



# HEALTH CARE IN APPALACHIA

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# Background

- Raised in McDowell County
- Dad was a miner, Mom stayed home
- Raised mainly Pentecostal
- Attended Concord College, then WVU





# Objectives

- What is Appalachia?
- Background and Formation of West Virginia (aka why we are so skeptical of authority figures.)
- Coal and Decline of Coal (aka why we became more skeptical of authority figures)
- Current state of the region
- Recent ARC report
- Tips for dealing with patients



# Where Am I?

- Located in the Appalachian Mountains
- Bordered by Virginia to the southeast, Kentucky to the southwest, Ohio to the northwest, Pennsylvania to the north, and Maryland to the northeast
- 41st largest state by area and the 38th most populous
- Capital and largest city is Charleston (Just under 50,000)
- Charleston Metro Area is 3<sup>rd</sup> largest in state (we were first until Putnam County rezoned)
- Kanawha most populous county



# What is Appalachia? (As defined by the ARC)

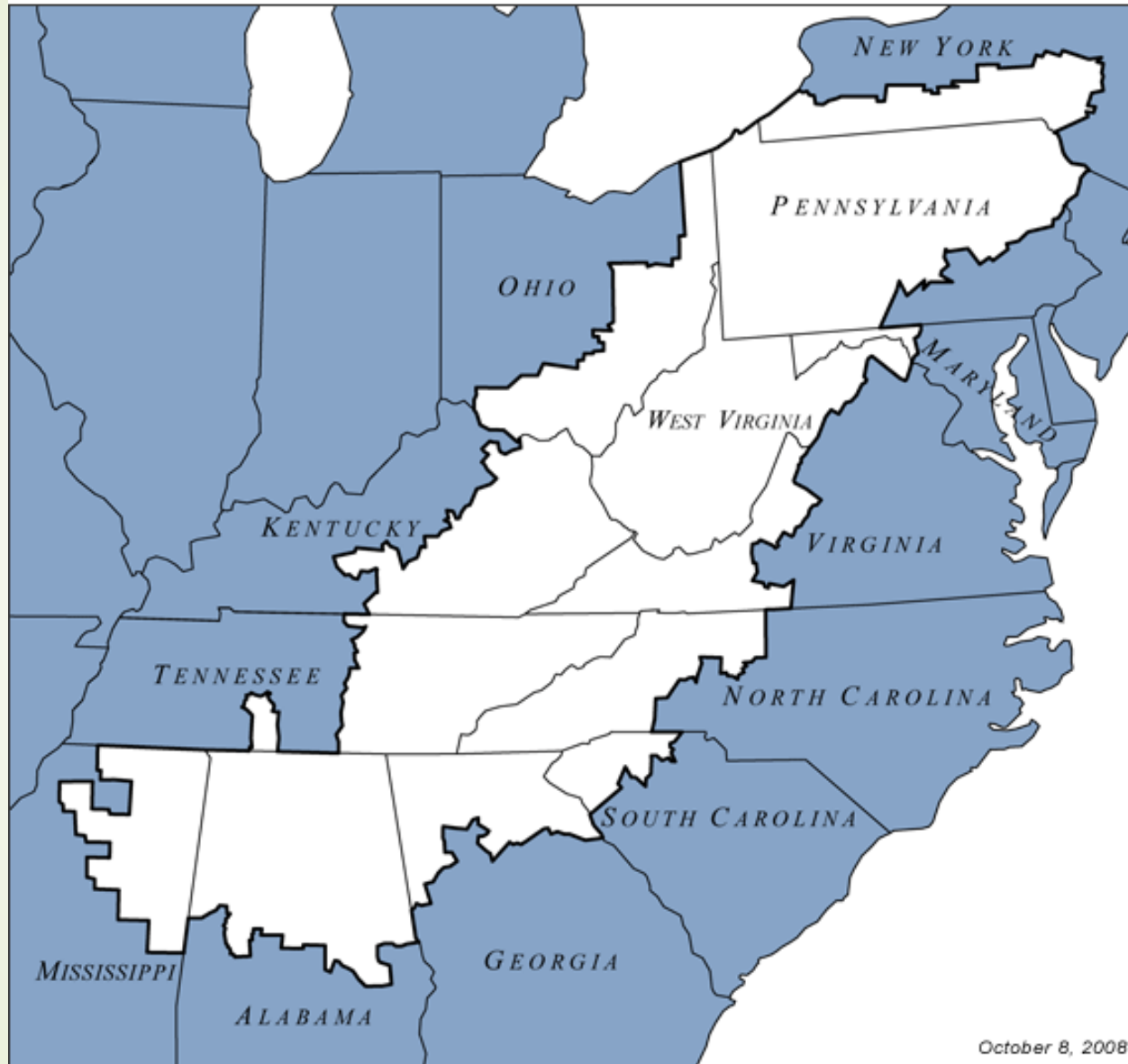
- ▶ 205,000-square-mile region that follows the spine of the Appalachian Mountains from southern New York to northern Mississippi
- ▶ Includes all of West Virginia and parts of 12 other states: Alabama, Georgia, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, and Virginia
- ▶ Forty-two percent of the Region's population is rural, compared with 20 percent of the national population.



# What is Appalachia?

- ▶ Includes 420 counties in 13 states
- ▶ Extends more than 1,000 miles, from southern New York to northeastern Mississippi, and is home to more than 25 million people

## The Appalachian Region



October 8, 2008

Source: Appalachian Regional Commission



# Formation of West Virginia

- Several attempts at becoming it's own state prior to the Civil War
- Surveys of the land done in 1750's led to talks of a 14<sup>th</sup> colony called Vandalia
- Problems with crossing the Alleghenies during the American Revolution led to talks of reforming what was then Western Virginia into Westsylvania





Ohio

Penns

Indiana

West Virginia

Vandalia

Kentucky

Virg

Pittsburgh

Point Pleasant

Boonesborough

Allegheny R.

Muskingum R.

Ohio R.

Scioto R.

Little Kanawha R.

Kanawha R.

Monongahela R.

Greenbrier R.

Kentucky R.

