Health Impacts of Mountaintop Removal Coal Mining

Kentuckians For The Commonwealth

I Love Mountains Day

2012

I Love Mountains Day

- Tuesday, February 14
- 9:00 am - noon – Optional Lobbying, Room 111
- Noon – Gather on the Capitol Steps in Frankfort
- 12:00 - 12:30 – Music
- 12:30 – Rally & March

I Love Mountains Day

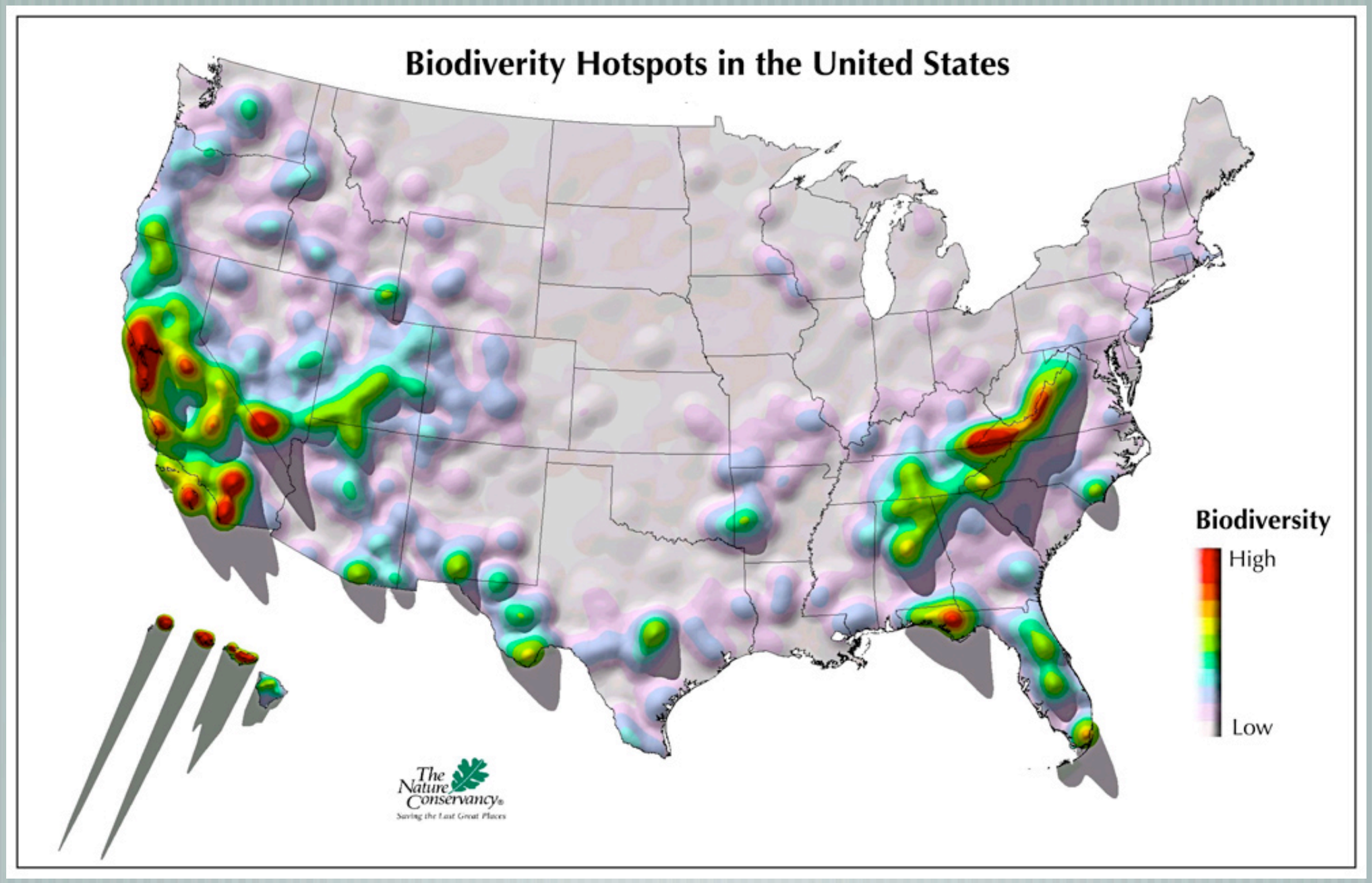
- We'll bring **1,200 pinwheels** for the Governor representing:
- **60,000 additional people living with cancer** linked to mountain-top removal. (Each pinwheel represents 50 people).
- Hope for a **clean energy future.**

