the 1880's the domestic market became the primary user of anthracite. The increasing use of oil and natural gas during the early part of this century for domestic needs brought about the demise of the anthracite industry, which reached its peak around 1920 when over ninety-five percent of the needs of the middle Atlantic and New England states were supplied; by the 1950's this had shrunk to thirty-two percent, while today it is virtually nil (Bakerman 1956, Miller 1989).

Contributing to anthracite's poor competitiveness was rising production costs. For one thing, the higher-value, large-sized coals used for domestic use had become depleted, and the small-sized coals, which drastically had been reduced in value through competition with bituminous coal, had come to dominate production. Furthermore, these smaller-sized coals required more processing due to the higher incidence of impurities, thereby further reducing value. Another problem was the increasing presence of water in the mines, requiring greater expenditures to pump it out. This became a tremendous problem after the 1920's, just as oil and natural gas were assuming a greater share of the domestic market. With the decline in production came a decline in pumping, thence an increase in the water problem. With an increase in the presence of water came the collapse of the barrier pillars

left to check water intrusion. With lowering anthracite values, pumping costs became prohibitive.

The importance of mining employment varied greatly in the anthracite counties of Pennsylvania. In 1930, mining employment ran from a high of 47.1 percent of the work force in Schuylkill County to a low of 9.7 percent in Columbia County. The average ran at 35.5 percent (Bakerman 1956). Thus, dependence on anthracite mining was not uniform throughout the region. Out-migration became a major option, especially for young males, during the period of major decline, 1930-50. The growth of other industries like small manufacturing helped to absorb some of the surplus labor, especially women.

The apparel industry provided increasing employment from the 1930s until the late 1960s when the peak was reached. During that period, employment in the apparel industry in Luzerne County increased from 6 percent to about 40 percent of the total. Since the 1960s, the apparel industry has declined because of lower-cost, foreign competition...While employment in mining has nearly disappeared and manufacturing has declined significantly, the tertiary industries—transportation and other public utilities, wholesale and retail trade, finance, insurance and real estate, and services—have exhibited dynamic growth...Between 1965 and 1986, employment in service industries has more than doubled...(Miller 1989:171).

The long-term trend, however, has been the transition of these small mining towns into bedroom communities. According to Marsh (1987), there has been a tendency for these people to continue to reside in the old mining communities while working elsewhere. Attachment to place here is very strong, despite the fact that the local economy is in a state of advanced decline. When they do move they do so begrudgingly and to nearby areas.

Commuting is a central fact of life in the anthracite region...Many drive to Harrisburg and beyond (a hundred kilometers and more each day) to work for the state, in mills, or for utility companies.

...People get by, maybe too well, because they are so good at getting by. That skill is their heritage from the miners and the miners' wives in the lineage (350).

Herein lies the fundamental difference between the anthracite region and southern West Virginia. The lack of alternative local industries or relatively nearby urban areas to absorb surplus labor has made the anthracite model of transition impossible to follow. Southern West Virginia was not let down gradually, as the anthracite region was. Rather, it was hit hard by its loss of coal mining jobs. "Attachment to place," as Marsh calls it, is no less among the residents of McDowell County, just more of a luxury.

Another fundamental difference from the anthracite region is that the amount of bituminous coal produced in southern West Virginia remains high. Coal production for the state of West Virginia since 1950 has remained constantly high, varying between a high of 166,715,271 tons in 1991 and a low of 84,697,048 in 1978 (a strike year). The all-time high was in 1947 at 173,653,816 tons and the low was in 1863, the first year of statehood, at 444,648. Yet, despite the fact that West Virginia is still producing coal at "boom" figures, the economy of the bituminous region is in a state of apparent dereliction.

### **The Bituminous Region of Southern West Virginia**

Until it was industrialized in the late nineteenth century, the central and southern sections of the Appalachian Plateau physiographic province remained the most remote and economically underdeveloped regions of the eastern United States (Dunaway 1996, Salstrom 1994, 1995). Largely bypassed by the economic progress of the nation as a whole, the region significantly began to participate in the national economy only after it was industrialized by the coal industry in the 1880's. When contractions in coal mining employment occurred in the post World War II era, the great vulnerability of this region became all too apparent. It proved to be ultrasensitive to changes that were occurring in the coal industry. The inability of its inhabitants to maintain themselves without high levels of mining employment and coal industry investment became a national problem by the 1960's.

There have been three general interpretations of the region's problems: one, that the region is naturally destined to serve as an economic hinterland; two, that the region's problems are due to the influence of outside interests; and three, that there is something wrong with the people themselves.

**Natural Disadvantages** Settlement of the Appalachian Plateau in the late eighteenth-early nineteenth centuries came by way of the river systems—the New, Monongahela, Kanawha, Big Sandy, and others—filtering upstream, filling up the scant, narrow bottomlands and then expanding into the “hollers” (small upland valleys) once the best sites had become filled. The dendritic patterned streams which had developed these valleys created a topography difficult to traverse, making communication difficult and leaving its inhabitants relatively isolated. Moreover, the lack of abundant farmland prevented this region from having any promise as a center for commercial agriculture, and guaranteed that it would either have to industrialize or occupy a peripheral or marginal role in the national economy. As Rice (1985) explains, “...abundant timber, coal, salt, oil, natural gas, iron, and silica resources pointed toward an industrial rather than an agricultural way of life” (90). Some areas of this region had the locational advantages to prosper from industrialization, namely Pittsburgh and the upper Ohio Valley, while other areas did not. One of those which did not was southern West Virginia which, despite the quality and quantity of its coal and timber resources, had to remain a frontier until capital interests from other regions developed designs on it.

Before the coal boom hit southern West Virginia at the close of the nineteenth century, coal production in the state was concentrated in the Kanawha Valley. There, it had been used since the early 1800's in the production of salt. By the 1830's there were iron works in the north, notably around Wheeling and Morgantown, where glass and pottery works also were successful early industries (Corbin 1981, Dunaway 1996, Rice 1985).

These activities, however, utilized local sources of coal, preventing the emergence of a broad industrial development based on coal. It was not until the southern fields were opened that such development would flourish. In the meantime, the economy of southern West Virginia floundered as the subsistence agriculture upon which it was based experienced increasingly hard times.

According to Salstrom (1994) the economy of the region was dominated by a system of "subsistence-barter-and-borrow," in which economic gain was based on voluntary reciprocity among networks of kith and kin. Economic security was the rule and these people took advantage of exogenous demands for livestock to earn money.

In Appalachia's early period subsistence came easily and an entrepreneurial attitude was common. There were no major markets close by, and grain in particular was hard to export from the region, but by feeding grain to livestock, Appalachia's farmers managed to export large numbers of animals every autumn from the early 1800's until the Civil War. Secure in their subsistence, Appalachia's early farmers tended to be actively acquisitive...When a profit seemed in the offing, enterprise tended to manifest, but any threat to subsistence naturally demanded priority (47,52).

Two developments acted to disrupt this system. The first was population growth. Between 1840 and 1850 the population of the Plateau increased around sixty-two percent; between 1850 and 1880 it increased 156 percent. This increase placed greater strains on existing cropland as per capita farm acreage decreased from 34.2 in 1850 to 21.3 in 1880, while during that same period improved acreage increased from 4.3 to 5.3 as these farmers slash-and-burned their way upslope. The second development was the decreasing competitiveness that was gripping nearly all farmers in the eastern U.S. as western farms became more productive. Two choices greeted these farmers: either migrate or suffer a decline in living standards. The latter became the chief option for farmers on the Appalachian Plateau, while those of the Ridge and Valley physiographic province, who were more dependent on commercial agriculture, chose the former. Free land, cheap

transportation, and economies of scale acted to boost the fortunes of midwestern and plains farmers to the commercial detriment of eastern farmers. And yet, Plateau families continued to grow, and land continued to be subdivided, and marginal subsistence farming became more and more the rule (Salstrom 1994, 1995).

Food production decline began during the 1860's but remained good enough to provide subsistence—though with a lower living standard—until the mines opened in the 1880's. This provided a new means of earning needed income, and many men entered the wage economy as part-time laborers (Corbin 1981, Salstrom 1994, Sullivan 1989). This opportunity came at a fortuitous time, for erosion was beginning to have an impact on levels of productivity. Though there were still, in the 1880's, vast tracts of virgin timberlands remaining, slope conditions were prohibitive to long-term success. Had industrialization not come when it did, it is quite possible that deforestation and erosion would have accelerated and massive out-migration would have begun to depopulate this region two generations earlier than it has.

When the mines opened up in the 1880's, the local men readily took advantage of employment opportunities, leaving the bulk of the farm work to be done by the women and children.

Some of these farmers no doubt entered the mines in an enterprising spirit—intending to use their labor in the mines (as it could be used on the land) to accumulate a degree of surplus wealth...The new outside financed industrial development provided many mountaineers with their only alternative to long-distance migration (Salstrom 1994:12).

During these early decades population increased phenomenally. Of all the Smokeless counties (McDowell, Wyoming, Raleigh, and Fayette) McDowell County increased most dramatically: 137.5 percent from 1880 to 1890; 156.8 percent from 1890 to 1900; 155.3 percent from 1900 to 1910; 43.3 percent from 1910 to 1920 (Sullivan 1989). This was due to two causes—the importation of labor from Europe and the rural South, as

coal production surged, and the continued practice of the natives to have large families. This latter trend was bound to continue as long as farming continued to be the economic staple of this population and as long as farming continued to be labor-intensive. Describing the Cumberland Plateau area of eastern Kentucky, Caudill (1963) wrote:

All in all, the 'creek and holler folks' bred a new and vastly heightened population surge during the same years the [coal] industry was importing trainloads of new families. These men and women of the native stock who continued to till the land produced sons and daughters of their own who built homes in the dwindling spaces along the narrow bottoms and up the hollows.

Great numbers of these mountaineers worked for the coal companies...Such 'poor land' farmers might struggle to retain the old agricultural modes, but they were in the grip of forces which were soon to make those modes impossible (147-48).

When production cutbacks following World War I and during the Depression occurred, it was the immigrant population that was the first to leave the coal fields. Because of this it was not until mechanization and production cutbacks due to industrial shifts occurred that the problem of surplus labor was felt. When this occurred, the vulnerability of being dependent on forces outside the region became painfully real. Demographic stabilization has thus been a recurrent problem for the southern Appalachian bituminous coal region, as geographic disadvantage has asserted and reasserted itself.

Agriculture proved to be a boon to the region's industrialists, even if it proved insidious to the region's residents. Lacking the sophistication and knowledge to anticipate the changes to come, the farmer-miners failed to plan for the day when jobs in the mines would be unavailable and the hillsides would either no longer be accessible or unable to supply their food needs. The coal operators, nonetheless, benefited as a result of the low labor costs which resulted from having an abundant labor force that produced the bulk of its own food needs. For not only did the local natives grow most of their own food, but so

too did the residents of the mushrooming coal towns—European immigrants, former sharecroppers from the South, and relocated natives alike.

Part-time farming subsidized the coal industry just as surely as part-time mining subsidized the natives' increasingly self-destructive agriculture. Not only were vegetable gardens grown, but livestock was kept as well—pigs, chickens and dairy cows were common features of the early coal towns. In fact, the coal operators encouraged such activity, offering prizes for the best kept or most productive gardens (Corbin 1981, Salstrom 1994, Sullivan 1989). Moreover, Prohibition created a minor boom for grain production, bringing an alternate source of cash income for the hillside farmers (Caudill 1963).

Cheap labor enabled the operators to market their coal at highly competitive prices, despite the need to transport this coal to distant markets. In McDowell County, the close associations between the Norfolk and Western Railroad (N&W) and the mine operators resulted in a marketing advantage that would last for decades, ensuring that the widely sought coals of this area (dominated by the justly famous Pocahontas #3 seam) would remain available at competitive prices. This situation would remain in effect—low labor and transportation costs and high production volume—until the first permanently felt blows came with the New Deal's wage and price policies. This proved to be the beginning of the end of the competitive advantages of southern West Virginia coal, particularly McDowell County coal.

Due to battles with the Supreme Court over the legality of New Deal relief and recovery programs, it was not until 1937 that the National Labor Relations Act and the Second Guffey Act "...became the signal for a heightened pace of mechanization for Appalachia's mines" (Salstrom 1994:89), by instituting higher prices and higher wages, thereby lowering production. The locational disadvantages of McDowell County thus predominated once again. Although World War II brought a tremendous surge in

production before mechanization could be effectively employed, this boost proved to be the swan song for McDowell County's coal production, which would irreversibly trend downward for fifty years thereafter.

**Outside Control** The earliest indication that this region was sensitive to exogenous factors occurred as the result of federal banking laws of the Civil War years (Salstrom 1995). This effectively dried up local sources of cash, as state banks were prohibited from circulating their own currency. Thence the region became dependent on distant, outside sources of investment from older, stable centers of capital accumulation. This development put a damper on livestock roundups for export since there was little cash available. This combined with population growth and the decline of agricultural competitiveness to push these farmers deeper into subsistence patterns.

When outside investment in the form of coal mining operations came to the region, it proved to be all pervasive, the region essentially having been cash-starved for a generation. Some of the early operators came from the more opportunistic and savvy natives. Yet even they were unable to compete with the larger outside capital interests, and many moved on after maximizing their fortunes (Salstrom 1994, Sullivan 1989). For the most part, however, this region was inundated by outsiders equipped with the resources to readily impose their will on the existing order.

It was relatively easy for these early developers to gain ownership of lands because the natives lacked the understanding or the resources to engage in legal battles to secure their lands once speculators had purchased century-old deeds; these had been declared invalid, reclaimed by the state and then sold to the early settlers decades before. Through local judges speculators were able to evict those native residents whom they were unable to buy out at low prices. Part of the fault here lay in the failure of many of these people to obtain proper title to all the lands they claimed; formal patents were obtained for only a

small part of the lands they needed to make a living (Caudill 1963, Corbin 1981). By the turn of the century, absentee landowners had come to own the majority of the land in several of the southern West Virginia counties. Some sixty percent of McDowell County thus came to be owned by outsiders (Corbin 1981).

According to Sullivan (1989), the early coal operator became the “big man” in the coal towns—as landlord and employer. Methods utilized to maintain control over the miners included “armed guards, black lists, and martial law,” as well as a system of intelligence to inform them of goings on within the work force. The early operators were especially wary of unionization efforts, fearing an end to their control and the cheap labor upon which they had found their fortunes. During these early decades the operators had little to fear in this regard, however, for as long as labor was cheap and plentiful the miners had little bargaining power, and as long as the miners’ lives in the coal towns were better than the lives they knew before, union organizers would have little success in this region (Corbin 1981).

Even the operators themselves were under the ultimate control of the financier, for whom the operator was merely an infrastructure establishing tool. When competition among these small operators led to direct involvement and control on the part of these upstream agents during the early 1900’s, the operators’ lack of “integrated bureaucratic management” (Sullivan 1989:6) proved disadvantageous. Despite their local successes the operators “...found themselves facing opponents bent upon rationalization as well as consolidation. The new men in the industry, in many cases career managers brought in at the behest of outside financiers, followed a more streamlined road to profit” (6). The independent operators and their company towns became peripheral under this new order, eventually disappearing.

One problem associated with outside interests having such a controlling influence on local development has been the lack of economic diversification. Anything other than

the extraction and transport of coal out of the region at a profit was anathema to the financiers.

As mining continued to expand after the turn of the century, miners' real wages increased, but social investment lagged behind the needs of the growing population...Moreover, the success of the coal industry tied the area's railroads...to coal transportation. Income from coal flowed outward in the form of profits for non-resident owners and miners' expenditures for necessities, and resident coal operators reinvested their earnings in more mining. Consequently, southern West Virginia failed to evolve toward a more diversified stage of area development (Thomas 1971:2).

Absentee land ownership is viewed by some as a major culprit in the region's poverty today. According to a study conducted by the Appalachian Land Ownership Task Force (1981), land ownership patterns explain why there are bottlenecks to this region's abilities to adjust to changing economic circumstances. Limited opportunities remain for the region's residents today due to the unavailability of usable land.

The tax rolls of eighty Appalachian counties, more than 55,000 land parcels, were examined by the Task Force. In general, it was found that there was a high concentration of land ownership in these counties; fifty-three percent of the area was owned by one percent of the owners. Also, land and mineral ownership was found to be dominated by out-of-state or out-of-county interests—seventy-five percent of the area and eighty percent of the minerals—while locals had little ownership or access to land. Moreover, large corporations were found to be the major owners, with 40 percent of the land and 70 percent of the minerals. Corporate ownership was heaviest in the coal producing counties, while government ownership was high in recreation- and tourism-based counties, while individual ownership dominated agricultural counties.

Absentee ownership was found to be most detrimental to local interests in the coal counties. Lands under active production produced jobs but little else, since the profits and value-added manufacturing employment went elsewhere. Lands not actively being mined

went idle, their use capabilities unavailable to locals because of ownership. This has had the effect of limiting housing and infrastructure development due to the lack of suitable sites. As structures become abandoned on absentee-owned lands, they remain unoccupied, or if they are demolished, the site's development is the prerogative of the absentee owner. "Competition for what land is on the market sends prices soaring out of the reach of many low and middle income residents" (Appalachian Land Ownership Task Force 1981:6).

This paucity of land for development is viewed as a handicap for an area with a boom-and-bust economy, especially such an undiversified area as the coal mining counties. During boom periods pressures on existing facilities are high, causing crowding and higher housing costs. When busts occur, the unavailability of usable land limits local opportunity and encourages out-migration.

The Task Force sampled 79.3 percent of McDowell County and found ninety-four percent of this sample absentee owned, over 270,000 acres. Seventy-six percent was owned by fifty-one corporations; one, Pocahontas Land, owns thirty-one percent, while individuals own a mere seven percent. This allegedly has a negative impact on county tax revenues, since the coal companies must only pay a severance tax to the state based on the value of the coal they remove, at 5 percent per ton (McLaughlin and Boyd 1995), rather than an *ad valorem* property tax.

The problem is seen as more than a mere case of unfairness, for with the heavy population losses these counties have experienced, a resulting erosion of the tax base has ensued. Those who remain are caught either having to pay more in local taxes or rely on the federal or state governments for county revenue supplements.

Goodstein (1989) takes issue with the analysis of the Appalachian Land Ownership Task Force and asserts that although its basic findings are correct, the region's problems are more the result of local deficiencies which have resulted from historical processes:

Appalachia's problems do not stem from 'underdevelopment,' but rather are in part the result of a very deliberate pattern of development over the last century of the region's natural resources. Part of the process of this development was the creation and maintenance of an inactive, patronage county government, the weak growth of a local business class, and the erection of various institutional impediments to private investment associated with absentee ownership of land.

The focus on land ownership, and in view of the empirical results [of this study], absentee ownership in particular, does not suggest that some kind of land reform would be the only or best solution to the region's problems, or that Appalachia would have been substantially better off if local rather than international capital had developed this region's resources. Rather, absenteeism is symptomatic of the role that Appalachia has served in the nation's economy—a source of raw materials... this analysis points to the power relations and institutional impediments established by absentee control that have generated unusually inadequate levels of both public and private investment (528).

**The People Themselves** Cultural explanations for this region's inability to rebound point to behavioral patterns that are either due to long term geographic isolation or were brought to the region, especially by the early settlers. Harry M. Caudill (1963), a native of eastern Kentucky, asserts that the bulk of these early settlers came from the dregs of Old World society, that emigration was an alternative to other punitive measures.

According to him these people were

...a raggle-taggle of humanity—penniless workmen fleeing from the ever-present threat of military conscription; honest men who could not pay their debts, pickpockets and thieves who were [worth] more to the Crown on a New World plantation than dangling from a rope...It is apparent that such human refuse, dumped on a strange shore in the keeping of a few merciless planters, was incapable of developing the kind of stable society under construction in the Puritan North (5-6).

Once established in their narrow valleys and hollows, these people developed a culture of isolation characterized by "a high degree of particularism" (Rice 1985:57).

Furthermore, these traits have proved resistant to change.

According to this view, the integration of the coal fields into the national and international economy failed to dispel the backwardness and cultural conservativeness of this region. Even the introduction of large numbers of aliens, both foreign and domestic,

as well as other connections to other places (e.g., radio, motion pictures, and newspapers), failed to act as significant moderating influences on the non-material cultural handicaps of the region. For one thing, the newcomers themselves were not much of an improvement over the natives. Life in the coal fields was viewed as a temporary phase: natives saw themselves as mountain farmers working for coal wages part-time until better conditions for the traditional life returned; for the Blacks, their new lives as wage-earning coal miners was a definite improvement over their previous lives as sharecroppers in the Deep South; so, too, with the European immigrants, most of whom were Italians or Hungarians—the general exception was the British who came from a long tradition of coping with industrialization, but were too few in number to be enough of an influence (Corbin 1981).

Jack E. Weller (1966), a minister who spent thirteen years in a mining community in southern West Virginia, identified six basic traits that characterize this subculture of poverty: individualism, traditionalism, fatalism, action-seeking (as opposed to routine-seeking), a psychology of fear, and person-orientedness (as opposed to object-orientedness).

Weller distinguishes between independence and *individualism*: the former is “a certain autonomy of person” that acts as a self-motivating force, whereas the latter is more of an I-me-mine approach to life and life’s challenges that tends to act as a self-defeating force. “He does not conceive of the ‘public good’ except as it coincides with his own ‘private good’”(31). Weller attributes this trait to generations of “holler” life, self reliance being essential for survival under frontier conditions.

*Traditionalism* is an ultraconservatism bred from an uncertainty of the future. The past is certain, and time-tested ways of seeing and doing are more attractive than the unknown. There is a regressiveness rather than a progressiveness in the mountaineer's outlook; romantic delusions of a better past dominate how the future is perceived.

A *fatalism* has grown out of a feeling of defeat, an attitude of “what good would it do, anyway?” Conditions are seen as natural, whatever they are. Divine will is a constant arbiter, and fate is uncontrollable. Poverty is thus exalted or dismissed as natural. Those who have moved to the city and returned after failure have helped foster this defeatist attitude. The success stories have remained away, where their survival skills do nothing to provide examples to follow or to offer hope.

Weller observed no stability of routine in this culture, no regular ordering of life and its cycles, no long-term planning. Routine is suffered rather than sought out. Important events like “...the weekend drinking bout, the card game, the hunting or fishing expedition, the horse or automobile race” (41) are anticipated by such *action-seekers* in an episodic manner. Employment and education are mere duties. Even church attendance is avoided, the episodic revival being more of an interest inspiring event. Spending behavior thus tends to be what an average middle-class person would judge as irrational. Moreover, commitments are difficult to extract from them due to the chance of an “event” opportunity creating a conflict.

These mountaineers tend to be very brave in the face of danger, which Weller attributes to generations of remoteness. Yet, he states, they are fretful and anxious of mundane threats. The closeness of family ties has bred an insecurity, a dependence on family members, and a striving for the approval of family. This also causes suspicion, as one fears misunderstanding and expects it as well. Indecision and bickering rule family actions due to this *psychology of fear*, as well as a general lack of confidence in one’s abilities. This trait engenders a mortal dread of failure, thus acting as a damper on initiative and motivation.

Object-orientation refers to being able to relate to abstractions, such as an idea. Members of this culture, however, tend more toward *person-orientedness*; relating to other people is what matters, not objects or concepts. Personal advance is shunned as getting

above one's station, as being better than one's peers. This discourages goal-achievement behavior because of its disregard for long-term reasoning and behavior modification to achieve goals not immediately apparent or imminent. This also brings with it a distrust of business, government and any other impersonal, formal human relations. Weller states that this has proven to be a major hindrance to outsiders who have come to the region, such as social workers, missionaries, and government representatives.

Accordingly, asserts Weller, the inability of this region's people to lift themselves up, and either bring about change or otherwise adjust, has brought about a negative image of the Appalachian people in the popular mind. He states that the cowboy has a positive image because he was able to adjust to changing circumstances; the hillbilly, on the other hand, has a negative image because he has not been able to adjust to economic and social change. Weller distinguishes two distinct subgroups of southern Appalachian society—those who have adjusted due to upwardly mobile tendencies (i.e., those who have overcome the challenges of the cultural legacies discussed above) and those who have not. He characterizes this second group as “lower class” and blames the region's slowness to respond positively to adversity on them. He states that “...it is a pathological society in that it does not deal adequately with the problems of life. It is not a problem-solving society—in fact it is a problem-creating society” (151). “I would hesitate to say how much of Appalachia falls into this category—the lower class. Probably more than we would care to imagine” (153).

Weller's book, *Yesterday's People*, has been very influential in the field of Appalachian studies. Yet his findings have been dismissed as “victim-blaming” by those more sympathetic with the region's inhabitants (Fisher 1991). For one thing, Weller is criticized for basing his findings on his observations of just one single community. Furthermore, his approach is seen as chauvinistic, using middle class culture as a standard. Fisher criticizes Weller for failing to differentiate the lower class from the folk class:

Weller describes a lower class in Appalachia that is mired in the culture of poverty. But, he says, this Appalachian lower class differs from the Appalachian folk class. Unfortunately, Weller fails to identify the differences except in the broadest of generalities. The lower class has only disadvantages while the folk class has several advantages. The lower class is worse off, more suspicious of outsiders, and will require more help than the folk class (189).

These, then, are the suggested problems with McDowell County and the bituminous coal region of southern Appalachia: the decline of a regional economy based on a single resource extractive industry, increasingly capital-intensive, combined, some say, with a population unequipped with a non-material culture geared toward coping with adversity; or, others argue, stymied by outside interests who control the region's resources. The connectivity of this place with other places has undergone dramatic changes. An analysis of the dynamics of these changes, and the nature of the factors involved, follows.

### **Organization/Methodology**

In the chapters which follow, McDowell County will be examined at different scales. Chapter Two first will discuss the physical characteristics of coal, highlighting those of the study region. A regionalization of U.S. coal reserves will follow to allow a better understanding of the interregional dynamics of the major changes which have impacted the county. A discussion of how coal is mined will offer insights into the technological advances that have had such an impact on mining employment. A discussion of the coal industry is presented to further put the county in context—supply and demand factors, plus a brief rundown of the major trends in coal production over the last century. Secondary sources and the Keystone Coal Industry Manual have provided the bulk of the data for this chapter.

Chapter Three is a discussion of the process whereby the coal industry came to establish itself in this county, with an examination of the forces involved. This includes a description of infrastructure establishment, especially the railroad, as well as the emergence of the coal towns and their impact on the emergent society of the coal fields. Again, this information is mainly derived from secondary sources.

Chapter Four concerns the spatial dynamics of county coal production since 1950. A series of maps are presented charting county production according to information derived from the *State of West Virginia Department of Mines and Division of Energy Annual Reports and Directories of Mines*. These maps are at ten-year intervals to give a picture of the spatial trends that have occurred within the county since 1950. The information is organized according to mine locations. The discussion of the various coal seams of the county begins with 1955, since the 1950 *Annual Report and Directory* fails to include seam information. Furthermore, some of the mines listed in the *Directory* had out-of-county addresses. These, however, were in the small- or very small-sized classes. Their exclusion from the maps therefore is a minor omission which does not overly affect the quality of the information presented.

Chapter Five describes the demographic responses to the changes observed in Chapter Four. Graphs, maps, and population pyramids present data gleaned from U.S. Census Bureau publications.

Chapter Six discusses how the public sector has responded over the years to the problems of this region, at the state and federal levels. To this end, government reports and secondary sources are used.

Chapter Seven considers the county's prospects in light of the findings of this study.

## **Chapter Two: Coal**

The primary uses for coal are the generation of electricity and the manufacture of steel. Coal is generally referred to as either steam coal or metallurgical coal. Coal is prized in electrical generation for its heating capabilities, usually expressed in Btu's (British thermal units). Coal is burned to raise steam which is then used to turn turbines which generate electricity. Cost per Btu or kilowatt-hour is the principal concern of the power company that uses coal. Sulfur content is another major concern as well, since federal law regulates the amount of sulfur a power plant may emit into the atmosphere. Metallurgical coal is used in the form of coke as the reducing agent in the smelting of iron ore into pig iron. Coke is coal with all the volatiles removed through carbonization in a coke oven. Removal of the volatiles is desirable because of the effect these "gases and juices" (Rogers 1978:83) have on the quality of the steel produced. Furthermore, the porous nature of coke makes it not only burn hotter, but longer and steadier, making it more efficient in the smelting process (Lindbergh and Provorse 1977, Merriman 1965).

The quality of a coal supply depends on its components and characteristics. Carbon, volatile matter, sulfur, and ash content, as well as Btu rating and agglomerating ability, largely determine how a coal will be used. Coal is "ranked" according to its carbon content—higher ranking coals, like anthracite, are generally older and have been under greater geologic stress (i.e., heat and pressure), thus increasing the amount of fixed carbon, while lower ranking coals, like lignite, are younger and less developed. In between, in descending order of fixed carbon, are semianthracite, semibituminous, bituminous, and subbituminous.

A coal's Btu value is a function of both its fixed carbon and its hydrogen content. Since steam coal is useful chiefly for its heating capabilities, Btu rating is a better indication

of value than carbon content (Fig. 2.1). The highest coals in Btu rating are the low ranking semibituminous, followed by the high ranking semibituminous, high ranking bituminous, semianthracite, anthracite, and low ranking bituminous, subbituminous, and lignite at the bottom (Lambie 1954, Wood, et.al., 1983).

Volatile matter is the component of coal that burns off in the form of smoke, the “gases and juices” that coal emits during combustion. Sulfur in coal is a major concern due to emission standards to control the amount of sulfur dioxide in the atmosphere, which when combined with water creates acid rain. Lignites, subbituminous, and anthracite are the lowest in sulfur; the higher volatile bituminous coals are the highest in sulfur (Harvey 1986, Rogers 1978).

U.S. coal reserves of the contiguous forty-eight states are organized into six regions by the Bureau of Mines (Fig. 2.2). The Eastern Province is the most important of these, supplying the largest portion of the nation’s needs as well as the export market. The Interior Province produces a wide variety of coals, from semianthracite to high volatile bituminous, but they tend to be high in sulfur. Lignites comprise the Gulf Province’s reserves. The Northern Great Plains Province contains low sulfur lignites, while the Rocky Mountain Province contains bituminous and subbituminous. Pacific Coast Province coals are low sulfur but are scant and scattered (Clements 1977, Harvey 1986, Rogers 1978).

Although they are low in sulfur (generally less than one percent), western coals tend to be low in heating value (7,000 - 9,000 Btu’s per pound) and far from markets. Yet the delivered price is competitive because it is more economical to extract. Western seams are relatively thick (ten-to-thirty feet or more) and close to the surface. This combination of thin overburden and heavy payload makes these coals greatly amenable to surface methods of production (Schmidt 1979). There are, however, some high Btu bituminous coals that are deep-mined in Utah, Colorado, and Montana.

## Fixed Carbon and Btu Value in Coals

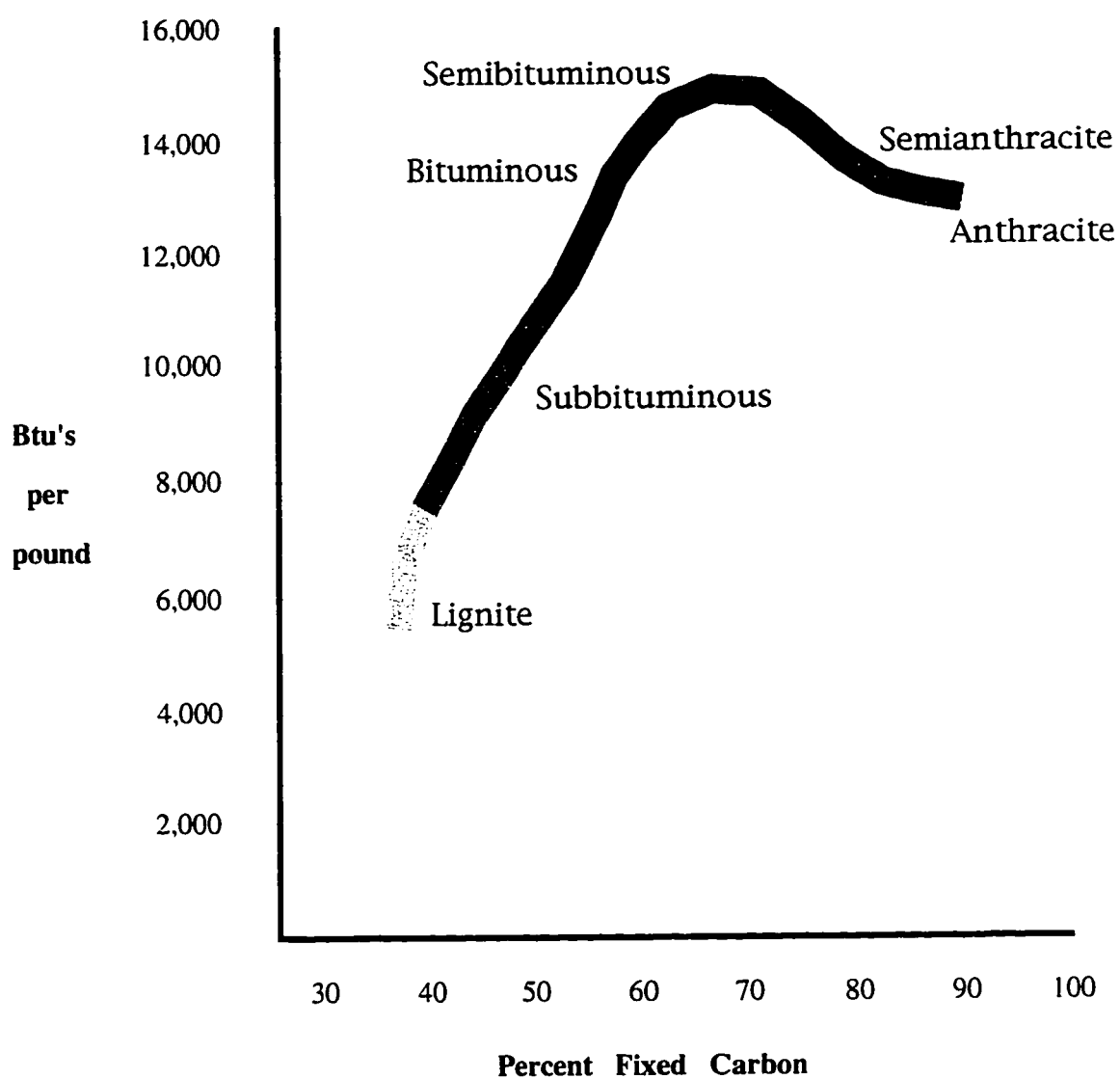


Fig. 2.1. Fixed carbon and Btu value in coals. Data source: Haught (1959). Design: Charles P. Davis.