Roan



Kittanning

Fort Pitt (Pittsburgh)

Redstone

Wheeling

Scioto

Muskingum

Ohio

Susquehanna

Potomac

Point Pleasant

Kanawha

**Westsylvania**

James

Cumberland

Ohio



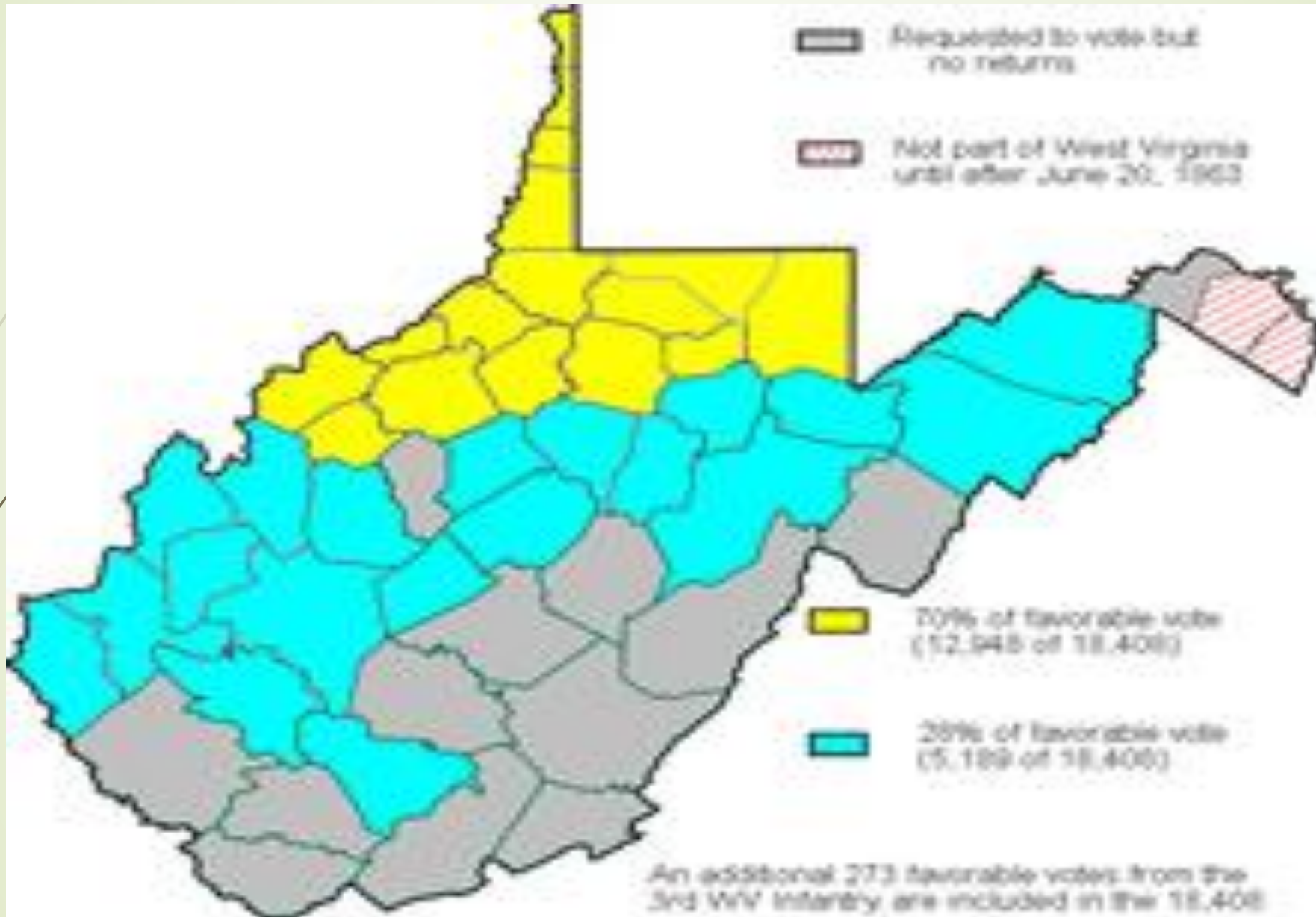
# Tuckahoe-Cohee Conflict

- “Tuckahoe” refers to the low-country plantation owners, with all of their economic, political, social, and English ethnic traits.
- The “cohee” were typically non-Anglican, poor, hard-scrabble independent farmers, moving into or through the hills and mountainous regions of Virginia and both Carolinas.
- Both “tuckahoe” and “cohee” were often used as terms of disparagement and derision by the opposing group.



# Formation of West Virginia

- Became a state following the Wheeling Conventions in 1861
  - Series of two meetings (in May and June) that ultimately repealed the Ordinance of Secession passed by Virginia and authorized the counties that organized the convention to become West Virginia.
- Admitted to the Union on June 20, 1863
- The only state to form by seceding from a Confederate state and was one of two states formed during the American Civil War





# Civil War

- 40% of livestock killed
- 1/4 of men died
- Bank reserves plummeted from \$50m to \$17m
- 11 towns destroyed
- Lost 14% of the population



# Reconstruction (1865-1877)

- ▶ VA and WV disputed WV's share of the pre-war Virginia government's debts; the issue was settled in 1915, when the Supreme Court ruled that West Virginia owed Virginia \$12,393,929.50
- ▶ Lincoln/Johnson were moderates – wanted to give southerners who pledged oath to US path to citizenship
- ▶ In 1866, “Radical Republicans” won Congress, Johnson impeached by House, failed by 1 vote in Senate
- ▶ Northerners came south – “Carpetbaggers”



# Reconstruction

- Instability and power vacuum
- Panic of 1873 – Worldwide economic depression caused by inflation, Franco-Prussian War, Chicago/Boston fires
- Tension between Carpetbaggers and Scalawags (native Southern supporters of Reconstruction)





# Reconstruction

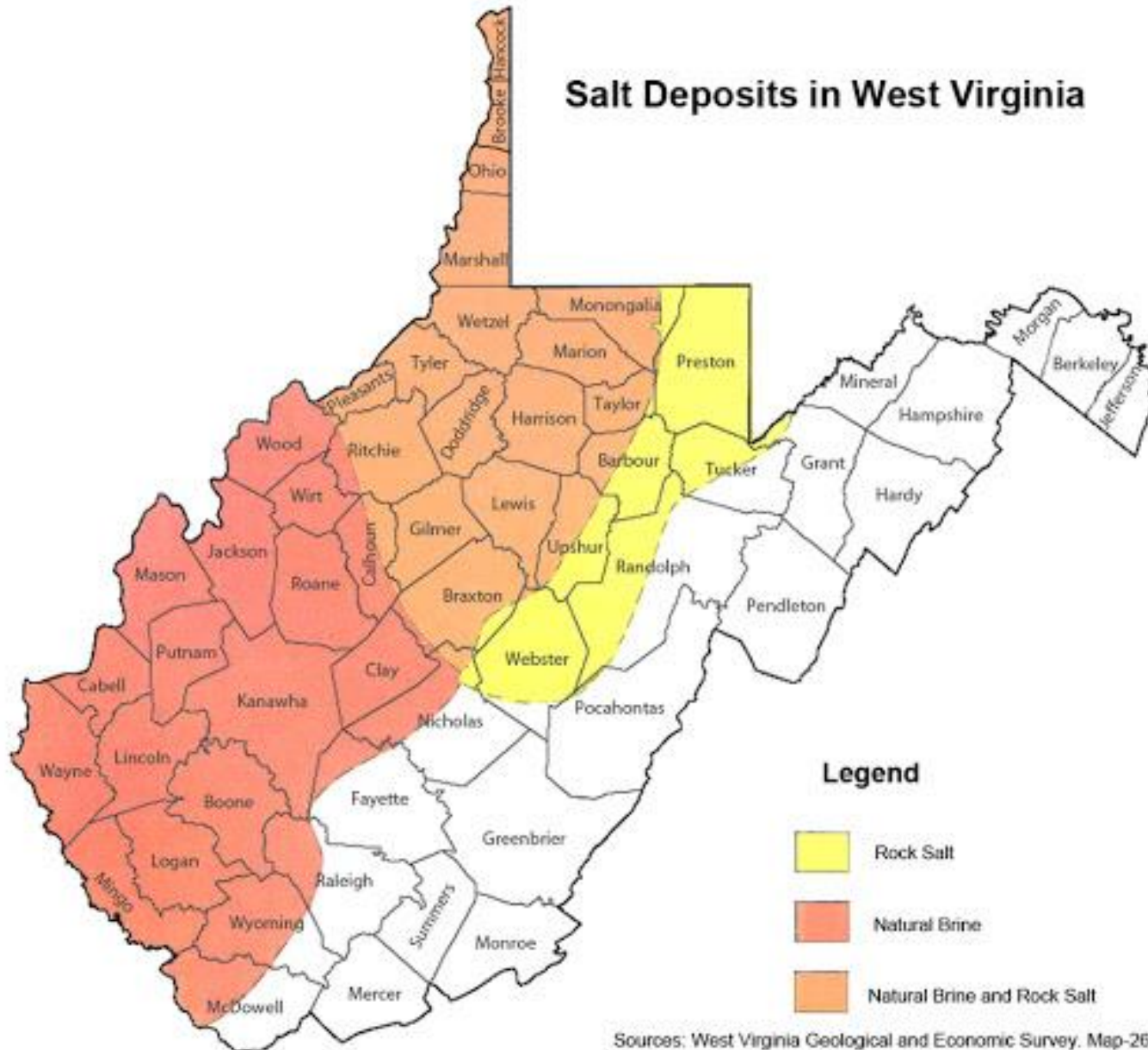
- ▶ WV Mountains – supported Reconstruction, resentment against Low-Country politicians
- 



