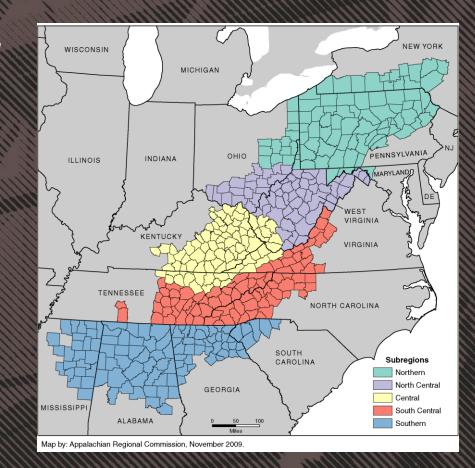
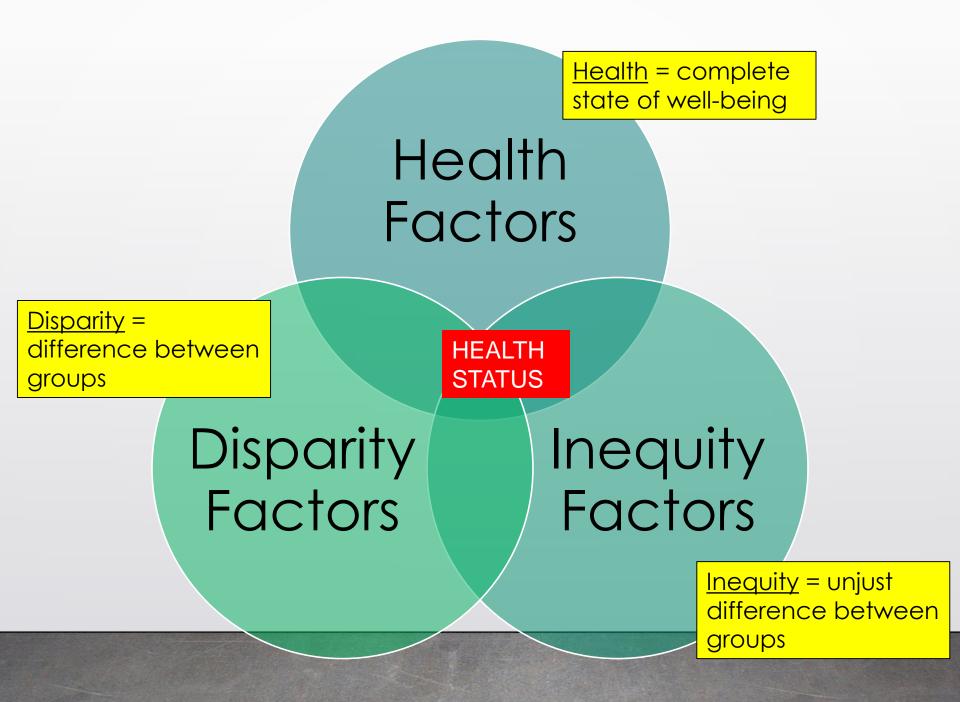
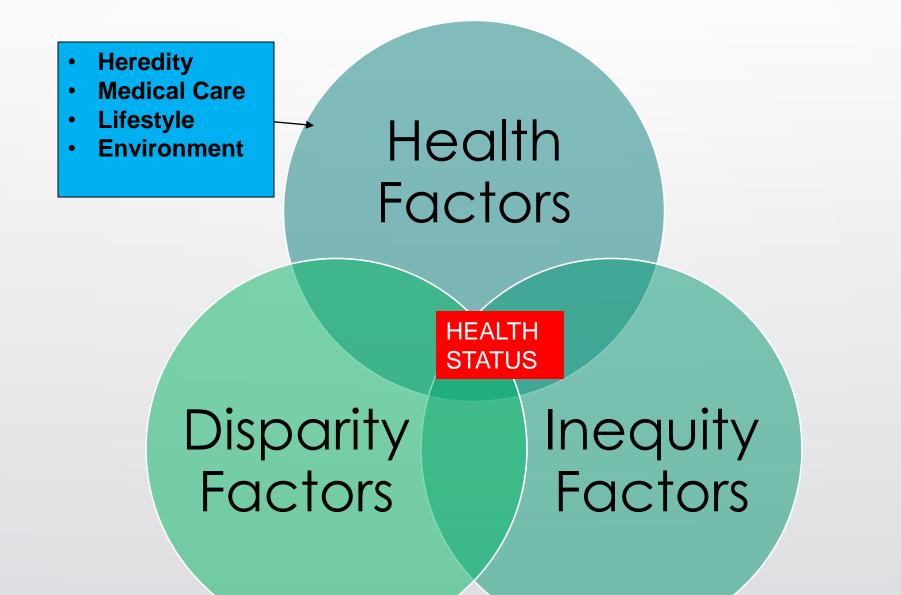
Environmental Inequities and Health Disparities in Appalachia

