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David Wood (/profile/0

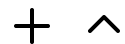
• 6 Jun (/p/3xXSnPZRFp



Survey to support Rocky Mountain Greenway through Rocky Flats

Dear neighbors and users of the Rocky Flats National Wildlife Refuge,

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Thanks for the 3,400 views of my May 27th posting. I'll bring you up-to-date about ongoing city council actions soon!



The Fish and Wildlife Service reports 50,000 visitors to the Refuge in fiscal year 2023. Soon (mid July?) Boulder and Westminster will decide whether to back out of their financial and political commitments to the Rocky Mountain Greenway. Anti-nuclear activists are lobbying hard against the Greenway, claiming to represent those actually living around the Refuge.

Data and expert consensus about the safety of Rocky Flats is extremely clear, but for local governments what is scientifically established and what is politically convenient can be extremely different. So I ask supporters and users of the Refuge (and the Rocky Mountain Greenway!) to respond to a brief survey. At present NextDoor indicates populations of: Leyden Rock 3138, Candelas 3047, Five Parks 1535, Whisper Creek 1103, Skyestone 815.

The Google Forms survey is at <https://forms.gle/AwZerQnfbdkiiwtT6>
(https://forms.gle/AwZerQnfbdkiiwtT6)

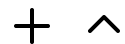
Apart from your email address, it asks for your name and zip code (to confirm you're `local'). Only your zip code will be used in summaries, nor is there any fundraising involved! There are 3 quick Greenway questions, 2 about trust of government information, and 2 about websites you trust (or not) for information. Finally, there are 2 questions about your beliefs about the Refuge.

Those who want more information: please read on.

THE BACKGROUND

What are the motives for opposing the Greenway (not to mention the Refuge)? Since pre-Refuge times, the intent has been to make anything "nuclear" sound dangerous, poorly understood, and risky. [Naturally this extends to nuclear power, being considered worldwide as a fossil fuel alternative.] For Rocky Flats, activists like to tie plutonium to criminality and the FBI raid on Rocky Flats. If they were worried about radiation and health, they'd learn about dose and risk and be pushing radon abatement and being careful about medical diagnostics, the dominant sources of actual exposure.

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The focus on plutonium out of context has infantilized discussion of Rocky Flats for at least 30 years. Right now anti-nuclear groups are hoping that some of the following spaghetti strands will stick to the wall of public attention:

1. Michael Ketterer's reports of plutonium in air filtered on a windy day east of the Refuge. Desired response: OMG, there's PLUTONIUM in the air!

Science: Of course there is, and it's from Rocky Flats. There are also dozens of natural radioisotopes, all which are taken in by inhaling or swallowing dirt and dust. Ketterer found Pu levels entirely consistent with what is expected on the eastern boundary of the Refuge from Jefferson Parkway sampling, validating dose estimates used since about 1995. He did NOT mention: natural alpha particle emitters (same health effects as Pu) contribute 42 times more to soil alpha activity than does Pu. Pu contributes about 0.8% of total soil radioactivity. The total radiation dose contributed by *natural* radioisotopes is 420 times larger than what comes from Pu.

2. [My favorite] Deborah Segaloff's claim that recreational users of the Greenway crossing into the Refuge from Westminster will track Pu into Rocky Mountain National Park.

Science: (i) Published work: shoes pick up less than about 1 gram (1/3 the weight of a penny) of dry dirt per shoe and track it something like 10 meters (say, 30 feet). Soil is more rapidly lost by treaded soles. (ii) What gets tracked OUT of the Refuge reflects where you leave. The trail connections for the Greenway leave the Refuge where Pu levels are extremely low, about 0.03-0.04 pCi/g. NATURAL soil radioactivity is about 53.5 pCi/g throughout the Refuge.

3. If the "hot particle" found during Jefferson Parkway sampling in 2019 caused Broomfield to withdraw from Jefferson Parkway project, the problem must be serious!

Science: The single hot particle occurred among about 440 samples on the eastern Refuge boundary in 2019. The dose from 1350 such 8.8 micron diameter particles trapped in your lungs would raise your lifetime cancer risk by 1%. With a rate of 1 per 440 samples, you have negligible chance of inhaling enough hot particles for even this small risk. Ketterer in 2019 detected a maximum hot particle diameter of

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1.7 microns; 190,000 of these would be needed for a 1% excess risk. Broomfield used 1 particle as pretext to back out and save money.