# Salt

- Saltpeter caves employed for munitions; the border between West Virginia and Virginia includes the "Saltpeter Trail", a string of limestone caverns containing rich deposits of calcium nitrate that were sold to the government
- Red salt of Kanawha County was a valued commodity of first Confederate, and later Union forces
- WV has enough salt to supply nation for 2000 years

## Salt Deposits in West Virginia




Sources: West Virginia Geological and Economic Survey. Map-26

Riddel, Frank S. *The Historical Atlas of West Virginia*. Morgantown: West Virginia University Press, 2008.

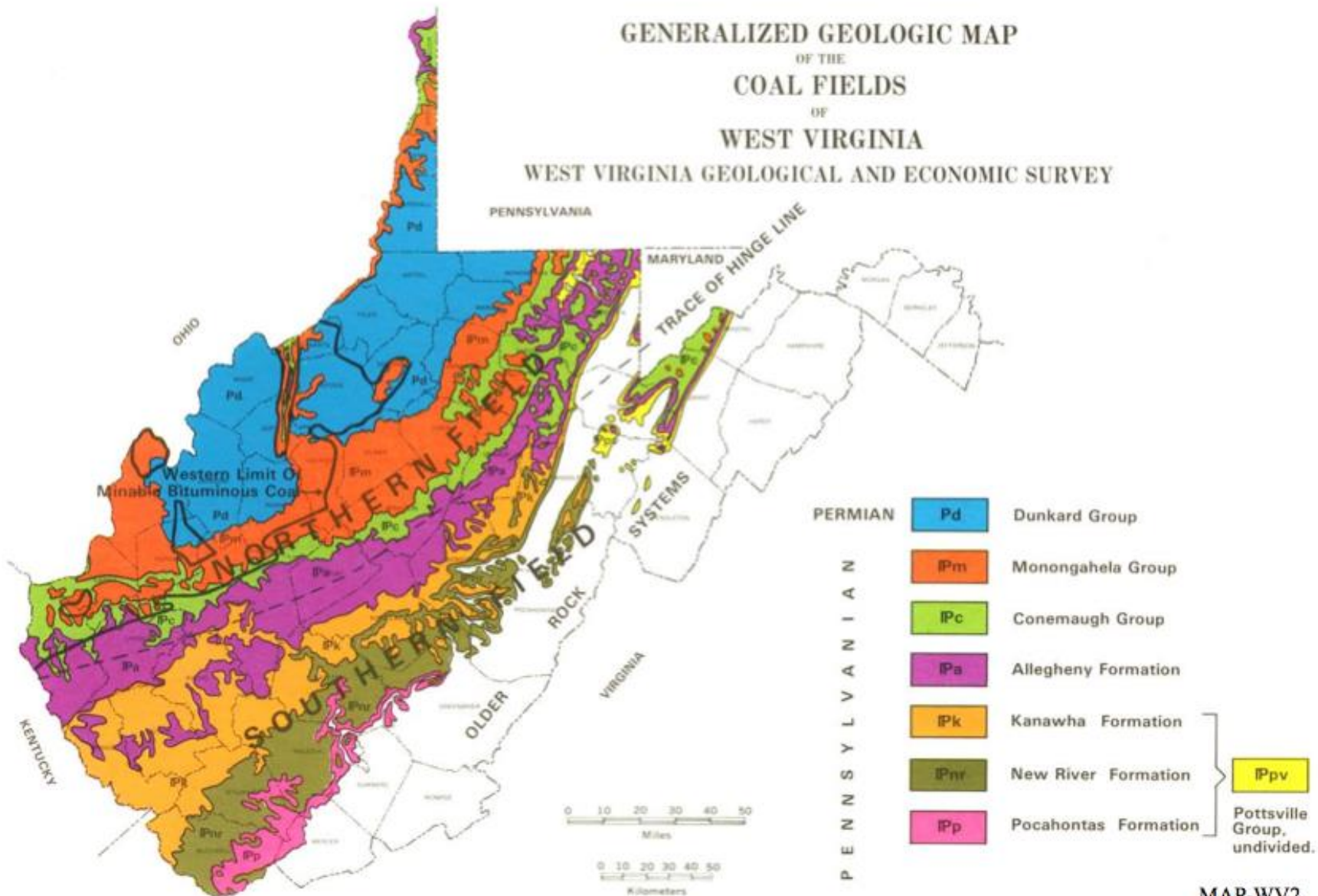


# Bituminous Coal

- Residents had long known it could be used for heating and fuel
  - After the War, with the new railroads came a method to transport large quantities
  - Investors and industrialists focused new interest in West Virginia
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# GENERALIZED GEOLOGIC MAP OF THE COAL FIELDS OF WEST VIRGINIA