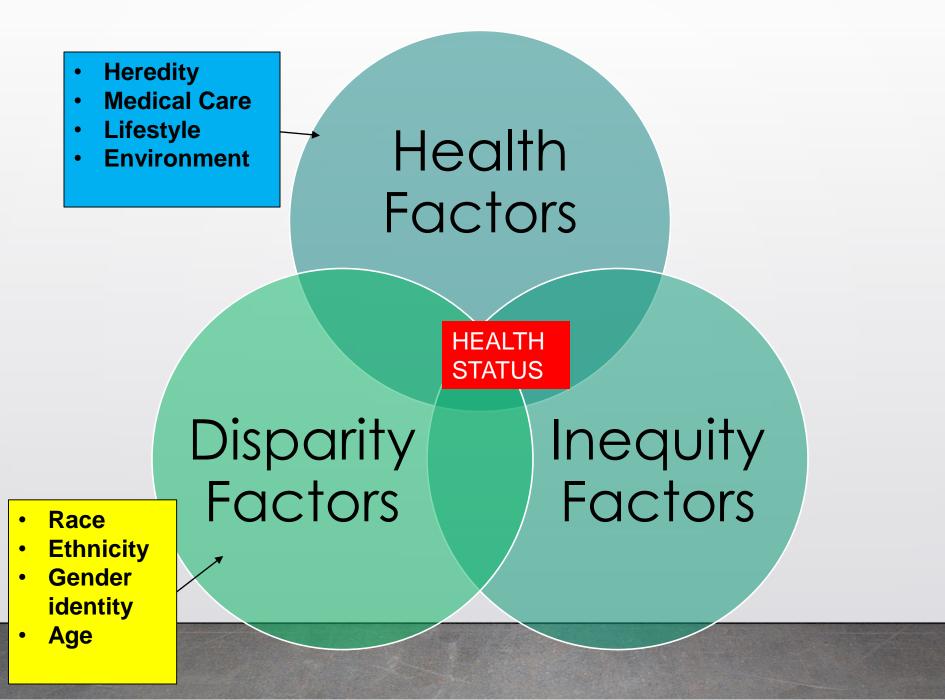


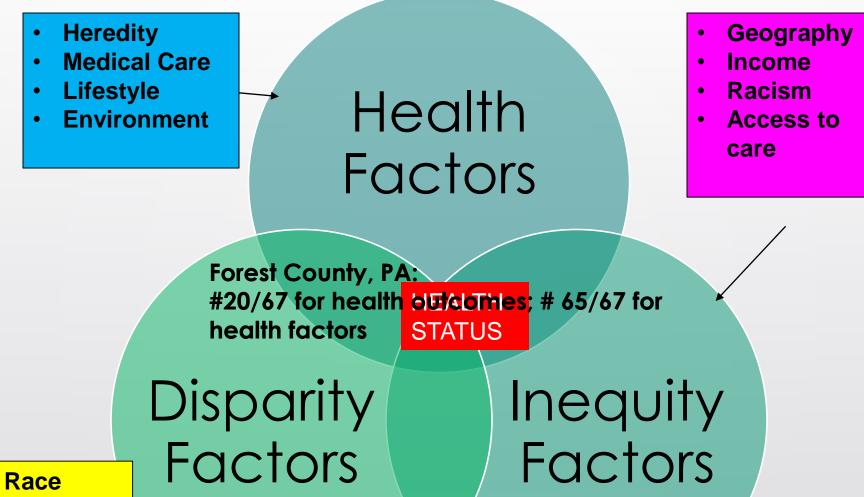


College of Health Sciences and Professions OHIO.edu/CHSP this is where everything connects

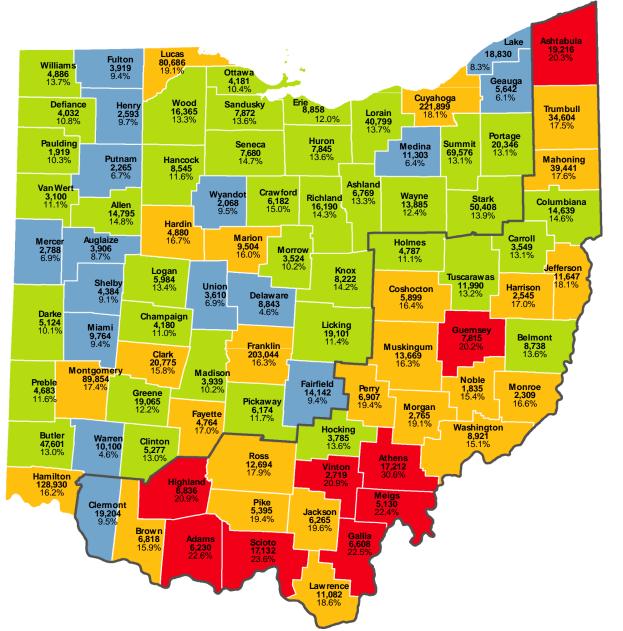








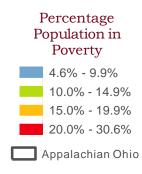
- •
- **Ethnicity** •
- Gender • identity
- Age



Ohio

Poverty in Ohio by County 2014-2018 American Community Survey

> Statewide Poverty 1,645,986 14.5%



This map shows the 2014-2018 A merican Community Survey estimates of the number and percentage of persons in poverty by county

Source: 2014-2018 American Community Survey, U.S. Census Bureau

Prepared by: Office of Research Ohio Development Services Agency June 2020

Health

Health Disparities

- Physically Unhealthy
- Mental Health
- Suicide
- Opioid Prescriptions
- Primary Care

CREATING A CULTURE OF HEALTH IN APPALACHIA

Disparities and Bright Spots



HEALTH DISPARITIES

The first report in a series exploring health issues in Appalachia

Pipered by: PDA, INC. Raleigh, N.C.