I Love Mountains Day

- To learn more & register to attend at: www.kftc.org/love
- Join in the conversation during the day on Twitter: #lovemountains
- Or follow the live-blog at: www.kftc.org/blog
- For more info contact Carissa Lenfert: carissa@kftc.org

Health Impacts of Mountaintop Removal

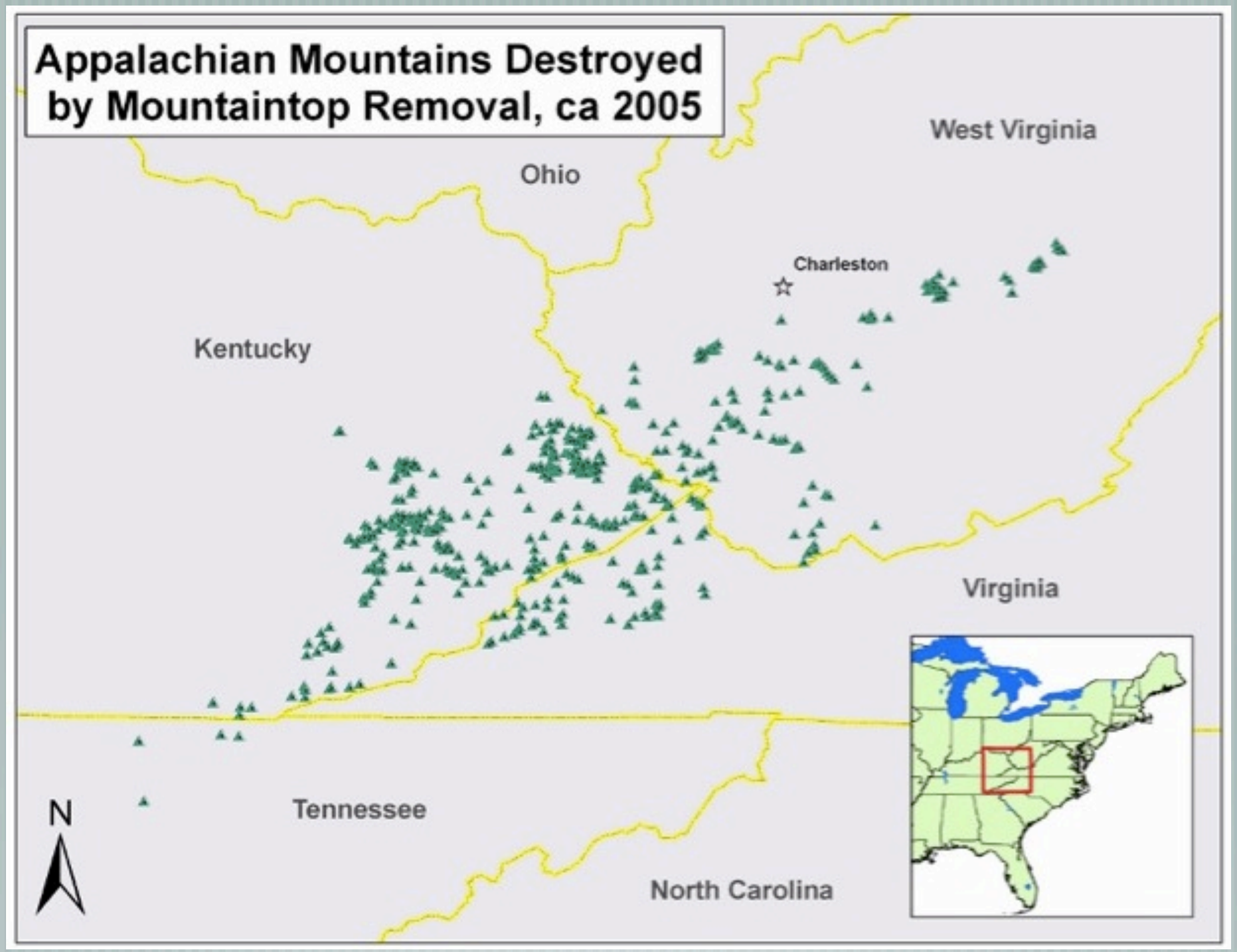
The Appalachian Region is rich in history, culture, & biodiversity



Mountaintop removal is extensive and destructive.