WEST VIRGINIA GEOLOGICAL AND ECONOMIC SURVEY

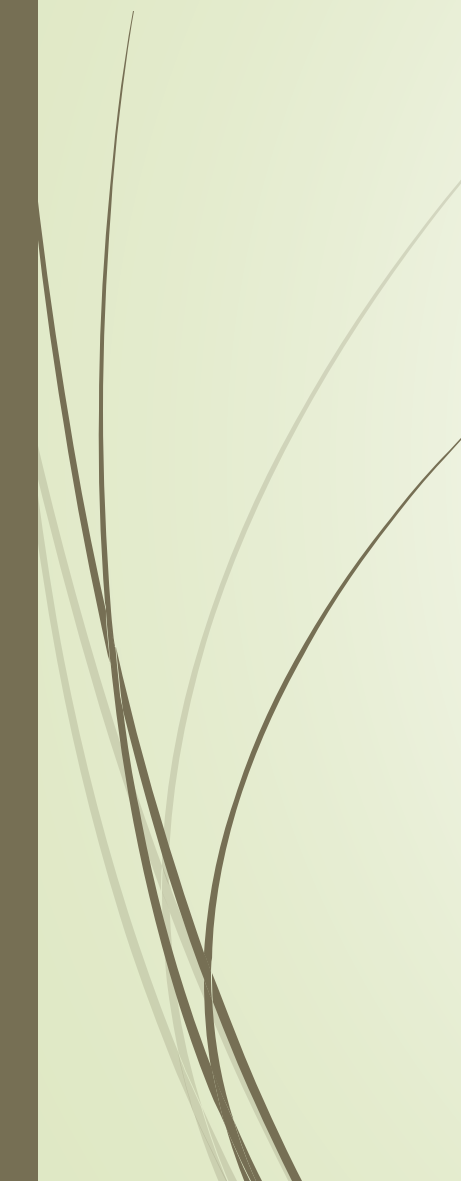
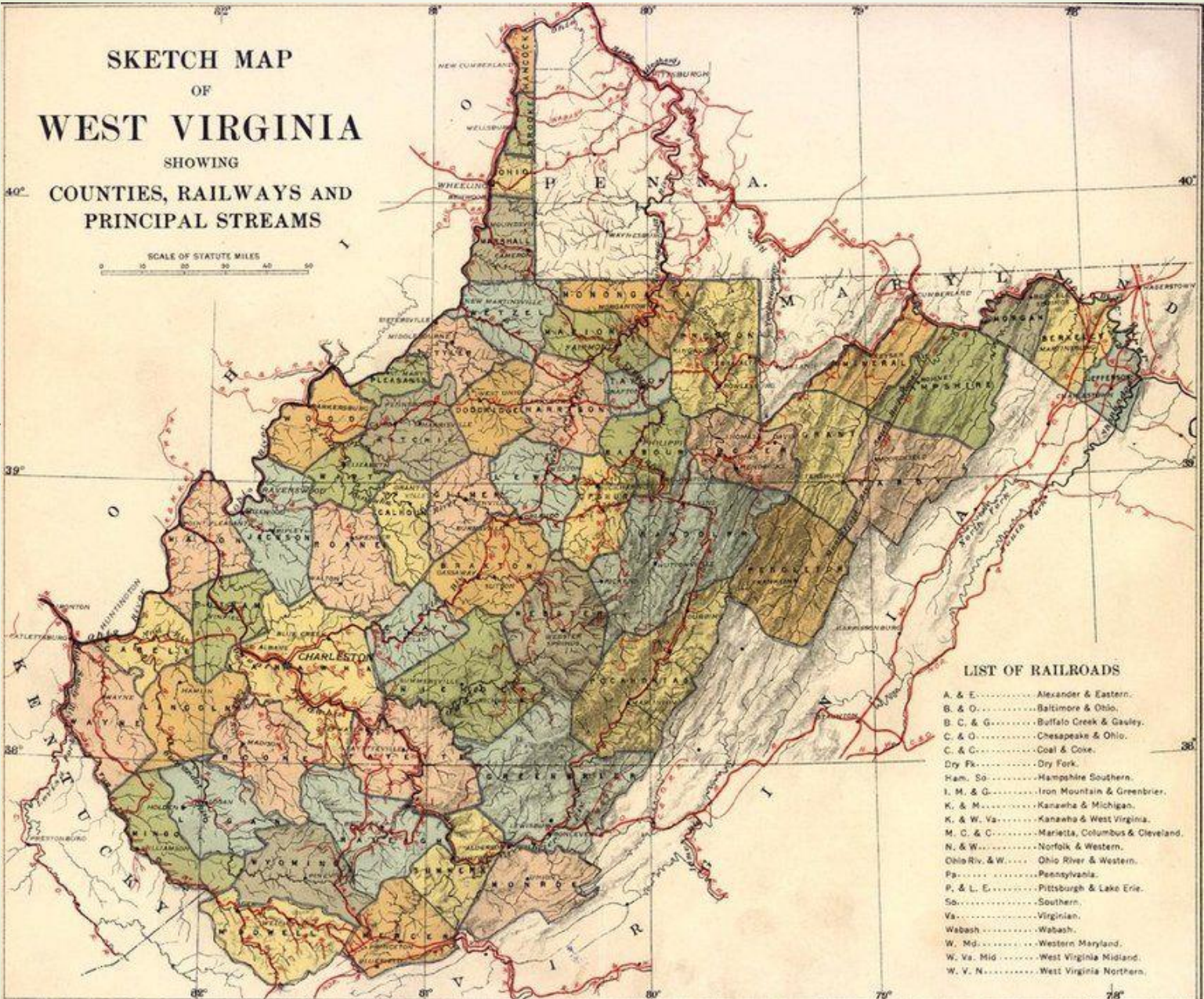


MAP-WV2



# Railroads

- The completion of the C&O railway across the state to Huntington in 1872 opened access to the New River Coal Field
- In 1881, the new Philadelphia-based owners of the former AM&O renamed their railroad N&W.
- After its president Frederick J. Kimball saw the coal seam which his wife named "Pocahontas", the N&W redirected its planned westward expansion to reach it
- In the northern portion of the state, the older B&O railway and other lines also expanded





# Coal Boom

- New towns were created as the region was transformed to an industrial economy
- With the lure of good wages and inexpensive housing, thousands of European immigrants rushed into southern West Virginia
- Many “mountain towns,” doubled or quadrupled in size. For example, in 1890, McDowell County’s population was 7,300. In 1940, pop. = 94,354.
- In addition, a large number of African Americans migrated from the southern states
- The McDowell County Black population alone increased from 0.1 percent in 1880 to 30.7 percent in 1910





# Coal Boom

- ▶ Settlers were unaware of the value of the mineral on their property and would often sell their land for pennies
- ▶ Many land disputes took place.
- ▶ When these claims were about to be challenged in court, the county courthouses would “catch fire”



# Coal Boom

- Miners worked in company mines with company tools and equipment, which they were required to lease
- The rent for company housing and cost of items from the company store were deducted from their pay
- Miners were paid by scrip which could be used only at the company store
- Therefore, even when wages were increased, coal companies simply increased prices at the company store to balance what they lost in pay







# Mine Safety

- Between 1890 and 1912, West Virginia had a higher mine death rate than any other state
- On December 6, 1907, an explosion at a mine owned by the Fairmont Coal Company in Monongah, Marion County, killed 361
- Attempts by the UMWA to organize West Virginia miners failed in 1892, 1894, 1895, and 1897



# UMWA

- In 1902, the UMWA finally achieved some recognition in the Kanawha-New River Coalfield, its first success in West Virginia.
- Coal operators then formed the Kanawha County Coal Operators Association in 1903, and it hired private detectives from the Baldwin-Felts Detective Agency in Bluefield as mine guards to harass union organizers
- The UMWA discouraged organizers from working in southern West Virginia.
- By 1912, the union had lost control of much of the Kanawha-New River Coalfield

