

EPA's new water quality guidance will reduce coal mining impacts on Central Appalachian communities.

Why is new guidance needed?

The U.S. Clean Water Protection Act prohibits discharging pollutants likely to cause or contribute to state water quality standard violations. Surface mining laws also require protection of Appalachian headwater streams. As 2,500 miles of Eastern Kentucky streams have been polluted with coal mining as the known or suspected source, the law is clearly not met. Science has shown the water quality damage caused by extreme surface mining to be irreversible.

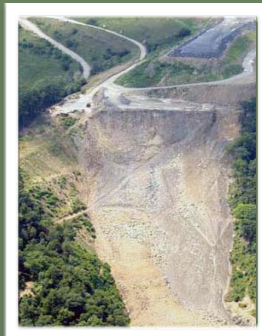
Sources: Kentucky Division of Water and Palmer, et al *Science*, 2010.

What does it say?

Coal mining operators must submit improved pollution discharge data when seeking required water pollution permits. The permit will allow only pollution discharges that ensure stream conductivity remains at healthy levels. If enforced, the guidance will result in less water pollution from coal mining.

"You're talking about either no or very few valley fills, that's just the truth, that's the science of it."

-EPA Director Lisa Jackson, commenting on the effects the new guidelines will have on surface coal mining in Appalachia



Valley Fill in Pike County, KY

What is water conductivity?

It measures the ability of water to pass an electric current—that, in turn, is affected by the presence of pollutants, such as selenium and arsenic. The higher the conductivity, the more pollution is present.

People living nearest to streams polluted from coal mining are more likely to die of breast, digestive, urinary and respiratory cancers.

-Hitt and Hendryx, *EcoHealth*, 2010

Why is new guidance based on it?

Conductivity tests effectively measure water pollution in streams below mining sites. They are also easy to perform and to interpret. Previous EPA guidance, approved in the 1970's, was based on technology guidelines instead of water pollution measurements. Basing guidance on numeric water quality data makes law enforcement more clear.

Pollution Levels in Eastern Kentucky Streams Today

Conductivity is measured by $\mu\text{S}/\text{cm}$ (microSiemens per centimeter).

0-300: Levels present in clean Appalachian Kentucky streams, with most between 100-250.

300-500: Indicates low to medium water pollution.

500 and above: Indicates high water pollution. EPA guidance recommends keeping stream conductivity levels below 500.



Conductivity test being performed.

In Kentucky Basin, Big Sandy and Upper Cumberland watersheds, all Eastern Kentucky areas with active coal mining, half of streams tested were above 500 $\mu\text{S}/\text{cm}$, with 21% above 1000 $\mu\text{S}/\text{cm}$.



When KFTC member Rick Handshoe tested Raccoon Creek (shown above) behind his home in Floyd County, its conductivity level was 2000 $\mu\text{S}/\text{cm}$.

Sources: Eastern Kentucky University, Research Report Series RS10.018 and personal communication with Rick Handshoe.

Voice Your Opinion

Comments on the guidance will be accepted at www.regulations.gov through December 1, 2010.