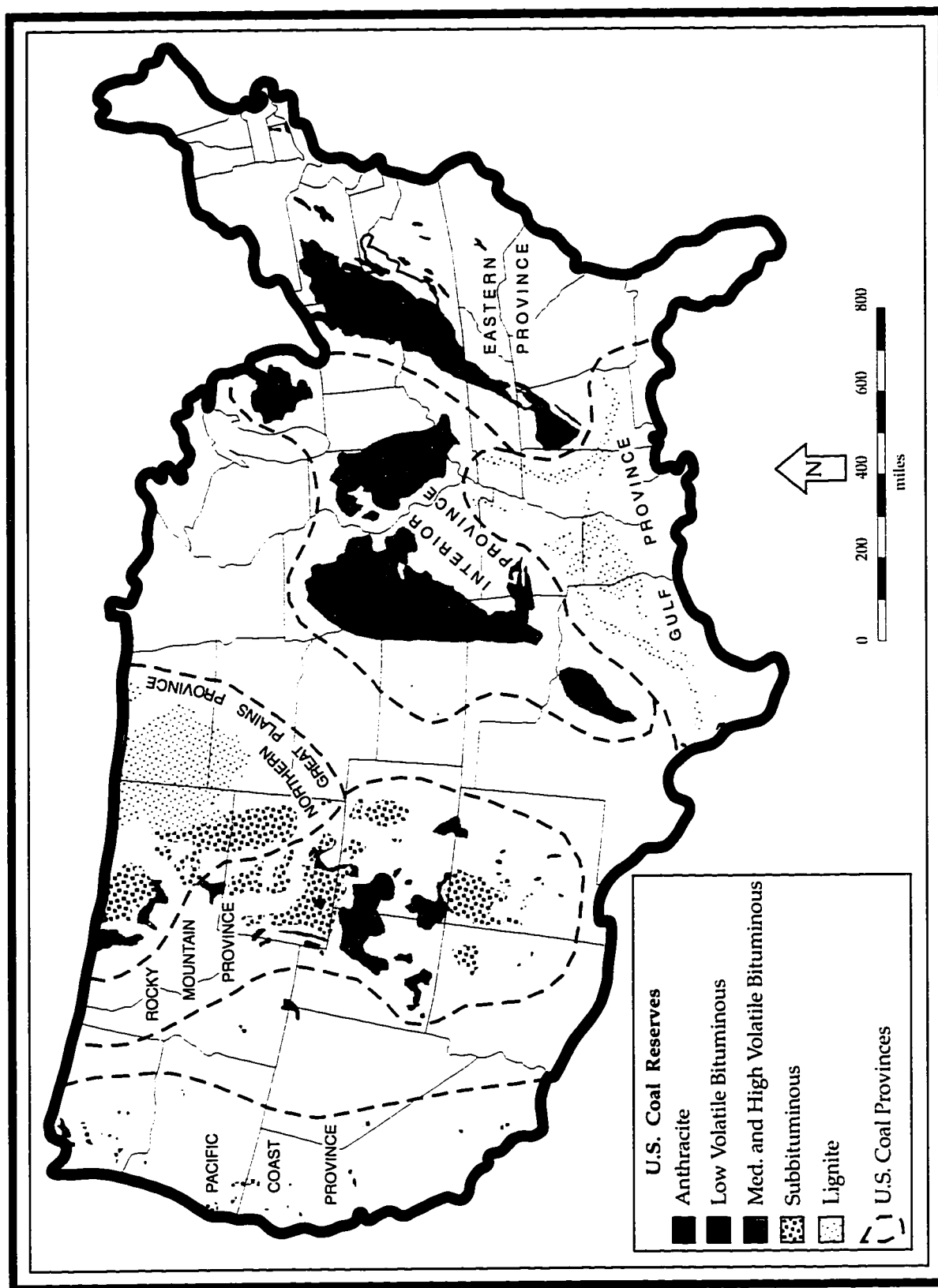
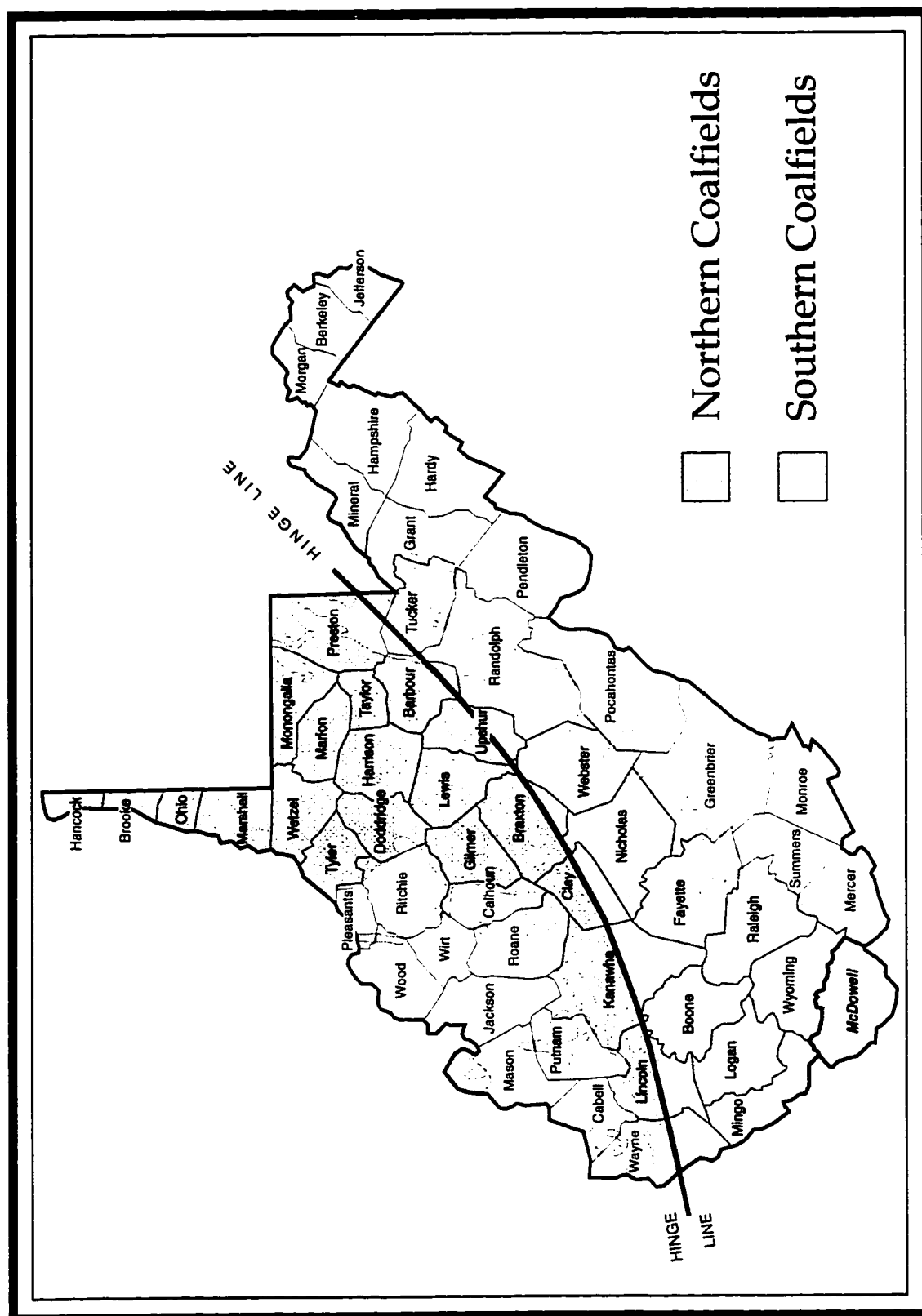


Fig. 2.2. Distribution of U.S. coal reserves. Source: Rogers (1978)

Appalachian coals are characterized by relatively thin seams (four-to-six feet on average), high Btu rating (10,000 - 15,000 Btu's per pound), typically high sulfur content (two-to-three percent), and deep seam burial (generally hundreds of feet) (Schmidt 1979). The Appalachian deposits are divided into a northern section and a southern section. These two divisions are demarcated by a "Hinge Line" which runs through central West Virginia (Fig. 2.3). South of this line (Fig. 2.4) lie coals that are lower in sulfur (1.5 percent and less), higher in Btu rating (12,000 - 15,000 Btu's per pound), and lower in ash than those north of the Hinge Line (Mining Information Services 1995). The highest quality metallurgical coals are those located along the eastern edge of both the northern and southern sections—the Cumberland Field in Pennsylvania, the Georges Creek in Maryland, the Upper Potomac in northeastern West Virginia, and the Smokeless fields of southern West Virginia. These latter include the New River, Winding Gulf, and Pocahontas fields, much of which is of semibituminous grade and the best coking coals available (Mining Information Services 1995, Thomas 1971).

**McDowell County Coals** The southern coals are more fragmented and scattered than the northern coals. Of West Virginia's sixty-two minable seams, twenty-four run through McDowell County. The county contains three fields: the Pocahontas, Tug River, and Thacker, from east to west (Fig. 2.5). The great bulk of the county's reserves are contained in the Pocahontas and Tug River fields. These are low-volatile semibituminous-to-medium-volatile bituminous coals, prized as metallurgical, coking coals, but increasingly used for steam purposes. The Thacker field in the western corner of the county is of high- and medium-volatile bituminous coals.

All these coals, as with Appalachian coals in general, contain the caking, or agglomerating, characteristic necessary for coke manufacture, i.e., they "form a porous, solid mass after being heated" (Harvey 1986:52). Furthermore, these coals are valuable as



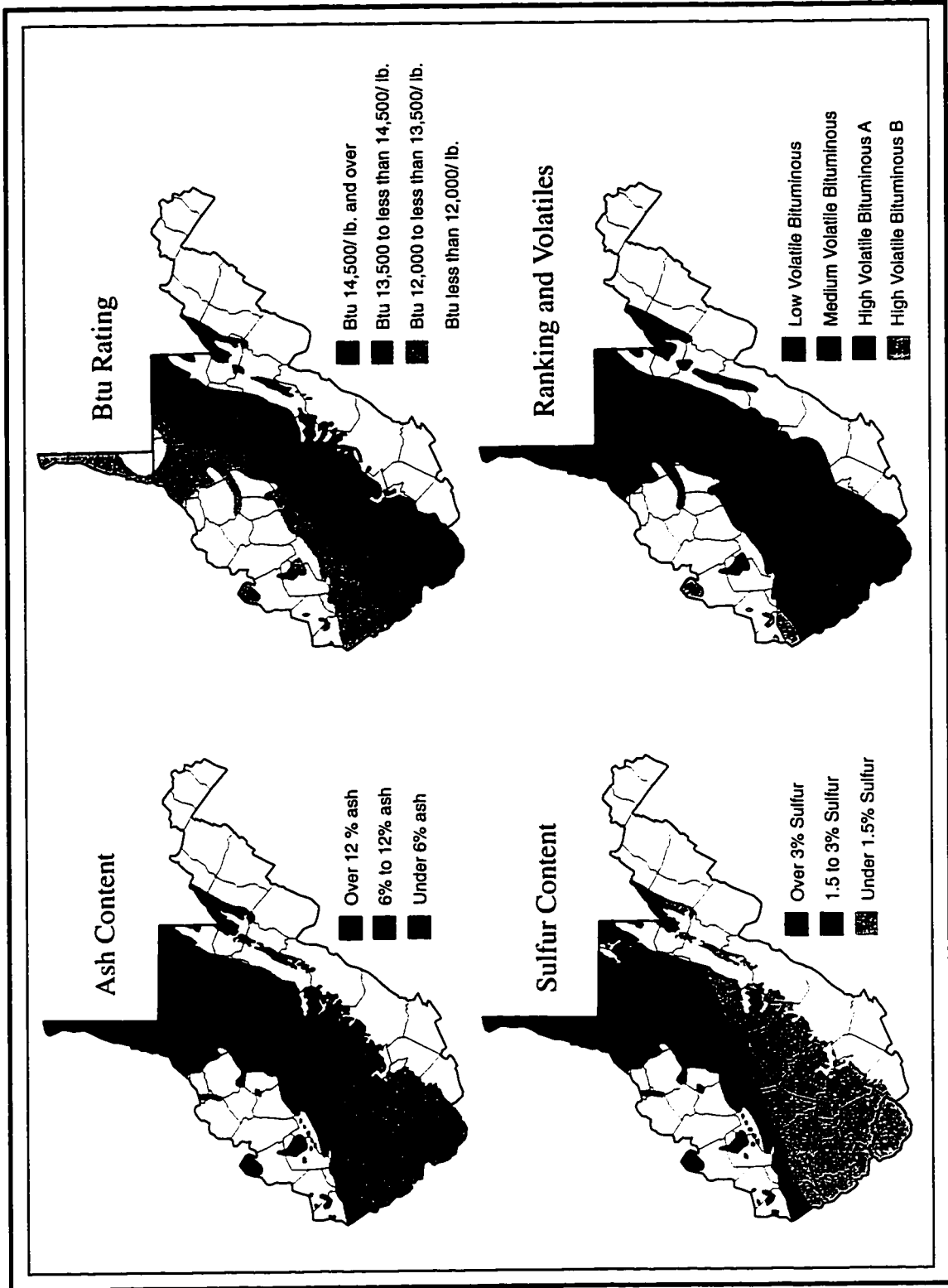


Fig. 2.4. Ash content, Btu rating, sulfur content, ranking and volatiles of West Virginia coals. Source: Mining Information Services (1995).

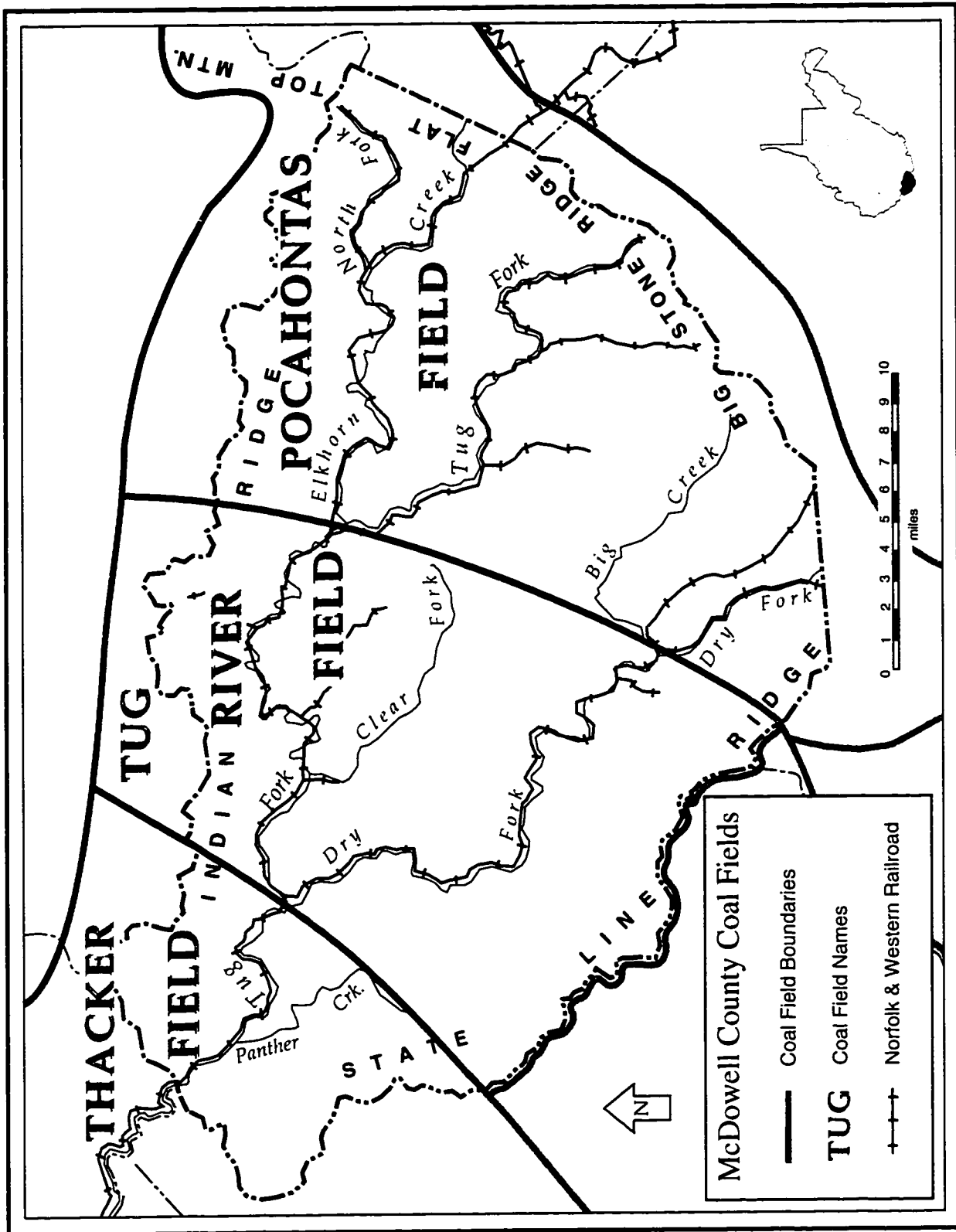


Fig. 2.5. The coal fields of McDowell County. Source: Lambie (1954).

steam coals, since “steam coal is simply coal that is useful as a fuel because of the Btu content” (Rogers 1978:30). Moreover, because of the low sulfur of all these coals, they are very valuable for blending purposes with other coals, for meeting emission standards for utility plants, as well as blending with other coals for coking specifications.

Coke is produced from about eighty percent high-volatile bituminous, as a base, and about twenty percent low-volatile bituminous (or semibituminous), as a blend, to meet specifications. In order for a coal customer to purchase the right amounts of the right types of coal needed, brokers are employed to make sure the right connections are made (Rogers 1978). “To evaluate a given coal for coke manufacture it is highly desirable to know what other coal or coals are under consideration for use in the synthesis” (Mining Information Services 1995:301).

To be suitable for by-product coking a coal must ultimately satisfy all the following four technical requirements: low-ash, low-sulfur, low coking pressure and high coke strength. Because of these requirements and because of the nature of the coal measures of the United States, coal which originated from any given mine is not likely to be charged alone into a by-product oven for conversion into coke...

Large reserves of low-ash, low-sulfur and high-coke-strength-yielding coals are available in the low-volatile fields but these coals produce high and unacceptable pressures. The reserves of medium-volatile coals all yield high coke strength but are generally unacceptable because of high ash, high sulfur or high coking pressure. Large reserves of low to medium-ash, low to medium-sulfur, and low-coking pressure are available in the high-volatile coal fields, but these coals usually yield low and unacceptable coke strengths (Mining Information Services 1995:300).

In other words, coals to be used for coke manufacture must be blended.

Sometimes this requires three or more different sources to make suitable coke. Sulfur is an important consideration because it affects the quality of the steel being manufactured.

Coking pressure is crucial due to the expansive nature of coking coals; too high coking pressure could damage the oven walls (Harvey 1986). Currently, ten of McDowell

County's seams are used in coke manufacture: the Beckley (or War Creek), the Eagle (or

Mohawk), the Pocahontas #3, #4, #5, and #6, the Sewell (or Davy), and the Welch (Mining Information Services 1995).

McDowell County's original estimated minable reserves consisted of 5,340,598,171 tons, about 4.5 percent of the state's total original estimated minable reserves. The county's current estimated reserves, after a century of mining and revisions of the original estimated reserves, are around 1.7 billion tons, about 3.14 percent of West Virginia's current total (West Virginia Senate, Clerk's Office 1994).

**The Mining of Coal** The Appalachian Plateau is thought of as mountainous due to its aspect from the valleys, where most of the human activity takes place. Subsequent to its uplift the Plateau was dissected by dendritic patterned streams, cutting deep into the horizontal strata, forming narrow valleys and exposing ancient seams of coal as outcrops on the resulting "mountainsides." The exposed and horizontal nature of these coal seams proved to be a boon to the early developers, offering easy access.

There are two basic approaches to mining coal: underground and surface. Underground, or deep, mining has been and remains the primary means by which coal is extracted in southern West Virginia (Fig. 2.6). The seam to be mined is accessed by a portal. The drift portal is by far the entry-type most commonly employed in McDowell County where the seams are exposed, though slope-type and shaft-type entries are also used where the seam is below the surface at the portal site (Schmidt 1979). Drift portals are the most convenient and economical.

*Conventional mining* is the oldest method still in use. At the coal face, five basic tasks are carried out: drilling, undercutting, blasting, loading, and hauling the coal out of the mine. Prior to mechanization this work was done using picks, shovels, explosives, and carts, requiring a crew of twelve to fourteen miners at the face. About fifty percent coal removal is the rule, the remainder left behind as "pillars" to support the roof. The coal

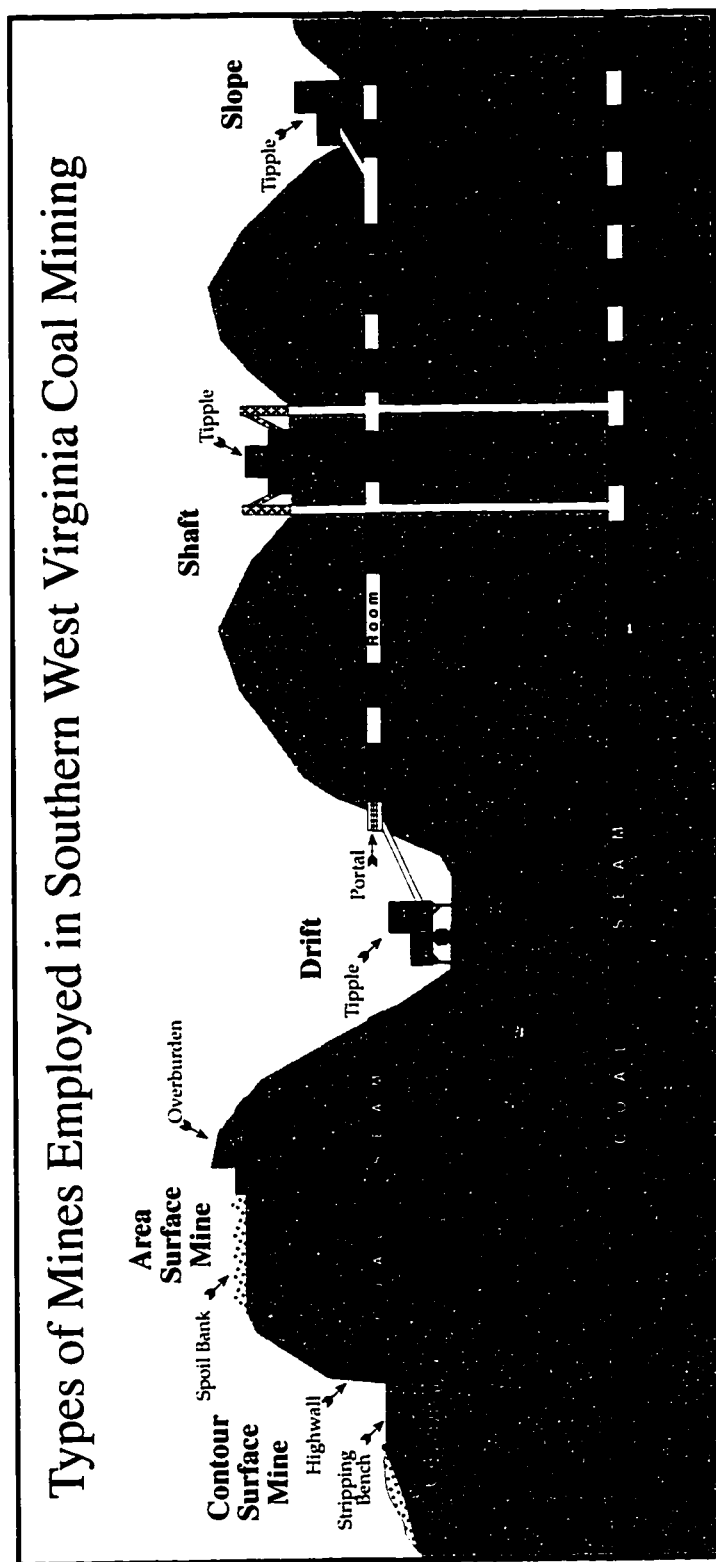
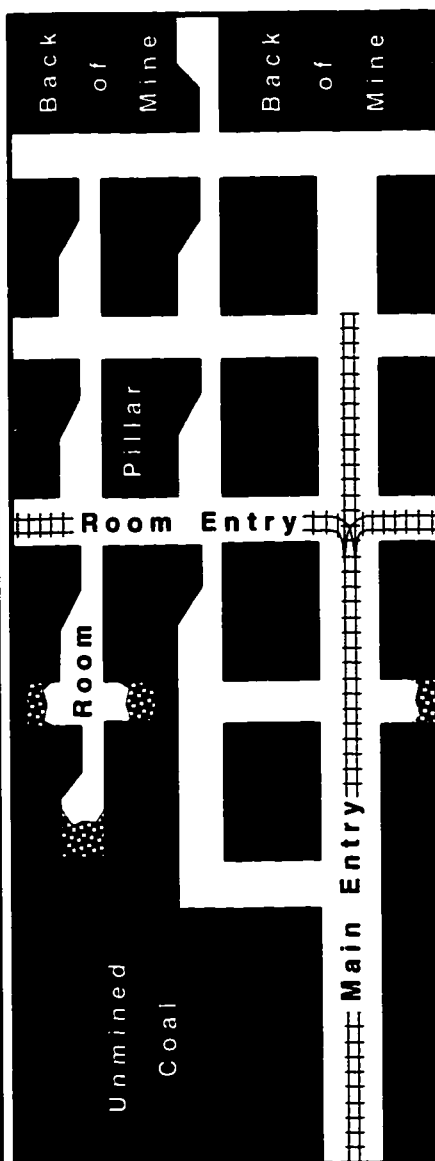


Fig. 2.6. (above) Mine types employed in McDowell County. The drift portal is the most common entry type used in the county.

Fig. 2.7. (right) The Room-and-Pillar system of deep mining. In "retreat" mining the pillars are removed, or "robbed," beginning with those at the back of the mine, allowing the roof to collapse.

Adapted from: Schmidt (1979), Tams (1963).

Design: Charles P. Davis.



is removed in sections called “panels,” entries being driven to the back of the area of the seam to be mined (like central hallways) and the “rooms” where the coal is removed are bolted at the ceiling to stabilize the upper strata to minimize the chances of roof fall (Fig. 2.7). These bolts have taken the place of the cumbersome timbers used in the early days of mining, which tended to be obstructive to the whole process (Rogers 1978, Schmidt 1979, Tams 1963).

*Retreat mining* is a method that salvages, or “robs,” the pillars in a mine so that seventy-five to eighty percent removal may be achieved. Rogers (1978) describes this process:

After the property is fully developed by the room-and-pillar methods, beginning at the furthest reaches of the mine, props are used to support the roof while the pillars are removed, progressively working from the back of the mine to the front, permitting the roof to cave in as the miners pull the pillars and retreat toward the entrance to the mine (46).

Conventional mining currently accounts for about 6.5 percent of McDowell County production (West Virginia Coal Association 1994). The remainder is extracted by *continuous mining* machines which link the various steps used in conventional mining into an automated and integrated operation. To this end, cutting and loading machines are employed, greatly reducing labor requirements. These machines dig out the coal and load it, continually working the same face rather than going from one face to the next, as in conventional mining. This reduces the amount of “place change time” and is therefore more efficient. Ideally a conveyor system is employed for haulage to the portal, but sometimes the coal is loaded onto the floor.

Continuous mining does not necessarily increase overall production, but it does improve productivity, since operation demands fewer workers. “However, where a coarser product is still desired, and the seam conditions are especially difficult to cut, the

choice tips to conventional. Conventional mining is far from obsolete” (Schmidt 1979:173). Additionally, continuous miners tend to remove coal indiscriminately rather than selectively, resulting in a larger amount of rock waste that would be passed by conventional methods. There are other, more capital-intensive deep mining methods, such as longwall and shortwall; these are not employed in McDowell County principally due to the fact that the seams in which these methods work best have been mined out and have become subeconomic to capital-intensive operations.

Although deep mining is more expensive than surface methods in the early stages of planning and development (i.e., exploration, drilling, planning), the actual extraction of the coal is less expensive. Yet the equipment is expensive. Deep mining is much more dangerous than surface mining, with roof falls, explosions due to methane and coal dust, accidents with equipment, as well as black lung disease, all acting as constant hazards and threats to productivity or increasing overhead costs. The thicker the seam section, the greater the possibilities for economies of scale, since extraction can be less labor-intensive. With exhaustion of the thicker seams has come a decrease in the more cost-effective reserves available to more capital-intensive operations. In McDowell County, this has resulted in an increase in the proportion of smaller operations to larger operations.

There are three types of surface mining: area, contour, and auger. In the first two methods, the object is to remove the overburden (i.e., the volume of ground between the surface and the coal seam) to gain access to the exposed seam bench (while keeping it as clean as possible from contamination by overburden residue), removal of the coal, backfilling the “strip” thus mined, then moving on to the next section to be mined. *Area surface mining* involves a general area of ground on which the removal progresses in strips across the area (somewhat like the double-digging employed in French Intensive gardening). This type of mining is mainly practiced in Illinois, Ohio, western Kentucky, North Dakota, Arizona, New Mexico, Wyoming, Montana, and Utah.

*Contour surface mining* occurs where the terrain contains a lot of steep slope conditions and the seams are horizontal. The mining operation follows the contour of the land, the stripping bench running like a road-cut alongside the seam. The overburden is deposited downslope from the bench; above the bench is a “highwall” where the edge of the remaining overburden remains exposed. This process progresses inside the seam in a somewhat similar fashion as with area surface mining until the amount of overburden becomes prohibitive. This type of mining is mainly practiced in West Virginia, eastern Kentucky, western Pennsylvania, and eastern Ohio. *Auger mining* typically follows contour mining. The seam is approached from the bench. An auger machine bores into the seam, pulling out coal as it penetrates the seam, usually 150 to 200 feet deep.

Surface mining in McDowell County is dominated by contour and auger mining. Its impact on the landscape is quite evident in the southeastern section of the county, near Gary and Bishop (Fig’s. 2.8, 2.9, 2.10 & 2.11).

After it is mined, coal is prepared for market by washing (i.e., removal of rock and other impurities that cause ash), sorting, and grading, and then it is shipped to the customer. Coal is generally transported from the mine to its rail link by truck, although many tipples (where the coal is sorted and loaded at the mine site) have their own rail link (Fig’s. 2.12, 2.13, 2.14, 2.15). Railroad transport of coal remains the most economical mode of moving coal (Fig’s. 2.16 & 2.17). The use of relatively lightweight aluminum cars has further economized coal transport (Harvey 1986, Mining Information Services 1995).

Mining mechanization has had a profound impact on coal mining. In southern Appalachia, however, such innovations have tended to lag behind the northern and midwestern mines. The earliest applications were in the haulage tasks—moving the coal from the coal face to the portal, thence to the tipple. Rail cars were substituted for animal-drawn carts. Then the actual mining tasks at the coal face were mechanized, once the



Fig. 2.8. Contour mine highwall overgrown with vegetation (near Gary, August 1995).



Fig. 2.9. Contour mine spoilbank (near Gary, August 1995).



Fig. 2.10. Contour mine (near Gary, August 1995).



Fig. 2.11. Contour mine scars on distant hillsides (near Bishop, August 1995).

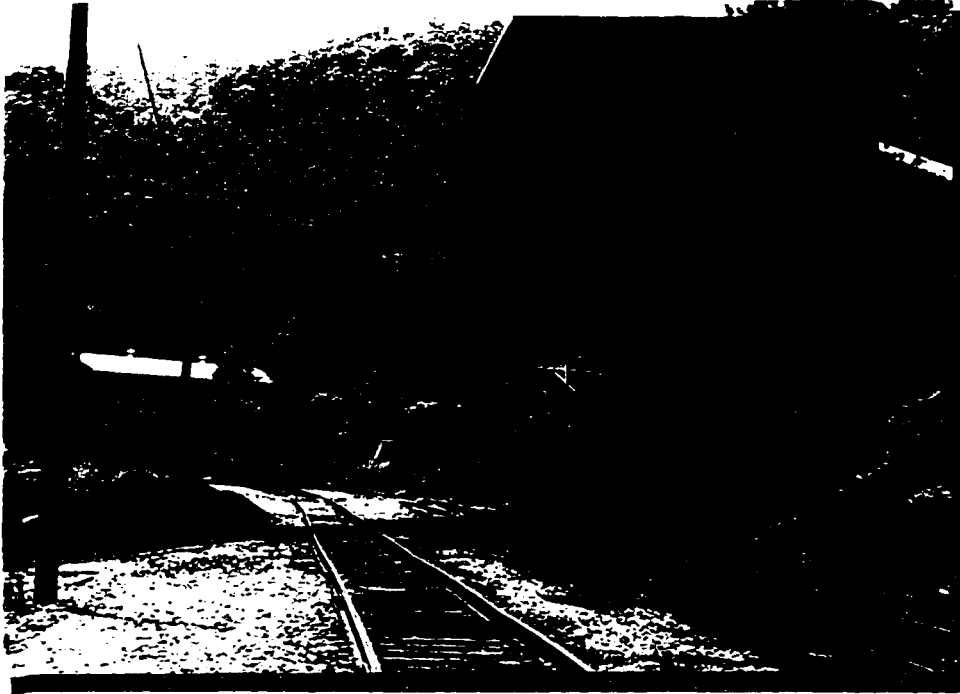


Fig. 2.12. Tipple with rail link (Filbert, August 1995).



