

A Dozen Reasons for NO PUBLIC USE of the Rocky Flats Wildlife Refuge
(Prepared by LeRoy Moore, Ph.D., Rocky Mountain Peace & Justice Center, January 29, 2007)

1. The whole Rocky Flats site is contaminated to some extent

Fires, accidents, routine operations, and random dumping during production years released to the environment plutonium, americium, uranium, beryllium, organic compounds, and heavy metals. Though the prevailing wind is from west to east, it blows in all directions some of the time. Hence, plutonium and other toxins were scattered across the whole of the 10 square-mile site. Each toxin presents distinct dangers. Health effects of materials in combination are poorly understood.

2. Plutonium in the environment is a permanent danger

Plutonium-239, with a half-life of 24,110 years, remains dangerously radioactive for a quarter-of-a-million years. Tiny particles inhaled, ingested, or taken into the body through an open wound may result in cancer, harm to the immune system, or genetic abnormalities. Particles left in the soil can be brought to the surface by human or natural processes. Picked up by the wind they could be inhaled or ingested. Soil ecologist Shawn Smallwood says that in any given year as much as 12% of surface soil on the Rocky Flats site may be disturbed by insects and burrowing animals.

3. No one knows how contaminated the site is

The site has never been thoroughly examined to determine the full extent of contamination. The methods used to locate contaminants in the environment could have missed hot spots of various toxins.

4. Dollars and date, not public health, drove the cleanup

DOE and Kaiser-Hill made a secret deal with Congress to close Rocky Flats by a fixed date for a fixed sum. Tailoring the cleanup to fit these limits, they rejected appeals that they seek more funds to do a better job. Of the \$7 billion allotted to close the site by December 2006, no more than \$473 million (about 7%) could be spent cleaning the environment. Cleanup contractor Kaiser-Hill received \$560 million.

5. The best possible cleanup, desired by the public, did not happen

The single most widely supported cleanup recommendation made by the public in 1995 called for eventual cleanup to average background levels, with initial efforts to go as far in this direction as current technology would allow. The cleanup agreed to by DOE and the regulators and recently completed by Kaiser-Hill left significant quantities of plutonium and other toxins in the environment.

6. Cleanup to wildlife refuge standards endangers future generations

Rocky Flats was cleaned to the level required to protect a wildlife refuge worker, but the site will cease being a wildlife refuge long before plutonium left in the environment ceases to be dangerous. What happens after fences fall and memory fades?

7. Local people rejected both the cleanup and recreation at the wildlife refuge

85.6% of the individuals and organizations that commented on the Rocky Flats Cleanup Agreement adopted in June 2003 rejected the plan as inadequate. 81% of those who commented on U.S. Fish and Wildlife Service (FWS) plans to open the wildlife refuge to recreation opposed the idea. These comments are part of the public record.

8. The cleanup done at Rocky Flats does not protect the most vulnerable

The “risk-based cleanup” done at Rocky Flats was calculated to protect average humans, not those who are most vulnerable, including the very young, the very old, and the infirm. FWS expects children and people with disabilities to visit the Rocky Flats Wildlife Refuge.

9. DOE and FWS mislead the public when they say Rocky Flats is “safe”

The National Academy of Sciences report on *Health Risks from Exposure to Low Levels of Ionizing Radiation* (2006) affirms that exposure to any level of ionizing radiation is potentially harmful. As early as 1945 the tolerance level for nuclear workers exposed to plutonium was set at one microgram; a standard text in inorganic chemistry calls one microgram of plutonium “a potentially lethal dose” (one microgram is 1/millionth of a gram; one ounce contains 31.1 grams or 31.1 million micrograms). Particles of plutonium weighing 10 micrograms or less can be inhaled. Research at Columbia U. shows that a single plutonium particle can cause mutations and genetic harm both in cells directly hit and in adjacent cells. In 2004 British researchers concluded that cancer risk from exposure to very low doses of plutonium may be ten or more times more dangerous than allowed by existing official standards for permissible exposure.

10. DOE and FWS oppose informed consent for visitors to the wildlife refuge

DOE and FWS have opposed posting signs that would inform visitors to the wildlife refuge of health risks they may encounter. To protect people from contaminants in the environment they will rely on institutional and physical controls (rules and barriers). Such controls, inadequate to begin with, eventually will fail according to a report of the National Academy of Sciences.

11. Genetic effects of plutonium on wildlife are poorly understood

Genetic effects on a given species may be so subtle that they cannot be easily detected until generations later when harm is irreversible. Any harm to wildlife at Rocky Flats will not be confined to the bounds of the site. Deer from the site have been shown to have plutonium in their bodies.

12. Data on plutonium remains classified

Some information on plutonium particles released from Rocky Flats remains classified. This body of data very likely includes information on health effects.

For more details and documentation, see

- LeRoy Moore, “Rocky Flats: The Bait and Switch Cleanup,” *Bulletin of the Atomic Scientists* (January/February 2005); on line at <http://www.rmpjc.org/2005/RockyFlats/AtomicScientists/>
- Risk from Plutonium in the Environment at Rocky Flats (January 2007); available on request.
- Engaged Public Overwhelmingly Rejects the Rocky Flats Cleanup Agreement (November 2005); available on request.
- Engaged Public Overwhelmingly Opposes Access to the Rocky Flats National Wildlife Refuge (May 9, 2006); available on request.