THE CECIL G. SHEPS CENTER FOR HEALTH SERVICES RESEARCH The University of North Carolina at Chapel Hill, Chapel Hill, N.C.

APPALACHIAN REGIONAL COMMISSION Washington, D.C.

August 2017

Rural Health in Ohio

Length of Life Indicators (rates per 100,000) (Source: RWJF 2020 County Health Rankings)							
	Years of potential life lost ¹	Premature death rate ²	Child mortality rate ³	Infant mortality rate4	Drug overdose mortality rate ⁵	Life expectancy ⁶	
Rural	8901	413.3	56.9	7.2	33.0	76.5	
Partially rural	8238	415.4	53.8	6.6	35.2	77.1	
Appalachian	9657	421.1	59.2	7.1	31.2	75.8	
Urban	8453	414.7	52.6	6.0	31.8	77.2	
Ohio	8606	408.0	59.0	7.0	38.0	76.9	

1. Years of potential life lost before age of 75

2. Age-adjusted death rate among residents under 75

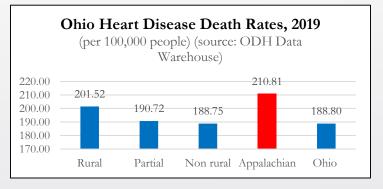
3. Number of deaths among children under 18