Baldwin-Felts agents, McDowell County Courthouse



Baldwin Felts agents on steps of Welch Courthouse



# Paint Creek-Cabin Creek Strike

- In 1912, UMWA miners on Paint Creek in Kanawha County demanded wages equal to those of other area mines; there were 96 mines on Paint and Cabin Creek with 7500 miners
- The operators rejected the wage increase and miners walked off the job
- Miners along nearby Cabin Creek joined the Paint Creek strikers
- When the strike began, operators brought in mine guards from the Baldwin-Felts Detective Agency to evict miners and their families from company houses.
- The evicted miners set up tent colonies and lived in other makeshift housing







# Paint Creek-Cabin Creek Strike

- National labor leaders, including Mary Harris "Mother" Jones, began arriving on the scene
- UMWA also contributed large amounts of weapons and ammunition
- Governor William E. Glasscock imposed martial law, dispatching 1,200 state militia to disarm both the miners and mine guards.
- Over the course of the strike, Glasscock sent in troops on three different occasions.





# Paint Creek-Cabin Creek Strike

- ▶ February 7, 1913, an armored train, nicknamed the "Bull Moose Special," rolled through a miners' tent colony at Holly Grove on Paint Creek
- ▶ Mine guards opened fire from the train, killing a striker
- ▶ In retaliation, miners attacked a mine guard encampment at Mucklow, present Gallagher



# Paint Creek-Cabin Creek Strike

- In a battle which lasted several hours, at least sixteen people died, mostly mine guards
- On February 13, Mother Jones was placed under house arrest at Pratt for inciting to riot, where she remained for two months
- Henry Hatfield became governor – “Hatfield contract” – settle strike or be deported




# Matewan Massacre

- Non-union miners in Mingo County went on strike in the spring of 1920
- Families of miners who had joined the union were evicted from their company-owned houses
- The town's chief of police, Sid Hatfield, encouraged Matewan residents to arm themselves
- Albert and Lee Felts attempted to arrest Hatfield
- By the end of the battle, seven detectives and four townspeople lay dead, including Mayor C. C. Testerman





# Matewan Massacre

- ▶ Over the next thirteen months, non-union mines were dynamited, miners' tent colonies were attacked, and there were numerous deaths on both sides of the cause
  - ▶ During this period, governors Cornwell and Ephraim F. Morgan declared martial law on three occasions
- 





# Battle of Blair Mountain

- On August 1 1921, Sid Hatfield was to stand trial for a shooting at the Mohawk coal camp in McDowell County
- As he and a fellow defendant, Ed Chambers, walked up the steps of the McDowell County Courthouse in Welch, Hatfield and Chambers were murdered by Baldwin-Felts detectives
- On August 7, a crowd varyingly estimated from 700 to 5,000 gathered on the capitol grounds in Charleston to protest the killing
- On August 20, miners began assembling at Marmet for a march on Logan



# Battle of Blair Mountain

- On September 1, President Harding finally sent federal troops from Fort Thomas, Kentucky.
- On the 3rd, the first federal troops arrived at Jeffrey, Sharples, Blair, and Logan
- Confronted with the possibility of fighting against U.S. troops, most of the miners surrendered
- Special grand juries handed down 1,217 indictments, including 325 for murder and 24 for treason against the state







# Decline of Coal

- After the production boom of World War II, oil began to replace coal in many areas of domestic fuel supply and mechanization of coal mining reduced the number of laborers needed in coal production
- Much of southern WV slipped into poverty
- From 1950-1978: WV coal counties lost between 26-48% of their population.
- A family in Paynesville, West Virginia, were the first food stamp recipients on May 29, 1961
- They purchased US\$95 worth of food using food stamps for their 15-person household





MOUNTAINEER  
RESTAURANT

PARKING LOT

DIAMOND

Becker's

WESTERN  
AUTO

HAWAIIAN

TYSON  
Jewelry

PANDA  
GARDEN

Taylor

PIZZA PLUS  
DINING ROOM  
DOWNSTAIRS

ral

RAYMOND'S

ON

NO  
PARKING



ALT  
SOUTH  
52  
←  
SOUTH  
16  
↑

H  
A  
N  
D  
M

FLORENCE  
SHOES

Bishop  
Studio

STATE Loan Co.  
'25 to '800

MU  
DRUG STORE

WE HAVE  
APARTMENTS  
FOR RENT  
436-4358  
HUD APPROVED





## WV Today

- Today, the state ranks second in total coal production, with about 12.5% of the U.S. total
- Mountain top removal and coal truck safety are primary concerns





# Coal Truck Safety



- In WV, the maximum weight of a coal truck is 80,000 pounds.
- Coal truck drivers are paid \$5 per ton, creating an incentive for heavy loads exceeding 110,000 pounds.
- Coal truck drivers travel daily to the mines site and then to docking stations an average of two hours away.
- The roads they travel on are often curvy and poorly maintained and run through small communities and school districts.
- Coal truck drivers are in constant communication, letting their fellow drivers know about potential road hazards.