Mountaintop removal blasts the tops off mountains and doesn't replace them as they were.

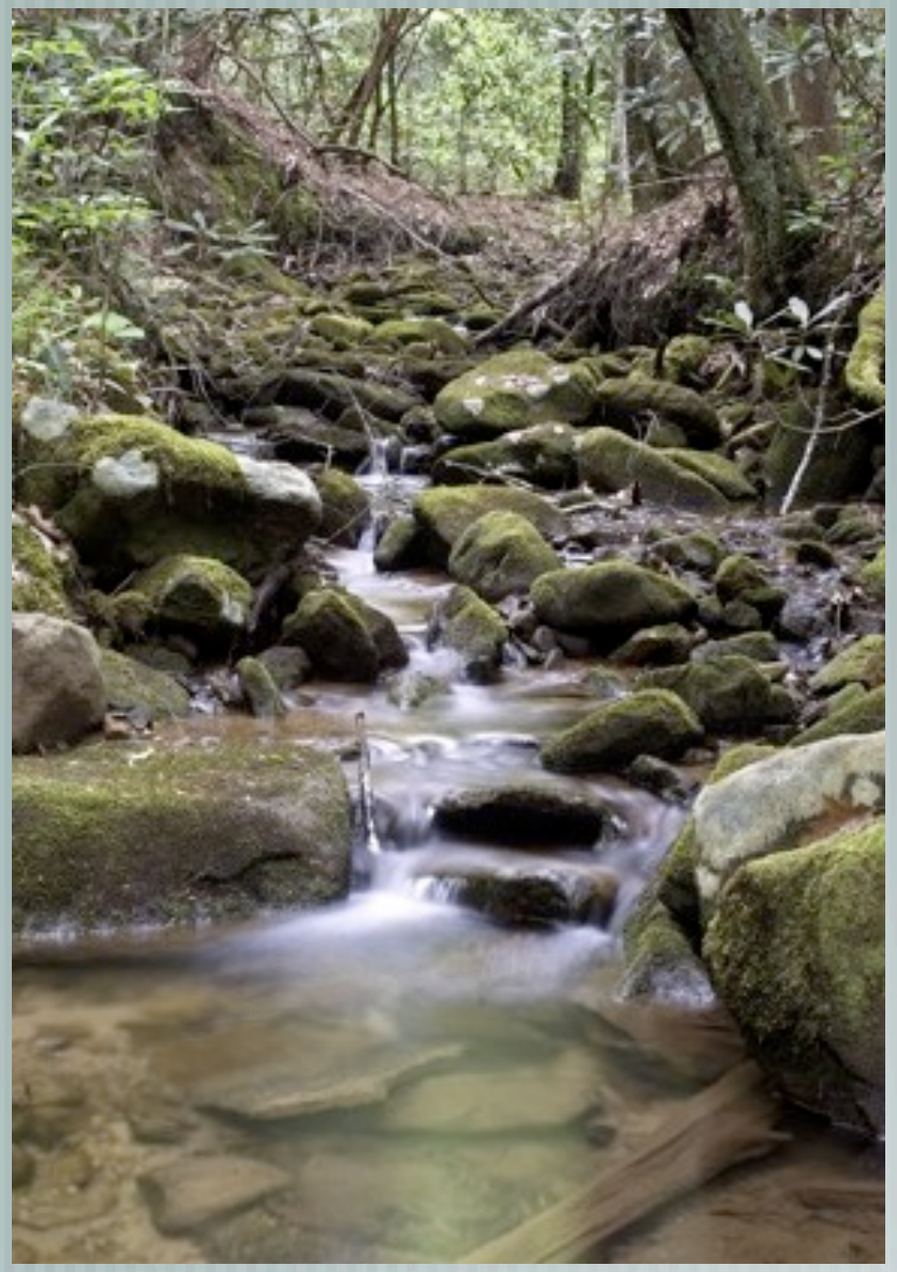
Image copyright: Dobree Adams



More than 200 mountains in Kentucky have been destroyed by mountaintop removal practices.