Fig. 2.13. Tipple with rail link (August 1995).



Fig. 2.14. Tipple with rail link (near Gary, August 1995).



Fig. 2.15. Rail line leading to tipple (August 1995).

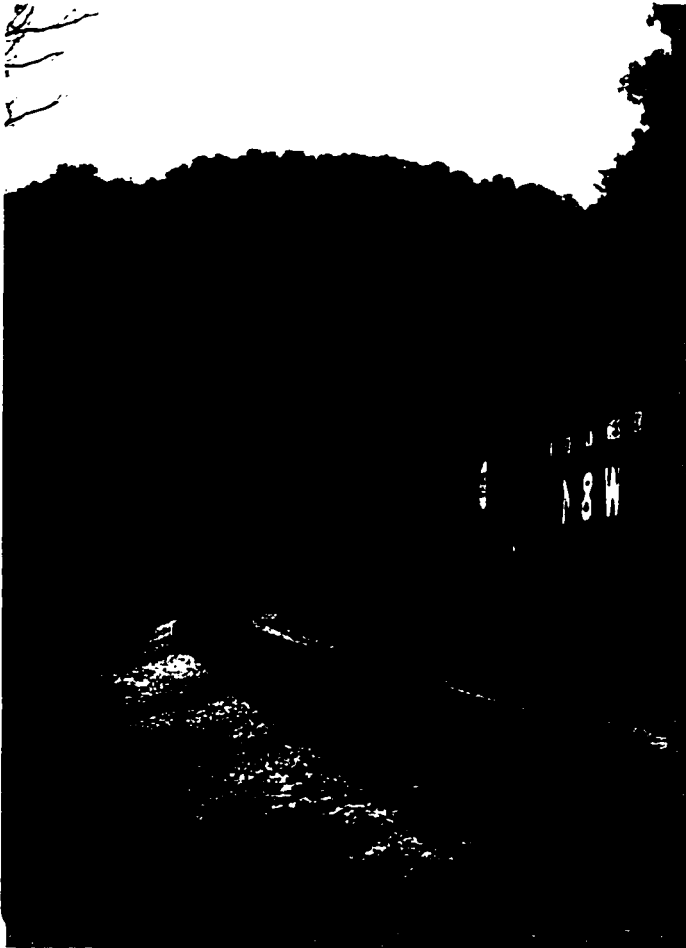


Fig. 2.16. (left) Norfolk & Western Railway coal cars (Yukon, August 1977).

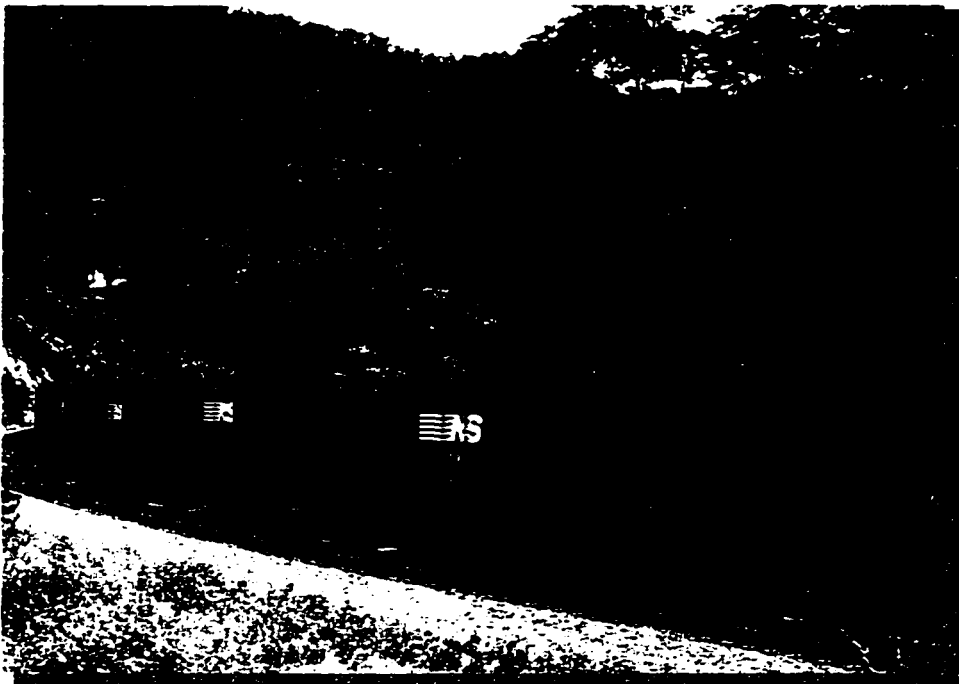


Fig. 2.17. (below) Norfolk Southern Railway (N&W) coal cars (near Panther, August 1995).

problems of how to better manage seam, roof, and floor conditions to improve productivity became important considerations to the operators (Schmidt 1979). The first such developments involved compressed air techniques to undercut and drill. When electricity was brought underground, this source of power was used at the coal face (Tams 1963). By 1909, forty-one percent of Appalachian coal was undercut by machine, the remainder either shot or hand-picked. During the same year, some fifty-one percent of midwestern coal (Ohio, Indiana, and Illinois) was machine cut. Low wages acted as an inhibitor to mechanization in the southern Appalachian mines.

When World War I created a surge in demand, cutting technology was readily implemented: by 1919, 70.7 percent of Appalachian coal was mechanically undercut, compared to about sixty-six percent of midwestern coal. During the 1920's, midwestern mines increasingly began to use loading mechanization underground. Loading mechanization did not follow in Appalachia until the 1930's when New Deal programs increased wages and operators were compelled to accelerate mechanization to cut back on labor costs. In 1940 twenty-seven percent of Appalachian coal was mechanically loaded, still a far cry from the 70.6 percent of midwestern coal. According to Salstrom (1994),

As of 1933, only 1.2 percent of West Virginia's underground coal loading was yet mechanized, whereas 58.9 percent of Illinois' loading was mechanized. Then, with their wage costs increased after 1933, many Appalachian operators likewise embraced maximum mechanization. Loading machines, which many Appalachian operators now hastily acquired, reduced the total labor needs of a mine by at least 10 percent and by up to 40 percent (75).

The first year for the use of the continuous miner on a regular basis in Appalachia was 1948 (Gibbard 1962). These machines continuously cut, load, and remove coal in one smooth operation, greatly reducing labor needs. In 1993, McDowell County produced 5,891,336 tons of coal, 4,781,764 of which was by continuous miners, while 800,155 tons were surface mined (West Virginia Coal Association 1994).

**Production and Demand Changes** West Virginia coal production experienced a rapid rise during its early decades (see Fig. 1.3). In 1875, before the southern fields opened, the state produced 1,120,000 tons. By 1900, production reached 21,153,341 tons, an increase in yearly production of 1,788 percent in twenty-five years. During this period the Smokeless fields came to supplant the western Pennsylvania coals in the steel industry, just as the western Pennsylvania coals themselves had come to supplant anthracite in the 1870's. Coke made from the Connelsville Field east of Pittsburgh had been the national standard until the rise of the Smokeless fields (Sullivan 1989). In 1889 McDowell County produced 246,000 tons; in 1899 this figure jumped to 3,500,000—a 1,323 percent increase in yearly production in ten years (Corbin 1981).

Production continued to increase until the 1920's, which saw the first challenge of coal as a primary fuel. This came in the form of oil and natural gas. With the Depression came a drop in production, companies either cutting wages or paying their miners piece-rates by the ton (Laitila, et.al. 1967). During this period, too, investors increasingly consolidated their interests, streamlining operations and largely drove the independents out of the industry. Many small operators disappeared as both the coal and steel industries became increasingly capital-intensive and more efficient (Sullivan 1989).

Heightened industrialization during and following World War II boosted demand for coal, both steam and metallurgical. In 1947 U.S. coal production reached more than 600 million tons, 173,653,816 of which came from West Virginia. The late 1940's saw a brief return of small operations in what Caudill (1963) refers to as a "truck mine boom." These were small, independent operations that typically mined the small "spurs" that lay in ridges disjunct from the parent seams. Large companies bypassed these reserves as subeconomic, allowing locals to try their hands at mining them. These mines were labor-intensive, non-union, low-paying operations which employed disabled or those otherwise

unemployed. Coal of dubious quality was fobbed off onto the market during this period of high demand. Waste from slate dumps was often mixed with this coal. By 1948, coal buyers had become savvy to these producers and the truck-mine boom ended.

From 1950 to 1967 southern West Virginia experienced a general increase in production, largely due to Wyoming County's jump from 6.7 to 15.4 million tons, while McDowell County suffered a 3.5 million ton drop, the sharpest decrease of all the southern counties, from 21.3 to 17.8 million tons, 1950-67 (West Virginia Senate, Clerk's Office 1969, State of West Virginia Department of Mines 1950, West Virginia State Planning Office 1969).

During the 1960's, oil and natural gas continued to cut into coal's share of energy demands, being less expensive and more convenient than coal. The late 1960's, however, saw an increase in coal demands, with an increase in military needs, followed by another slump in the early 1970's. In 1964 West Virginia produced 139,361,204 tons, McDowell County contributing 17,264,613 tons (12.4 percent). In 1970 the state produced 143,132,284 tons, with McDowell County's share at 16,466,540 (11.5 percent). By 1974, the state produced 101,713,580 tons, while McDowell County produced 10,176,305 (10 percent). In other words, while the state was following the general trends in coal production, the county was declining in importance as a coal producer.

The oil embargo of 1973-74 resulted in an increase in the price of oil, followed by a seventy-five percent increase in coal prices. Thus, production figures for 1975 reflect a surge in demand, by 7.2 percent for West Virginia and 6.7 percent for McDowell County.

During the period 1970-83 coal production in Appalachia increased only in east Kentucky and Alabama, by seventy percent in the former. This was due to an expansion of surface operations, at least partly the result of federal legislation regulating deep mine safety conditions. The remainder of Appalachia either remained steady or declined. West Virginia production in 1983 was 80.4 percent of what it was in 1970; McDowell County

production in 1983 was 37.5 percent of 1970, its share of state production down from 11.5 to 5.4 percent (West Virginia Senate, Clerk's Office 1975, 1988, Harvey 1986). National output increased, 1970-83, by eight percent.

In 1984, West Virginia remained the top producer in Appalachia with thirty percent, east Kentucky following with twenty-eight percent. In that year Appalachia accounted for fifty-four percent of U.S. production. In 1993, West Virginia produced 130,525,000 tons of coal, not quite thirty percent of Appalachian production; the state was the third top producer in the nation, at 13.8 percent, led by Wyoming with 22.2 percent and Kentucky with 16.7 percent. McDowell County had dropped to 4.5 percent of state production (West Virginia Coal Association 1994).

In 1920, railroads were the top coal consumers in the U.S., consuming 27.7 percent of national production. Next came steel manufacturers and other industrial plants (e.g., cement kilns and industrial boilers) with twenty-five percent each. Domestic consumption accounted for ten percent, while electrical generation used a scant 6.6 percent. Exports and power production in the mines made up the rest of demand (Lambie 1954).

In 1993, the U.S. produced 945,424,000 tons of coal. Electrical generation accounted for 81.3 percent of U.S. coal consumption in 1993, other industry following at a distant second at 7.5 percent, while a mere 3.1 percent went into the manufacture of coke (West Virginia Coal Association 1994).

Since the 1940's, electrical utilities' use of coal has grown steadily, as is reflected in their greater share of consumption. This is largely due to both the expansion in electrical generation and the contraction in coke manufacture. From 1970-84, demand for coking coal declined more than fifty percent, from 96,009,000 tons to 44,022,000 tons (Harvey 1986).

Demand for metallurgical coal has been affected by a general decline of the steel industry, the substitution of other materials for steel and a decreasing dependence on coke by the steel industry. According to Harvey (1986),

Projections of the demand for coking coal...appear somewhat optimistic, in particular when one considers the problems faced by the U.S. steel industry. Not only do domestic producers of steel face intense competition from imported steel, but they also face the threat that lighter and more resilient aluminum and plastic components will be substituted for steel in many products...If the demand for metallurgical coal depends essentially on the demand for steel and only secondarily on the price of coal, projections for the use of this coal should not be optimistic...Even this forecast must be tempered by the recognition that the use of coking coal per ton of steel has fallen gradually but consistently in recent years because of technological changes (141-42).

Three factors have influenced the demand for metallurgical coal: how much coal is needed to make a ton of coke; how much coke is needed to make a ton of pig iron; and how much pig iron is needed to make a ton of steel. Greater efficiency has reduced the ratio of pig iron needed to make a ton of steel. Also, more scrap metal is being recycled, thereby reducing the demand for pig iron. Other advances, such as the electric furnace, have further reduced the steel industry's dependence on coal. The depressed state of the U.S. steel industry, however, has hindered investment in newer technologies.

If and when the U.S. steel industry experiences a renaissance, it would most likely entail massive investment in these newer technologies. The net result would doubtless be a decline in coke manufacture, although it might involve an initial surge, depending on the timing and nature of such a renaissance. This would create a dramatic drop in the demand for metallurgical coals. Since these coals fetch a higher market price than steam coals, by as much as one-hundred percent, production in lower productivity areas would experience an even greater decline than has already occurred. The possibility of the electrical utility market picking up the balance is quite unlikely, especially considering the fact that oil is

more desirable than coal as a source of energy; such a development would require an increase in the cost of oil or an overall decrease in the price of coal.

In 1993, the U.S. exported 74,519,000 tons of coal, 66.6 percent of which was metallurgical coal. The major customers were Japan (15.9 percent), Canada (11.9 percent), and Italy (9.3 percent). Curiously, in 1993 the U.S. *imported* 7,308,901 tons of coal (56.3 percent from Colombia) and 2,021,820 tons of coke (78.9 percent from Japan), testimony, no doubt, to the difficulty brokers have of getting the right amount of the right coal to the right buyers at the right time. West Virginia accounted for 44.5 percent of U.S. exports, up from 37.6 percent in 1983. Eighty-five percent of the state's share of exports went to coke plants. The proportion of metallurgical coal in U.S. exports has decreased slightly since 1984, from 69.9 percent to 66.6 percent. In 1973 metallurgical coal accounted for eighty-one percent of total exports (Harvey 1986, West Virginia Coal Association 1994).

Federal legislation has had a profound impact on both coal production and demand. Health and safety laws have increased the production costs of underground mining, while mineland reclamation laws have increased the costs of surface mining. Air standards have influenced the dynamics of the coal market, giving coal-burning facilities more to plan for than just the Btu rating and cost factors of the coals they purchase. Harvey (1986) characterized this body of legislation as "...a maze of regulations and controls that is still in an embryonic stage of development" (91).

After the mine disaster at Farmington, West Virginia, Marion County, in 1968, in which seventy-eight miners were killed, the 1969 Federal Coal Mine Health and Safety Act (CMHSA) was passed by Congress. This act followed other federal safety acts: the Coal Mines Inspection and Investigation Act of 1941 established federal inspections, but no penalties; the 1952 Coal Mine Safety Act authorized the Bureau of Mines to close mines found in violation of safety standards. Between 1940 and 1953 mining fatalities declined

almost by half (Harvey 1986). The CMHSA was the most comprehensive and strict of these laws, regulating coal dust, air quality standards, and roof securing methods, as well as other underground conditions. “Thus, coal mining firms have been required to invest considerable capital in new equipment. Because of the highly technical nature of this Act’s provisions, compliant mine operation has required a greater complement of inspection and supervisory personnel” (Clements 1977:122-23). Productivity decline followed, most notably in the smaller mines of eastern Kentucky and southern West Virginia. With higher operating costs, companies moved more to surface mining.

In 1977 the Surface Mining Control and Reclamation Act became law. Surface-mined lands were to be returned to their previous use capabilities, and their original contours restored as much as possible. Hydrological conditions were to be reclaimed and erosion damage minimized through revegetation. Land removal as part of the mining process was to be done so as to “prevent sedimentation, acid drainage, and soil slides” (Harvey 1986:113). The result was a reduction of surface mines’ share of output. In Appalachia as a whole, surface mines’ share had risen, 1970-78, from 33.8 to 49.7 percent. By 1983 it had dropped back down to 39.1 percent.

The third impact of federal legislation has been the results of the 1970 Clean Air Act and subsequent revisions. The 1970 law gave the federal government the authority to set standards for air quality. Minimum emission levels were established for sulfur dioxide, nitrogen oxides, carbon dioxide, hydrocarbons, and ozone. Insofar as the burning of coal is concerned, sulfur dioxide is the primary target as the causative factor in acid rain. The result of this legislation was a reduction in the demand for high-sulfur coals, like those of northern Appalachia and an increase in the demand for low-sulfur coals, like those of southern Appalachia (Clements 1977, Harvey 1986). Thus the science of blending coals was made as critical a component of steam coal marketing as in metallurgical coal marketing, though for different reasons.

McDowell County's coal production has been in decline since its peak in 1947, with minor surges. The early decades of intense production, due to the high demand for its coal, exhausted the easily mined reserves. This has made the county an increasingly marginal producer. With the decline in demand for metallurgical coal has been an increasing importance in the value of this region's reserves as a source of low-sulfur, high-Btu steam coal needed for blending to meet emission standards. However, it has been other counties in southern West Virginia, namely Mingo and Logan, that have taken the lead in meeting these demands (see Fig. 1.4).

### **Three: “World’s Largest Coal Producing County”**

The early success of the coal industry’s establishment of McDowell County as an important coal producing region was due to four basic factors: geology, market forces, the quality of the county’s coals, and low labor and transportation costs. These factors combined with the energetic efforts of investors and the early operators to develop the economy of the region and ensure that its coal would be in high demand despite its distance from markets.

The exposed and horizontal nature of the coal seams contributed greatly to making the early development of the region economical and successful. Not only were they easy to explore and extract but drainage was good due to the slight inclines of the seams. Furthermore, their high position above the water level made pumping unnecessary and facilitated transport to the tippie and rail cars. Seams were thick, making for a heavy payload early on, and the abundance of local timber for mine timbering further facilitated early development.

The increasing importance of bituminous coal in the U.S. economy promised a ready market for the high quality coals of the region, once the railroad made market access possible. Despite initial shortages of labor, European immigrants and southern Blacks provided a plentiful supply of labor, thus keeping wages low.

Southern West Virginia coal was known as early as 1742 when John Peter Salley traveled through present Boone County and observed seam outcroppings. In 1750 Dr. Thomas Walker explored present West Virginia and Kentucky along the Tug Fork of the Big Sandy River. He described the coal outcrops of the Flat Top area of McDowell and Wyoming Counties, “...nigh the eastern edge of the Coal Land” (Lambie 1954:26). In the 1830’s the Virginia Geological Survey sent Professor William Barton Rogers to demonstrate the presence of coal throughout the Appalachian Plateau from Pittsburgh down

to eastern Tennessee. Yet the conditions of demand and industrialization would not emerge until after the Civil War.

**Getting at the Coal** The Pocahontas Field, southernmost of the Smokeless fields, was opened up by geologist, mining engineer and land speculator Jedediah Hotchkiss and Philadelphia businessman Frederick J. Kimball (Lambie 1954, Tams 1963). The Connellsville Field east of Pittsburgh had been developed by industrialist Henry Clay Frick, who became known as the “Coke King.” This success prompted others to follow his example in the New River Field, northernmost of the Smokeless fields (see Fig. 3.1), in Fayette and Raleigh Counties, once the Chesapeake and Ohio Railroad (C&O) was extended into central West Virginia in the early 1870’s.

Hotchkiss, who had been “Stonewall” Jackson’s topographical engineer during the Civil War, dreamed of an industrial post-war redevelopment of Virginia through Virginia iron and West Virginia coal. In 1873 he sent Isaiah Welch to make a survey of the coal seams of the Elkhorn Valley-Flat Top Mountain area, the divide between the Bluestone, Tug Fork, and Guyandotte Rivers. Despite the quality and extent of what became named the Pocahontas #3 seam, however, it was not until 1881 that Hotchkiss was able to secure financing for the venture. In that year the E.W. Clark & Co. banking firm, of which Kimball was an associate, bought up the Atlantic, Mississippi and Ohio Railroad after Kimball sent his own agent to corroborate Hotchkiss’ claims. This was the beginning of the Norfolk and Western Railroad (N&W).

Hopes for a Virginia steel boom ran high among the founders of the N&W, fueled by C.R. Boyd’s *Resources of South-West Virginia*, a book on the mineral richness of the region published in 1881. According to Lambie (1954) there were three factors that convinced these men of success:

First, there would be the chance to supply fuel to the iron industry that was expected to develop from the hematite ores of Virginia. Secondly, there would be

cheap fuel for the railroad's own motive power...And, thirdly there was the possibility of shipping to Eastern markets (28).

Once organized, the N&W needed to obtain access to the Flat Top area, its initial target. This was done by acquiring franchises controlled by four companies which controlled key approaches: The New River Railroad Company of Virginia, the New River Railroad, Mining and Manufacturing Company, the Bluestone Railroad Company, and the East River Railroad Company, none of which had begun actual construction into the area at the time of its absorption by the N&W.

The Southwest Virginia Improvement Company was formed in agreement with the N&W for the purpose of being responsible for the exploitation of the coal resources of the new company's service area (in 1907 this arm of the N&W became the Pocahontas Consolidated Collieries Company; in 1917 it became the Pocahontas Fuel Company). Despite the designs of this company for exclusive control over the Flat Top area, Philadelphia and London capitalists nevertheless moved in to take their share of Pocahontas coal. Something of a land rush ensued as land companies emerged, buying up lands and leasing them to operators.

The land owning arm of the N&W was the Flat Top Coal Land Association. Through this vehicle the N&W came to own some eighty percent of the coal lands of the Pocahontas field by 1901 (Rice 1985). According to Sullivan (1989), "Association lands were leased to operating companies at a 10¢ per ton rate, with a 15¢ tonnage royalty taken on coke production...each lease conditional upon the construction of a specified number of coke ovens, set at 100 or more after 1886" (81-82).

In August, 1881 work began on the rail line to the Flat Top area. Meanwhile, mining commenced on the twelve-feet thick southeastern edge of the Pocahontas #3 seam in the village of Pocahontas, Tazewell County, Virginia in January, 1882. By 1893 the

N&W extended from Pocahontas, Virginia to the Ohio River via the Tug Fork, as well as east to Norfolk, Virginia (Fig. 3.1).

Hotchkiss promoted the N&W through his magazine *The Virginias: A Mining, Industrial, and Scientific Journal*, in which he asserted that the Virginias would become “the iron-making belt of the country” (as quoted in Thomas 1971:100). He went on a lecture tour of Philadelphia, New York, and New England to promote this idea. The iron boom, however, failed to become a reality, and the dream collapsed in the 1890’s as the quality and quantity of Virginia iron failed to match that of West Virginia coal. For one thing, Virginia ores are high in phosphorous, making it “unsuitable for use in the Bessemer process” (Thomas 1971:111). They were also difficult to mine, located in the Ridge and Valley physiographic province. In contrast, Lake Superior ores were plentiful, easy to mine, and low in phosphorous. By the turn of the century, even those Virginia furnaces that managed to survive were using Lake Superior ores. Another disadvantage was that the Virginia steel industry had a late start and had to compete with older industrial centers in Pennsylvania and Ohio that had well established, large-scale operations with strong market connections. Nevertheless, due to the vigorous efforts of the railroads involved—i.e., the C&O and the Virginian as well as the N&W—the Smokeless coals avoided the same fate as Virginia iron and demand continued to rise.

During the 1890’s smokeless coal was marketed cheaply, due to the high levels of production achieved to fuel the hoped for iron boom, making this coal a fierce competitor against other coals. Once the cheaper, higher quality Smokeless coals successfully penetrated the older, established markets, investment subsequently gravitated toward these operations resulting in an investment boom in coal lands in southern West Virginia. The market that Pocahontas coal entered was dominated by the Cumberland/Georges Creek/Upper Potomac Fields of Pennsylvania, Maryland, and northeastern West Virginia, and the Clearfield district of central Pennsylvania, northeast of Pittsburgh. Beginning in

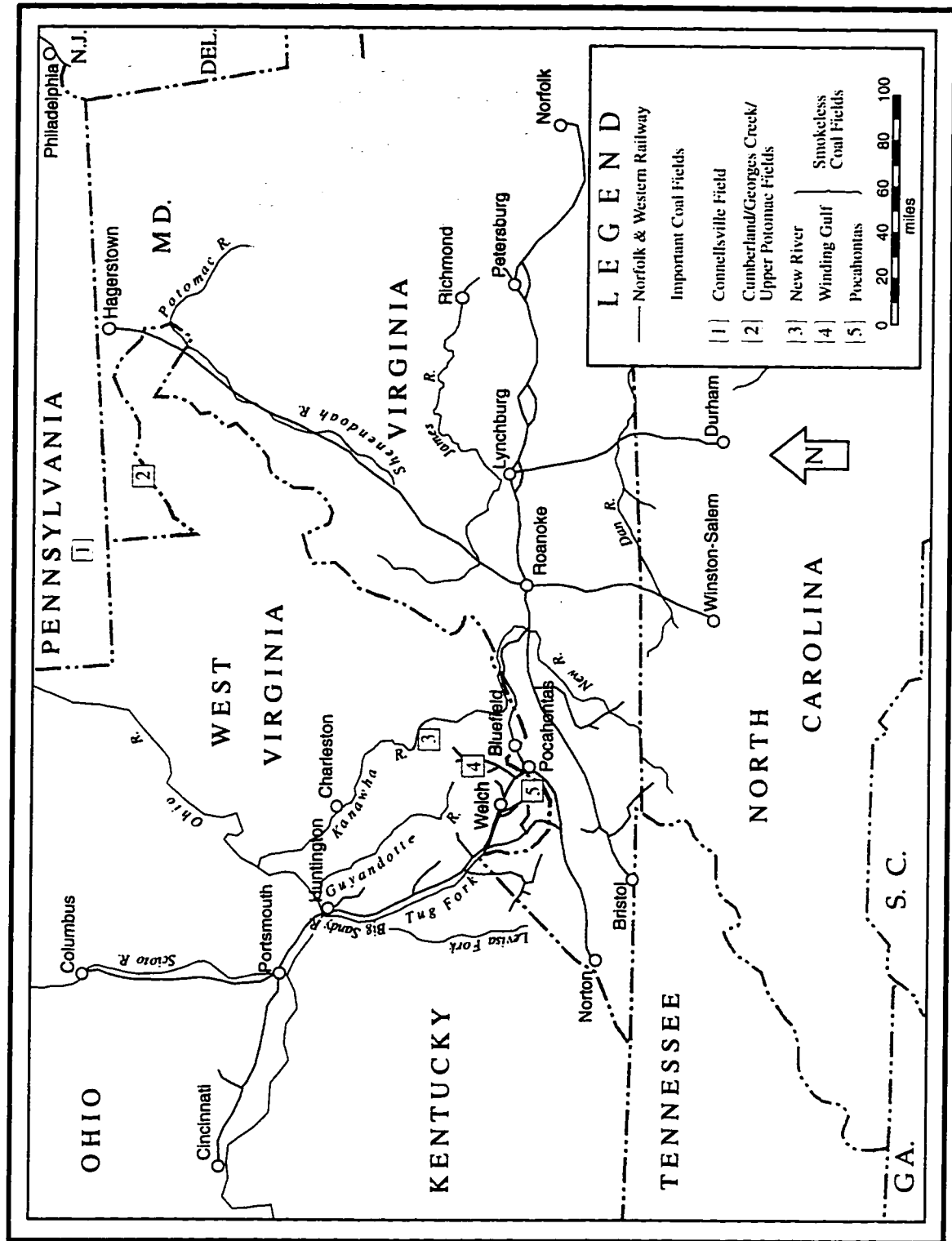


Fig. 3.1. The Norfolk and Western Railway and some of the important coal fields with which its coal entered competition.  
Source: Lambie (1954).

1886, promotion was managed by sales agents Castner and Curran of Philadelphia (later Castner, Curran and Bullit). This drive was very successful, resulting in high demand for Pocahontas coal in Virginia, North Carolina, and New England by both industry and steam ships (Lambie 1954). These coals were priced competitively due to cheap labor costs and transportation. The factors involved in labor costs remaining low were discussed in Chapter One, namely that the mining population raised most of its own food needs thereby subsidizing the operators' labor costs. Transportation remained cheap due to the cooperative efforts of the operators and the railroads. This was especially true for the N&W which was exclusively a coal carrier. The Agreement of 1883 between the N&W and the Southwestern Virginia Improvement Company, for instance, guaranteed low rates for operators and ensured exclusive transport via the N&W. Although no fixed rates were established, minimum prices were agreed upon. A seventy percent share went to the carrier and a thirty percent share went to the shipper. It was thus arranged that the two actors would act in mutual reinforcement in a competitive market. Although throughout the ensuing years legislation would be enacted prohibiting railroads from mining coal, the close partnership between these two actors remained close, though modified from time to time in response to shifts in the legal climate. This close association aroused the ire of northern operators, especially as their mines became increasingly unionized and their labor costs rose.

The N&W was exclusively a coal railroad and saw the Pocahontas Field as its own, guarding it from intrusion by other railroad companies. This was primarily done through the coke oven provisions in land leases and the allocation of coal cars, which was "proportional to the number of coke ovens" (Sullivan 1989:83) owned by the operator lessee. This gave the N&W some control over production levels, while its control over land ownership restricted who was allowed to enter the business of mining its coal.

Despite the early failure of the Virginia iron industry, coke continued to be manufactured in the Smokeless fields. Yet these coke operations were slow to adopt more efficient methods and clung on to the beehive oven, which was inefficient and dirty. By the time the by-product oven was developed, operators were free to move away from coke manufacture, and chose to do so rather than invest in the new technology. West Virginia coke manufacture peaked in 1910 and rapidly declined thereafter as coke production near the points of consumption became the rule (Thomas 1971). According to Rice (1985), “McDowell County usually accounted for about one-half of the coke made in the state” (188).

McDowell County became the top coal producer in the state by 1903, a position previously held by Fayette County which was the first to produce more than one million tons per year (Rice 1984). The great bulk of county output came from the Pocahontas field. This coal was highly desired by steam ship commanders. Of 123 commanders questioned by the U.S. Navy Department’s Bureau of Equipment in 1899 as to their fuel preferences, 118 reported Pocahontas coal as the most desirable. Pocahontas coal became the top ranking fuel not only for the U.S. Navy but also the German and British navies by 1902, so that it became known as “Navy Standard” (Lambie 1954).

Although Pocahontas coals comprised more than half of the N&W’s haul, there were other fields of importance as well. By the 1920’s about twelve percent came from the Tug River Field (largely in McDowell County) while around twenty percent came from the Thacker Field (largely from Pike County, Kentucky and Mingo County, West Virginia but partially from the western section of McDowell County), as well as some from the fields of the lower Tug Fork River. Distribution of N&W coals in the early decades was eastward, primarily, until 1912 when westward shipments caught up and became even with eastward shipments. During the 1920’s a shift occurred toward the west due to urban and industrial growth in the midwest (Lambie 1954).

**Building a New Society** The early coal operators were independent entrepreneurs who leased their mineral lands from the large corporations and marketed their coals through these same companies, such as the Southwest Virginia Improvement Company, who managed both the sale and the transport of coal. Quite often the operator was financed by outside interests, such as Philadelphia bankers.

These early operations were generally family affairs; most were from outside the region, especially Britain, Pennsylvania, or Virginia. The British and Pennsylvanian operators brought with them an “entrepreneurial backbone and technical expertise” (Sullivan 1989:97) gained from previous and extensive experience in the mining of coal, often in the anthracite fields of eastern Pennsylvania. They, plus a few ambitious Virginians, came to constitute an elite class in southern West Virginia. “To these men fell the task of fitting modern industry into an underdeveloped and sparsely populated region...building an industry and an auxiliary industrial society.

Most obviously, their work lay in opening mines and in organizing production for their own gain, and in structuring a supportive coal fields socio-economy upon the basic foundation of their company-owned towns. In a larger sense, they acted as the advance guard for regional modernization (Sullivan 1989:3-4).

In other words, the early operator had to erect the infrastructure (with the exception of the railroads) upon which the coal industry could become established. He had to secure labor as well as build the facilities to maintain this labor force. The crux of this effort was the company town.

When the coal industry came to southern West Virginia it found a population that was ready and eager to work for wages. Nonetheless, this labor force was not in sufficient supply to serve a growing industry. As labor needs grew, therefore, workers were imported (Long 1989). The coal operators sent agents to Atlantic ports to recruit recently arrived immigrants and to the deep south to recruit Blacks (Corbin 1981). In the early 1900's McDowell County was heavily represented by foreign-born persons, with 6,300 in

1910, about fifteen percent of the state's total foreign-born population (Laitila 1967). Italians and Hungarians ("Hunkies") were the predominate nationalities to come to the county. In 1912 the county had around fifty-one percent of the state's Italians and nearly forty-seven percent of its Hungarian population. Foreign-born miners constituted more than thirty-five percent of West Virginia's mining force (Rice 1985).