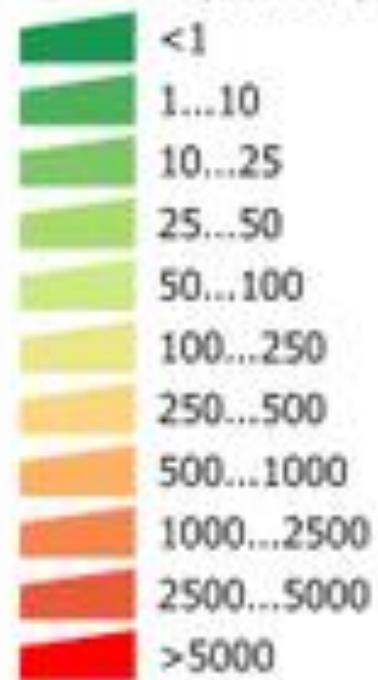


Market

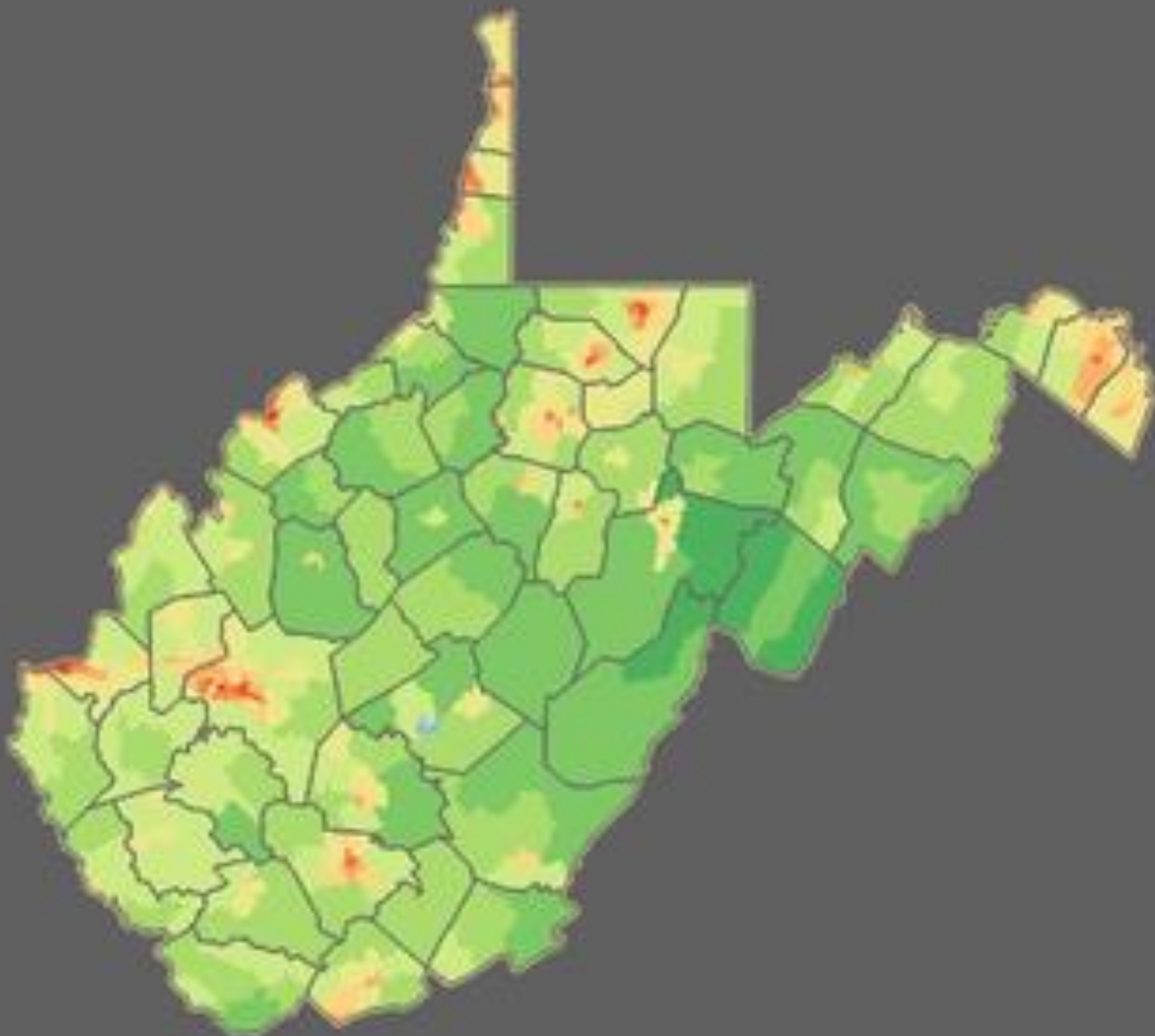
 **DOLLAR TREE**  
EVERY DAY LOW PRICES

WVexplorer.com

Population per sq. mile



Source: U.S. Census Bureau  
Census 2010 Summary File 1  
population by census tract





# Demographics

- As of 2020, an estimated population of 1.793m (-3.2% from 2101 census)
- At the 2020 Census, the racial composition of the state's population was:
  - 89.1% non-Hispanic/Latino White
  - 3.6% non-Hispanic/Latino Black or African American
  - 1.9% Hispanic, Latino, or Spanish origin
  - 0.2% American Indian and Alaska Native
  - 0.8% Asian American
  - 0.3% from some other race
  - 0.02% Pacific Islander
  - 4.08% Multiracial American



# Demographics

- ▶ 13.9% families below the poverty line
- ▶ 35.5% of single parent households below poverty line
- ▶ 23.8% of those 21-65 are disabled
- ▶ 16% of population over age 65
- ▶ Many rural families are male driven, with females often not working outside the home
- ▶ Many older rural females don't drive, but they do handle the bills!



# Education

- Less Than 9<sup>th</sup> Grade- 1%
- 9<sup>th</sup>-12<sup>th</sup>, No Diploma- 13%
- High School Diploma- 41%
- Some College, No Degree- 19%
- Associates Degree- 7%
- BA- 12%
- Professional Degree- 6%





# Education



- Mostly a public school system, few private schools due to economics.
- In the 1990's there was consolidation of many of the rural schools throughout the state, resulting in larger schools.
  - Positives: newer facilities, increased funding, enhanced sports, access to technology
  - Negatives: 1-2 hour bus rides to and from, larger number of students, and shrinking communities.
  - About 52% considered low socioeconomic status



# Education



Health literacy





# Religion (Pew Forum)

- 78% of WV adults identify as Christian, with 39% of those identifying as Evangelical Protestant
- 1% Jewish
- 1% Muslim
- 1% Buddhist
- 1% Hindu
- 2% Other Faiths
- 18% Unaffiliated (1% Atheist, 1% Agnostic, rest Nothing in Particular)



# Religion (Pew Forum)

- ▶ 64% state religion is “very important in one’s life” and 22% say “somewhat important”
- ▶ 46% attend services weekly, 31% at least a few times a year
- ▶ 68% pray daily
- ▶ 35% attend religious study groups weekly
- ▶ 36% practice meditation weekly



# Religion



- Ministers/Preachers/Priests are called upon 24/7
- Many of the churches are described as being “fundamentalist.”
- Deviation from the fundamentalist doctrine can result in the person being rejected by their church, community, and family.



# Diet



- Family cooks, mostly the women, have passed down recipes from generation to generation
- Meals are delicious, but can lead to serious medical conditions.
- WV generally leads the nation in heart disease, diabetes, strokes, and obesity.