600,000 acres have been surface mined by mountaintop removal in Kentucky, more than any other state.

Mining waste is dumped into headwater streams.



The coal industry calls this a “valley fill.”

Mountaintop removal causes irreversible damage.

According to the journal Science:

- "Current attempts to regulate MTM/VF practices are inadequate."
- "There is a preponderance of scientific evidence that impacts are pervasive and irreversible."

"Mountaintop Mining Consequences." Science. January 2010. Margaret Palmer, et al.

Mountaintop removal causes irreversible damage.

According to the journal Science:

"[G]roundwater samples from domestic supply wells have higher levels of mine-derived chemical constituents than well water from unmined areas. Human health impacts may come from contact with streams or exposure to airborne toxins and dust...Elevated levels of airborne, hazardous dust have been documented around surface mining operations. Adult hospitalizations for chronic pulmonary disorders and hypertension are elevated as a function of county-level coal production, as are rates of mortality; lung cancer; and chronic heart, lung, and kidney disease."

The health impacts of coal extraction and mountaintop removal are real.

Sandy Voils of Clay County, and her daughter.

The health impacts of coal extraction and mountaintop removal are real.

Beverly May of Wilson Creek, Floyd County

Scientific research shows health impacts.

References:

"Hospitalization Patterns Associated with Appalachian Coal Mining." Journal of Toxicology and Environmental Health. 2007. Michael Hendryx, et al.

"Mortality rates in Appalachian coal mining counties: 24 years behind the nation." Environmental Justice. 2008. Michael Hendryx.

"Lung cancer mortality is elevated in coal-mining areas of Appalachia." Lung Cancer. 2008. Michael Hendryx, et al.

"Ecological Integrity of Streams Related to Human Cancer." EcoHealth. April 2010. Timothy P. Hitt and Michael Hendryx.

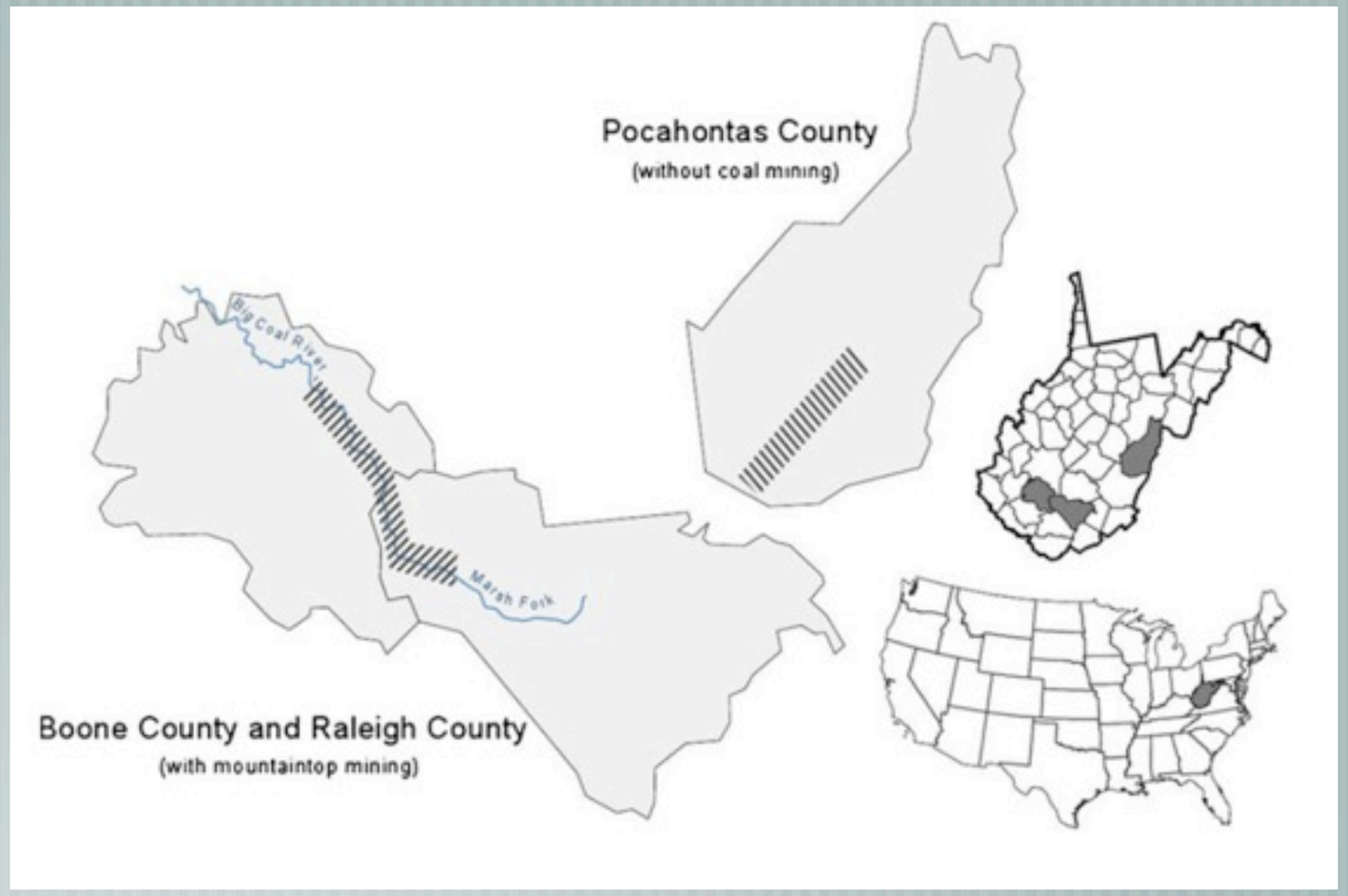
"The health of people living in surface mining regions of the Central Appalachians is compromised by mining activities."