4. Number of deaths within 1 year of birth

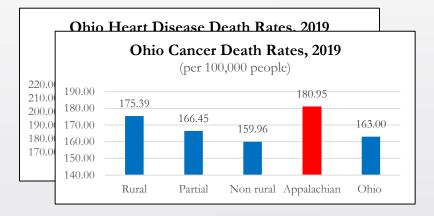
5. Number of drug poisoning deaths

6. Average number of years a person can expect to live

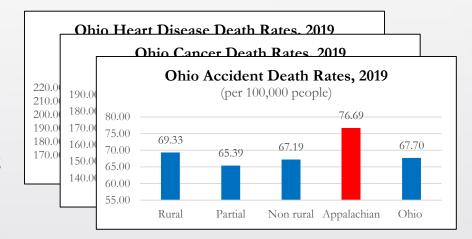
1. Heart disease

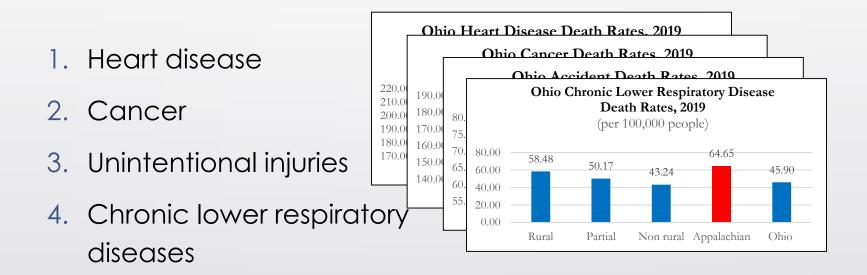


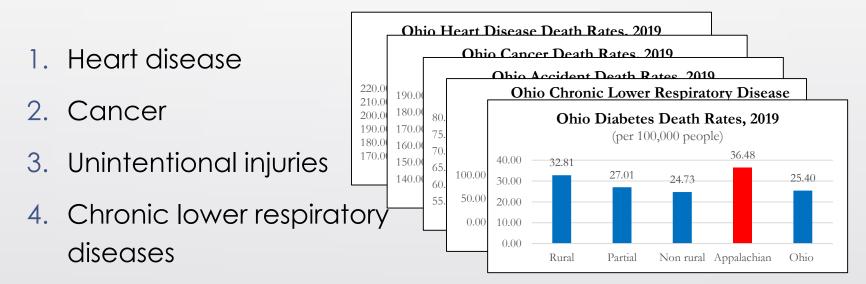
- 1. Heart disease
- 2. Cancer



- 1. Heart disease
- 2. Cancer
- 3. Unintentional injuries

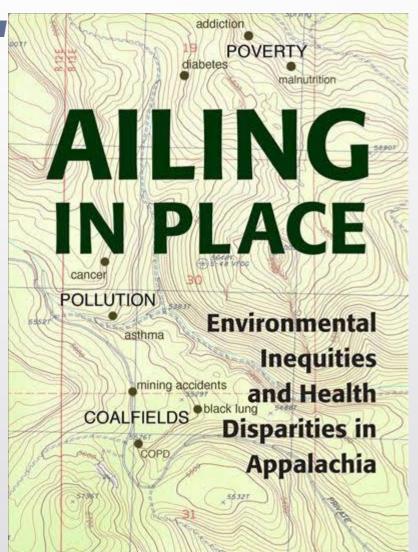






5. Diabetes

Place



MICHELE MORRONE

Environmental Health Inequities

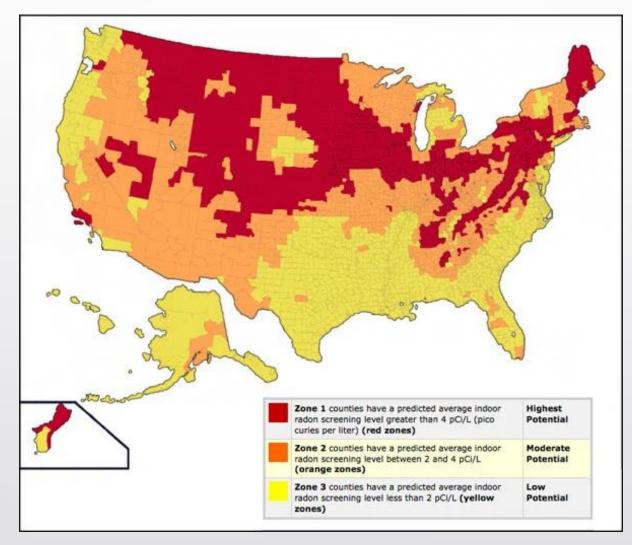
 "Health inequities are avoidable inequalities in health between groups of people within countries and between countries."

World Health Organization

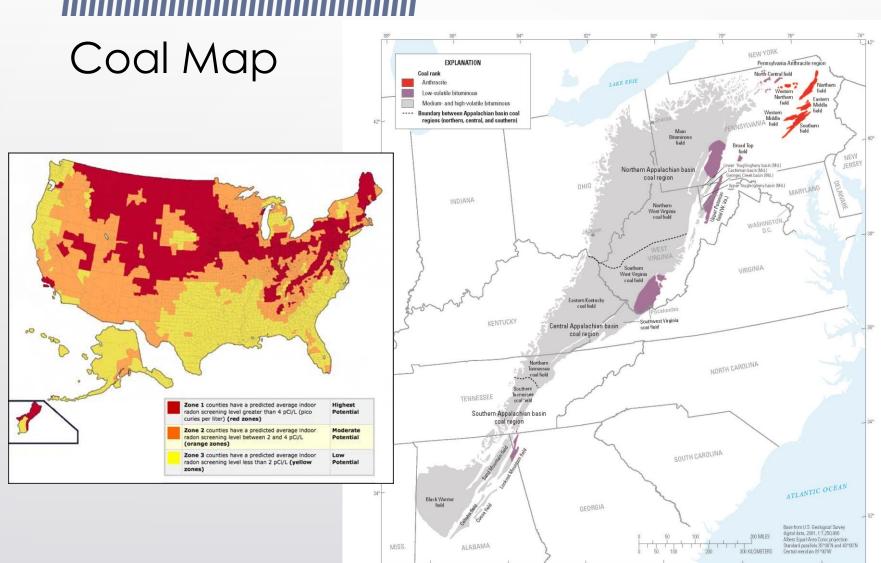
EH inequities in Appalachia

- Toxic releases
- Mining legacy environments
- Uranium enrichment
- Hydraulic fracturing
- Coal ash impoundments
- Mountaintop removal mining





