

# Smoky Canyon



*Wasteland or wilderness: The proposed Smoky Canyon Mine would poison the incomparable wildlands of Southeastern Idaho.*

## Smoky Canyon Mine: Proposed Expansion of Superfund Site Threatens Fish, Wildlife and Roadless Areas

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**The J.R. Simplot Company is one of the largest privately owned corporations in the U.S., with annual sales of over \$3 billion. In return for producing a fraction of the nation's phosphate rock,<sup>1</sup> it has been allowed to turn wild lands in the Caribou-Targhee National Forest in Southeastern Idaho – 75 miles from Grand Teton National Park – into a Superfund site that is poisoning local streams and imperiling Yellowstone cutthroat trout and other wildlife.**

Simplot's Smoky Canyon Mine is an open-pit mine that releases selenium, a naturally-occurring toxic element, into the environment as phosphate ore is mined for fertilizer. Ten years ago animals started dying from selenium poisoning in Southeastern Idaho; four years ago Simplot, the Forest Service and other government agencies finally agreed that the company's toxic mess had to be addressed. But the clean up has not yet started. Instead, the Forest Service and the Bureau of Land Management want to expand this Superfund site into two Roadless Areas. Selenium poisoning of Kesterson National Wildlife Refuge in California was a national scandal 20 years ago, and today the federal government and the state are still struggling to come up with an effective cleanup program, with costs projected to substantially exceed \$1 billion. **The average selenium concentration in the source rock in Idaho is fifteen times that in California.**

### The Science on Selenium

Selenium is an extraordinary environmental problem because: (i) it causes a variety of toxic effects, including severe embryo deformities and death, at relatively low levels;

(ii) it bioaccumulates – *i.e.*, builds up – in the food web, increasing in concentration in plants, animals and fish, **including fish, wildlife and livestock that are eaten by humans**; and (iii) it persists for hundreds of years once it enters the environment. Recently a Forest Service senior scientist was quoted as stating: "From a fish-health perspective, it is irresponsible for the Agency Preferred Alternative [mine expansion] to be implemented. . . . This ecosystem is a tinder box, and allowing additional selenium discharges will likely start a cascade of irreversible events, culminating in severe toxic impacts to fish and aquatic life for many years to come. . . . The [secretaries] should not permit a process that could cause residual toxicity and place trust resources (and future land managers) in jeopardy for 100-plus years."<sup>2</sup>

Smoky Canyon and other area phosphate mines, also Superfund sites, are already poisoning streams, groundwater, soils and vegetation with selenium. Because of selenium, the State of Idaho has issued human health advisories on fish consumption. According to the former manager of the federal selenium

<sup>1</sup> [http://minerals.usgs.gov/minerals/pubs/commodity/phosphate\\_rock/phospmyb04.xls](http://minerals.usgs.gov/minerals/pubs/commodity/phosphate_rock/phospmyb04.xls)

<sup>2</sup> Williams, Ted. "Selenium contamination threatens Yellowstone cutthroat country," Fly Rod & Reel, July/October 2006.



**“This ecosystem is a tinder box, and allowing additional selenium discharges will likely start a cascade of irreversible events...”**

**Dennis Lemly, Ph.D.  
US Forest Service**



cleanup in California, “the contamination problem at Smoky Canyon [already] dwarfs Kesterson.”

**What’s At Stake?**

The wild and pristine lands of Southeast Idaho comprise some of the most important and biologically diverse parts of the Greater Yellowstone Ecosystem. The region’s scenic beauty and environmental treasures – its clean air and water, its tranquility, expansive forests, vast Roadless Areas, spectacular wildlife, and blue ribbon trout streams – drive its economy and are loved by the residents and visitors from near and far. The failure to clean-up and the proposed expansion seriously threaten these

treasures: if expansion is approved, two Roadless Areas will be mined and even more streams, wildlife and fish will be poisoned by selenium.

**What’s The Solution?**

Clean up the existing contamination *before* any new mining is contemplated. Cleaning up the existing mess will provide critical knowledge of whether and where phosphate mining in the Greater Yellowstone Ecosystem can succeed without long-term environmental devastation. It will also have major economic benefits for the local economy, providing quality jobs for local families.

**WHAT SCIENTISTS SAY REGARDING SELENIUM AT SMOKY CANYON MINE**

**Dennis Lemly, Ph.D., US Forest Service. Senior Research Scientist specializing in Selenium.**

“This ecosystem is a tinder box, and allowing additional selenium discharges will likely start a cascade of *irreversible* events, culminating in severe toxic impacts to fish and aquatic life for many years to come.... The Secretaries of Agriculture and the Interior should not permit a process that could cause residual toxicity and place trust resources (and future land managers) in jeopardy for 100-plus years.”

**Steven Hamilton, Ph.D. Retired after 29 years of service with the U.S. Geological Survey and U.S. Fish and Wildlife Service; author of nine reports on selenium in aquatic ecosystems in southeastern Idaho.**

Dr. Hamilton conducted a hazard assessment for the risk to streams in the Smoky Canyon Mine expansion area using an established, peer reviewed methodology and all available data sources. His assessment revealed a “high” hazard rating for area streams. In his words, “High hazard (means) an imminent, persistent toxic threat sufficient to cause complete reproductive failure in most species of fish and aquatic birds.”

**Joseph Skorupa, Ph.D., US Fish and Wildlife Service. Nationally recognized expert on Selenium toxicology.**

Describing a field trip to the phosphate area in Southeast Idaho in 1999: “[M]y team spent only eight days in the field. ... [W]e managed to discover an American Coot egg with more selenium (80 ppm) in it than ever found anywhere else in the U.S. even though American Coots have been extensively sampled for more than a decade, across 10 different western states, at places identified as the worst selenium sites those states have to offer. ... [We also found] aquatic invertebrates with the highest level of selenium (788 ppm) ever reported from much more intensive and extensive sampling across the western U.S. ... [and] a significant salamander die-off (more than 250 carcasses visible from our vantage point) which has subsequently been diagnosed as selenium toxicosis by the National Wildlife Health lab, and to my knowledge the 120 ppm Se in the salamander tails reported by that lab (independent of the lab doing the other analyses cited above) is also a record high for selenium concentrations in any salamander tissue.”

**Theresa Presser, Ph.D., US Geological Survey. Nationally recognized expert on Selenium geochemistry.**

Comparing the phosphate area in Southeast Idaho to California: “[T]he similarity in mobility trends in the two regions suggest massive Se [selenium] storage in Idaho that is now subject to transport, as has occurred in California.”  
Commenting on prospective selenium release when drought conditions end: “There is a “potential for a 3.6 to 7.4-fold increase in Se [selenium] loading because of increased seasonal flows in the Blackfoot River watershed.”