"Mountaintop Mining Consequences." Science. January 2010. Margaret Palmer, et al.

Increased Cancer Rates

Mountaintop removal is linked to increased cancer rates.

Interviewers went door-to-door in West Virginia, in a mountaintop removal mining community and a non-mining community.



"Self-Reported Cancer Rates in Two Rural Areas of West Virginia with and without Mountaintop Coal Mining." Journal of Community Health. July 2011. Michael Hendryx, et al.

Mountaintop removal is linked to increased cancer rates.

The cancer rate in a central Appalachian community without mountaintop removal mining was 9.4%, compared to a rate of 14.4% in a community with mountaintop removal.

Among the 1.2 million American citizens living in mountaintop removal mining counties in central Appalachia, this 5% difference would translate to an additional 60,000 cases of cancer linked to strip-mining practice.

"Self-Reported Cancer Rates in Two Rural Areas of West Virginia with and without Mountaintop Coal Mining." Journal of Community Health. July 2011. Michael Hendryx, et al.

Mountaintop removal is linked to increased cancer rates.

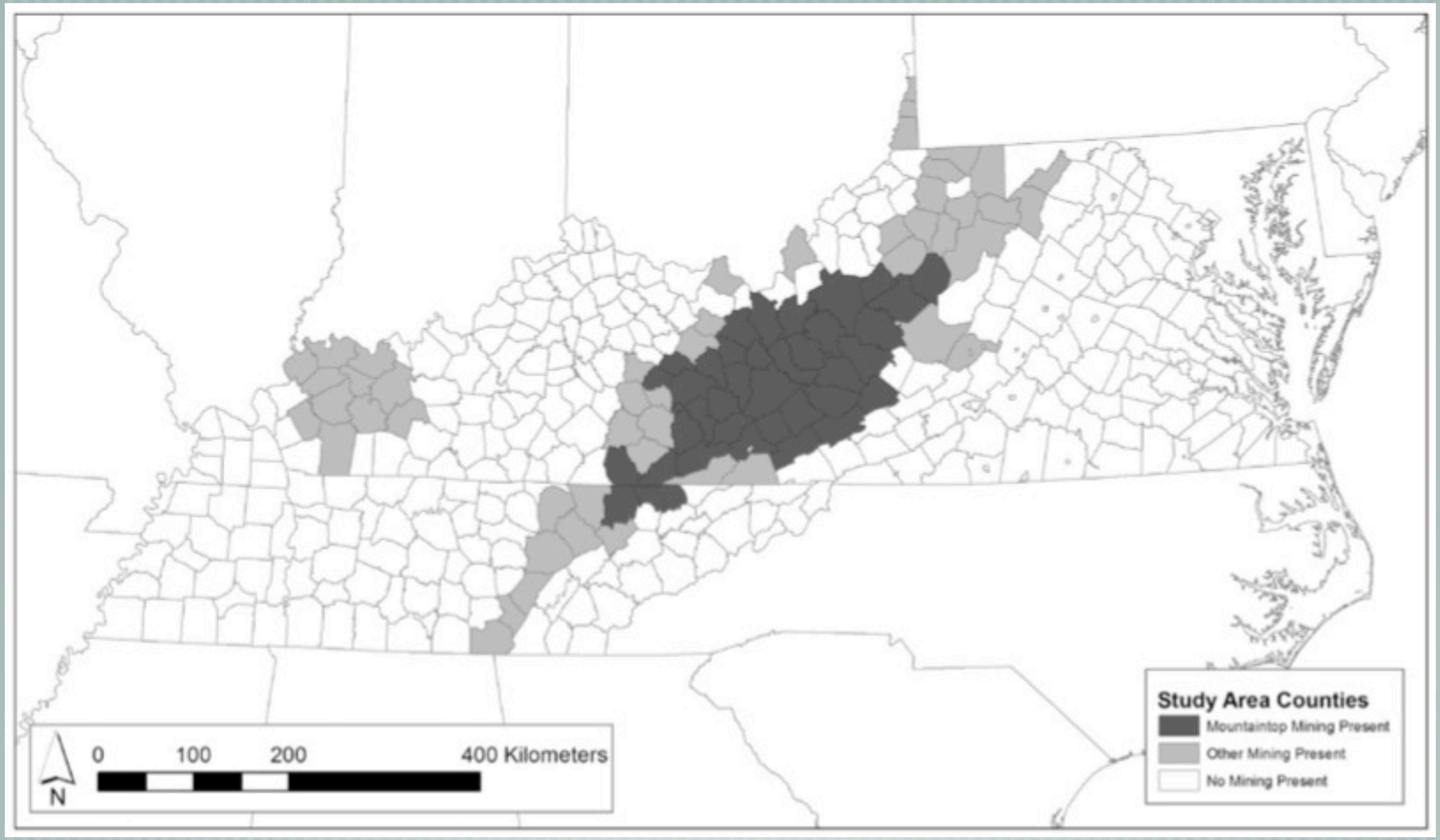
"Self-Reported Cancer Rates in Two Rural Areas of West Virginia with and without Mountaintop Coal Mining." Journal of Community Health. July 2011. Michael Hendryx, et al.