The first miners—whether native, immigrant, or southern Black—were from rural origins and, hence, were introduced (both physically and culturally) to urbanism through the coal town. This experience shaped subsequent attitudes and expectations of urban institutions. The company was landlord, storekeeper, educator, and church. The company also provided the recreational and amusement facilities. Because of their rural origins, all of these groups were quite adept at providing a good deal of their food supply through gardens and livestock, thereby reducing wage requirements. This greatly aided their employers' competitive situation and was a general condition throughout the coal towns of southern Appalachia (Salstrom 1994, Sullivan 1989). The local natives tended to be the most stable employees, being local residents of long standing and thus less likely to move on to greater opportunities or better conditions.

The company town was not an institution unique to the Appalachian coal fields, though far more prevalent (Corbin 1981, Shifflett 1991). A higher percentage (ninety-four percent) of coal miners lived in such towns in Appalachia than anywhere else in the U.S.; Illinois followed at a distant second at fifty-three percent.

When the operators first came to the region to open up their mines, the existing landscape was one shaped by an economy of small-scale farming. As Caudill describes it, "most of the bottoms had been cleared...the timber began at the 'foot' of the hills and extended upward over the 'spurs' and 'points' and through the rich coves to the tops of the ridges" (62). Conditions were quite primitive—houses and outbuildings were of hewn log construction and roads were underdeveloped or nonexistent. For the operators it was a

functional wilderness, in which they had to provide the base upon which an industrial society could become established and subsequently flourish.

Company towns began with the construction of a sawmill as a nucleus, then building around it. Leases generally contained provisions for timber exploitation sufficient for the erection of facilities. Early construction was done by the companies themselves; later construction became independent of the company as the local economy developed and an independent construction industry emerged, which became the general rule by the 1920's. As transportation routes necessarily followed natural drainage patterns, so too did settlement. The narrowness of the valleys imposed a linear pattern to this development, just as it had with traditional settlement which had concentrated in the valleys of the larger streams where bottomlands were more extensive, rather than along the ridges and headwaters of streams (Laitila, et.al. 1967, Sullivan 1989).

The placement of buildings and facilities were arranged by priority: industrial needs came first, then the store and other services, then company-provided recreational facilities, then the better housing for higher personnel, then the laboring class's housing. Neighborhoods were ranked and arranged by ethnic priority—first native white, then immigrant, then Black, resulting in distinctive ethnic “towns,” each with its own personality. After the sawmill was built, necessary industrial structures followed, beginning with the mine itself so that production could begin as soon as possible. According to Sullivan (1989),

The mine was first placed, at the most convenient point available to the company, and the rest of the industrial plant was arrayed around it. The tippie would be located as near to the mine as possible, but necessarily at track level; since the early drift mines worked hillside outcroppings, in practice this most often meant that the mine portal would be well up the valley wall, with the tippie at stream level in a direct line below. Production work centered at the mine and tippie, and it was around this industrial core that the town's service and residential section defined themselves, the latter radiating around the former as terrain permitted. Segregation obtained, with the 'white American' neighborhood typically closest to the service center; black and immigrant areas were usually outlying, and perhaps at opposite ends of the town (158-59).

As these towns grew, housing typically scaled the hillsides in a haphazard fashion in irregular rows. Roads continued to remain in an underdeveloped state; the railroad became the primary means of intertown transportation, horses being the alternative. This changed with the adoption of the automobile as the short-distance transportation mode of choice. This development also weakened the hold of the company town, as workers gained some freedom as to where they could live and shop.

Although rent and utilities were considered reasonable, sanitation was a major problem; water supply was typically from a questionable source, and waste was usually dumped into the streams. Additionally, tenants lived in company housing at the company's discretion; leases usually contained the provision that no landlord-tenant relationship existed, and that, as such, eviction for any reason was a company prerogative. Enforcement, though, tended to be lax. The companies wanted ultimate control over their towns, but were unenthusiastic about maintaining control. Their primary concern (especially in southern West Virginia) was to discourage the harboring of union organizers through fear, hence these strict lease agreements as well as the system of intelligence that was maintained to inform management of any such activity (Sullivan 1989).

Law enforcement was weak in many of these coal towns. Keystone was particularly notorious in the early years as a "den of iniquity" (Rice 1985:188), due to its saloons and general lack of law and order. Yet some operators made attempts to run their towns with a healthy respect for decency. Gary was one of the more successful in this regard. Corbin (1981) states that "because the company towns were unincorporated, there were no local political officials, no mayor, no city council, no ward boss to attend to the immediate interests of the miners—there was only the coal operator" (10). In fact, operators censured newspapers and other literature that they felt was contrary to the best

interests of the company. Also, ballots were inspected at the polls by company guards; unemployment was often the penalty for voting contrary to company endorsement.

Ironically, the company exercised less control within their mines than in their towns. Supervision on the job was at a minimum, and regimentation was not what it was for other industries, such as textile factories, for example. Miners were usually paid by the ton, and considerable freedom was enjoyed in the work routine. Nonetheless, the southern West Virginia coal mines were the most hazardous in the nation, and perhaps the world, with fatalities exceeding those of European mines by as much as five-hundred percent (Corbin 1981).

The same ethnic priorities that governed housing arrangements also determined who would be laid off once mechanization or production slow-downs meant fewer jobs. Also, job differentiation that came with greater specialization due to mechanization followed the same general pattern. Due to larger numbers of Blacks in McDowell County, more Blacks there occupied higher status jobs, hence the county's reputation among Black miners as the "Free State of McDowell" (Sullivan 1989:188).

One of the more infamous practices of the coal operators was the use of company scrip, which was a substitute for payment in cash wages. The exchange rate of scrip to U.S. currency varied with place and time but was always to the disadvantage of the miner. Salstrom (1994) states, however, that such practice was expedient for the operators rather than opportunistic and predatory:

Coal operators' use of scrip allowed company stores to charge artificially high prices, but such price gouging was just an auxiliary feature (which many companies did practice). The main reason coal companies began paying wages in company scrip was because neither they nor their banks possessed enough cash for payroll purposes...Company scrips served, in effect, as each company's private checks, each company store playing the part of an 'in kind' redemption bank (34).

Artificially high prices notwithstanding, the money rolled in as production increased and the local service industries flourished, especially during the First World War when "the

money flowed in torrents into the commissaries, the new movie theatres which the companies had recently built and the poolrooms and restaurants of the recreation buildings” (Caudill 1963:143). However, there was little or no investment in the development of secondary economic activities, no manufacturing or other basic industries as potential sources of jobs to help cushion the blow of job loss that would come later, as occurred in the anthracite region. Other than mining there was only the trade and service activity that fed off the coal investment. All things considered, this was the best time to have invested in alternate industries—while there was so much capital, labor and local market available, and while investment and infrastructure development was at its peak. Yet such was not the case. Aside from the dangers of work in the mines, living conditions were good and promised to be, just so long as there were so many jobs in the mines and so much money coming into the area. The towns were buzzing with activity and automobiles were everywhere. The *New York Times* dubbed Welch “Little New York” because of the crowds and the bustle on the streets (Clauson 1995:6).

It was only after the policies of the New Deal that the southern West Virginia mines became unionized. Prior to that, the United Mine Workers’ struggle to organize these mines had proven largely unsuccessful due to the lack of an industrial brotherhood ethic among these miners (Corbin 1981, Salstrom 1994). In the 1930’s UMWA President John L. Lewis stated that the issues at hand only concerned the miners of the day, that these miners’ sons “would have to look for work in the cities” (as quoted in Salstrom 1994:87), a statement that would become a prophecy come true.

**Consolidation** The beginning of the end of the company town came with industry consolidation. In the early years it was more practical for capital interests to allow local operators to run things. The distance between the mines and the financiers’ seat of operations was too great for investors to take an active part in the management of their interests. Once this friction of distance had become a thing of the past—with the

development and maturation of infrastructure and supportive industries—these investors wasted little time moving in and securing control over their interests. Vertical integration became the order of the day once it was no longer too difficult or ineffective to manage business from afar. During the first decade of the twentieth century it became clear that the independent operators had served their purpose and that it was time for economic rationalization to take over.

The early operators became obsolete because of their independence. With consolidation came the need and desire to assign and reassign management to fit corporate priorities and meet local, changing conditions. Independent operators simply had no place in such a centrally controlled system. “With the entrepreneurial function behind them, these men had become replaceable” (Sullivan 1989:218).

There was resistance to this development, however. In McDowell County, the Pocahontas Operators Association was organized as an attempt by operators to deal as a unified front with the N&W and their tight control of the Pocahontas Field. In a sense, consolidation was less of a concern with these operators than weakness as independents, since the N&W was already an outside interest with an iron grip on the activities of the operations in its service area. The other Smokeless fields had no single pressure group with which to deal. However, these other fields were able to postpone consolidation by playing off the different interests that served them. This was especially true in the Winding Gulf Field, to the north of the Pocahontas Field, where operators effectively took advantage of the competition between the C&O and the Virginian Railroads (Sullivan 1989).

In 1927 W.P. Tams of the Winding Gulf field (who was the last of the independents to sell out, doing so only in the post World War II era) initiated a plan to consolidate the operations of all the Smokeless fields into a single corporation. He came close to succeeding, until at the last minute when a few of the Pocahontas and Winding

Gulf operators changed their minds. Tams then abandoned his scheme while holding out on his own while those around him were absorbed and reorganized. Thenceforth more mines became “captive” operations, their coal being used by the companies which owned them. As such, companies like U.S. Steel became major mine operators, producing coal for its own furnaces.

With consolidation came the selling-off of company housing. This was the last toe-hold of the companies’ management of local, non-mining affairs, and was initiated by the larger companies. By 1950 very few company-owned houses remained. Companies either sold their houses directly to the occupants or, most usually, to real estate companies who then sold them to the occupants. Once free from company restrictions regarding improvements, the new owners painted and otherwise altered or changed them, thus somewhat breaking the monotony of the coal town landscape (Fig’s. 3.2 & 3.3).

Economic rationalization has continued to impact the coal fields of southern West Virginia, especially McDowell County. With the exhaustion of the more easily mined reserves, and the decline in demand for metallurgical coal, there has been a resultant decline in large company activity in the county. The decline in production and mining employment has had a dramatic effect on the overall economic situation.



Fig. 3.2. Former company houses. (Gary, August 1995).



Fig. 3.3. Former company houses (Elbert, August 1995).

## Chapter Four: Change Since 1950

McDowell County was organized in 1858 when the region was still part of Virginia (West Virginia was admitted to the Union during the Civil War, June 20, 1863). Named after a former governor of Virginia, the county covers an area of 538.40 square miles and formerly was divided into six magisterial districts: Northfork (22.25 sq.mi.), Elkhorn (15.41 sq.mi.), Adkin (86.02 sq.mi.), Browns Creek (95.43 sq.mi.), Big Creek (153.27 sq. mi.), and Sandy River (166.02 sq.mi.) (Fig. 4.1). During the 1980's these were reduced to four districts due to population losses in Northfork, Elkhorn and Adkin, resulting in a new, consolidated district named North Elkin (123.68 sq.mi.). Development came first to the valley of Elkhorn Creek in the northeast, thence westward through the rest of the county. Since the Pocahontas coal field has dominated coal production in the county, this section has demographically dominated the county as well. It has been this area that has borne the brunt of the county's decline, both demographically and in coal production.

The county is divided into three coal fields (see Fig. 2.5 ). The easternmost, the Pocahontas, contains low-volatile bituminous coals, high in carbon (seventy-eight to eighty-six percent fixed carbon) and low in sulfur (generally under one percent). These are the coals so highly valued by the steel industry (and formerly by steamship captains). The major coal seams mined in this field are the Pocahontas No's. 3, 4, 5, and 6. This field extends into southeastern Wyoming County, the western edge of Mercer County, and northern Tazewell County, Virginia. The Pocahontas #3 and #4 seams have been the most important; some thirty-nine percent of the Pocahontas #3 seam's original reserves, and thirty-two percent of its area, are located within McDowell County (Haught 1959, Mining Information Services 1995). It was the #3 seam that was tapped into at Pocahontas, Virginia in 1882, and was the initial target of the early operators who swarmed into the Flat

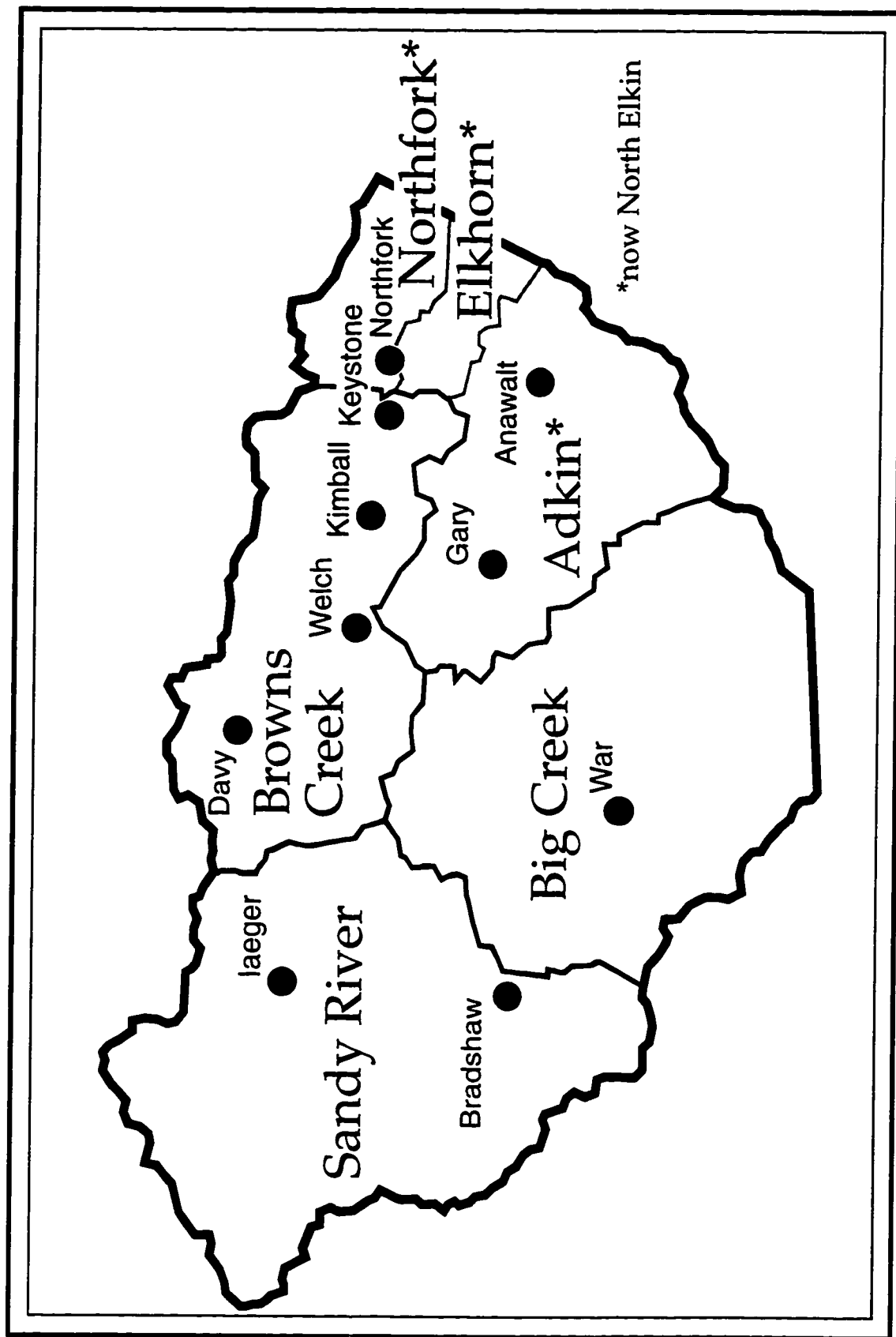


Fig. 4.1. The magisterial districts and major municipalities of McDowell County. Source: U.S. Bureau of the Census (1960, 1990).

Top Mountain area, where the highest quality section of the seam is located, during the early decades of development.

The Tug River Field occupies the central section of the county and consists of low- and medium-volatile bituminous coals of lower carbon content (sixty-nine to seventy-eight percent fixed carbon) than the Pocahontas coals. Sulfur content here is generally under one percent. The major seams mined in this field are the Iaeger (or Bradshaw), Sewell, Welch (or Pocahontas #13), Beckley (or War Creek), Fire Creek (or Pocahontas #11), and the Pocahontas #9. The Tug River Field is located almost exclusively in McDowell County, extending into Wyoming County to the north.

The northwestern corner of the county is represented by a portion of the Thacker Field, most of it lying in adjacent Mingo County, West Virginia, Pike County, Kentucky, and Buchanan County, Virginia. These coals are of medium- or high-volatile bituminous rank (around fifty-five to seventy-six percent fixed carbon) and generally less than one percent sulfur. The major seams mined in McDowell County are the Douglas (or Red Ash), Bens Creek, and Gilbert.

The county's original minable reserves were estimated at 5,341 million tons. Remaining recoverable reserves are estimated to be around 1,720 million tons. Since 1883 the county has produced some 1,490 million tons. The county is currently producing at pre-1910 figures (5,891,336 tons in 1993). The general trends since 1950 have been a drastic reduction of production in the Pocahontas Field as the larger operations have given way to smaller operations, and a slight shift in emphasis toward the Tug River and Thacker Fields has occurred.

**Coal Production Change: 1950-1990** The maps in Fig's. 4.2 to 4.5 show the distribution of the county's mines according to production from 1950 to 1990 (State of West Virginia Department of Mines 1950, 1960, 1970, 1980, 1990). The classes—*large*, *medium*, *small*, and *very small*—are based on J.H. Thompson's 1964 study of the coal

industry in West Virginia (as cited in Schmidt 1979). According to Thompson, large- and medium-sized operations market their coal to a larger number of customers and have a larger market shed than small- and very small-sized operations. Also, smaller operations are more likely to market their coal through brokers. According to Schmidt (1979),

Although the specific percentages determined by Thompson may have changed somewhat since his analysis was completed, the relative proportions are less likely to be altered (150).

In 1950 (Fig. 4.2) McDowell County had three large mines accounting for some seventeen percent of county production. United States Steel owned two of these (as well as two medium-sized mines), while the other was owned by the Pocahontas Corporation. These operations were located in the general vicinity of Gary and Bishop, respectively (see Fig. 1.1). Medium-sized operations, of which there were nine, made up thirty-five percent of 1950 production. These mines tended to be located in the Pocahontas Field, though two were in the eastern Tug River Field. There were thirty-two small-sized mines accounting for about forty percent of production. These were scattered fairly evenly throughout the Pocahontas and Tug River Fields, none being present in the Thacker Field. Very small-sized mines accounted for a mere eight percent or so of production, though they comprised the majority of operations (seventy-eight of a total of 122 mines). These tended to be located throughout the county, except in the east-central portion where the large operations held sway.

In 1950 there were seven surface mines, two of which were small-sized, the remaining five were very small-sized. The exact location of these operations is uncertain due to the fact that all but two of them were listed with out-of-state or -county addresses; these two were located in the Elkhorn Valley-Flat Top Mountain area. Surface production was a mere two percent of the county's total output in 1950.

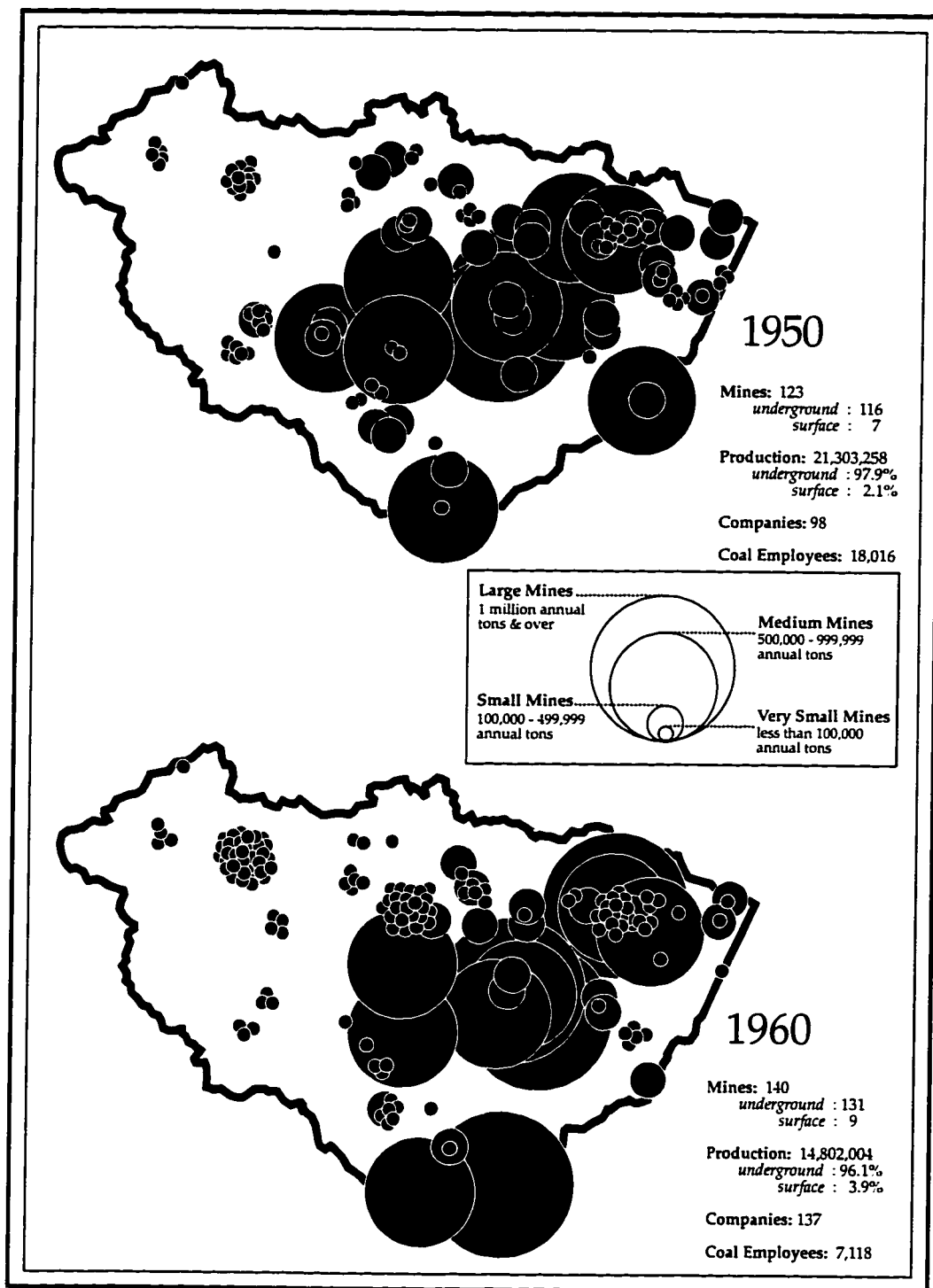


Fig. 4.2. McDowell County coal production. Data source: West Virginia Department of Mines (1950, 1960). Design: Charles P. Davis.

In 1960 (Fig. 4.2) county production had dropped to 69.5 percent of 1950 production. Mining employment, however, dropped to 39.5 percent of what it had been in 1950. The number of companies active in the county increased from ninety-eight to 137. Although the number of large mines increased by only one, their share of output increased from seventeen percent in 1950 to thirty-five percent in 1960. The single additional large mine was owned by Eastern Gas & Fuel Associates. The status of medium-sized mines changed little during the decade; their number decreased from nine to seven while their output decreased from thirty-five percent to thirty-two percent. Small-sized mines decreased in number from thirty-two to seventeen, their share of output from forty percent to twenty-six percent. Although very small-sized mines enjoyed a numerical increase, from seventy-nine to 112, their share of output declined slightly, from 7.64 to 7.12 percent. The general distribution of mines in the county remained pretty much the same as in 1950; the Tug River Field experienced a decline in its medium- and small-sized operations and an increase in very small-sized operations, especially in the vicinity of Premier and Coalwood. There was an increase in the number of operations in the Thacker Field, all of them very small.

In 1970 (Fig. 4.3) large-sized operations numbered five, one more than in 1960; their share of output increased from thirty-five to forty-six percent. The Pocahontas Corporation had dropped out of the picture, while United States Steel continued to operate seven mines, two of them in excess of 1.5 million tons of production. The other three large mines were operated by the Bishop Coal Company, whose operations (one large- and one small-sized) were located at Bishop, the Eastern Associated Coal Corporation, whose operations were located at Keystone, and the Olga Coal Company, which operated a mine at Coalwood. Medium-sized operations experienced a large decline, from a total number of seven mines accounting for thirty-two percent of 1960 production to three mines with

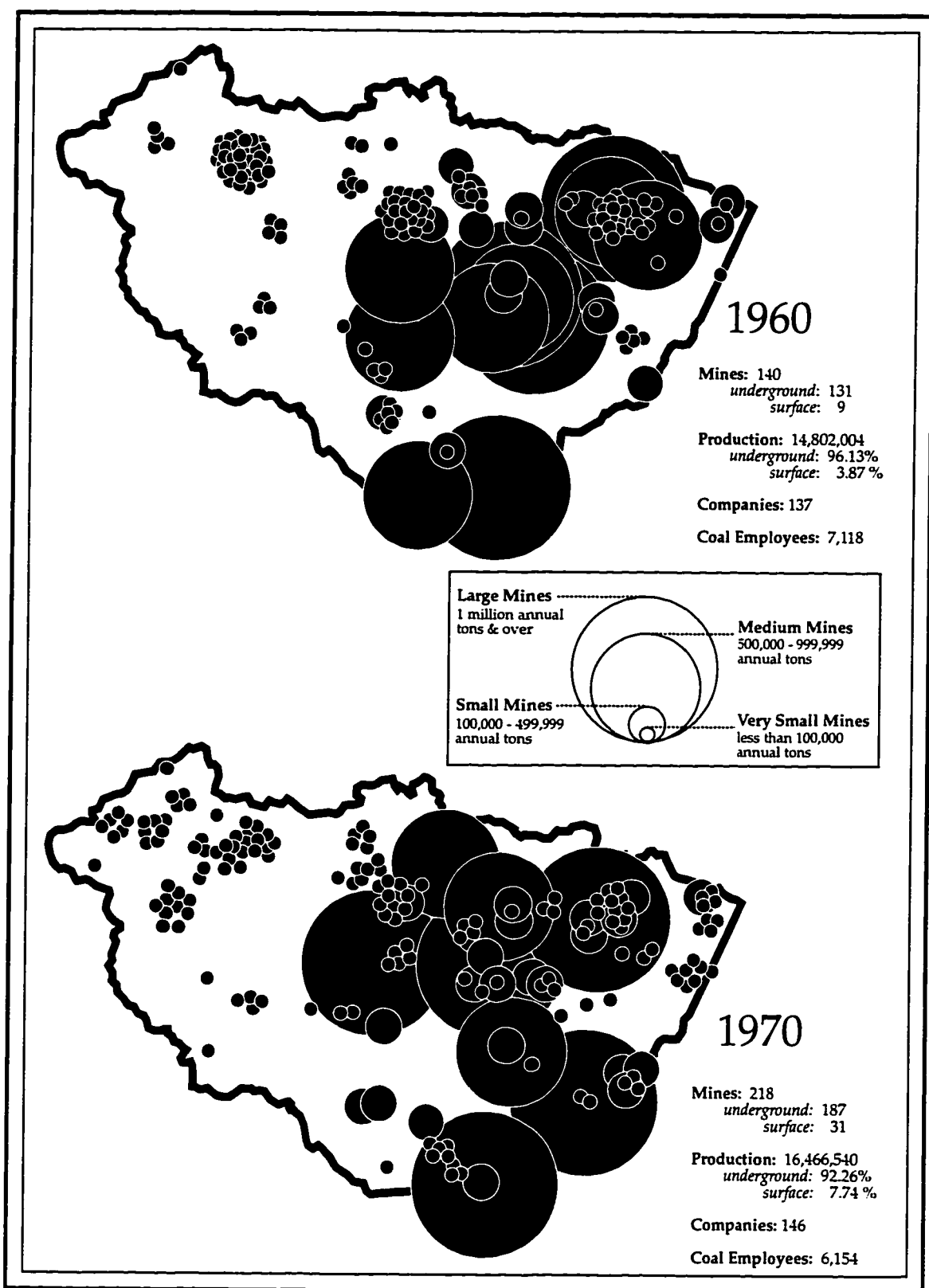


Fig. 4.3. McDowell County coal production. Data source: West Virginia Department of Mines (1960, 1970). Design: Charles P. Davis.

thirteen percent of production. Their greatest decline occurred in the southern portions of the Pocahontas Field, near Valls Creek, and toward the north in the vicinity of Northfork, while there was an increase in the northern Tug River Field to the west of Welch. Small-sized mines increased from seventeen mines in 1960 to twenty mines with less than a two-point increase in share of production in 1970. Very small-sized mines increased in number from 112 in 1960 to 188 in 1970, their share of production jumping from seven to fourteen percent.

Overall production for 1970 was 111.25 percent of 1960. McDowell County thus shared in the general increase in coal demand during this period. The benefits of this increase, however, did not carry over into the employment picture since mining employment continued to decline—employment in mining was 86.46 percent of what it was in 1960, a loss of 964 jobs.

In 1980 (Fig. 4.4) there were no mines producing one million tons or more. United States Steel continued to operate six mines—one medium-sized mine at Filbert, three small-sized mines near Gary, one small-sized mine at Monson, and one very small-sized mine at Monson. Eastern Associated Coal Corporation continued to operate a medium-sized mine at Keystone, and the Olga Coal Company had three mines—one medium-sized mine at Coalwood, one small-sized mine at Caretta, and one very small-sized mine at Caretta.

The lack of large-sized operations in 1980 meant a statistical boost to the production share of the other three classes of mines: medium-sized operations, numbered at a mere four, jumped from thirteen percent in 1970 to twenty-five percent in 1980; small-sized mines, which decreased from twenty-two to nineteen, accounted for forty percent of production, up from twenty-seven percent in 1970. Very small-sized operations, with thirty-five percent of county production (up from fourteen percent in 1970), decreased in number from 188 in 1970 to 118 in 1980, their greatest decrease being in the Thacker

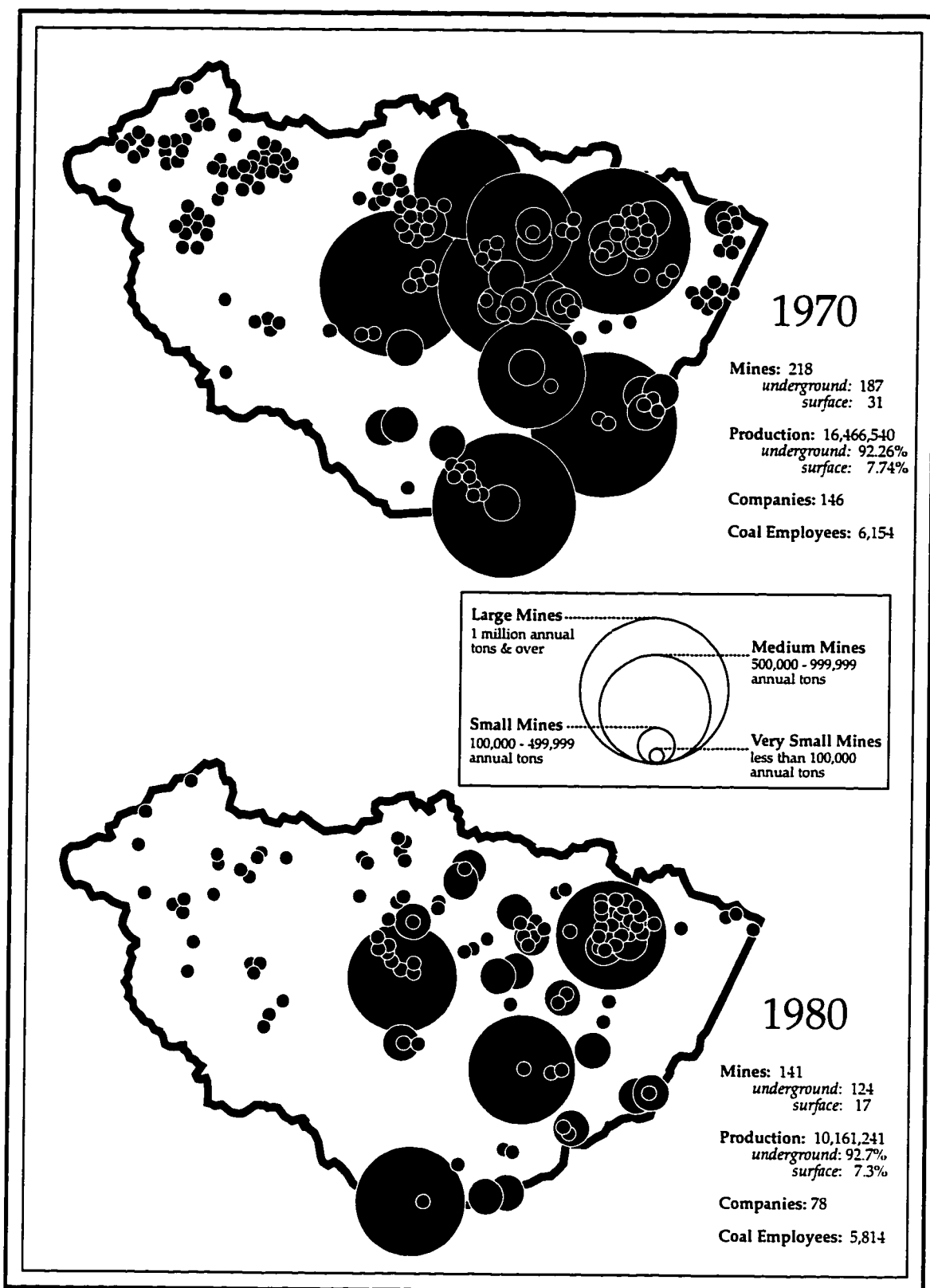


Fig. 4.4. McDowell County coal production. Data source: West Virginia Department of Mines (1970, 1980). Design: Charles P. Davis.