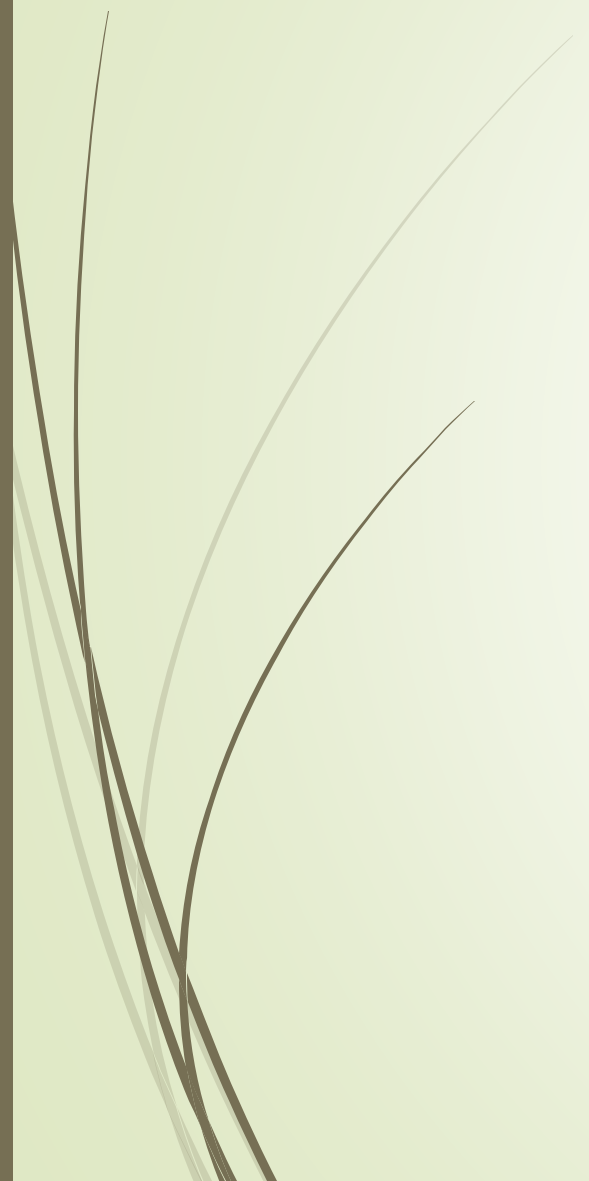
# Diet

- Butter
- Heavy Cream
- Salt
- Lard or Bacon Fat
- Flour
- Eggs
- Potatoes
- Meat











# Diet

- Prevalence of obesity in Appalachian counties is higher than in non-Appalachian counties (31% versus 27.1%).
- The proportion of obese adults was higher across all five Appalachian subregions than what is observed in the rest of the country, with Central Appalachia (34.7%) and North Central Appalachia (33.4%) having the highest percentages.



# Diet

- ▶ Heart disease mortality in Appalachian counties is 18% higher than in non-Appalachian counties.
- ▶ Previous research suggests that 33% of “diabetes belt” counties are in Central and Southern Appalachian counties.
- ▶ 28.4% of the population report **NOT** being physically active compared to 22.6% of adults among non-Appalachian counties.
- ▶ Physical inactivity was highest among residents of Central Appalachia (33.8%)



# Dialect

- The Appalachian dialect is said to be a mixture of Elizabethan, Scots-Irish and Anglo-Scottish dialects
- An intrusive “r”- as in “warsh” or “worsh”
- “Er” added to the end of words with long o sounds- holler, feller
- The “g” is dropped – doin’, minin’, cookin’
- Certain words are pronounced the same despite spelling – feel=fill; pen=pin
- People who leave the area often practice “code-switching”



# Dialect

- Words are sometimes used in the past tense – Done, which also means a complete action, “I done it already.
- “un” = one, littl’un, young’un
- Used of double, triple, and quadruple negatives in ONE sentence
- Ending phrases with a preposition – “Where you at?”
- Subjective-verb disagreement is also common



# What does this mean?

- She's just briggity.
- I swanny!
- I took a backset.
- It's all gommeed up.
- That smells like kyarn!
- They was out swarpin' somewhere.
- He was just plumb hateful.



# What about these?

- I retch down and got it.
- My dinner got rurnt!
- The juice went out.
- I don't care to.
- It's airish out.
- There's a haint in my house.



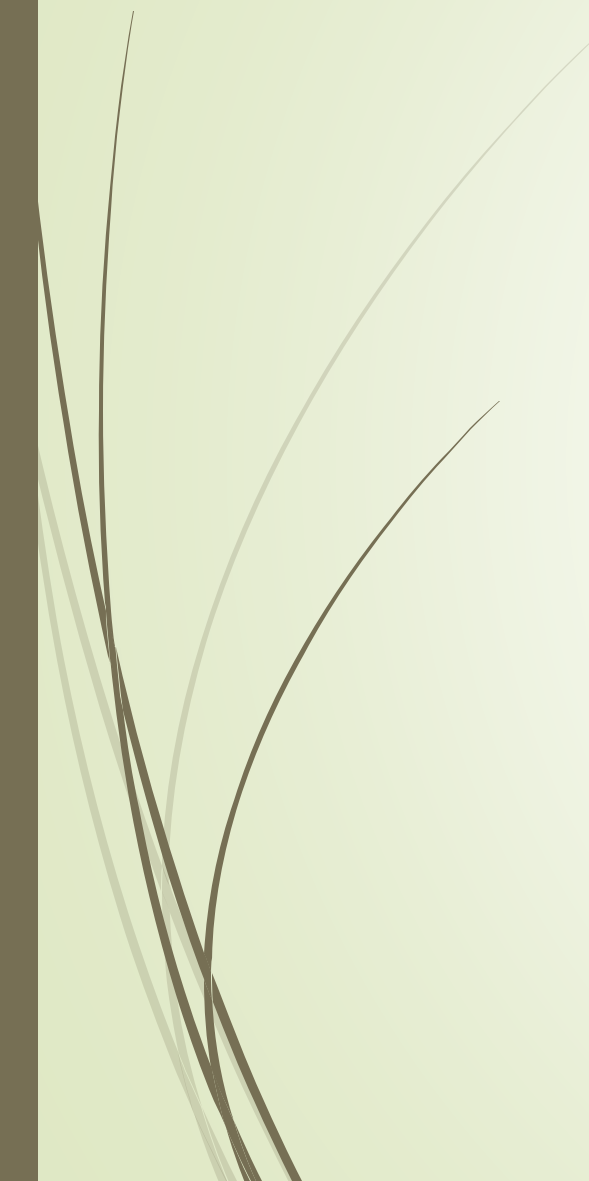


# ARC

- Created in the 1960s
- Health disparities in Appalachia
- Looked at fee-for-service Medicare beneficiaries visits for many disease states



# Stereotypes





# Poverty Rate

- ▶ The poverty rate, 31% in 1960, was 15.2% over the 2015-2019 period, Kanawha County rate is 17.2%
- ▶ Median household income is \$51,916 for Appalachian region as a whole, for Kanawha County \$46,639, lowest in WV is McDowell County \$27,682



# Mental Health Providers

- The supply of mental health providers per 100,000 population in the Appalachian Region is 35% lower than the national average
- North Central Appalachia and Southern Appalachia both report figures approximately 50 percent lower than the national number
- 130 per 100,000 population
- Includes psychiatrists, psychologists, licensed clinical social workers, counselors, marriage and family therapists, and advanced practice nurses specializing in mental health care



# Mental Health Providers (And other specialists!!)

- Often an hour or more journey on winding mountain roads
- Reliance on van services can make the trip to see someone last an entire day
- Can take months to get appointment
- Family physicians often prescribe
- Many providers don't take Medicaid



# Barriers to Recruitment





# Diseases of Despair

- Alcohol, prescription drug, and illegal drug overdose
- Suicide
- Alcoholic liver disease/cirrhosis of the liver



# Diseases of Despair

- In 1999, the diseases of despair mortality rate was not statistically different between the non-Appalachian U.S. and the Appalachian Region.
- By 2007, the mortality rate in the Appalachian Region was 25 percent higher than the non-Appalachian U.S.
- The disparity between the Appalachian Region and the non-Appalachian U.S. reached its widest gap in 2017, when the diseases of despair mortality rate was 45 percent higher in Appalachia than the non-Appalachian U.S.