"This significantly higher risk was found after control for age, sex, smoking, occupational exposure and family cancer history. The study adds to the growing evidence that mountaintop mining environments are harmful to human health."

–Dr. Michael Hendryx.

Increased Birth Defect Rates

Mountaintop removal is linked to significantly higher birth defect rates.



"The Association between Mountaintop Mining and Birth Defects among Live Births in Central Appalachia, 1996–2003." Environmental Research. May 2011. Melissa M. Ahern, et al.

Mountaintop removal is linked to significantly higher birth defect rates.

- The researchers looked at 1.8 million live birth records, determining if the birth mother lived in a county with mountaintop removal mining, other mining, or no mining.
- Nationally, birth defects occur in about 1 in 33 births.
- The study found: In counties with mountaintop removal mining, the rate of birth defects was 42% higher than counties without mountaintop removal.

"The Association between Mountaintop Mining and Birth Defects among Live Births in Central Appalachia, 1996–2003." Environmental Research. May 2011. Melissa M. Ahern, et al.

Mountaintop removal is linked to significantly higher birth defect rates.

- The study looked at two time periods:
- From 1996-1999, birth defect rates were 13% higher.
- From 2000-2003, birth defect rates were 42% higher.
- The study found: Disparities in birth defects have become more pronounced as mountaintop mining has expanded.