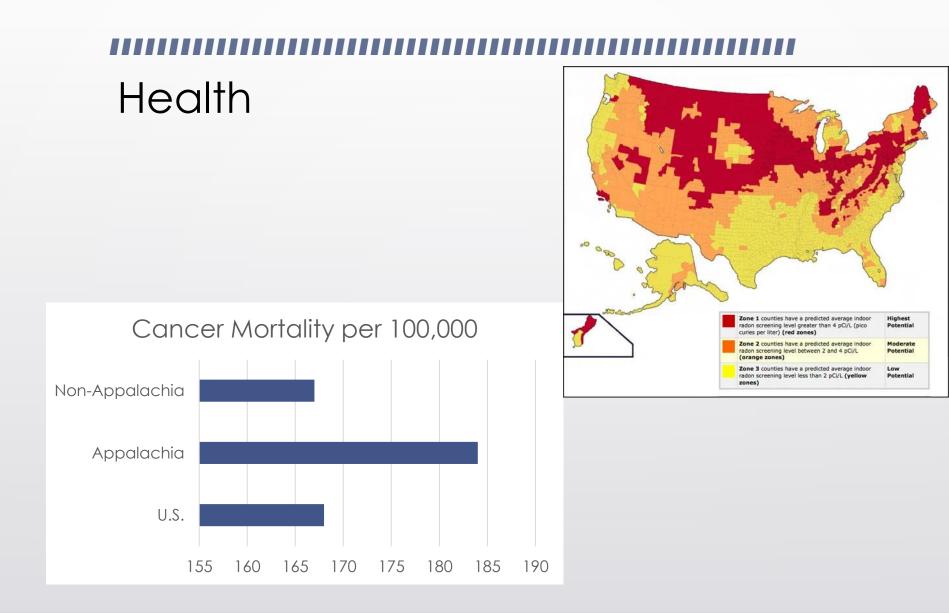
RADON ZONES



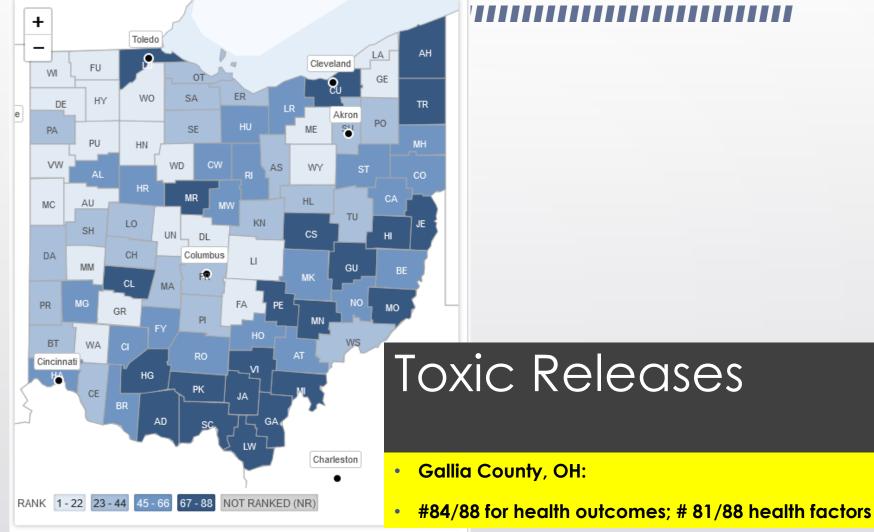
_ _ _ _

80°

84°





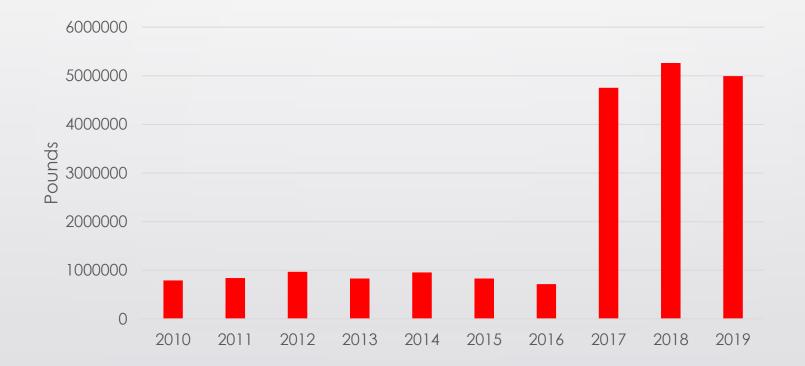


2019 Toxic Release Inventory: Ohio

- Appalachian counties make up 36% of the counties in the state
 - 5010 of the top 20 counties with releases
 - Highest releases in the state: Gavin Power Plant, Cheshire, Ohio



Gavin Sulfuric Acid Releases (USEPA, TRI)

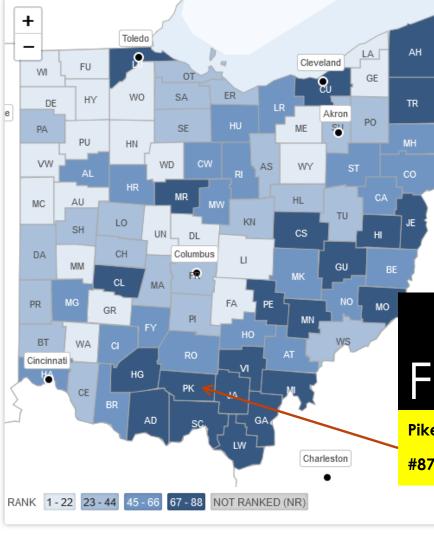


https://enviro.epa.gov/facts/tri/ef-facilities/#/Release/45620MRCNL7397N



Gallia County Comments

Overall Rankings in Health Factors ()



..........

Facility Siting

Pike County:

#87/88 for health outcomes; # 80/88 health factors





X-326 – ½ mile long, 30 acre roof, 2.6 million sq ft

X-330 -- ½ mile long, 33 acre roof, 2.8 million sq ft

•



 X-333 – ¼ mile long, 33 acre roof, 2.8 million sq ft

PGDP-Annual Site Environmental Report, 2014

 "Five groundwater contamination plumes have been identified on site at PORTS.
The primary groundwater contaminant is TCE. Other monitoring areas may have groundwater contaminated with metals or may be monitored to comply with regulatory requirements for closed landfills."

Police Officers



Information Compiled by Former Police						
Officers*						
Number of former security officers	70					
(males)						
Deceased	34(49%)					
Diagnosed with some form of cancer	39 (55%)					
Diagnosed with prostate cancer	14 (20%)					
Diagnosed with bilateral sensorineural hearing loss (BSHL)	7 (10%)					
Diagnosed with prostate cancer and BSHL	3 (4%)					

* These numbers have not been independently verified.