Field, which continued to be their exclusive domain, and at the far eastern edge of the county bordering Mercer County. Total 1980 production was 61.7 percent of 1970 production; mining employment was 94.48 percent of what it was in 1970, a decline of 340 jobs.

In 1990 (Fig. 4.5) there was one large-sized operation, the Amonate No. 31 mine operated by the Consolidation Coal Company in the southern Pocahontas Field south of Valls Creek. This mine accounted for thirteen percent of county output. There were no medium-sized operations in 1990. Twenty-one small-sized operations produced fifty percent of the county's output. What is most noteworthy about this class is that these operations in 1990 had become quite evenly distributed throughout the county, no longer found only in the Pocahontas and Tug River Fields. This represents a reversal of the general trending of the previous four decades, which saw progressively fewer small-sized mines in the Tug River Field, with the number and distribution of small-sized mines remaining fairly constant in the Pocahontas Field. This represents something of a growth for the western half of the county, i.e., the Sandy River and western portions of the Browns Creek and Big Creek magisterial districts; for although there were fewer mines in the western half of the county in 1990 than in previous years, more of these mines were producing at higher levels. There were, in 1990, eighty-one very small-sized operations producing thirty-six percent of the county's output. Though these mines' distribution had thinned-out somewhat, they remained fairly evenly distributed with clusterings remaining at several points, most notably in the northeast near Keystone and Northfork, i.e., in the Flat Top Mountain area. Overall production in 1990 was 74.35 percent of 1980 production. Mining employment dropped to twenty-nine percent of 1980, a loss of 4,104 jobs.

Coal production in 1990 was 7,555,295 tons, 35.5 percent of 1950 production, while mining employment in 1990 was twenty-four percent of what it was in 1950. The implementation of labor saving mechanization that occurred after the Second World War

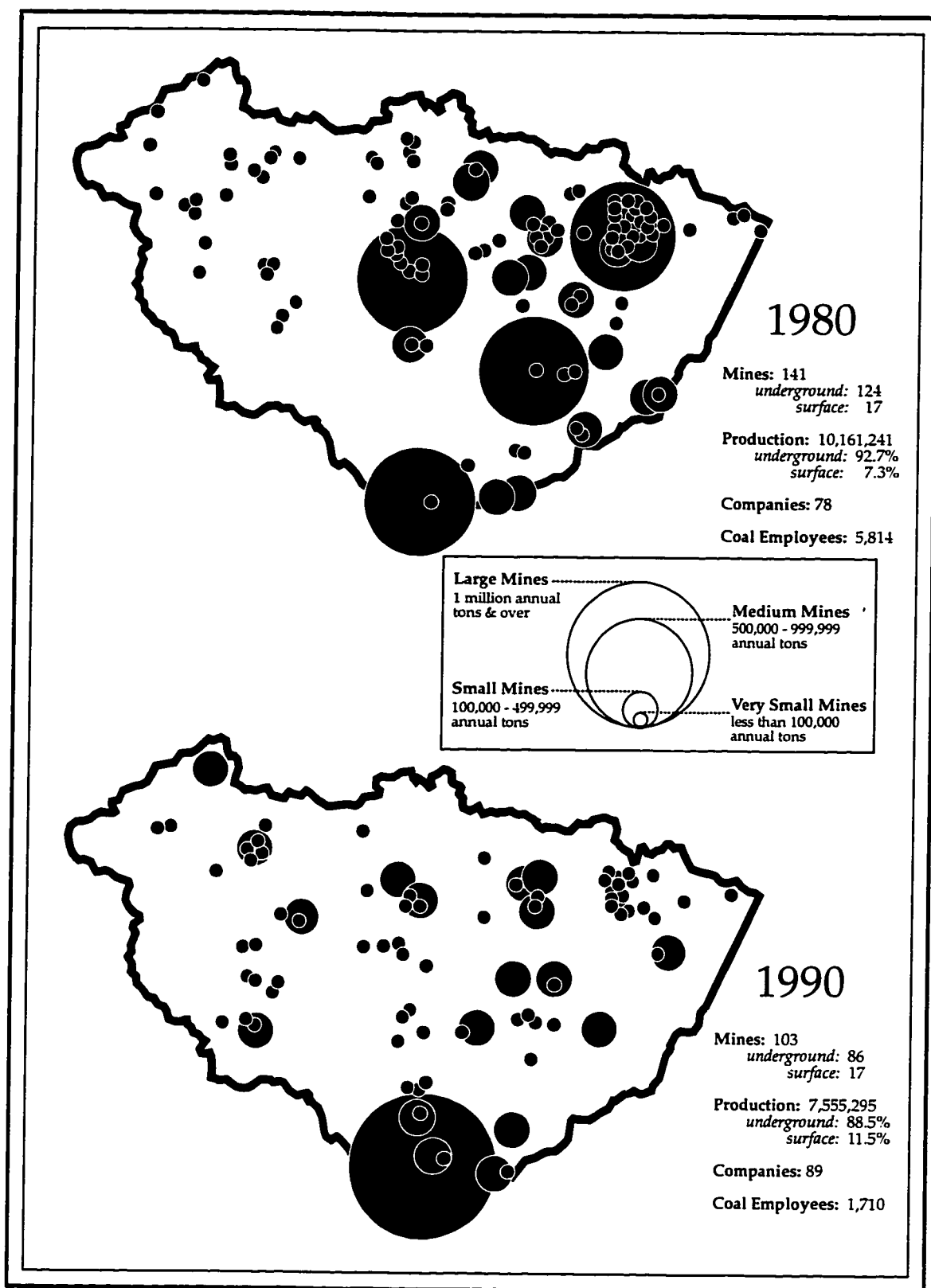


Fig. 4.5. McDowell County coal production. Data source: West Virginia Department of Mines (1980), West Virginia, Division of Energy (1990). Design: Charles P. Davis.

was well under way by 1950. In that year mine productivity for McDowell County was 1,182.46 tons per employee per year, on average. By 1960 it was 2,079.52 tons per employee per year. In 1970 it reached 2,675.75 tons. In 1980 it *dropped* to 1,747.72 tons, lower than 1960. In 1990 productivity jumped to 4,418.30 tons per employee per year. In 1993 it was at 4,116.94. The rise in productivity from 1950 to 1970 was doubtless a result of greater utilization of mechanization in the mines. The decline in productivity for 1980 was most likely due to the decline in larger, more efficient operations. The dramatic increase for 1990 represents a return of one large-sized mine, combined with the great decline in the number of less efficient very small-sized operations, from 118 to 81, as well as the slight increase in the size of operations in the western section of the county.

Very small-sized operations' productivity increased 333 percent, 1960-1990, from 956 to 3,183 tons per employee per year. This trend reflects the greater use of mechanization as well as the increase in surface mining operations, most of which have been in the very small class. In 1950 five of the seven surface operations were very small, whereas the remaining two were small-sized. In 1990 thirteen of the county's seventeen surface mines were very small, while the other four were small. Surface mines have, thus, been a small- or very small-sized activity in McDowell County, even when operated by large companies. For instance, in 1990 Consolidation Coal Company, the largest producer in the state of West Virginia, operated two mines in the county, one large-sized deep mine and one very small-sized surface mine.

In contrast, the medium- and large-sized operations have declined in productivity over the decades. Medium-sized operations were producing 2,612.74 tons of coal per employee per year in 1960, while in 1980 they were producing 1,532.33 tons per employee per year (there were no medium-sized operations in 1990). Although large-sized operations improved productivity in 1970, from 2,735.66 in 1960 to 3,345.25 in 1970,

1990 productivity was less than it was in 1970, at 3,198.26 (there were no large-sized operations in 1980). This general decline in larger mines' productivity, as well as the decreasing incidence of larger mines, is no doubt a reflection of the increasing difficulty of mining coal from these seams economically, i.e., those of the Pocahontas Field, since these seams have been worked intensively for a century. This situation was predicted by geologist Oscar L. Haught (1959). Commenting on the general situation in the state in the 1950's, he wrote:

Most of the beds that have hitherto been mined, and practically all those now in the course of exploitation are only *those beds from which coal can be obtained most cheaply*. It is thus that the local industry has been able to expand so rapidly, for West Virginia coal from these seams can be shipped to considerable distances and still be sold against the competition of coal produced nearer the market, but from beds more expensive to mine. As these cheaply minable beds are exhausted—and the exhaustion of some of them is not so far off—West Virginia coal producers will lose this market advantage and find it more and more difficult to compete with local mines nearer the area of consumption. The West Virginia production will then slowly decrease as mining becomes ever more expensive... The number of men employed in mining may be expected to continue the slow decrease that has been going on, with minor fluctuations...(34).

In short, smaller mines have shown greater productivity improvement while larger mines have had a shakier production and productivity history in the county over the last four decades. Larger companies have either ceased mining in the county, like United States Steel, or have curtailed their operations, like Consolidation Coal Company which nonetheless remains the county's largest single producer (West Virginia Coal Association 1994).

**The Westward Shift in Production** Through all this change, the Pocahontas Field has continued to dominate county output, though its share has diminished. The Tug River and Thacker Fields, on the other hand, have not only increased their proportion but also their total output. In 1955 the Pocahontas Field accounted for over ninety percent of county production, the Tug Fork and Thacker Fields accounting for around nine percent and .4 percent, respectively. By 1990 the Pocahontas Field had dwindled to not quite fifty

percent, while the Tug River Field accounted for about thirty-six percent, and the Thacker Field for about fifteen percent. In terms of absolute tonnage, the Thacker Field has experienced a change of 1,477.6 percent, 1955-90 (from around 75,300 tons to around 1.1 million). The Tug River Field's annual tonnage increased 157 percent, 1955-90 (from 1.7 to 2.6 million tons). Pocahontas Field output in 1990 was a mere twenty-one percent of 1955 (from 16.7 to 3.5 million tons).

This decrease in production for the Pocahontas Field has been due to the decline in demand for low-volatile bituminous and semibituminous coals in general as well as the exhaustion of the reserves in this field. Conversely, the great increase in the western fields, especially the Thacker, reflects both the relatively low or moderate production history for these fields (which has left these seams in a condition more economical to mine) and the increasing demand for high Btu coals that are low in sulfur, which has come about as the result of federal legislation regulating the air emissions of coal burning power plants. In other words, the decrease in demand for metallurgical coals has meant decline for the eastern half of McDowell County while the increase in demand for low sulfur, high Btu steam coals has meant a boost for the western half of the county.

The coal seams that have experienced the greatest change are, in the Pocahontas Field, the Pocahontas #'s 3 and 4 (both of which are at approximately twenty-one percent of 1955 production); in the Tug Fork Field, the Sewell seam increased in 1990 to around 1,033 percent of 1955 production; and in the Thacker Field, the Douglas (or Red Ash) seam has experienced a 774 percent increase in output. Additionally, in the Thacker Field, seams that were either unmined or were marginal have become formidable competitors in the county—the Bens Creek and Gilbert seams produced around 183,600 and 346,400 tons, respectively, in 1990, neither of which reported tonnage for 1955.

McDowell County's remaining reserves relative to the other top producing counties of southern West Virginia are shown in Fig 4.6. The county's current (1994) estimated

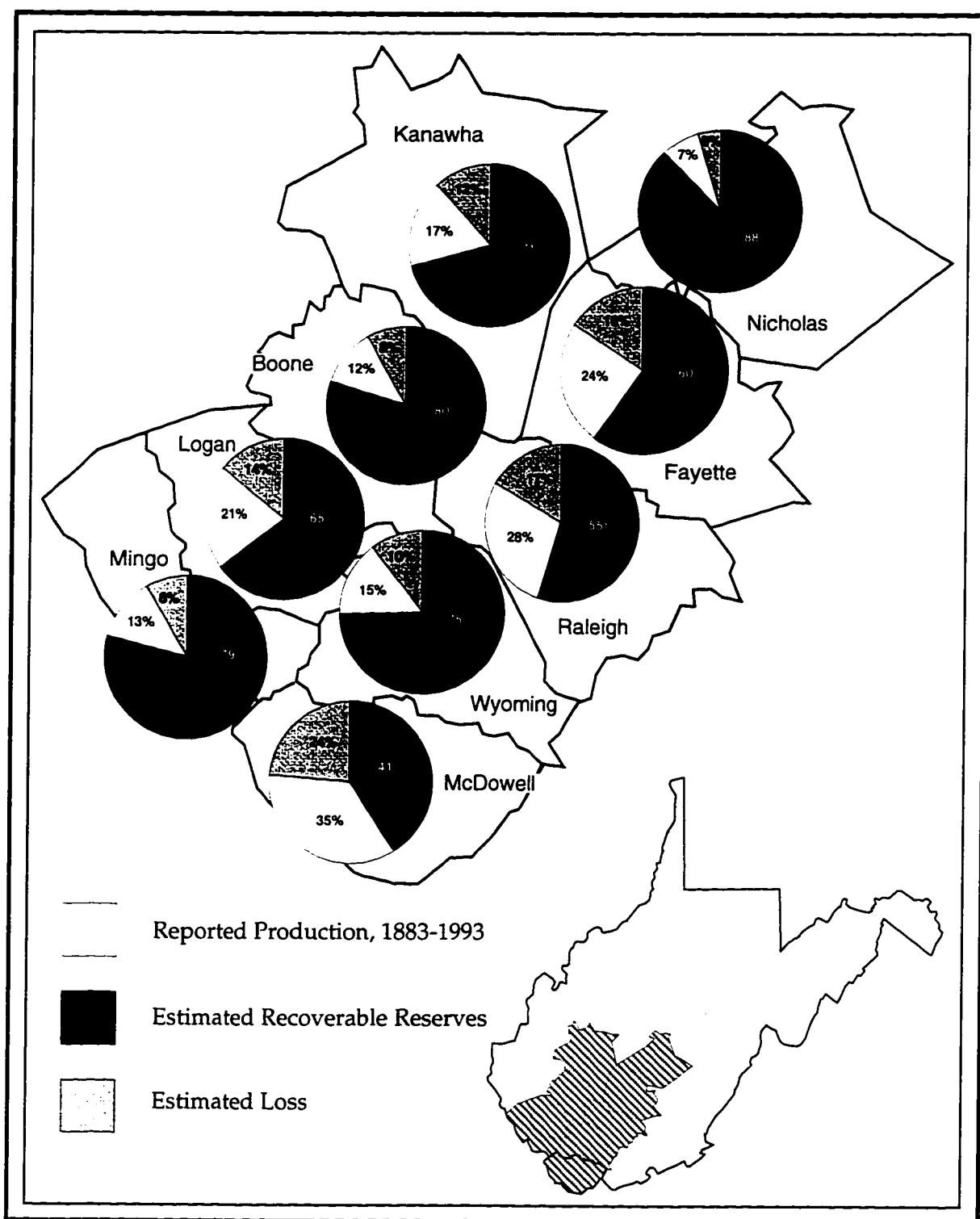


Fig. 4.6. Recoverable Reserves in the top nine counties of southern West Virginia. Data source: West Virginia Senate, Clerk's Office (1994), West Virginia Coal Association (1994). Design: Charles P. Davis.

recoverable reserves are forty-one percent of the total accountable tonnage (which includes reported production, at thirty-five percent, and estimated loss, at twenty-four percent). This amount is around 1,714 million tons, which is thirty-two percent of its *original* estimated reserves. The other southern West Virginia counties are at a clear advantage in terms of the amount of coal that remains available, both in proportion to reported production and losses and in absolute tonnage. This advantage has been exploited in recent years as is evident in the graph in Fig. 1.4 . This is especially true for Boone, Mingo, and Logan counties which have become the largest producers in the state. These counties, then, are the inheritors of McDowell County's former status as the "world's largest coal producing county."

This change has come about as the result of a general northwestward shift in coal production, greater emphasis now being given to the coals of the western fields of McDowell County and especially to those of the above-mentioned counties, which now have the advantage, both in supply and demand.

## **Five: Responses to Production Changes**

As coal production in McDowell County has declined, and mining automation has increased, employment in mining has declined. The lack of employment opportunities in other sectors of the economy has meant either out-migration or a greater dependence on public assistance. The same trend has been true for McDowell County's coal-producing immediate neighbors, Mingo, Logan, and Wyoming Counties, despite the fact that they have been experiencing coal production trends different from McDowell County; especially since 1980 these other counties have experienced either a boost in production (Mingo and Logan) or have remained fairly steady (Wyoming) (see Fig 1.4). All four counties have lost population, and become poorer, with less of their remaining population economically productive. McDowell County generally has suffered more dislocation than its neighboring counties.

**Employment Decline** Southern West Virginia owes its economic development to the production of coal, its only resource capable of sustaining the growth it achieved in the late nineteenth and early twentieth centuries. Its dependence on this one resource has proved devastating to its long-term economic health. According to Deasy and Griess (1965) the anthracite region of eastern Pennsylvania has varied considerably in the spatial impact of production decline, according to how dependent each community was on mining employment. Southern West Virginia has not enjoyed such a variance. Comparing McDowell County with its closest coal-dependent neighbors, Fig's. 5.1 to 5.3 and Table 5.1 show the changes these counties have experienced in their dependence on mining employment, 1949-1989 (U.S. Census Bureau 1950, 1960, 1970, 1980, 1990).

In 1949 McDowell County was the most dependent on mining employment, with sixty-eight percent of its workforce engaged in mining occupations (Fig. 5.1). Mingo County follows with sixty-three percent, while Logan and Wyoming Counties have fifty

Table 5.1. Employment by industry, 1949-89. Data source: U.S. Bureau of the Census (1950, 1960, 1970, 1980, 1990)

McDowell County Employment by Industry, 1949 - 1989					
INDUSTRY	1949	1959	1969	1979	1989
Mining	18,016	7,488	4,783	5,004	1,497
Construction	449	359	298	407	355
Manufacturing	652	516	461	427	357
Transportation & Telecommunications	1,167	687	564	750	811
Trade	2,832	2,449	1,897	1,992	1,535
Finance, Insurance & Real Estate	166	233	158	169	243
Services	3,067	2,693	2,400	2,668	2,159
Public Administration	406	407	454	611	385
Agriculture, Forestry & Fisheries	328	57	71	44	56

Mingo County Employment by Industry, 1949 - 1989					
INDUSTRY	1949	1959	1969	1979	1989
Mining	6,075	2,338	1,691	3,357	2,310
Construction	324	233	337	586	315
Manufacturing	954	431	464	349	363
Transportation & Telecommunications	1,222	816	743	878	957
Trade	1,531	1,420	1,520	1,586	1,446
Finance, Insurance & Real Estate	89	90	83	161	287
Services	1,433	1,547	1,757	3,643	2,354
Public Administration	212	266	337	373	332
Agriculture, Forestry & Fisheries	188	32	45	49	32

Logan County Employment by Industry, 1949 - 1989					
INDUSTRY	1949	1959	1969	1979	1989
Mining	13,811	5,708	3,796	4,907	2,445
Construction	512	398	475	709	535
Manufacturing	636	792	826	983	835
Transportation & Telecommunications	1,185	960	770	1,174	837
Trade	2,761	2,516	2,141	2,943	2,637
Finance, Insurance & Real Estate	167	229	245	252	504
Services	2,215	2,551	2,805	5,542	3,962
Public Administration	324	342	475	397	446
Agriculture, Forestry & Fisheries	425	66	53	91	52

Wyoming County Employment by Industry, 1949 - 1989					
INDUSTRY	1949	1959	1969	1979	1989
Mining	5,721	3,476	3,305	4,553	2,240
Construction	343	231	359	450	282
Manufacturing	1,370	411	548	447	290
Transportation & Telecommunications	888	763	528	519	701
Trade	968	1,084	1,089	1,715	1,337
Finance, Insurance & Real Estate	73	62	32	173	275
Services	945	1,147	1,302	3,266	1,978
Public Administration	138	200	290	244	209
Agriculture, Forestry & Fisheries	505	68	40	13	60

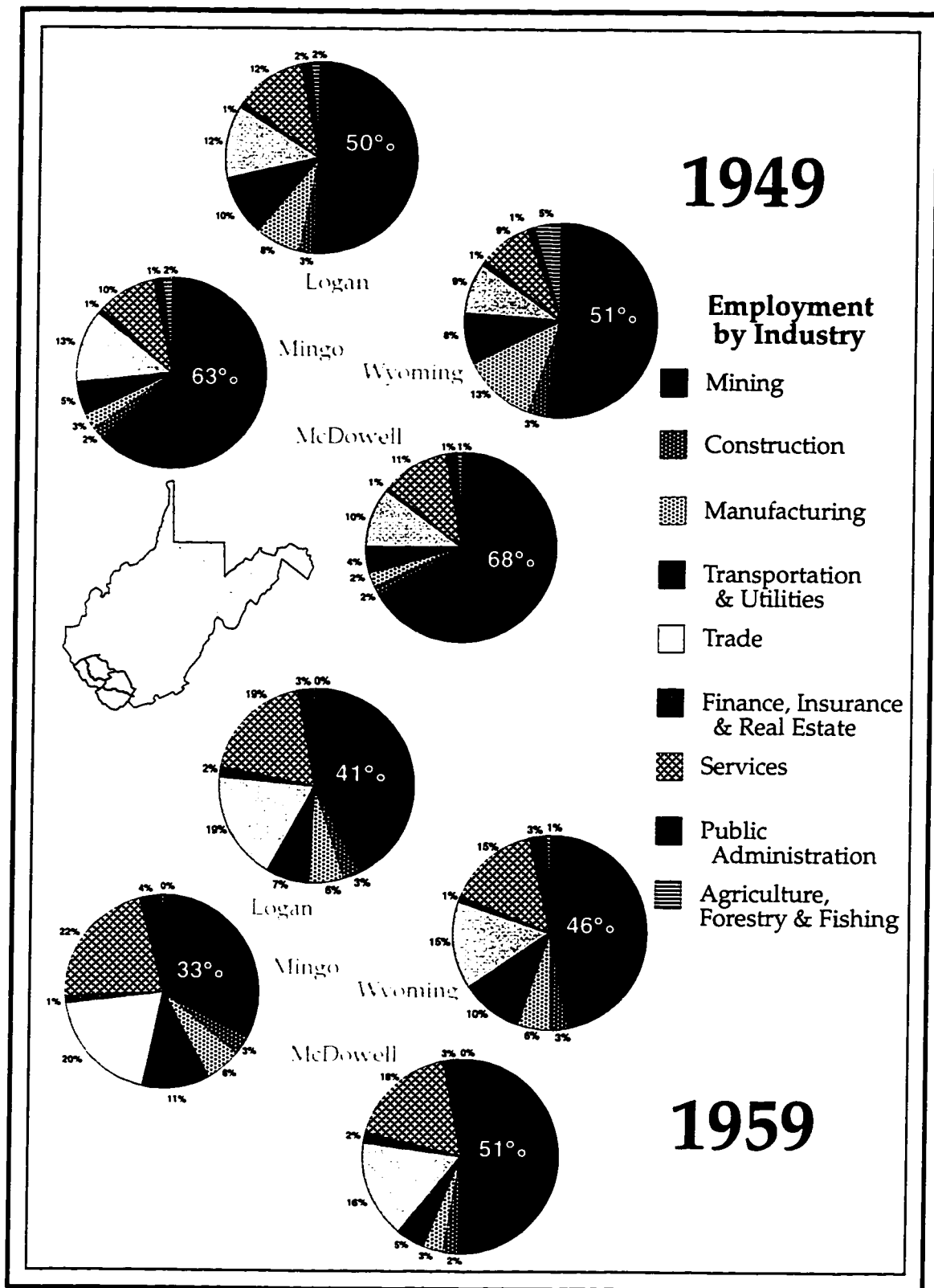


Fig. 5.1. Employment by industry. Data source: U.S. Bureau of the Census (1950, 1960). Design: Charles P. Davis.

and fifty-one percent of their workforce, respectively, in mining. Figures for employment in other industries are comparable for all four counties. Trade and service occupations are about equal in importance, ranging from nine to thirteen percent for trade and nine to twelve percent for services. Construction and manufacturing are both relatively unimportant except in Wyoming County where thirteen percent were employed in manufacturing.

By 1959 the situation had changed considerably (Fig. 5.1), though McDowell County continued to be more dependent on mining employment than the other three counties. Fifty-one percent of the county's employment was in mining, as compared to thirty-three, forty-one, and forty-six percent for Mingo, Logan, and Wyoming Counties, respectively. Mining employment for McDowell County in 1959 was 39.5 percent of what it was in 1949. Since coal production decline for the same decade was much less—1960 production was 69.5 percent of 1950—this difference was no doubt due to the greater utilization of labor saving mechanization, and perhaps also to a slight increase in surface mining.

In 1959 there were 7,118 persons mining coal in McDowell County, 10,898 persons less than in 1949. All other industries experienced net losses in employment with the exception of finance, insurance and real estate, which gained sixty-seven employees, and public administration, which gained one employee. Manufacturing employment continued to be dominated by furniture, and lumber and wood products, though to a lesser extent; in 1949 employment in these establishments accounted for 62.4 percent of manufacturing employment, whereas in 1959 only 22.5 percent of these jobs were in these establishments, the gains being primarily in food and kindred products. Nonetheless, these gains were minimal and failed to result in a net increase in employment. In other words, these other industries were not absorbing the displaced mine workers.

During the fifties, female participation in the labor force increased from nineteen percent in 1949 to 22.2 percent in 1959, though there occurred a net loss of females in the

labor force. Education continued to dominate the service sector, to a greater extent than in 1949, both proportionally and in a net increase in jobs, and women continued to outnumber men in education employment: in 1949, 68.6 percent of educational employees were female, and in 1959 the figure was 68.3. In 1949 31.3 percent of service employment in McDowell County was in educational services, a total of 959 employees. In 1959 there were 1,132 employees in education, forty-two percent of service employment.

Mining in 1969 continued to dominate the employment picture in three of the four counties (Fig. 5.2); in Mingo County service jobs began to outnumber jobs in mining. In fact, coal production during the 1960's was generally rather steady: McDowell and Wyoming Counties experienced increases in output while Logan and Mingo Counties experienced production decline (see Fig. 1.4). This relative stability was due mainly to the increase in military needs, as mentioned in Chapter Two. Mining jobs, however, continued to erode, both in absolute numbers and relative importance. McDowell County employment in mining was forty-three percent of total county employment in 1969, down from fifty-one percent in 1959, 964 fewer jobs in mining. Mingo and Logan Counties experienced considerable declines in the importance of mining relative to other employment sectors, 1959-69, from thirty-three to twenty-four and forty-one to thirty-four percent, respectively. Wyoming County's figures changed little.

In McDowell County, the non-mining sectors also continued to lose employees, though their relative proportions increased. Manufacturing and service employment increased proportionally, by four and one percentage points, respectively. In manufacturing, furniture and lumber and wood products continued to predominate, though there was a net loss of jobs. The service sector continued to be dominated by education (42.7 percent), and women continued to be the majority of employees—of educational employees, 65.7 percent were female in 1969. Health service (including hospital) employees, at 23.2 percent of the service sector, were 71.4 percent female, compared to

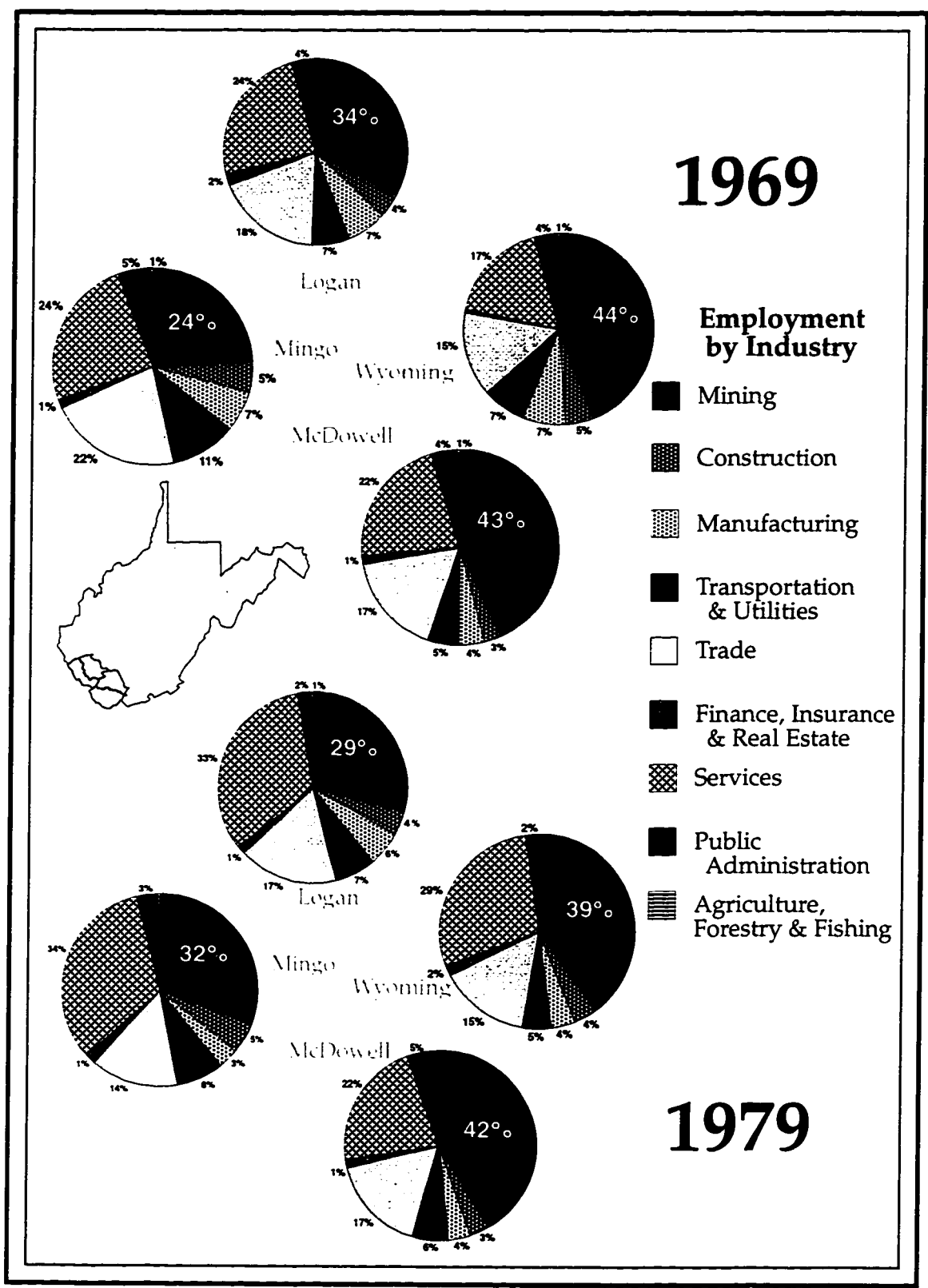


Fig. 5.2 Employment by industry. Data source: U.S. Bureau of the Census (1970, 1980). Design: Charles P. Davis.

seventy-four percent in 1959 and 68.3 percent in 1949. Overall female participation in the labor force in 1969 was 3,042 persons, 27.4 percent of the workforce, up from 22.2 percent in 1959.

Mining employment in McDowell County in 1979 was forty-two percent of total employment, a one percent decrease from 1969. Mingo County shows an increase in its mining sector, from twenty-four percent in 1969 to thirty-two percent in 1979. Both Logan and Wyoming Counties show a proportional decrease in their mining sector of five percentage points. In terms of absolute numbers, McDowell County experienced a net increase of 221 jobs, 1969-79; Mingo County gained a net of 1,666 jobs during the decade. And Logan and Mingo Counties, despite their mining sectors' relative declines, both experienced net gains of 1,111 and 1,248 jobs, respectively.

In 1979 McDowell County saw gains in every industrial sector with the exception of agriculture, forestry and fisheries, which dropped from seventy-one employees in 1969 to forty-four in 1979, and manufacturing, which dropped from 461 to 427. In fact, all four counties experienced a general net gain in employment, especially the service sector.

Women continued increasingly to participate in the workforce. In 1979, 30.2 percent of McDowell County's workforce was female, up from 27.4 percent in 1969. Women constituted 80.2 percent of health service employees and 73.1 percent of educational employees, the only two fields in which they dominated employment.

The 1970's began with a generally downward trending of coal production in southern West Virginia (see Fig.1.4). The oil embargo of 1973-74, and the interruption of the oil trade with Iran in the late 1970's, as well as an increasing awareness of the U.S.'s dependence on foreign energy sources and a shift in emphasis toward greater reliance on domestic energy sources, all combined to make the coal production picture look rather consistently good by the late 1970's. Furthermore, higher demand for low sulfur coals, following federal legislation regarding emissions from coal burning power plants, served to

boost the fortunes of the coal industry of southern West Virginia. The dramatic rise in production that followed the coal miners' strike of 1977-78 capped the decade off in net gains in coal production and employment as coal companies scrambled to make up for lost production, resulting in an overall positive prospect for the following decade. This mini-boom seems to have produced a general flurry of investment in the region. The boom was particularly pronounced in these four counties, but was not destined to last throughout the 1980's, with the exception of Logan and Mingo Counties, as well as Boone County to the north of Logan; these counties' production enjoyed a meteoric climb until the early 1990's brought drops in production for Boone and Logan, Mingo County continuing its climb upward as of 1993.

By 1989 mining employment had taken a nose dive in McDowell County, having experienced a net loss of 3,507 jobs, thirty percent of 1979 mining employment, and a mere twenty percent of total employment (Fig. 5.3). Both trade and services had come to out-rank coal as providers of jobs, though they, too, experienced net losses of 457 and 509 jobs, respectively. The net gains in the county during this decade were in finance, insurance and real estate with seventy-four more jobs, at three percent of total employment, and transportation and telecommunications with sixty-one more jobs, at eleven percent of total employment. The same general situation was true in 1989 for Logan County, though Mingo and Wyoming Counties, both with twenty-nine percent of their workforce in mining, were barely showing their mining sectors with more employment than trade or services. Mining employment in Logan county was 49.8 percent of 1979, a net loss of 2,462 jobs; in Mingo County 1,047 mining jobs were lost, and mining employment was 68.8 percent of 1979; Wyoming County's mining employment was 42.2 percent of 1979, a loss of 2,313 jobs.