# Overdose Mortality

- In 1999, the overdose mortality rate was low, with the rate slightly higher in the non-Appalachian U.S.
- In 2011, the overdose mortality rate in the Appalachian Region was 64 percent higher than the non-Appalachian U.S.
- By 2017, the overdose mortality rate had grown in both, with both reaching their peak overdose mortality rates.
- The overdose mortality rate in the Appalachian Region was 48.3 deaths per 100,000 population, 65 percent higher than the rate of 29.2 deaths per 100,000 population in the non-Appalachian U.S.



# Suicide

- ▶ In all years between 1999 and 2018, the suicide mortality rate in the Appalachian Region was statistically higher than the rate in the non-Appalachian U.S.
- ▶ The suicide mortality rate in the Appalachian Region increased by 53 percent over the period, while the suicide mortality rate in the non-Appalachian U.S. increased by 40 percent.




# Liver disease

- ▶ The liver disease mortality rate has remained relatively stable, with minimal difference between the Appalachian Region and the non-Appalachian U.S. between 1999 and 2018.



# Why is Mortality So High?



- 
- Appalachians are characterized as proud, private, wanting to "take care of their own"
  - Personal trust is hard to gain but, once gained, hard to lose
  - Communication and use of care is influenced by skepticism, some distrust of health professionals, and fear of being taken advantage of by "the system"



# Heart Disease Mortality

- ▶ 17 percent higher than the national rate.
- ▶ In Central Appalachia, the heart disease mortality rate is 42 percent higher than the national rate
- ▶ Rural counties is 27 percent higher than the rate for the Region's large metro counties
- ▶ Distressed counties is 29 percent higher than the rate for the Region's non-distressed counties



# Cancer Mortality

- ▶ Cancer mortality rate is 10 percent higher than the national rate
- ▶ In 85 percent of Appalachian counties, cancer mortality rates are higher than the national average.
- ▶ In Central Appalachia, 81 of the subregion's 82 counties have cancer mortality rates higher than the national rate.
- ▶ Rural counties is 15 percent higher
- ▶ Distressed counties is 20 percent higher than the rate for the Region's non-distressed counties



# COPD Mortality

- 27 percent higher than the national rate.
- All five subregions in Appalachia have COPD mortality rates higher than the national rate.
- Northern Appalachia is the best-performing subregion, although the rate there is still eight percent higher than the national average.
- Rural counties is 55 percent higher than the rate for the Region's large metro counties.
- Distressed counties is 43 percent higher than the rate for the Region's non-distressed counties.





# Injury Mortality

- ▶ 33 percent higher the national rate.
- ▶ Although all five Appalachian subregions have injury mortality rates higher than the national average, the figure in Central Appalachia is especially high—more than double the national rate.
- ▶ Rural counties is 47 percent higher than the rate for the Region's large metro counties
- ▶ Distressed counties is 55 percent higher than the rate for the Region's non-distressed counties.




# Stroke Mortality

- ▶ 14 percent higher than the national rate.
- ▶ Four of the five Appalachian subregions have stroke mortality rates markedly higher than the rate for the nation as a whole.
- ▶ Rural counties is eight percent higher than the rate for the Region's large metro counties.
- ▶ Distressed counties is 14 percent higher than the rate for the Region's non-distressed counties.



# Diabetes Mortality

- ▶ 11 percent higher than the national rate..
- ▶ In North Central and Central Appalachia, diabetes mortality rates are 41 percent higher than the rate for the nation as a whole.
- ▶ Rural areas reporting a rate 36 percent higher than the rate found in large metro areas.
- ▶ Economically distressed Appalachian counties report a diabetes mortality rate 33 percent higher



# Years of Potential Life Lost

- The rate for Years of Potential Life Lost—a broad measure of premature mortality from all causes—is 25 percent higher in the Appalachian Region
- Performance in this indicator is particularly poor in Central Appalachia, where the rate is 69 percent higher than the national mark.
- The YPLL rate for rural counties is 40 percent higher
- The YPLL rate for distressed counties is 42 percent higher than the rate for the Region's non-distressed counties.



# Fatalism

- ▶ Learned helplessness, “mountain stubbornness”



# Fatalism

- Faith based
- Distrust of health care system
- Financial
- Apathy
- Need for more education on outcomes
- Upholding quality of life


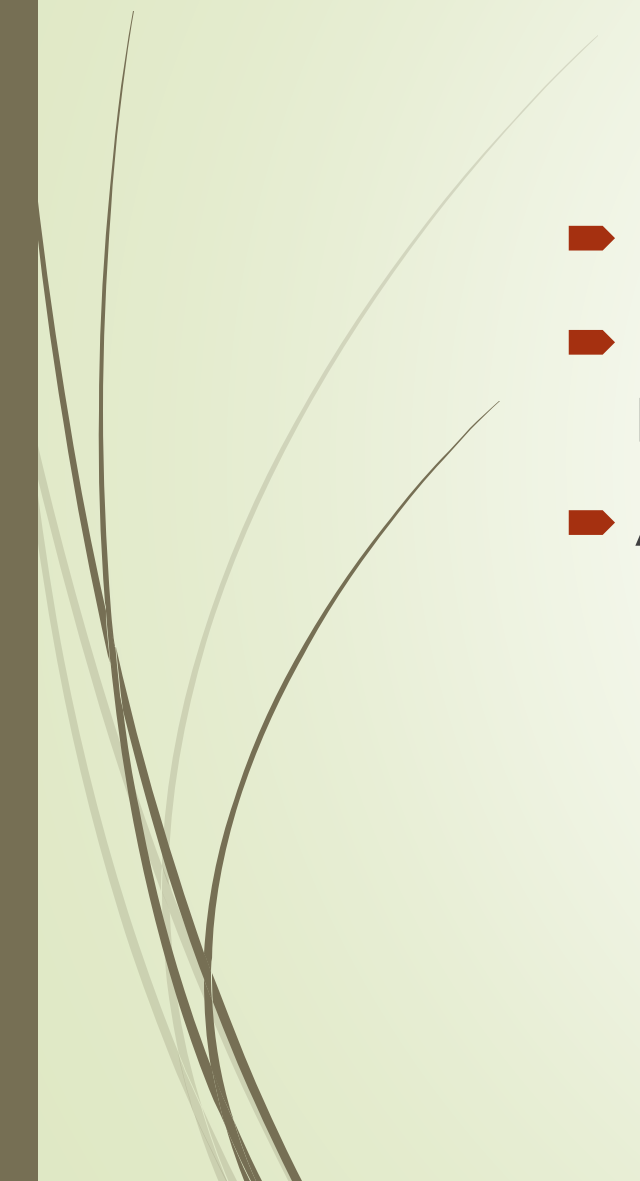


# Tips

- Matriarchal in regards to scheduling appointments, etc
- Clergy/church family often first line
- Cooperative independence
- Avoid direct confrontation
- Respond to small talk/small amounts of self-disclosure
- Do not want to be seen as better than anyone else





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- Russ, K.A. (2010). Working with clients of Appalachian culture.
  - Health Disparities in Appalachia August 2017  
PDA, Inc., Cecil G. Sheps Center, Appalachian Regional Commission
  - American Community Survey 2010-2014