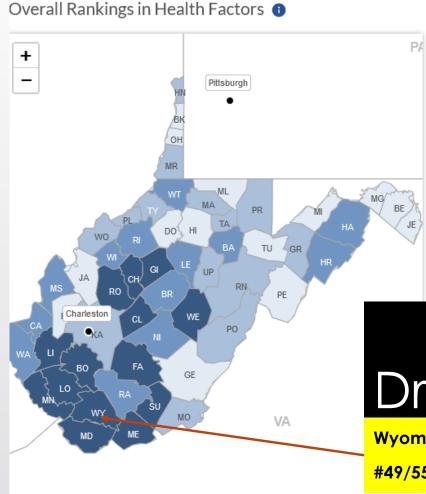
Interviews

- All the former PORTS security guards (cases and controls) experienced at least one acute chemical exposure when responding to an incident at the site.
- All the men, except for control #4, believed they had been exposed to dangerous chemicals in their workplaces.
- All the former PORTS security guards, regardless of tenure and health status, believed that they were exposed to chemicals and radiation and these exposures were preventable if they had been provided with PPE.
- None of the former plant workers had any knowledge of being exposed to TCE. However, the men who are being compensated for bilateral sensorineural hearing loss (BSHL) specifically from exposure to TCE.

Summary

- 1. Diagnoses of prostate cancer prior to 65
- 2. Benefits for BSHL because of TCE exposure
- 3. TCE documented at site
- 4. Officers exposed to TCE
- 5. TCE and cancer

Pike County Comments



RANK 1-14 15-28 29-41 42-55 NOT RANKED (NR)

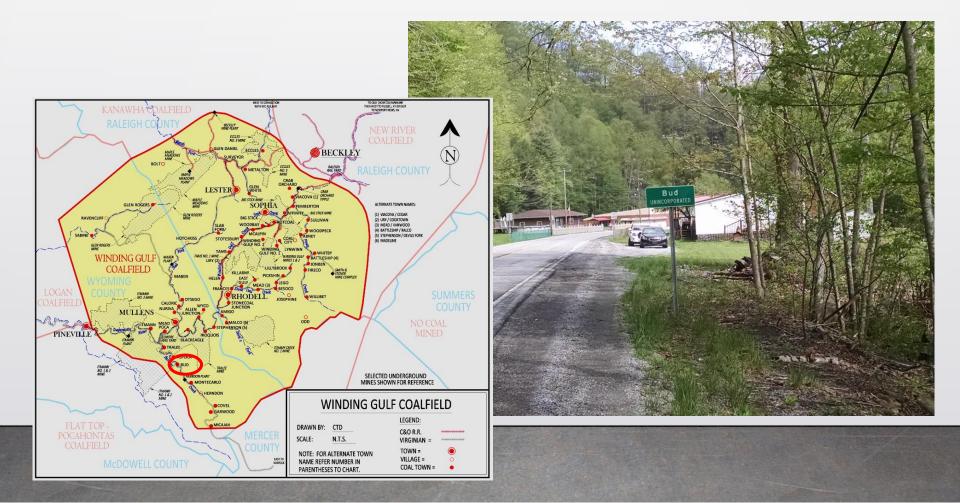
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Drinking water

Wyoming County, WV:

#49/55 for health outcomes; # 50/55 for health factors

Bud, West Virginia (Winding Gulf Coalfield)