Women in 1989 were some thirty-nine percent of the workforce of McDowell County, sixty-one percent of them employed in retail trade, health services, or education.

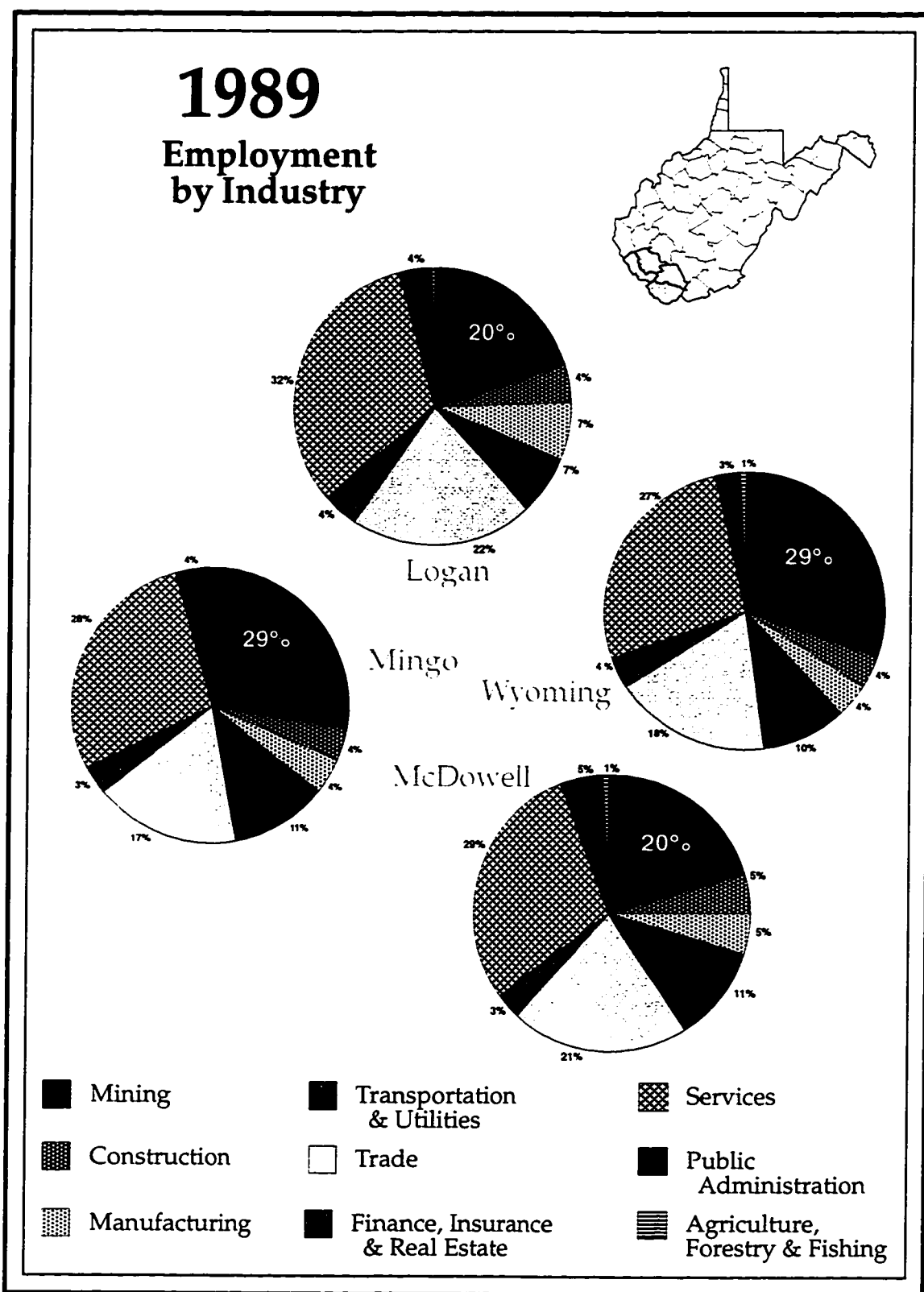


Fig. 5.3. Employment by industry. Data source: U.S. Bureau of the Census (1990).  
Design: Charles P. Davis.

At twenty-nine percent, the service sector was the largest single industry in 1989 in the county, though mining continued to be the largest single occupation. The largest service employer was education with 40.9 percent of all service employees. The largest trade employer was food, bakery, and dairy stores with 27.2 percent of all trade employees.

In sum, of the four counties McDowell was initially, in 1949, more dependent on coal mining employment with sixty-eight percent of its workforce in mining sector jobs. Four decades later, after massive declines in coal production and coal mining jobs, the county's workforce was down to twenty percent in the mining sector. Although Logan county was also at twenty percent in 1989, it was at a lower level of dependence in 1949. The net loss of jobs in mining in McDowell County, 1949-89, was 16,519; in Logan the loss was 11,366; in Mingo the net loss of jobs in mining was 3,765, while in Wyoming it was 3,481. McDowell County has thus been more impacted by employment decline in the coal industry than its immediate coal-producing neighbors, both in terms of the number of jobs lost as well as the decline in the relative importance of mining in county employment. Perhaps most important is the fact that none of the other sectors have been able to absorb these losses. The outcome of this has been a labor surplus. This is true for all four counties. Since the mining of coal is the backbone of this region's economy, and was responsible for its very development, it follows that those who either have been unable to find suitable employment in other sectors or upgrade their status and, hence, their employability in the coal industry locally, have either had to seek employment elsewhere or succumb to under- or unemployment or rely on transfer payment income.

In 1969, 75.4 percent of households in McDowell County received income from earnings (wage or salary, nonfarm self-employment, or farm self-employment income), while 35.7 percent received Social Security, and thirteen percent were recipients of public assistance (Fig. 5.4. & Table 5.2). Although the 1970's were relatively prosperous vis-à-vis the previous two decades, households in the earnings category had dropped to 65.6

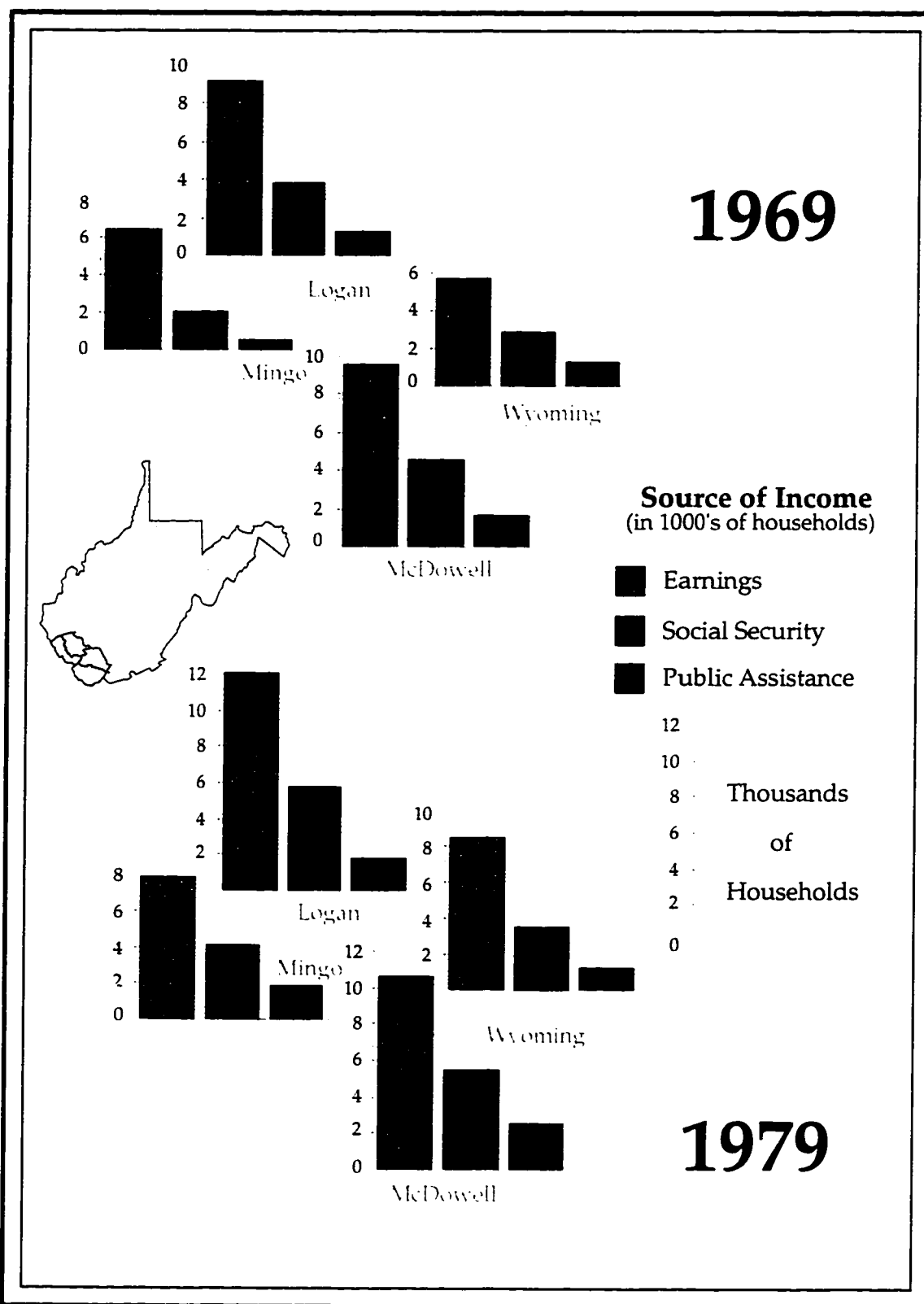


Fig. 5.4. Income by source. Data source: U.S. Bureau of the Census (1970, 1980).  
Design: Charles P. Davis.

Tables 5.2, 5.3, 5.4. Household income type, 1969, 1979, & 1989, McDowell, Logan, Mingo and Wyoming Counties. Data source: U.S. Bureau of the Census (1970, 1980, 1990).

Table 5.2

	<b>1969 Income Type (in households) by County</b>			
	<b>McDowell</b>	<b>Logan</b>	<b>Mingo</b>	<b>Wyoming</b>
<b>HOUSEHOLDS</b>	12,542	11,574	8,016	7,560
Earnings	9,457	9,125	5,649	6,380
Social Security	4,473	3,773	2,798	1,980
Public Assistance	1,627	1,243	1,210	482
Other Income	2,914	3,007	1,725	1,132

Table 5.3

	<b>1979 Income Type (in households) by County</b>			
	<b>McDowell</b>	<b>Logan</b>	<b>Mingo</b>	<b>Wyoming</b>
<b>HOUSEHOLDS</b>	15,959	16,553	11,925	11,407
Earnings	10,466	11,970	7,832	8,395
Social Security	5,442	5,656	4,095	3,494
Public Assistance	2,501	1,787	1,847	1,176
Interest, dividend, etc.	2,606	3,597	1,919	2,367
Other Income	6,075	6,342	3,804	3,560

Table 5.4

	<b>1989 Income Type (in households) by County</b>			
	<b>McDowell</b>	<b>Logan</b>	<b>Mingo</b>	<b>Wyoming</b>
<b>HOUSEHOLDS</b>	12,835	15,463	11,850	10,488
Earnings	6,469	9,751	7,141	6,446
Social Security	5,435	5,703	4,070	3,642
Public Assistance	2,526	2,213	2,088	1,504
Interest, dividend, etc.	1,997	3,051	2,004	2,244
Retirement Income	3,589	3,848	2,634	2,617
Other Income	1,558	2,076	1,457	1,506

percent by 1979, while the percentage of persons on public assistance rose to 15.7 percent, and Social Security recipients dropped to 34.1 percent (Table 5.3). In 1989, 50.4 percent of county households received earnings, with 42.3 percent receiving Social Security, and 19.7 percent on public assistance (Fig. 5.5. & Table 5.4). Of the four counties, McDowell suffered an overall decrease of twenty-five percentage points of households receiving earnings, compared to 15.7 for Logan, 10.2 for Mingo, and 22.9 for Wyoming County. Although there is doubtless quite a bit of repetition in these figures—households who received income from two or even three income categories during the same year, or unemployment insurance—the overall trend has been one of decreasing participation in the productive, rather than merely consumptive, segment of the adult population.

According to Woods and Poole's Wealth Index, McDowell County in 1970 was at 60.31 percent of the nation as a whole. In 1980 this figure jumped to 66.19 percent, indicative of the return of a measure of prosperity in the form of investment in the region during the seventies. By 1990, however, this figure dropped to 55.97 percent, yet was up slightly to 58.16 percent in 1994 (Woods & Poole 1994). Projections to the year 2020 by this firm range from 56.03 to 57.88. Woods & Poole, thus, do not anticipate the county making any sort of a recovery for at least another twenty-five years, nor do they expect any serious declines.

**Out-migration** McDowell County population in 1950 was 98,887—104.8 percent of 1940. County population by 1990 had dwindled to 35.6 percent of 1950. This represents a net loss of 63,654 persons. The eastern section of the county, present North Elkin district, has sustained the greatest losses, with a -75 percent change in population, 1950-90. As the maps in Fig. 5.6 show, this area was the earliest to be developed; in 1910 the districts of Elkhorn and Northfork (the northernmost of the three to be consolidated later into North Elkin) had densities of 469.8 and 253.6 persons per square mile, respectively, the highest in the county. By 1930 the county had reached its full

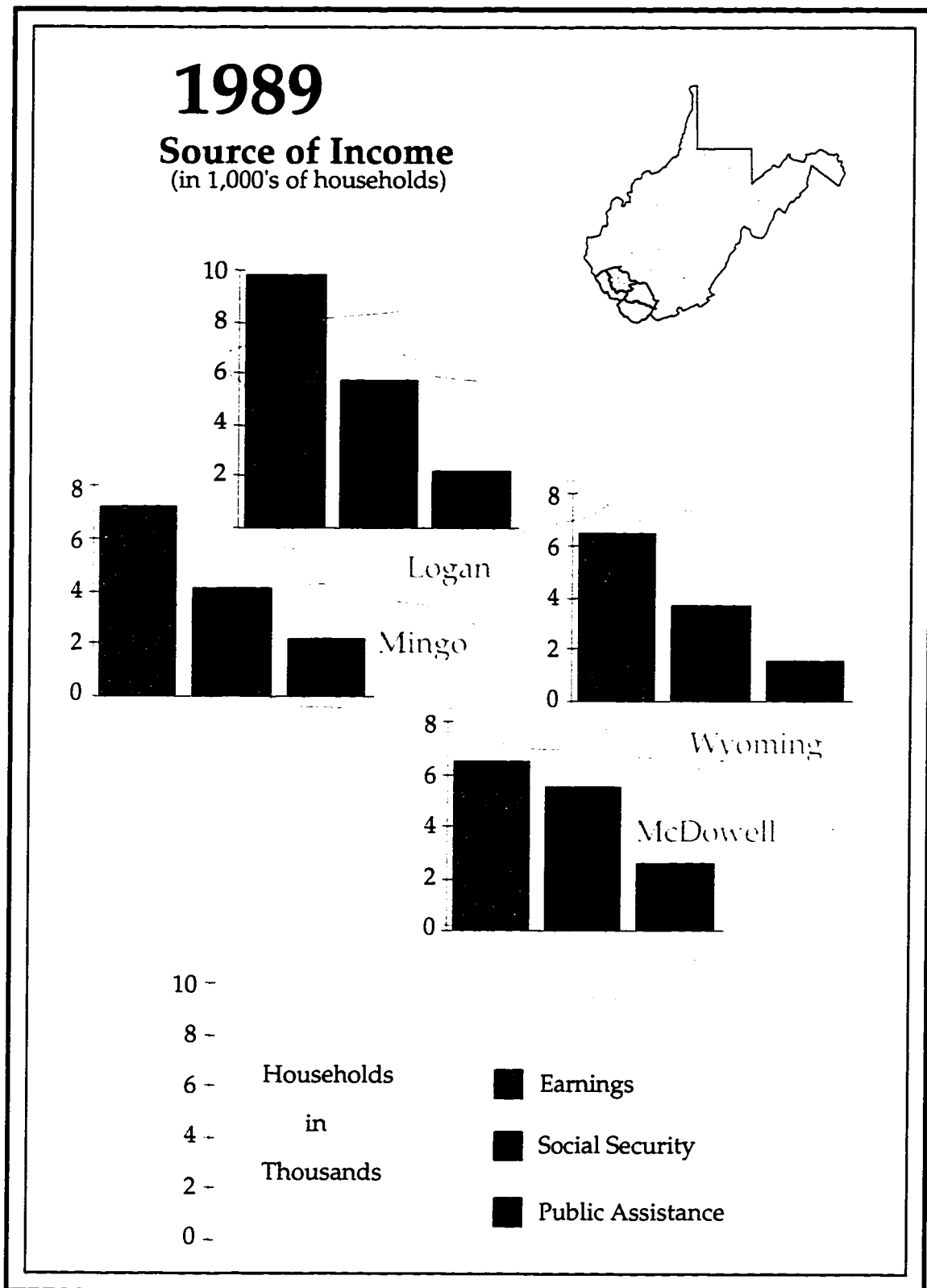


Fig. 5.5. Income by source. Data source: U.S. Bureau of the Census (1990).  
Design: Charles P. Davis.

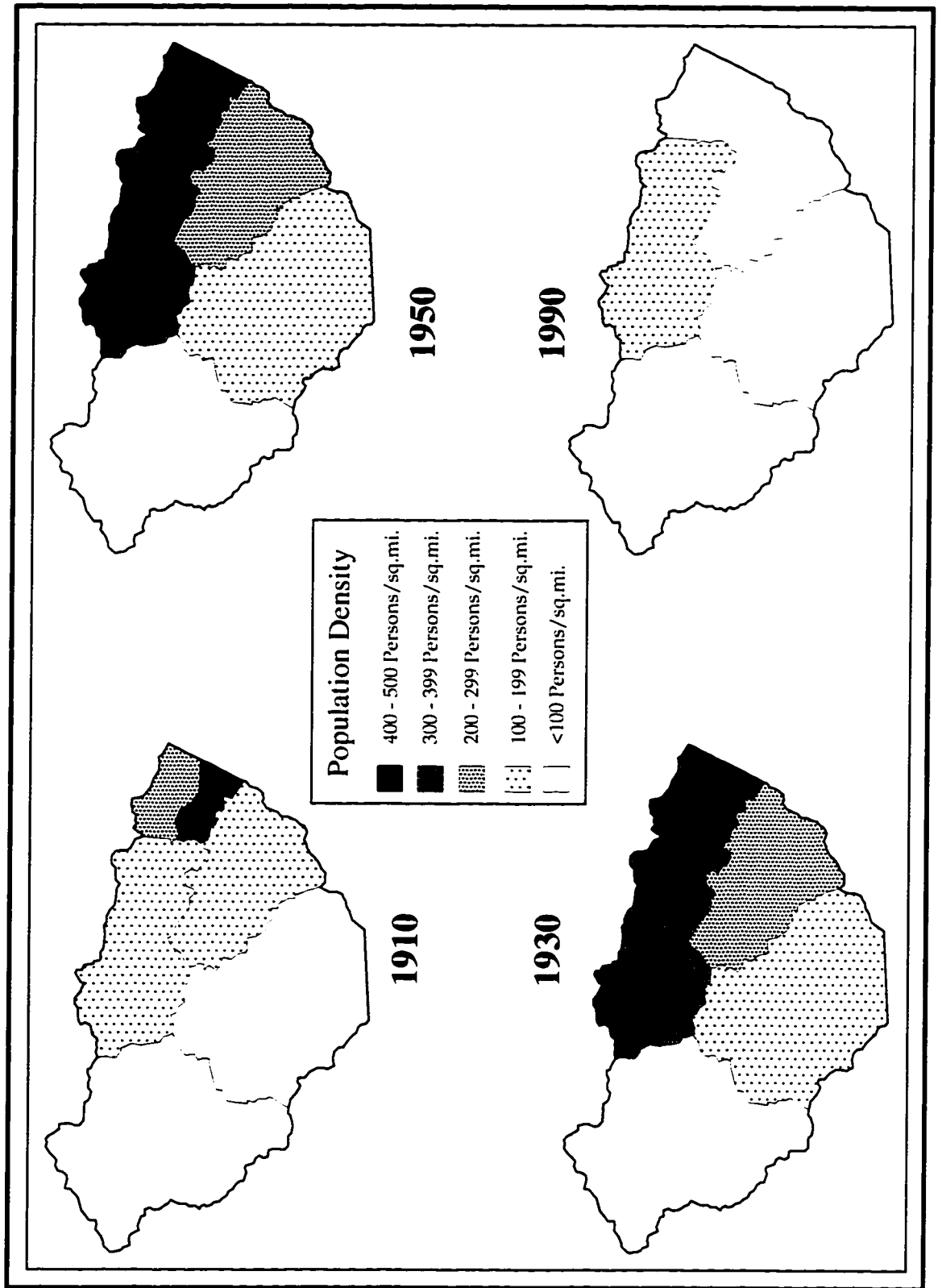


Fig. 5.6. Population density in McDowell County, 1910, 1930, 1950, and 1990. Data source: U.S. Bureau of the Census (1950, 1990), Hennen (1915). Design: Charles P. Davis.

development in terms of population distribution, before out-migration during the 1930's and 1940's began to reduce numbers, which first occurred in the Elkhorn district. This first wave of out-migration for the county is reflected in the map for 1950; Elkhorn and Northfork show the highest negative population change for these years, at -21.4 and -10.6, respectively. The remaining districts all experienced growth between 1930 and 1950, Sandy River gaining 53.3 percent in population. Despite the Depression and Second World War era losses in Elkhorn and Northfork, however, the county as a whole continued to grow in numbers until the massive decline on the 1950's.

The 1950's saw large scale depopulation throughout the whole eastern half of the county (Fig. 5.7). Although Adkin district appears in the third class, -20 to -29.9 percent, it is in the upper range of its class. In fact, all of the eastern districts are within four percentage points of one another. Only Sandy River in the west experienced a conservative change with its population reduced by -4.8 percent. Total population change for the county, 1950-60, was -27.8 percent.

The decade of the 1960's saw only a slight change in overall population loss for the county, at -29.0 percent (Fig. 5.7). As in the previous decade the highest losses were in the eastern districts, Elkhorn (-28.7), Northfork (-28.1), and especially Adkin (-44.1). Browns Creek and Big Creek followed with -27.7 and -26.8, respectively. Sandy River was the least affected by this decade's exodus, though it still lost a good fifth of its population (-20.3).

The 1970's resurgence of interest in coal not only brought a boost to production in McDowell County but also slowed down its rate of population decline (Fig. 5.8). Indeed, for the western section of the county, the Big Creek and Sandy River districts, population change was reversed; both experienced gains in population, 4.2 percent for Big Creek and 10.1 percent for Sandy River. Total county population change was only -1.5 percent. The

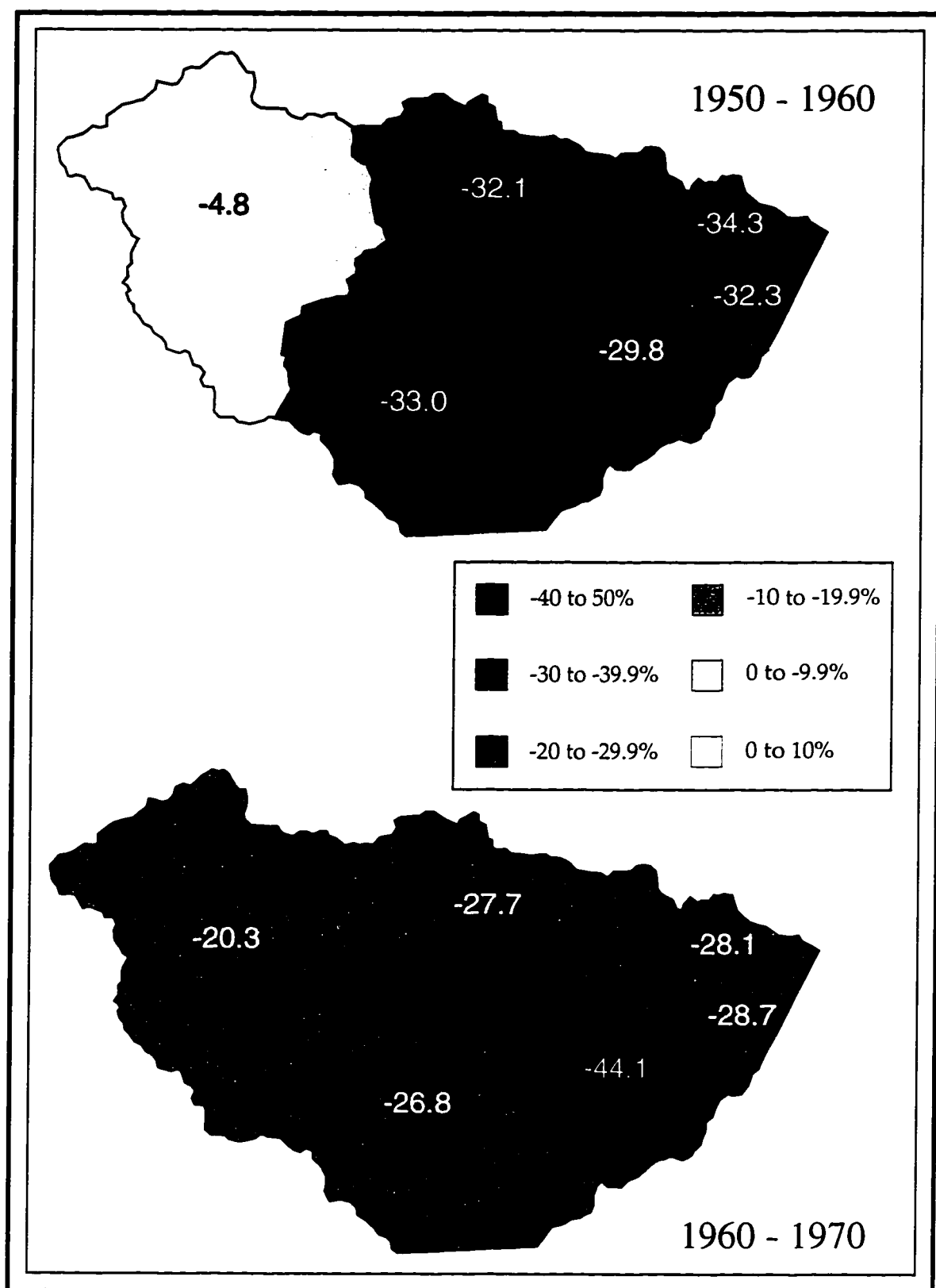


Fig. 5.7. Population change in McDowell County, 1950 to 1970. Data source: U.S. Bureau of the Census (1950, 1960, 1970). Design: Charles P. Davis.

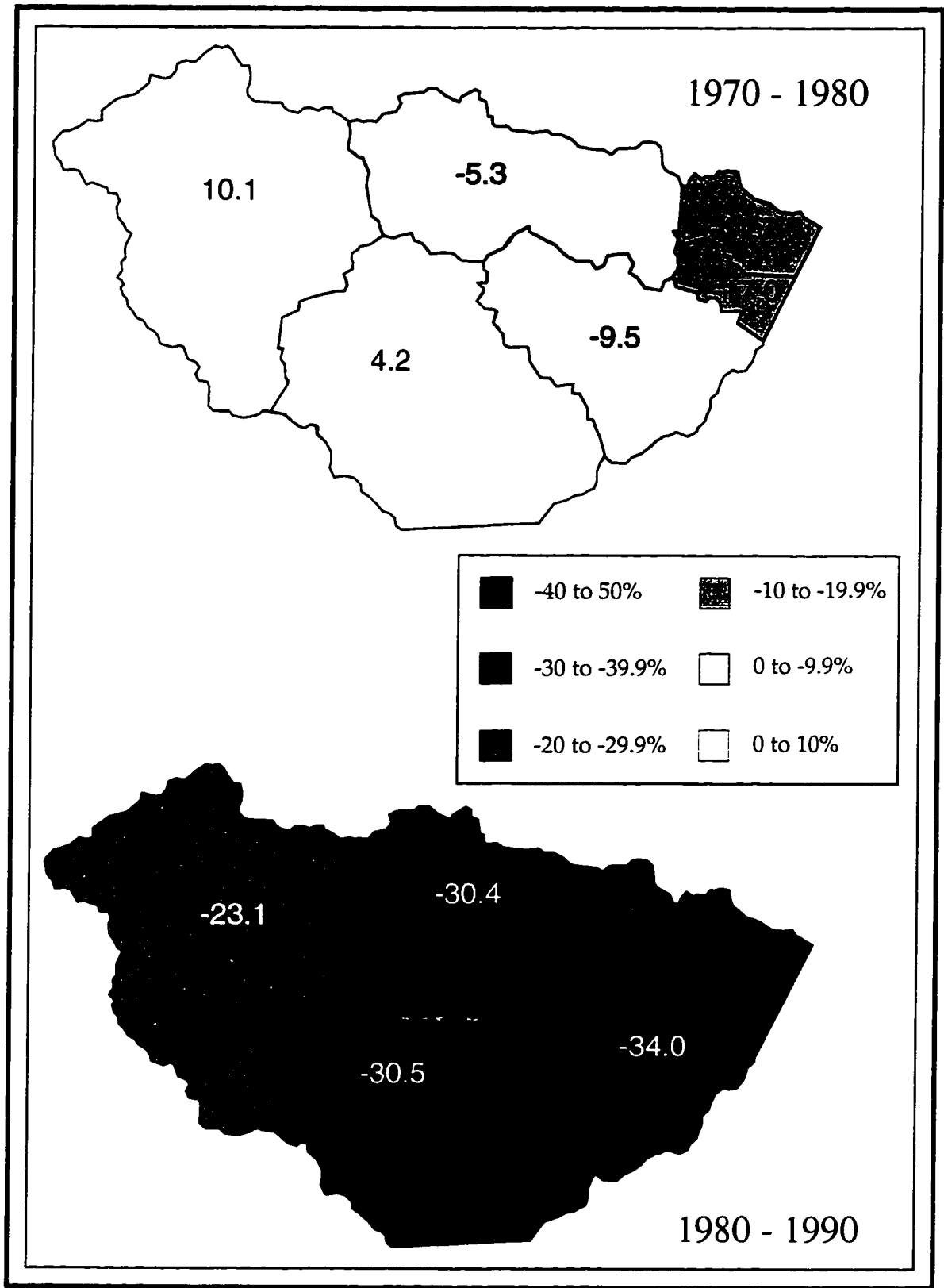


Fig. 5.8. Population change in McDowell County, 1970 to 1990. Data source: U.S. Bureau of the Census (1970, 1980, 1990). Design: Charles P. Davis.

big losers were Elkhorn and Northfork districts, with -17 and -11.7 percent, respectively, followed by Adkin with a -9.5 percent decline.

Population change for the county reached an all-time low during the 1980's which saw a decline of -29.4 percent, 1980-90 (Fig. 5.8). The new consolidated district of North Elkin (from Northfork, Elkhorn, and Adkin), suffered a -34 percent change, Browns Creek, Big Creek, and Sandy River following with -30.4, -30.5, and -23.1 percent, respectively.

Population pyramids for McDowell County (Fig. 5.9 ) show how out-migration has affected the structure of the county's population. For 1950 the county exhibits a pyramid-shaped structure—a high percentage of young people and a small percentage of old people. A small deficit appears in the male cohorts 15-24, perhaps partially indicative of young men in the military. Where one would expect a larger deficit in the male cohort 30-34, instead there is a minor deficit; this is most probably due to military deferments to coal industry employees, resulting in relatively fewer McDowell County men either killed in the war or otherwise failing to return after the war. Part of the 15-19 cohort deficit is due to low birth rates during the Depression.

The massive population losses of the 1950's are reflected in the pyramid for 1960. The greatest deficits are in the cohorts 20-29; since this deficit is generally the same for both sexes, this seems to indicate that families were exiting together, especially young families with very young children since there is a minor deficit in the cohort 0-4 for both sexes.

The pyramid for 1970 shows that the out-migrations of the fifties and sixties were having an affect on the structure of the youngest cohorts. By 1970, families were leaving with their children, leaving behind fewer people to have children. Hence the "echo" of this first wave of out-migration is evident as a deficit in the cohorts 0-9.