"The Association between Mountaintop Mining and Birth Defects among Live Births in Central Appalachia, 1996–2003." Environmental Research. May 2011. Melissa M. Ahern, et al.

Increased Public Health Costs

Coal extraction and use–including mountaintop removal–increases public health costs.

- In terms of human health, a study by Dr. Paul Epstein estimates $74.6 billion a year in public health burdens in Appalachian communities, with a majority of the impact resulting from increased healthcare costs, injury and death.
- The costs from the mining, processing, transport, and combustion of coal affect individuals, families, communities, ecological integrity, and the global climate.

"Full Cost Accounting for the Life Cycle of Coal." Annals of the New York Academy of Science. February 2011. Paul R. Epstein, et al.

We Have a Vision

We are working for...

- Safe and secure jobs for our coal miners today
- Strong protections for our mountains, mountain communities, forests, water, air, and culture
- A transition plan for coalfield workers and communities to a new economy
- Investment in safe & clean energy, and no further subsidies for coal

What You Can Do

What You Can Do

- Attend I Love Mountains Day
- Visit www.kftc.org/health-and-mtr
- Send your KY Legislator a copy of the Health Impacts fact-sheet
- Ask him/her to co-sponsor the Stream Saver Bill and the Clean Energy Opportunity Act

What You Can Do

Health Impacts of
Mountaintop Removal Coal Mining

Selected List of Recent Health & Cost Studies

- "Self-Reported Cancer Rates in Two Rural Areas of West Virginia with and without Mountaintop Coal Mining." *Journal of Community Health*. July 2011. Michael Hendryx, et al.
- "Health-Related Quality of Life Among Central Appalachian Residents in Mountaintop Mining Counties." *American Journal of Public Health*. May 2011. Keith J. Zullig and Michael Hendryx.
- "The Association between Mountaintop Mining and Birth Defects among Live Births in Central Appalachia, 1996-2003." *Environmental Research*. May 2011. Melissa M. Ahern, et al.
- "Full Cost Accounting for the Life Cycle of Coal." *Annals of the New York Academy of Science*. February 2011. Paul R. Epstein, et al.
- "Chronic Cardiovascular Disease Mortality in Mountaintop Mining Areas of Central Appalachian States." *The Journal of Rural Health*. 2011. Laura Esch and Michael Hendryx.
- "Ecological Integrity of Streams Related to Human Cancer." *EcoHealth*. April 2010. Timothy P. Hitt and Michael Hendryx.
- "Mountaintop Mining Consequences." *Science*. January 2010. Margaret Palmer, et al.

For more information visit: www.kftc.org

KENTUCKIANS FOR THE COMMONWEALTH

Health Impacts Are Harmful & Costly

Volumes of scientific evidence and data illustrate the harm to human health from exposure to dust and numerous toxins released to the air and water by surface mining. In the last two years alone, peer-reviewed studies by Dr. Michael Hendryx and others have demonstrated that:

- **people living near mountaintop mining have cancer rates of 14.4% compared to 9.4% for people elsewhere in Appalachia;**
- **the rate of children born with birth defects is 42% higher in mountaintop removal mining areas;**
- **the public health costs of pollution from coal operations in Appalachia amount to a staggering $75 billion a year.**

These findings are consistent with an earlier account of health impacts related to mountaintop mining "Mountaintop Mining Consequences" published in the journal Science in January 2010. According to that study:

[G]roundwater samples from domestic supply wells have higher levels of mine-derived chemical constituents than well water from unmined areas. Human health impacts may come from contact with streams or exposure to airborne toxins and dust. State advisories are in effect for excessive human consumption of [Selenium] in fish from MTM/VF affected waters. Elevated levels of airborne, hazardous dust have been documented around surface mining operations. Adult hospitalizations for chronic pulmonary disorders and hypertension are elevated as a function of county-level coal production, as are rates of mortality; lung cancer, and chronic heart, lung, and kidney disease. Health problems are for women and men, so effects are not simply a result of direct occupational exposure of predominantly male coal miners.

If you live outside Kentucky, contact your Representative and Senators, asking them to support:

- The Clean Water Protection Act
- The Appalachia Restoration Act

www.kftc.org/health-and-mtr