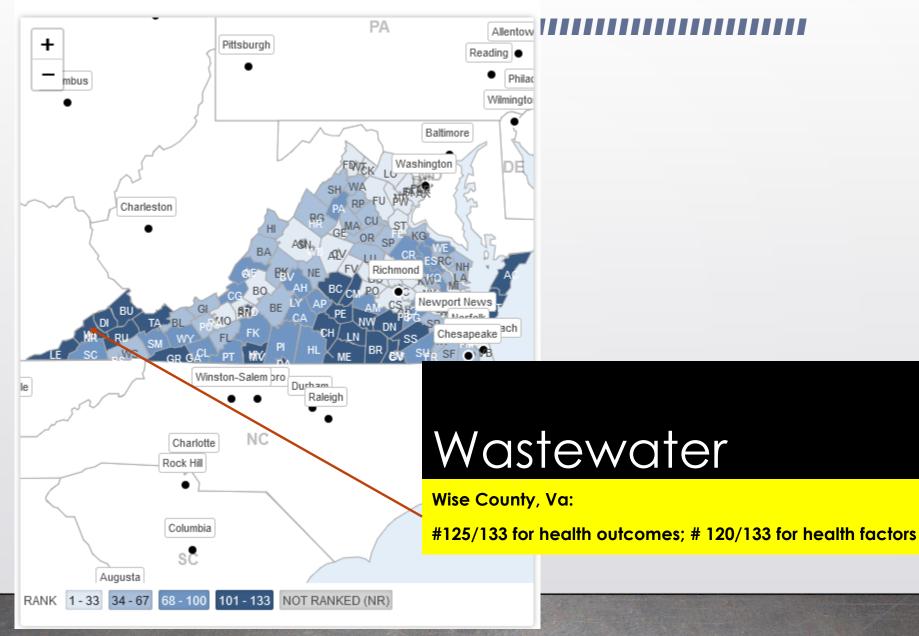




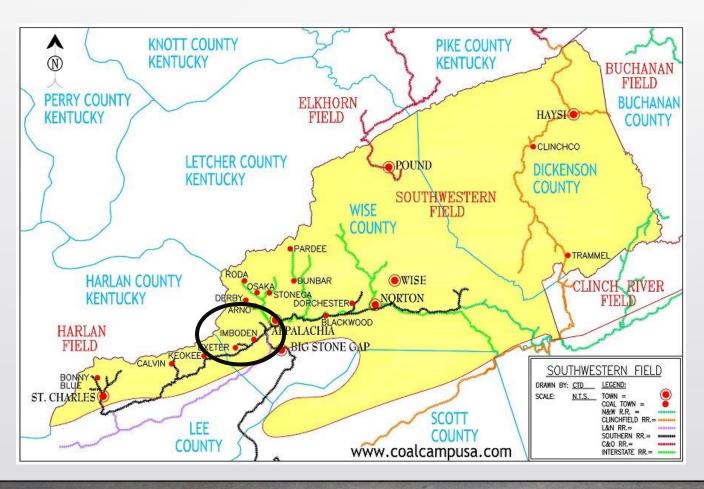
 "I know the Charleston water crisis made national headlines, but the scope and duration of this event affected the residents of Wyoming County as much or more than the Elk River Situation."

• State Senator Mike Green

Overall Rankings in Health Factors ()



Big Stone Gap Coalfield





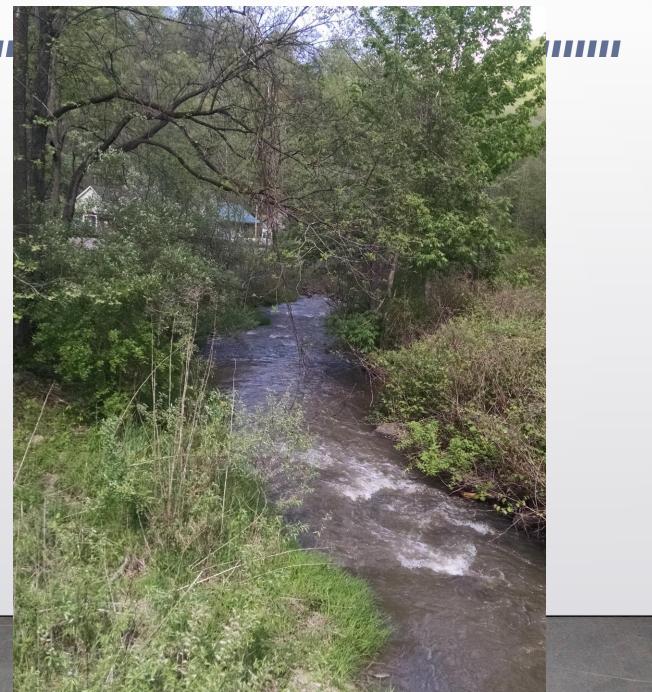


Private Wastewater: Wise County, VA

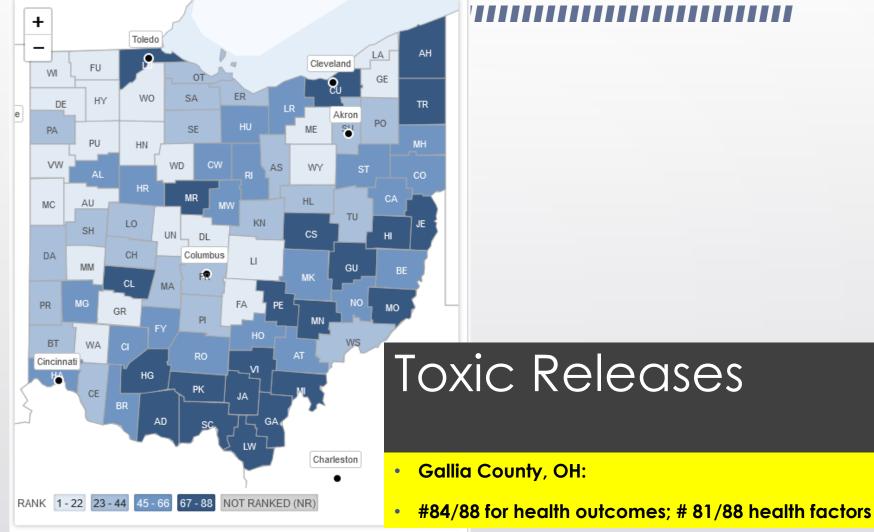
 Church built for miners and their families