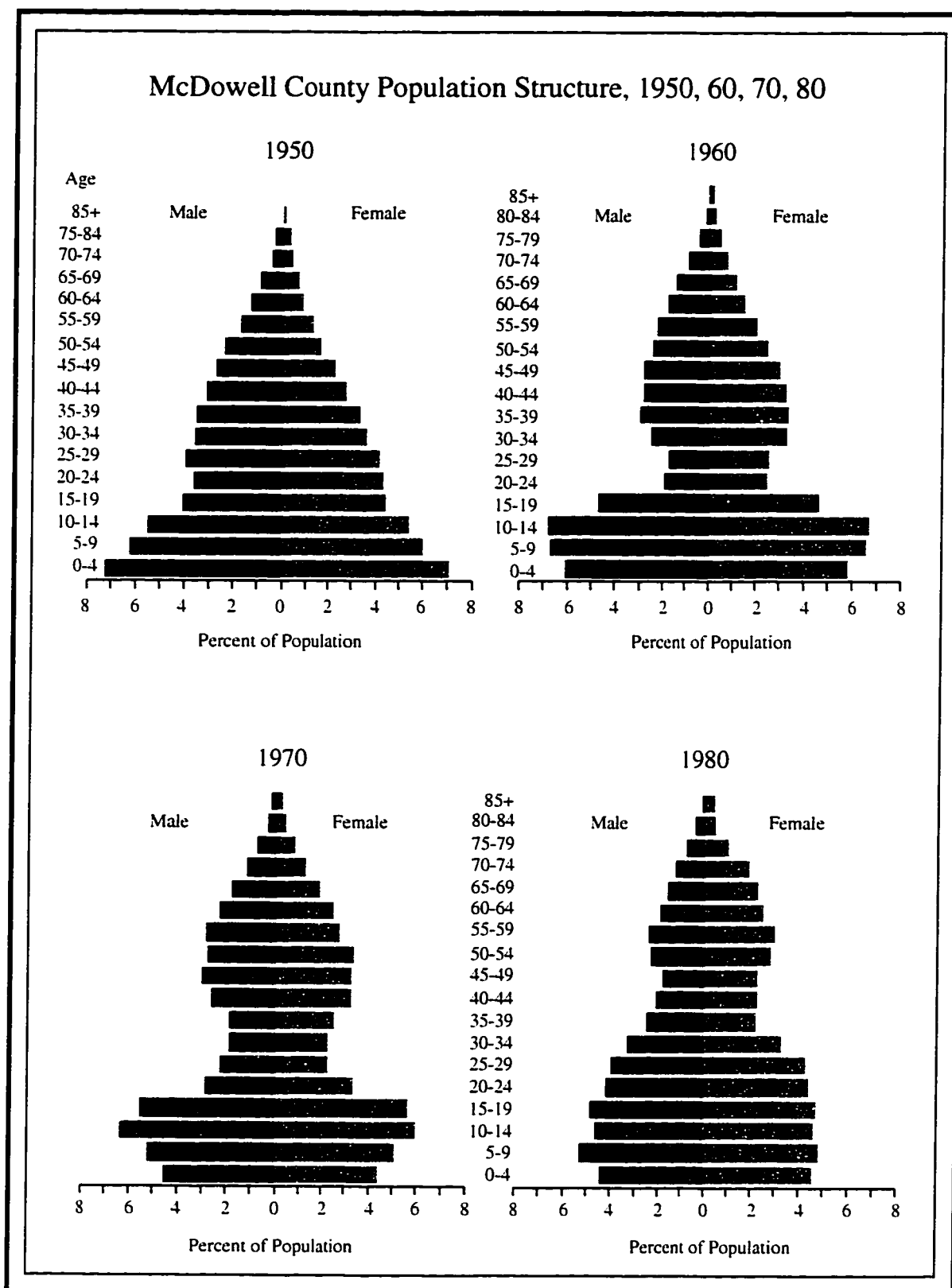


Fig. 5.9. Population Pyramids for McDowell County, 1950-80. Data source: U.S. Bureau of the Census (1950, 1960, 1970, 1980).

The 1970's were relatively good for McDowell County. The pyramid for 1980 shows the lack of any major deficits beyond the initial exodus that occurred during the fifties and sixties; instead there is a jaggedness to the pyramid from the cohort 25-29 downward, reflecting minor outmigrations and "mini echoes." Laitila, et.al. (1967) predicted hourglass shaped population pyramids for McDowell, Logan, Mingo and Wyoming Counties for 1970 and subsequent census years due to what they believed would be a continuous drain of the 20-34 age cohort; however, by 1990 (Fig. 5.10) a pagoda-shaped structure had emerged, reflecting both this expected pattern of out-migration as well as its echoes.

The pyramid for 1990 shows a very jagged structure with two major deficits indicative of two major waves of out-migration—the initial one in the fifties and sixties, and a newer one in the cohorts 20-29. In between it is impossible to tell which deficits reflect waves of out-migration and which represent the echoes of previous out-migration. Comparing McDowell County with West Virginia and the nation (Fig. 5.10), for the state the structure appears to correlate to that of the county, though considerably less severe. For the first time the county displays the bulge of the baby boom, tucked in between the two major waves of out-migration. This bulge and its echo is more apparent in the pyramid for the state than for the nation as a whole. The overall jaggedness of the county pyramid for 1990 suggests that the county has been having considerable challenges managing the year-to-year personnel logistics of its educational system.

One thing worthy of note is the bulge in the cohorts 60-74, prominent for the county, faintly distinguishable for the state, yet insignificant or absent for the nation. Two additional bulges follow, conspicuous in the county pyramid, representing a combination of the baby boom and its echo as well as those in the cohorts 30-34 who were able to remain in the county (most probably due to employment opportunities during the seventies, such as job upgrades to occupations that remained after the boom ended) while their junior

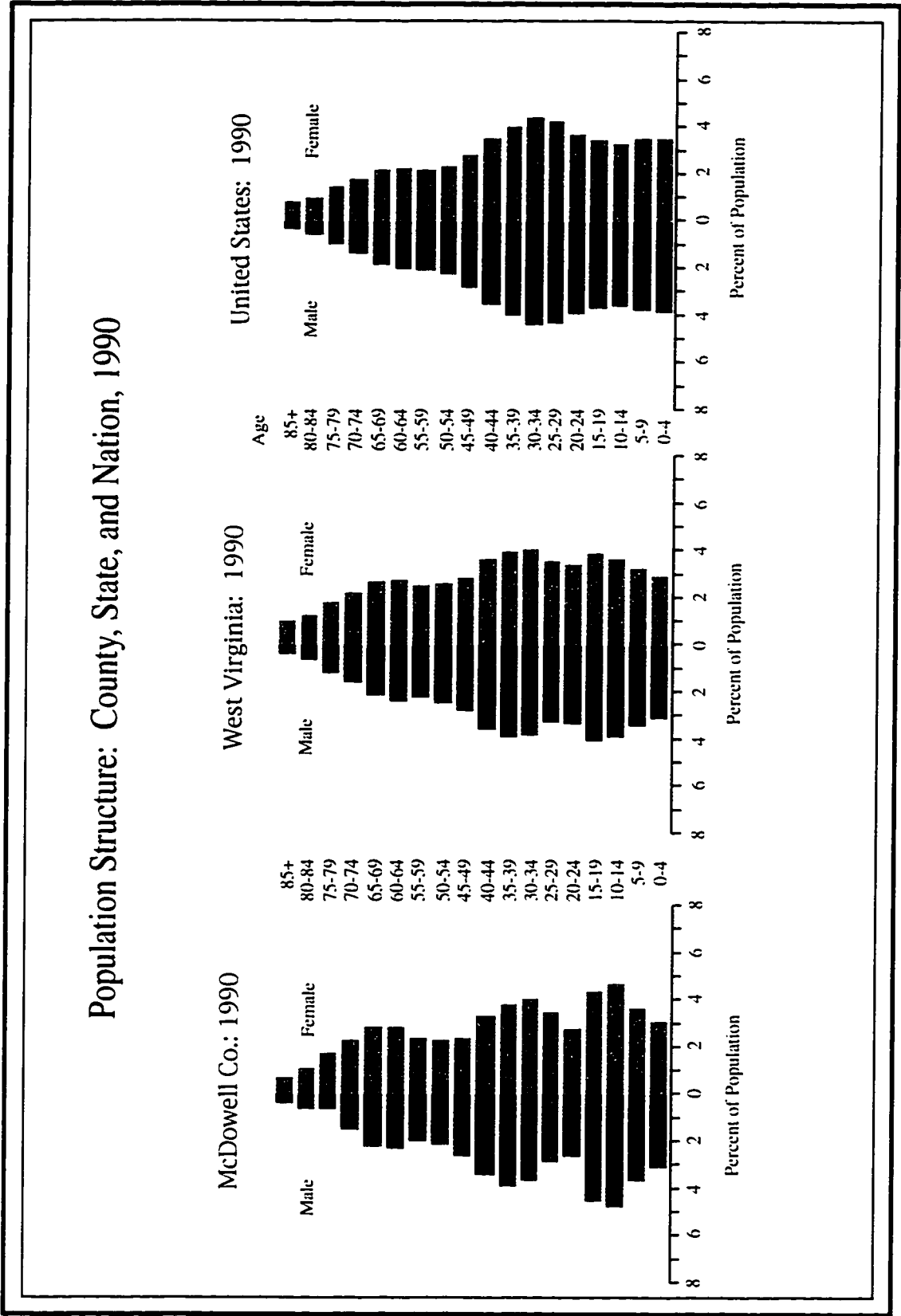


Fig. 5.10. Population Pyramids for McDowell County, West Virginia, and the United States, 1990.  
Data source: U.S. Bureau of the Census (1990).

cohorts, 20-29, abandoned the county when the boom ended in the eighties. Should the two elder bulges remain resident in the county, the proportion of elderly residents will increase, especially considering the current (1990) deficit of children in the youngest cohorts. With the lack of economic opportunity, it is probable that these persons, plus the younger bulge, 10-19, will continue to abandon the county.

In 1950, McDowell County's population was 46.1 percent under eighteen years old; in 1960 this figure dropped slightly to 45.8 due to high birth rates compensating for out-migration among older cohorts; in 1970 those under eighteen accounted for 39.3 percent, and in 1980 it dropped little more than a percentage point to 38.0 percent. By 1990 only 28.9 percent of McDowell County was under eighteen. Meanwhile, in 1950 the county's population was only 3.3 percent over sixty-five; this increased to six percent in 1960; in 1970 the figure was nine percent, and in 1980 it was 10.3 percent. In 1990, 14.8 percent of the county was over sixty-five. The median age for the county in 1990 was thirty-four, compared to 33.9 for Logan, 31.1 for Mingo, and 33.6 for Wyoming Counties. The median age for McDowell County rose from 21.9 in 1960 to thirty-four in 1990. Thus the county has become decreasingly youthful and increasingly elderly. For the nation in 1990, 28.8 percent of the population was under eighteen while 12.5 percent was over sixty-five, and the median age was 32.8. For the state in 1990, 28.1 percent was under eighteen while 15.0 percent was over sixty-five, and the median age was 35.4. Of the county's three immediate neighbors, Logan, Mingo and Wyoming Counties, McDowell County has the highest median age, though the state is higher at 35.4.

Out-migration from McDowell County will doubtless continue, thereby reducing the source population for the elderly who receive Social Security and who increasingly support the trade and service sectors of the economy, relative to the younger wage earners. Although the time does not appear to be near at hand, the county will nonetheless be drained not only of wage earners, and the elderly as they die off, but also other persons

supported by the public sector, thus further exacerbating the livability of the county.

Considering the changing political climate of the nineties at the federal level as regards welfare reform, it could very well be that the next exodus from the county will come from those persons who subsist through public assistance. The specter of becoming a ghost town county is thus very real, if not imminent.

## **Six: Policy Responses**

The impact of changes in the coal industry on the inhabitants of southern Appalachia entered the ken of the larger society when John F. Kennedy brought his campaign for the Presidency to West Virginia in May 1960 (White 1961). The economic dislocation wrought by production and employment cutbacks proved ample political fodder for Kennedy who promised to put the region's problems on the national agenda, as the news media brought into America's living rooms images of a mining economy in decline. "West Virginia, its sores so obvious, shocked even reporters long familiar with black poverty in the South...Appalachia was on the map" (Branscome 1991:257). Once elected, Kennedy initiated federal policy aimed toward addressing the problems of Appalachia.

Prior to the 1960 Presidential race there had been other efforts by public and private sector interests to bring attention to the region's problems. In 1956, for instance, Kentucky's Junior Chamber of Commerce formed the Eastern Kentucky Regional Development Council, which in 1960 became the Eastern Kentucky Regional Planning Commission. This commission identified three basic needs:

...building highways to overcome the dreadful state of roads in the area between proposed interstate highways, upgrading river transport on the Big Sandy and Kentucky rivers, and setting up an industrial research center to appraise local resources and establish the feasibility of exploiting them...

The commission comprised of nine men representing the main centers of population in eastern Kentucky; two coal company executives, one oil company executive, an oil/gas driller, a realty developer, a newspaper editor, a college president, a church minister, and a doctor...(Bradshaw 1992:27-8).

In 1960 The Council of Appalachian Governors met with Kennedy to discuss their concerns about the economic outlook in the Appalachian areas of their respective states—Alabama, Georgia, Kentucky, Maryland, North Carolina, Pennsylvania, Tennessee, Virginia, and West Virginia.

Other efforts to draw attention to the economic situation of the region included the Appalachian Power Company (1959) which conducted a study of a twenty-two county area in southern West Virginia and southwestern Virginia. The study noted that although there had been drastic declines between 1950-58 in full-time employment (by 48.46 percent) and coal production (by 17.04 percent), there had been an increase in kilowatts-per-hour sales to the mines of the area (by 22.15 percent). The study pointed out that the increase in sales, and in coal mining productivity (by 72.02 percent), were due to increased mechanization in the mines. The high percentage of residents participating in state surplus commodity programs (twenty-one percent of the area, thirty-seven percent of McDowell County), as well as the high levels of out-migration pointed to an ailing economy. Although the study failed to state it, there most likely was a drastic decline in kilowatts-per-hour sales to domestic consumers.

Despite increases in “certain associated indicators” (Appalachian Power Company 1959:Section VI, page 1), such as the number of telephones, automobiles, and bank assets in the counties studied, the study felt that the overall economic picture was serious enough to merit concerted action.

There is concern that the area’s economy has not reached its lowest level and that the economic base may even be lowered. The economy of the area can only approach a higher-standard which is more reflective of national averages through a slow gradual process. This desired readjustment will not occur as a natural evolution alone but must be initiated by active state, area, and local planning and development groups (Appalachian Power Company 1959, Conclusion, page 1).

The company, however, offered no plan as to how such a “readjustment” could be achieved.

Kennedy’s first effort as President to deal with Appalachia’s problems was the Area Redevelopment Administration (ARA), an agency of the Department of Commerce. The ARA, however, proved to be ineffective due to “...its piecemeal approach, and its lack of coordination with the other federal agencies that were expected to implement the projects it

initiated” (Bradshaw 1992:31). The governors pressed for a more active and potent federal agency. Thus in April 1963 the President’s Appalachian Regional Commission (PARC) was appointed, chaired by Franklin Roosevelt, Jr., to develop a strategy by which the federal government might act to draw up legislation to assist the region in its recovery. “The Commission Report was a shopping list: highways, health centers, vocational schools, timber management, promotion of tourism, and even a program to raise calves in the mountains for shipment west for fattening (later rejected when objected to by western representatives)” (Branscome 1991:257). The PARC reported:

This then, is Appalachia: a nonurban land with a population over 50 percent rural but less than 10 percent farm; deeply unemployed; all too frequently deprived of the facilities and services of a modern society; dependent on local jurisdictions with an inadequate tax base and too often reliant upon the marginal comforts of a welfare economy. What [the commission] has found is a record of insufficiency—a history of traditional acts not performed, of American patterns not fulfilled. This sets Appalachia apart from the rest of the Nation (as quoted in Bradshaw 1992:37).

The PARC report identified four basic areas in which the region lagged behind the rest of the nation: income, employment, education, and population stability due to out-migration. The report pointed out that even many of those who left the region for midwestern cities had problems due to their low education, forming a disadvantaged subculture within those cities—and thus becoming a growing element in America’s urban poverty mosaic. Yet at the same time, those with skills and education were leaving to such an extent that the region was being drained of those who were more apt to help the region adapt and adjust to changing times. In other words, Appalachia was being drained of its human capital.

Out of PARC came the Appalachian Regional Commission (ARC). The ARC’s service region initially included all of West Virginia, the western two-thirds of Pennsylvania, western Virginia, plus the Appalachian portions of Maryland, North Carolina, Georgia, Kentucky, Tennessee, and the northern half of Alabama. In 1967,

sections of New York, Ohio, South Carolina, and Mississippi were added. The region thus defined was broken down into three sections: Northern, Central, and Southern (Fig. 6.1). Northern and Southern Appalachia were described as depressed areas undergoing transition. Central Appalachia—southern West Virginia, and the Plateau sections of Kentucky and Virginia, plus the northern Plateau area of Tennessee—was (and remains) the poorest section of the region, a depressed area not undergoing transition. The service area was further broken down into sixty-nine local development districts (LDD's). McDowell County was included with Wyoming, Raleigh, Mercer, Summers, and Monroe Counties as LDD 13A.

The major problem with Appalachia's inability to economically rebound was seen as geographical isolation. Consequently, the major initial thrust of the ARC was to develop the highways of the region, which would, it was hoped, stimulate private sector interests to invest in the region. In southern West Virginia this effort resulted in the corridor between Charleston and Pikeville, Kentucky (U.S. 119), passing through Logan and Mingo Counties. This project has been nearly completed as of 1995 (Fig. 6.2). The ARC has been proud of its accomplishments in highway building. The agency's efforts in human services, however, have been regarded as largely unsuccessful (Branscome 1991, Whisnant 1991). In education, the greatest accomplishment has been in the ARC's vocational-technical education programs. In health, the ARC has been criticized for being both ineffective and tardy with its involvement in the black lung program for miners. The ARC has also been criticized as porkbarrel, especially in the early years, as well as being operated by people with little understanding of the region and its problems. Perhaps its greatest accomplishment has been that, as a focus of criticism, the ARC has served as a dialectical catalyst of Appalachia and its problems, especially among natives of the region.

In 1967 Laitila, et.al. conducted a study for the U.S. Army Corps of Engineers to assess "the development potential of Logan, Mingo, and McDowell Counties of West

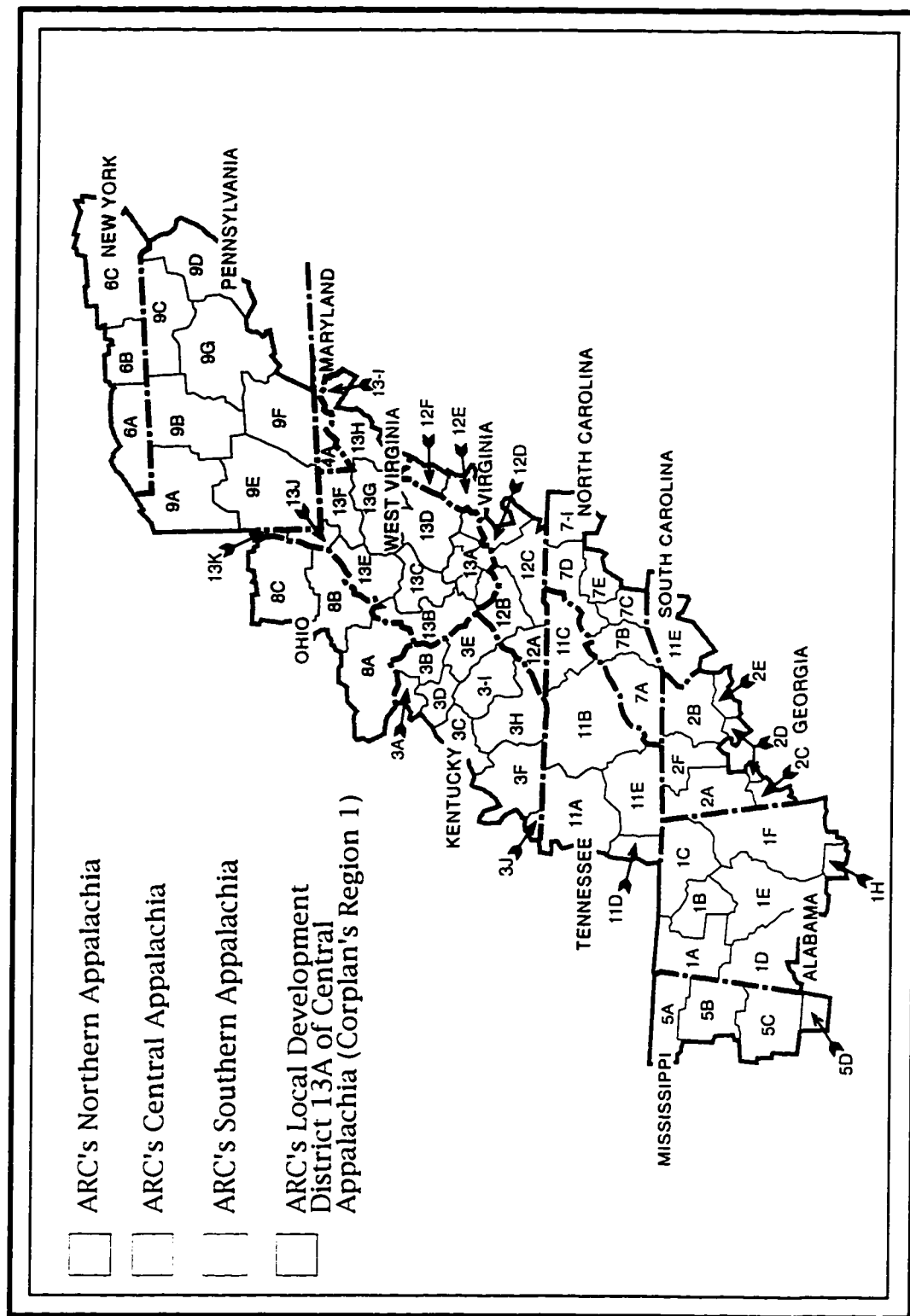


Fig. 6.1. The Appalachian Regional Commission service area. (Does not include adjacent, non-Appalachian counties added to the Commission) Source: Appalachian Regional Commission.

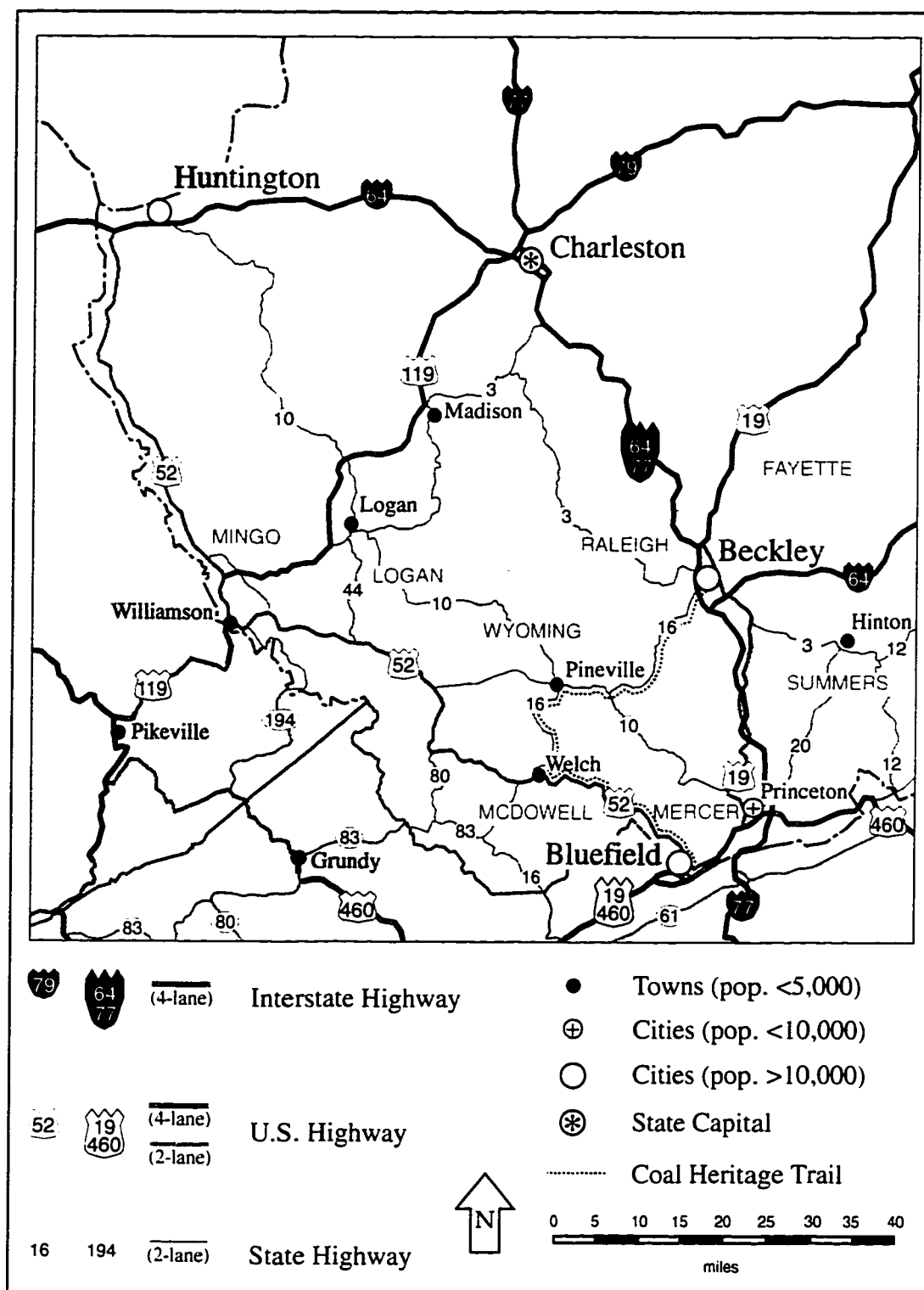


Fig. 6.2. The highway system serving the southern West Virginia area.  
Source: Rand McNally.

Virginia and Pike County, Kentucky” (Laitila, et.al. 1967:1). The study primarily was concerned with ways in which the area’s residents’ per capita income could be raised. The study highlighted the need for better education in the area to prepare the workforce and equip them with skills necessary to participate more fully in national economic trends. The authors suggested expanding curricula and bringing per student expenditures up to par with national averages, as well as increased counseling; and that vocational education be more geared toward meeting the needs of local industry, as well as projected changes in skill requirements as technology changes. The authors warned, however, that any upgrading of educational services might have an accelerating effect on out-migration as the better educated move to where the jobs are located, which had been the case in the past.

In addition to the lack of local economic opportunities, Laitila, et.al. cited greater exposure to the mass media as a probable factor in the problem of out-migration, as the attractiveness of other places has contributed to the breakdown of the residents’ attachment to home. The authors optimistically expected an end to net out-migration by the year 1980, also predicting that by 2000 the area’s per capita income would be ninety-five percent of the national figure; Woods and Poole (1994), on the other hand, projected a figure of 57.86 percent of the national figure for McDowell County’s per capita income in 2020. Despite the positive expectations, however, the authors admitted that the development potential of the area was low:

When all factors are viewed in a perspective of national economic development, it becomes rather apparent that the study area is best suited for the role of supplying coal and timber resources to the national market (Section F, page 17).

Another study, conducted by the West Virginia State Planning Office (1969), reached a similarly gloomy conclusion. This study organized McDowell, Logan, Mingo, and Wyoming Counties into its Developmental Region No. 9. The state’s major problems were identified as “loss of population, low per capita income, a high unemployment rate,

and generally a slow rate of social and economic progress” (ii). The counties of Region No. 9 had three basic characteristics in common: first, this was where the greatest concentration of coal production in the state came from, at nearly fifty percent of state output and 10.6 percent of U.S. output; second, all four counties had experienced a large decline in workforce size, 1958-67; and third, these four counties all had a large balance of coal wealth and a relatively high population density (despite high out-migration), yet high unemployment and poverty dominated the economic picture. The study stated that public sector inputs to date lacked two vital ingredients: “(1) Coordinated and unified State policy from the State executive level for programs on the local level, and (2) Effective utilization of State programs to accomplish local, county, city, metropolitan, or regional objectives to meet these area needs” (West Virginia State Planning Office 1969, iii).

After three decades of public sector input, however, southern West Virginia continues to be plagued by its crippling dependence on outside investment in coal mining labor. Although the ARC has managed to survive the budgetary ax, even *it* has been forced to ask “...whether a government should provide assistance to underprivileged regions.

It’s now time to answer the question of whether, in light of the ARC experience, government programs can make any difference to the human geography of such regions.

Since 1960, Appalachia has been subject to many forces that have affected not only the rest of the nation but also the wider world. Global economic trends have had an increasing impact on this region as mobility and trade have increased...

What these changes did...was present the ARC with a moving target as it aimed to fulfill its charge in Appalachia...

One point that worries both critics and supporters of the ARC is that even though the most money spent per capita has been invested in central Appalachia, this area remains one of the poorest parts of the United States...But it is impossible to imagine what the condition of central Appalachia would have been today without these injections of federal funds, and it is impossible to know what threshold is necessary to create major changes. Clearly the amount invested has not reached such a threshold. Nevertheless, it is likely that far fewer people would be living in

central Appalachia today, and those at a lower standard, if the ARC (and other agencies) had not invested as much money as they did (Bradshaw 1992:135-38).

Current state-level economic development strategy centers on attracting industry to the state by promoting the business friendly attributes of West Virginia, while encouraging the development of “social capital” at the local level. A recent study by Corplan, Inc. (1994) was made to assess the relative attractiveness of the state’s eleven LDD’s to prospective industries. McDowell County with the rest of the Appalachian Regional Commission’s LDD 13A became Corplan’s Planning and Development Region 1. According to Corplan, West Virginia has experienced a general downgrading of its geographic advantages over the last several decades:

Prior to World War II, the state had several ‘historical’ location advantages which were primarily logistical in nature. A favorable balance of transportation costs, local availability of raw materials, and low-cost energy sources attracted the early development of such core industries as steel mills, chemical plants, and glass producers.

In the 1950-1980 period, however, when ‘traditional’ location factors emerged as the primary influence on site selection, West Virginia lost competitive position to nearby states which offered lower labor costs and a more favorable business climate. Accordingly, the state did not fully participate in the rapid economic expansion and accompanying industrial decentralization which characterized these decades.

West Virginia’s competitive position has markedly improved in recent years, reflecting the major investments in highways, public schools, and telecommunications, as well as the enactment of a liberal incentive package. In terms of traditional factors, however, the state’s most serious shortcoming is still the limited selection of suitable sites to accommodate new and expanded facilities (Section II, page 1).

The Corplan study criticized the West Virginia Development Office’s previous choices of target industries for enticement as too broad or inappropriate for the state’s resources for successful enticement. Some of these were aerospace industries, back office operations, food processing, plastics and specialty chemicals, travel and tourism, value-added wood products, and warehousing. Corplan offered thirty-four target industries with

which it felt the state was more likely to meet success. Each of the state's eleven regions was evaluated according to its *human, infrastructure, material, industrial, and technology resources*. Potential industries which matched these various resource strengths were organized on a three tier basis (Table 6.1): Tier I industries were those which would likely have the most immediate chances of success according to current conditions in the region and state, growth trends currently being experienced by the industry, and current pressures on these industries to relocate from their present concentrations; Tier II targets were those industries that could be attracted "...assuming some basic changes in state wide operating conditions commensurate with projected changes in products, processes, and technologies over the next five years" (ii); Tier III targets were those industries that could possibly be attracted, but only with "major structural changes in state wide operating conditions and the industry's achievement of long-term growth trends projected beyond Year 2000...these more sophisticated operations most likely will involve greater skill development and have higher capital investments" (ii).

Corplan's Region I's *human resources* rated high as regards supply (labor force participation at 45.8 percent; unemployment at 12.1 percent; hence a large labor surplus) and wages (ninety-five percent of state average). However, it was noted that there would be a need for extensive additional training, remedial and specific. *Infrastructure* rated fairly well; electrical power was sufficient and industrial rates were attractive. "Digital telecommunications services are provided throughout the region with the notable exception of McDowell County which has six exchanges and 7,000+ access lines which do not offer digital service" (Section II, page 6). Transportation was considered adequate. In *material resources* the region rated excellent in coal, and good for agriculture (principally in Monroe County). However, raw materials were found to be generally unavailable for most industrial purposes, with the exception of lime. *Industrial resources* were found in the region, such as machinery manufacturing, some food processing, printing and publishing,

Table 6.1. Below are the target industries chosen by Corplan, Inc. (1994) as candidates for inclusion in the West Virginia Development Office's industry enticement efforts. Those marked with an asterisk\* are those which Corplan's Region I (Local Development District 13A of the Appalachian Regional Commission) was most likely to attract, according to the study's evaluation of the Region's *human, infrastructure, material, industrial, and technology resources*. Tier I contains those industries which Corplan felt could be successfully enticed to locate in Region I given current conditions. Tier II industries are those which require less than five years of statewide improvement of conditions. Tier III industries are those which could possibly be enticed to locate in the region in the more distant future.

<b>TIER I</b>	<b>TIER II</b>	<b>TIER III</b>
Poultry processing <b>Public building furniture*</b> <b>Restaurant and bar furniture*</b> Greeting cards Industrial inorganic chemicals Plastics materials and resins <b>Plastics plumbing fixtures*</b> Fabricated plastic products Packaging machinery Sporting and athletic goods Merchant wholesaling <b>Prescriptions by mail*</b> <b>Insurance claims processing*</b> Medical laboratories Testing laboratories	Sausages <b>Wood partitions*</b> <b>Bookbinding*</b> Gun and wood chemicals Steel minimills <b>Mining machinery*</b> <b>Relays*</b> <b>Printed circuit boards*</b> Process controls Laboratory instruments	<b>Candy and other confectionery*</b> <b>Reconstituted wood products*</b> Sanitary paper products Pharmaceuticals Soap and detergents <b>Specialty cleaners*</b> Adhesives and sealants <b>Screw machine products*</b> Motorcycles and bicycles

lumber and wood products, and fabricated metals, which “can provide input support to other manufacturing activity” (Section II, page 7). The region rated poor in *technology resources*: technological development was found to be low and training capabilities were deemed limited. “The two four-year colleges in the region [Bluefield State College (Bluefield) and Concord College (Athens)] provide a total of [only] nine curricula out of 40 technical degree programs which are generally recognized as important to industry” (Section II, page 7).

On the basis of these resource criteria, Region 1 was evaluated and found to qualify for six industries as Tier I targets: public building furniture manufacturing, restaurant and bar furniture manufacturing, plastics plumbing fixtures, fabricated plastic products, prescriptions by mail, and insurance claims processing. Should any of these industries establish facilities in Region 1, however, it is unlikely that McDowell County would be its choice of location, since the southern West Virginia area contains three urban areas—Beckley (in Fayette County), Princeton, and Bluefield (both in Mercer County)—with which it must compete, all three of which are situated along major transportation routes (see Fig. 6.2). Additionally, McDowell County’s surplus labor, its chief asset, is one which all of its neighboring counties share in competitive abundance. Since industry is reluctant to locate very far from four-lane highways (McLaughlin and Boyd 1995), the county’s lack of such is a major drawback (U.S. 52 is two-lane).