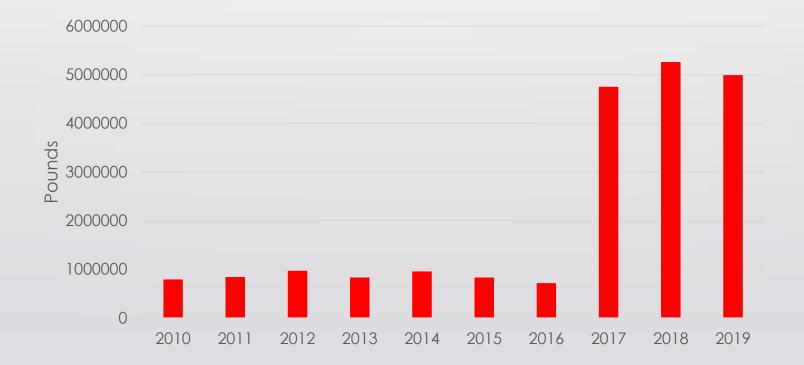


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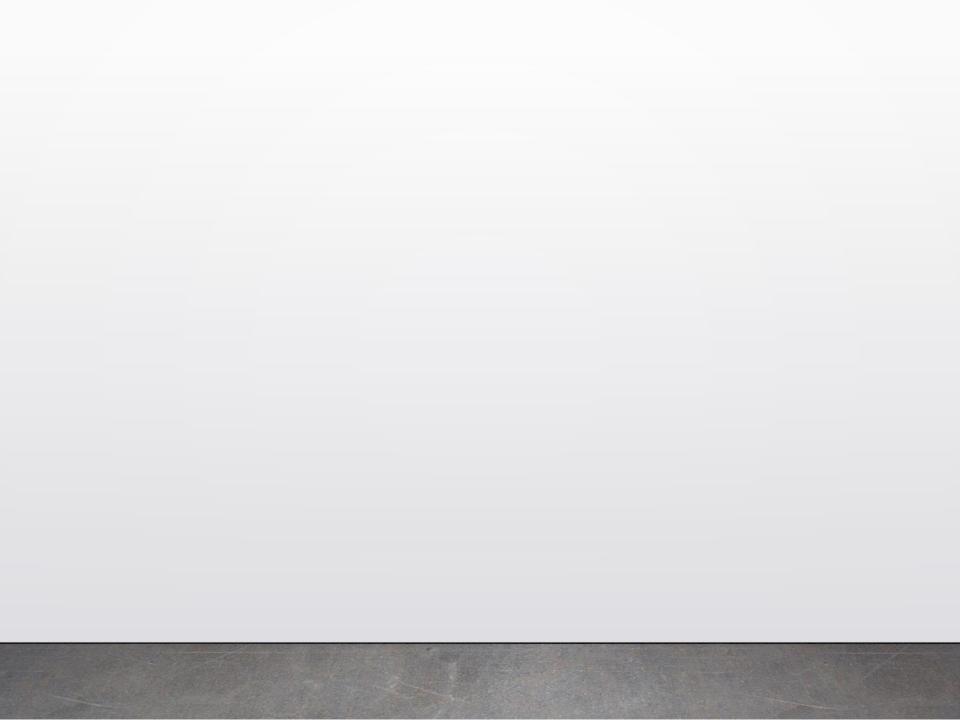


Gavin Sulfuric Acid Releases (USEPA, TRI)



https://enviro.epa.gov/facts/tri/ef-facilities/#/Release/45620MRCNL7397N







Built Environment: Forest County, PA

- Population:
 - 2000: 4,946
 - 2010: 7,716



SCI-Forest

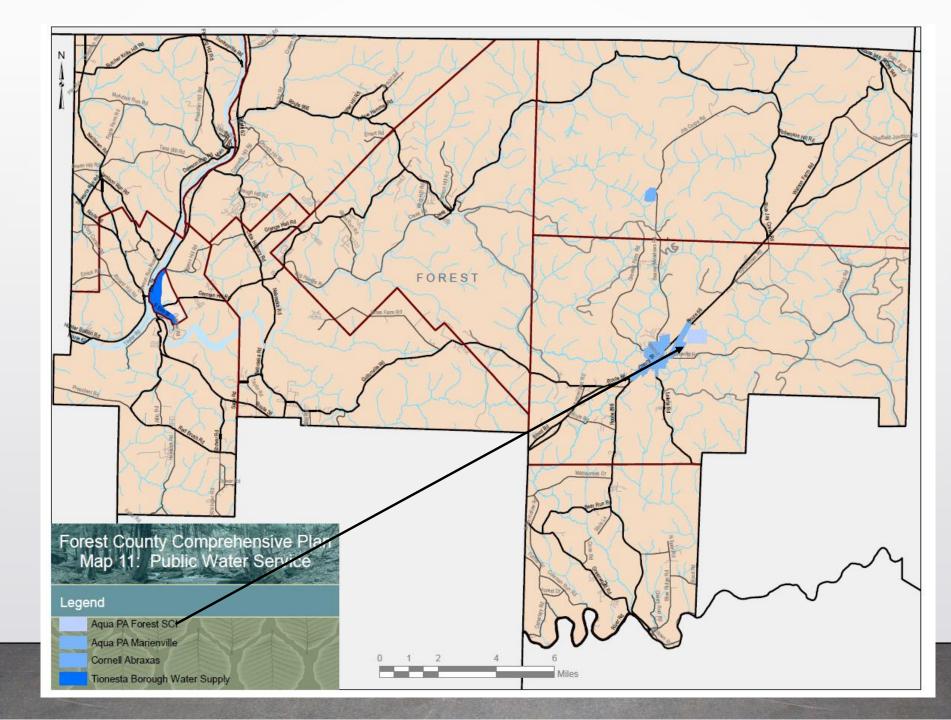






EH in Forest County





- Forest County Comprehensive Plan:
 - "prisoners do not contribute directly to the local economy, and pay no local taxes. The prison may very well cost the County more than it benefits."