Thus, with state incentives there is a chance that some industry might find southern West Virginia an attractive place to set up shop. For McDowell County, however, there remains the sad fact that its economic health is inextricably tied to the fortunes of the coal industry. Although there are plans to upgrade highway 52 to Interstate 73 (Clauson 1995), such an improvement would probably not be a major influence on outside industry; it could, however, expand the job shed for county residents who are able to commute to out-of-county jobs by improving the commuting distance. In 1990 some 23.3 percent of the

county's workforce commuted to out-of-county jobs, compared to 19.8 percent of Mercer County's workforce. This would seem to indicate that even with two fair-sized towns—Bluefield (1990 population 12,756) and Princeton (1990 population 7,043)—and the hub of two major highway systems (I-77 and U.S. 460), Mercer County itself has a considerable portion of its workforce commuting to out-of-county jobs. Thus, the job competition that would result if new industry located in Corplan's Region 1 would be intense, so much so that McDowell County would most likely not benefit much.

## **Seven: Prospects**

McDowell County was for many decades the “world’s largest coal producing county.” Prior to the coming of the coal industry, southern West Virginia was a frontier; rugged, steeply sloping topography, distance to markets, the lack of investment capital and available labor, all combined to keep this area economically peripheral until forces with the capital to exploit its coal resources turned their attention to it. Coal is the only resource this region has in quality and quantities sufficient to attract significant job producing, commercial attention.

The legacy of the coal industry in McDowell County is profound. The county, along with the rest of southern West Virginia, entered an era of prosperity with the development of a coal mining industry. This prosperity, however, has proven to be but a phase in the larger scene, representative of an era of reckless development and resource exploitation to fuel national industrialization, without regard to long-term implications.

Mining commonly creates scenes of intense activity and produces great wealth from a limited area for a short time. No other land use is so ephemeral. Cut a forest, and it will spring up anew. Mine a coal seam and carry its fragments to market, and the coal is gone forever (Murphy 1954:279).

Today this legacy is evident in the landscape—from the numerous coal towns and tipples to the abandoned buildings, empty store fronts, surface mine scars, and monuments erected in memory of the miners who were killed in the mines (Fig’s. 7.1-7.10). Even the more squalid aspects of this landscape have been parodied by the natives themselves, as in humorous postcards offered for sale in local stores depicting a landscape of abandonment (Fig’s. 7.11, 7.12).

The coal industry came to southern West Virginia and built a regional economy based solely on the mining of coal to be used by industries located elsewhere. The lack of other, alternative basic activities to take up the slack in employment has resulted in

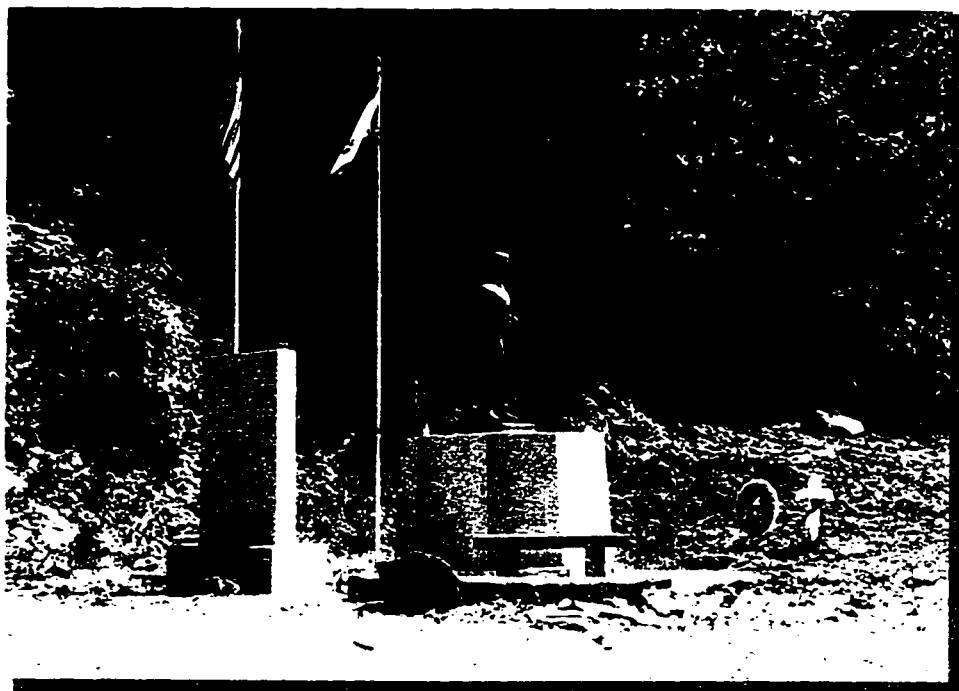


Fig. 7.1. Bradshaw miners' memorial (August 1995).

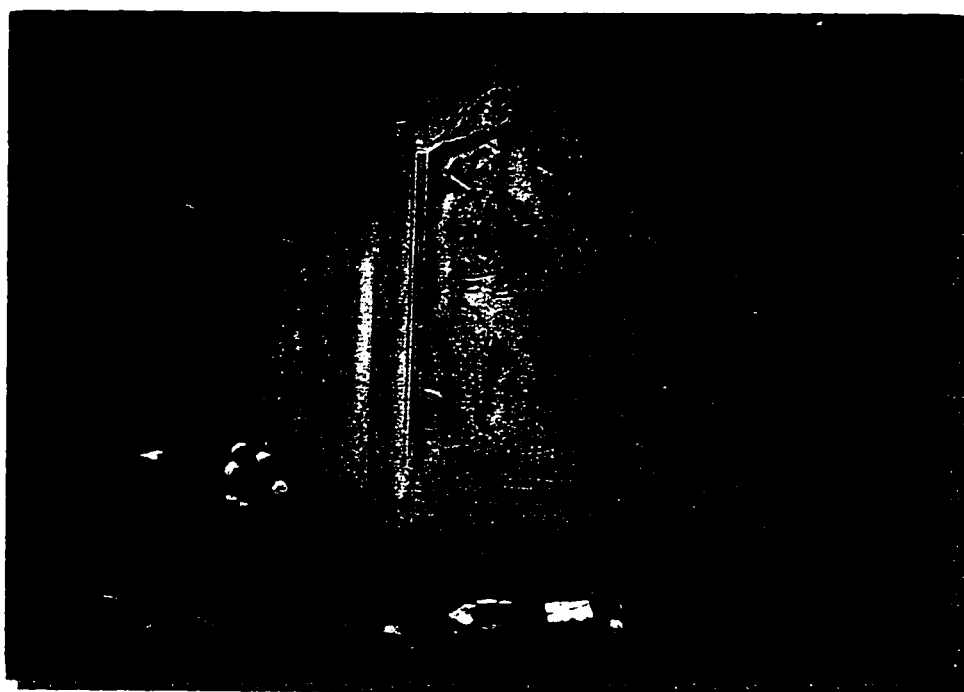


Fig. 7.2. Bartley miners' memorial (August 1995).

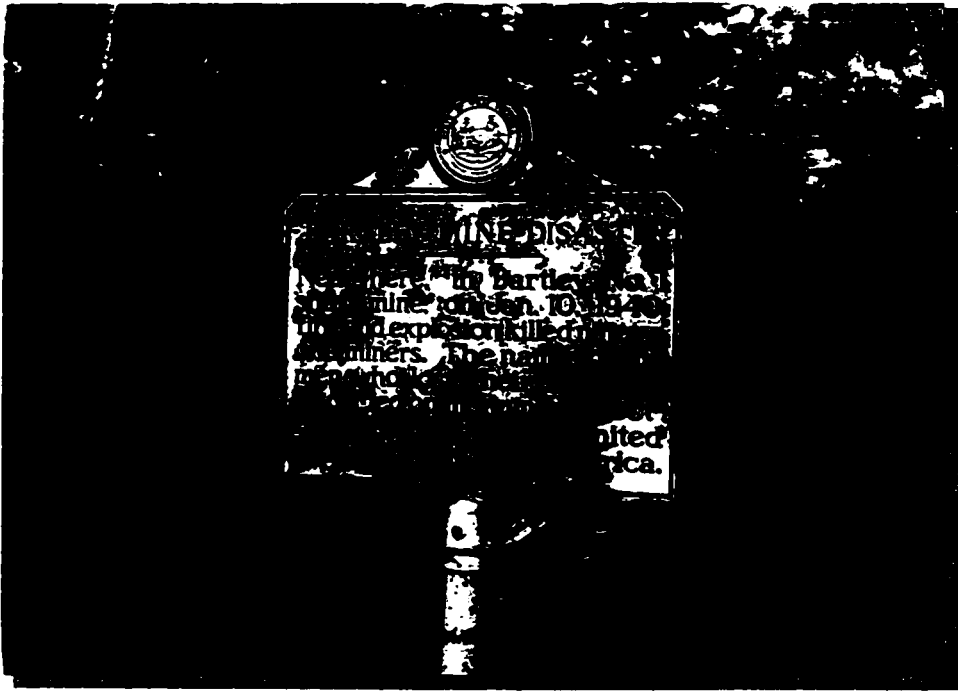


Fig. 7.3. (above) Bartley 1940 mine disaster historical marker (August 1995).



**Fig.7.4. (left) The "Original Pocahontas" mine at Bishop, operated by the Pocahontas Fuel Company (August 1995).**



Fig. 7.5. Empty storefronts in Welch (August 1995).



Fig. 7.6. Empty commercial buildings in War (August 1995).



Fig. 7.7. Guttled buildings in Iaeger (August 1992).



Fig. 7.8. Abandoned buildings near Bishop (August 1995).



Fig. 7.9. "Little New York"—Welch, West Virginia (August 1995).



Fig. 7.10. Downtown Welch (August 1995).

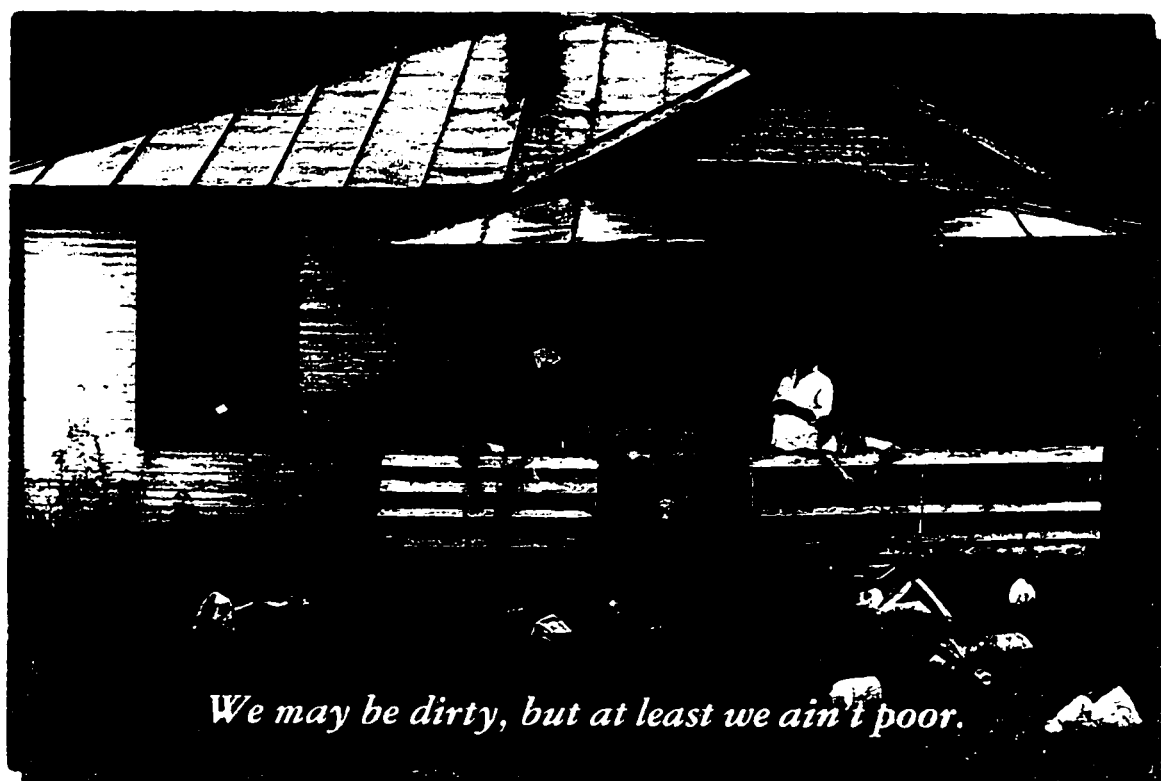
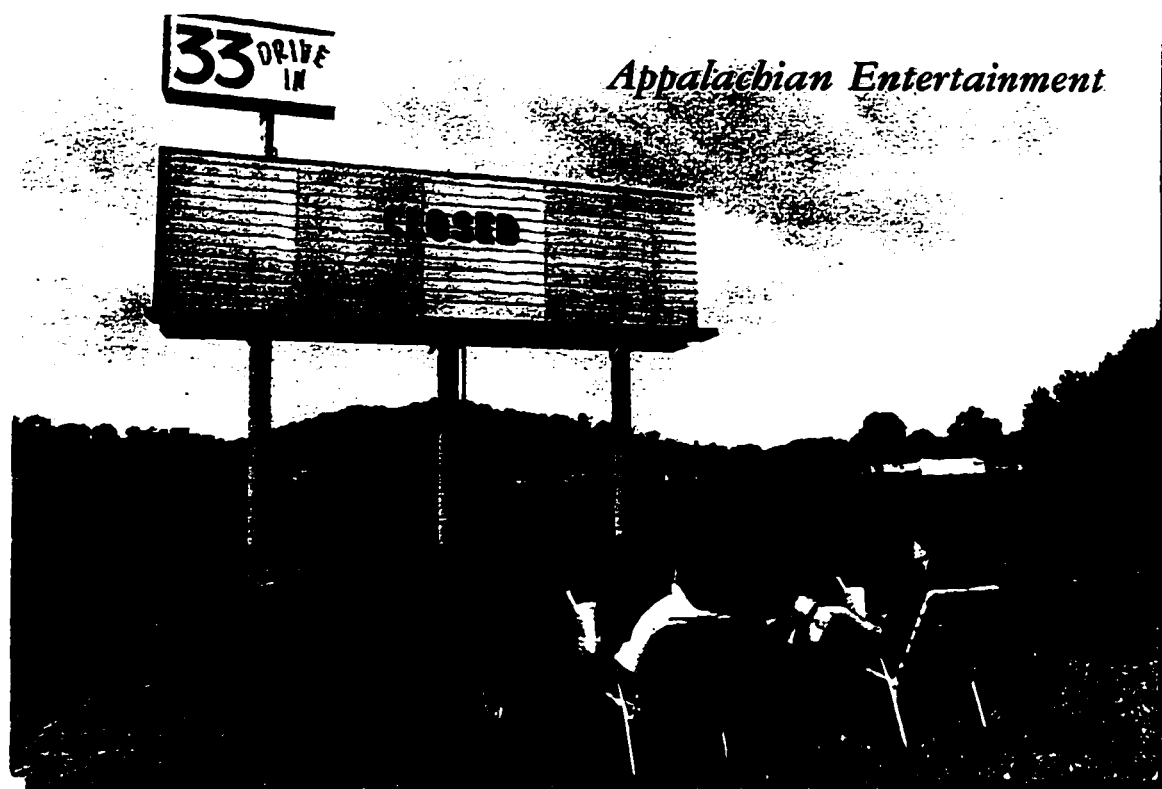


Fig. 7.11, 7.12. Humorous postcards sold in Jaeger store. Photo by Brian Blauser, B&B Studios.  
© Zinermatic Productions, Tom Mills, Dutch Creek Road, Athens, Ohio.

economic dislocation for this region. McDowell County has suffered the greatest decline of southern West Virginia's coal mining counties. Although the 1970's brought a slight respite from this decline—with a resurgence of coal production and employment—it proved to be a short-term phenomenon rather than a reversal of what has become four decades of downward trending. Three decades of public sector inputs—from the Appalachian Regional Commission to efforts by the State to attract industry—have thus far failed to change the basic trends of the last four decades: less local employment opportunity and out-migration.

*Median* income for the county in 1949 was 96.5 percent of the nation (though it was 107.8 percent of the State); by 1989 this figure had dropped to a mere 43.7 percent of the nation (63.2 percent of the State). *Per capita* income for the county in 1989 was 48.3 percent of the nation. The income situation for McDowell County's neighbors has not fared much better: in 1989 Logan County's per capita income was 60.9 percent of the nation; Mingo's was 57.8 percent; and Wyoming's was 57.3 percent; while the State was at 73 percent of national per capita income. The fact that coal production figures for 1989 were quite high for Logan and Mingo, and steady for Wyoming County, makes the situation more distressing, for these figures indicate that despite the future of the coal industry in McDowell County, whether or not production ever makes a comeback (and every indication is that it will not), the economic picture will continue to look bleak unless some form of investment that produces a large number of jobs comes along.

A decade ago the county was forced into a dilemma which illustrates the desperate straits it has entered. In 1987 the county was forced to close its dump. Additionally, Welch, the county seat, was undergoing a fiscal crisis—under court order the mayor, Martha Moore, was ordered to establish a water treatment facility, while at the same time, due to the lack of funds, she was "...forced to lay off the town's meter maids and the entire fire department, and to cancel city workers' pension plans. The county, which owes a

quarter of a million dollars to vendors and can barely meet its bare-bones payroll, recently laid off several sheriff's deputies" (Royte 1992:55). With a \$10 million-plus price tag for a new landfill, and Welch's residents unable to afford the \$63 per month it would take to finance a water treatment facility, county leaders were at their wits' end.

Then Mayor Moore was made an offer she felt the county could not refuse. Capels Resources, a subsidiary of the Berwind Corporation of Philadelphia which owns extensive mineral rights in McDowell County, offered to build a new, modern landfill that would accommodate 300,000 tons of Megalopolis' garbage per month for fifty years:

The landfill would have a 'state of the art' liner—a complicated layering scheme of dirt, clay, plastic liners, and gravel—and sixty wells for testing water quality. The electronic monitoring and transfer stations would be fully enclosed. In addition to local inspections, the EPA, the Occupational Safety and Health Administration, and the State Department of Natural Resources would have their pokes at it, too...

There would be money—between \$6 and \$8 million for the county. There would be 367 jobs, with a payroll of \$10 million. Capels would clean up the illegal dump sites around the county; Welch would dump its garbage for free. And Capels would treat the town's sewage. In November 1988 the first contract was signed, and the landfill proposal began its journey through the state bureaucracy (Royte 1992:56-7).

During the spring of 1991, however, while the county's leadership was waiting for the go-ahead from Charleston, a movement to oppose the plan began to materialize. Under the leadership of the Reverend Jeffrey Allen this opposition organized itself as TEARS/WV (Team Effort Against Ruining Southern West Virginia). Researching the impacts of such landfills on local communities elsewhere, TEARS/WV discovered that the number of jobs promised was an exaggerated estimate. Furthermore, there were fears that workers would be fired for trying to unionize, a situation that had occurred at another landfill in West Virginia under out-of-state control. There were also concerns about leakage of hazardous or toxic materials which might contaminate surface and ground water. These concerns, plus the fifty-year life span of the landfill, pointed to the project as little more than a stopgap, a Band-Aid approach to the county's woes.

Rather than risk a possible defeat in a county referendum on the issue called by Mayor Moore, TEARS/WV took their cause to Charleston, where on October 15, 1991 Governor Caperton signed a bill limiting landfill capacity in the state to 30,000 tons per month, killing Capels Resources' plans outright.

Though the landfill would have greatly eased, or eliminated, Welch's fiscal troubles, it would have done little to help the county's real problem: the lack of bread-winning wage paying jobs sufficient to allow county residents, and their children, to prosper without having to move elsewhere. That the "world's largest coal producing county" has been reduced to having to seriously consider becoming the landfill for Megalopolis demonstrates how little southern West Virginia's residents have been the beneficiaries of all the investment that has come into their region.

Alternative resources available to the county are meager. Basic activities other than coal mining are nonexistent. The trade and service sectors of the economy increasingly subsist on a dwindling number of wage earners and a proportionally increasing number of transfer payment recipients. In 1989, some 26.3 percent of the nation's households received Social Security benefits, while the figure for the county was 42.3 percent. In 1989, some 7.5 percent of the nation's households received public assistance, compared to 19.7 percent for the county. It would appear that two basic strategy approaches remain available to policy makers dealing with the region: one, to attract industry to those parts of the State where such industries are likely to thrive; and two, to concentrate on educational funding (which would include public schools as well as retraining displaced adults) for the more disadvantaged areas of the State, like McDowell County, to prepare them for jobs—ideally for jobs elsewhere in the State, although many will find it necessary to go elsewhere. Either way, the county is going to continue to lose people. Economic relief for those who remain unemployable locally will probably continue to be above national and State averages.

On the advice of Corplan, Inc. (1994) the State is promoting its abundant timber resources, low-cost labor, “central location,” transportation infrastructure, low-cost utilities, and business-friendly tax environment to attract public building, restaurant, bar and industrial furniture manufacturers to West Virginia:

The major advantage of doing business in West Virginia is a commodity that defies measurement yet is directly linked to productivity. A resource that is self-generating, unlimited and constantly taking performance levels over the top. **It's the work ethic of the people.** Steeped in tradition and honed to perfection, that work ethic equates to low absenteeism, low turnover and job loyalty. An employer will be assured excellent management-employee relations, high productivity and a dedication to quality they have never known before (West Virginia Development Office 1994a:14, 1994b:15 ).

In addition to the furniture industry, the State is promoting itself as the ideal location for back offices (West Virginia Development Office 1994d). Although McDowell County's shortage of digital telecommunications services preclude (at present) the location of business offices in the county, its timber industry could experience a boost in demand should furniture manufacturing facilities move to southern West Virginia. The county has extensive timber resources, in both private ownership and public lands such as Panther State Forest (7,810 acres). The principal commercial species are yellow poplar and white oak, as well as other hardwood species and hemlock. Before the coal industry began to flourish in the 1890's, small timber operations in the west of the county exported timber out of the county, floating it down the Tug Fork to market (Brooks 1910). Should such industries relocate to this region, however, competition with other counties would be high and the number of jobs that would be created would doubtless be slight.

Moreover, the State offers a slew of tax credits to entice businesses to West Virginia: for example, there is a Corporate Headquarters Credit, a Business Investment and Jobs Expansion Tax Credit (“Super Tax Credit”—an enticement that aims at encouraging job creation and long-term location in the State), and a Warehouse “Freeport” Tax Exemption which “allows goods in transit to an out-of-state destination to be exempt

from local ad valorem property tax when ‘warehoused’ in West Virginia” (West Virginia Development Office 1994c:7).

The proposed upgrading of U.S. Highway 52 to Interstate 73 has come under the attack of historical preservationists who fear that it would destroy the rich coal history of the area as a potential source of tourist trade. According to Stuart McGehee, archivist for the Eastern Regional Coal Archives,

We have a storehouse of coalfield history along route 52—coke ovens, tippie shafts, gold domed Russian Orthodox churches, Victorian company stores. To destroy these gorgeous artifacts would be a tragedy (as quoted in Clauson 1995:2).

Route 52 from Bluefield to Welch, and Route 16 from Welch to Beckley is dubbed the “Coal Heritage Trail” (see Fig. 6.3). A brochure, “Make Tracks to the Coal Heritage Trail,” beckons visitors to visit key spots along the Trail, many of which are in the McDowell County section:

“The Coal Heritage Trail winds past company stores, miners’ houses, massive railroad yards, coal tipples, and company towns. Intrepid visitors can experience coal society and gain remarkable insight into American history.”

However much the Trail might improve the image of the region, it is doubtful that it will improve the economy. Meanwhile the federal government continues to try to help the region adjust and bring itself up to par with the State. In December 1994 President Clinton declared McDowell County as one of thirty rural Enterprise Communities and three Empowerment Zones, as part of the Omnibus Budget Reconciliation Act of 1993. The county received a check for \$3 million, July 24, 1995, in “Title XX Department of Health and Human Services Block Grant funds.” At the check award ceremony, Clif Moore of the McDowell County Action Network stated,

This is the day of a new beginning. For so long, we have been out of stride with the rest of the State, but I’m so glad to see we are back in stride again. We are going to resurrect this county to its highest economic and social potential...(as quoted in Todd 1995:1).

State efforts to help its most troubled counties, especially those less likely to benefit from investment enticement strategies, concentrate on encouraging the development of “social capital” (Fig. 7.13, 7.14) to work out local solutions to local problems (McLaughlin and Boyd 1995).

By analogy with notions of physical capital and human capital—tools and training that enhance individual productivity—‘social capital’ refers to features of social organization, such as networks, norms, and trust, that facilitate coordination and cooperation for mutual benefit. Social capital enhances the benefits of investment in physical and human capital (Putnam 1993:35-6).

Nonetheless, with such an apparent lack of potential basic activities to take the place of coal mining jobs, the region’s outlook would appear to be helpless. There will continue to be two general categories of people in McDowell County: those who stay and those who leave. Those who stay will either be able to adapt to changing circumstances and thrive (though they will be few in number), or they will exist on the margins of the economy, dependent on public assistance and/or underemployment, continuing to live with the ups and downs of a coal industry that no longer needs their labor. It is likely that the westward shift in county coal production will continue, assuming that the high demand for low-sulfur, high Btu steam coals continues. This could have a moderating effect on the western half of the county as regards demographic stability; yet employment will continue to be unstable. As long as there is a large number of people in the eastern half of the county out-migration will be high. It is unlikely that other coalfields will be able to absorb displaced miners, for they would have done so already. It would behoove policy makers in Charleston to closely monitor and study the spatial trends of the coal industry. Meanwhile, mines close in high sulfur northern West Virginia as a result of the increasing strictness of air emission standards (Kilborn 1996). Any increase in demand for southern West Virginia coals will be felt in those areas where mining is most economical. This fact rules out the

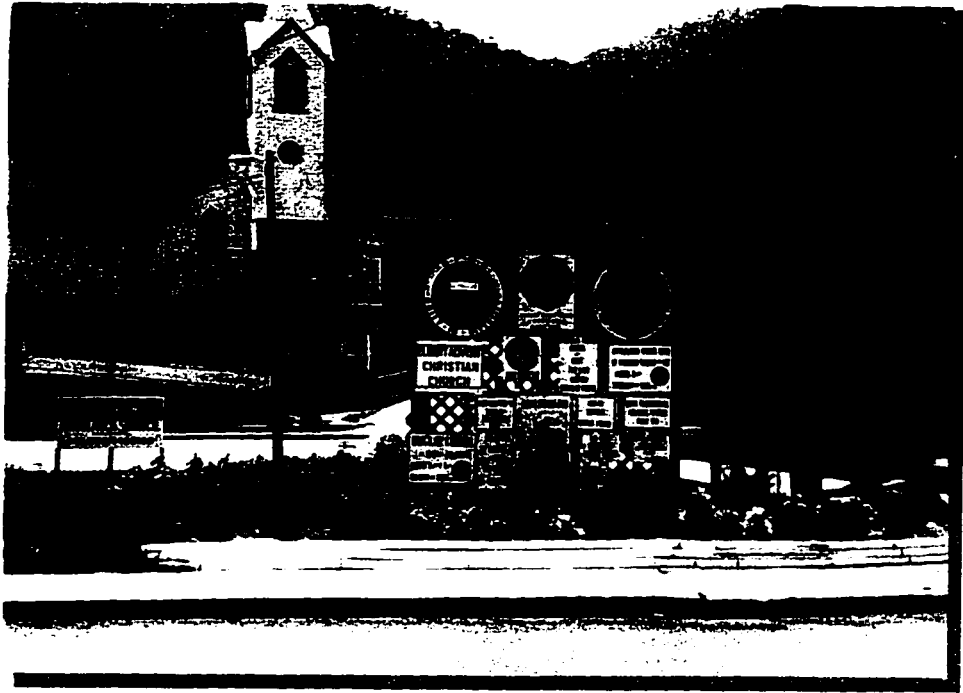


Fig. 7.13. "Social capital" in Gary (August 1995).

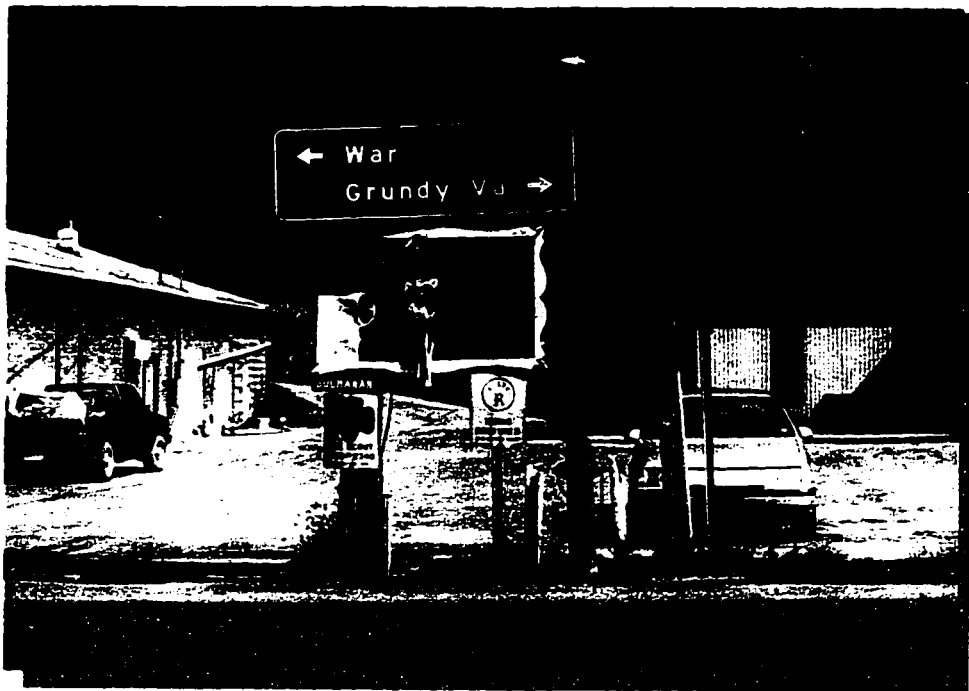


Fig. 7.14. "The Kids Are Our Future," Bradshaw (August 1995).

eastern half of McDowell County, especially the Pocahontas Field, since this area has become increasingly marginal. And again, any increase in production will probably not entail much, if any, increase in employment (and, again, there is the fact that there is plenty and cheaply mined low-sulfur coal in the western states which might continue to cut into Appalachia's markets). But, as Curtis Seltzer (1986) warns:

Coal mine employment cannot be seen as a cycle, alternating between periods of expansion and contraction. Despite production growth, the future job trend is steady decline—on the order of at least 10 to 20 percent by 1995. This will take place in Appalachian coal counties that typically have few, if any, other sources of primary wage income. Aside from coal mining, a non-coal private sector hardly exists in many coal counties...

In the absence of a Marshall Plan-type reconstruction effort, these counties will become increasingly isolated from the constructive economic forces at work in America's economy. As this occurs, these areas will come to resemble reservations for the unemployed and impoverished, maintained in permanent dependency (48).

As the local economy contracts, social stability will become increasingly stressed. If and how this region copes with the realization that the coal mining boom, which essentially created their society, has finished with them and no longer needs them could very well be the final test of the cultural theories of this region's problems. Southern West Virginia has always been sensitive to exogenous forces, whether or not those forces have acted in a predatory or manipulative manner. Demand for this region's coal will continue to be controlled by the need for steam coal for electrical generation, which will largely be a factor of the price of oil, the demand for low-sulfur coals, and the expense of mining these coals. Seltzer considers the possibility of even this demand petering out and ponders the impacts on the coal industry itself:

Who among us will argue that we will not develop a cheaper and cleaner way to boil water within a generation...I am confident that steam coal will eventually be replaced as the way we make electricity.

At that moment, Appalachian steam coal will lose its economic value. No purpose will be served in mining it. And every coal-dependent county will be decoupled from the train that has pulled it for so long, for better or worse.

Among the biggest losers will be those companies who now own billions of tons of unmined coal. They will find themselves paying taxes on near worthless assets. It is these companies who have the greatest organized stake in developing alternative economic uses for their resources—their coal, timber, land and capital. It is these companies, I think, who should be encouraged to begin diversifying coal-field economies (Seltzer 1986:50).

Yet Seltzer offers no program or suggestions as to just how such diversification can succeed. What will be the resource base? The market? Given the available alternatives and long-term trends, the prospects for McDowell County as part of such a diversification scheme look rather dismal. Economic change has been a fact of life throughout history. Along with such change is, usually, a spatial redistribution of human occupance. As new opportunities or needs arise in a given location, people respond by moving to that location to supply those needs or to take advantage of the opportunities that location has to offer. Conversely, when a location becomes bereft of opportunity, or economic conditions no longer require its inhabitants, people respond by moving to where conditions are more favorable. Living in a particular locality is not generally considered a basic human right—were it so, McDowell County would be high on the list of national priorities. Yet such is not the case.

Economic rationalization has been a major theme of this region's economic history. As the population dwindles and the service and trade activities move out of the outlying areas to more central locations, the county's livability will deteriorate. Presumably people will, by and large, abandon these increasingly remote locations to be closer to food stores, medical services, and gas stations. To prevent "social capital" from degenerating into a return to "subsistence-barter-and-borrow" and, hence, a return to provincialism and isolation, will be the great challenge of the next generation of county residents and policy makers.

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