4. All hell breaks loose with soil Pu levels beyond 6 feet deep; it would be disturbed by construction (Jon Lipsky).

Science: There is zero recorded evidence of high (>50 pCi/g) Pu radiation levels in Refuge soil. As expected for diffusion of Pu downward from the surface, the soil concentration measured pre-cleanup in the COU drops exponentially with depth. The only place where much higher levels are found is in 4 buried (probably deeper than 6 feet) building foundations in the COU, where the Pu is bound in concrete and is classified as immobile.

5. There are excess rare cancers downwind of Rocky Flats. (Randy Stafford?) Take, for example, two angiosarcomas in Five Parks. The chance is astronomically tiny for this to occur without plutonium!

Science: This claim (like the 2016 health survey by Rocky Flats Downwinders) is a classic, naive statistical blunder. The probability to find these cancers is 1 if they were known anecdotally before any sort of random sampling of an appropriate population. [See pages C and D of the 4-page flyer.] Careful epidemiology (correcting for very non-uniform population density) in the mid- to late-1980s looked for radiation-sensitive leukemias downwind and found none. The distribution was random, with no correlation with distance from Rocky Flats.

The 4-page flyer is at

<https://rockyflatsneighbors.org/wp-content/uploads/FlyerUncompr.pdf>
<https://rockyflatsneighbors.org/wp-content/uploads/FlyerUncompr.pdf>

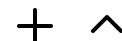
OK, then: here's the survey link again:

<https://forms.gle/AwZerQnfbdkiiwtT6> (**<https://forms.gle/AwZerQnfbdkiiwtT6>**)

The two graphics enclosed:

(i) survey results from 2016 through 2024 displaying the LOCATION of supporters of anti-Refuge (and anti-Rocky Flats Stewardship Council) positions, compared with

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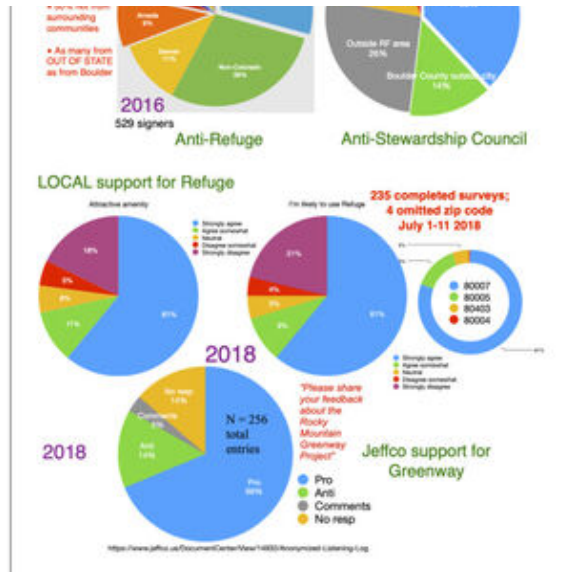
polling results for supporters of the Refuge and of the Rocky Mountain Greenway.



(ii) A table comparing plutonium and all-natural contributions to various quantities of interest.

Thanks for your time and interest.

D. M. Wood, Ph.d



	Pu only	total
	0.454	53.5
µCi/g	0.45	19.24
µSv/y	0.00463	565.62
mSv/y	0.833	17.3
Sv/y	0.567	7.75
Estimated cancer risk	5.8E-8	4.7e-5
(Sv/year)	1.405	591.

Contributions compared with total quantities of Pu contribution. pCi/g from NIST soil survey data, DOE measured mean, risk from RESF coefficients

(<https://flask.us.nextdoor.com/ct/nM41f3EyVw97KkyAB7Kpi0kxRFYL>)



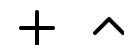
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Reactions

- 4
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(/profile/01ss9BWktNy4WRP9X/?is=feed_commenter)

Rich Hansen (/profile/01ss9BWktNy4WRP9X/?is=feed_commenter)

Don't you just hate it when facts contradict opinions?!?!?! I mean, what's more realistic, an actual fact or a gut feeling (non-substantiated, of course) ??!!??

Like Reply  1



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Julie Miller (/profile/01kFkKGqmLZ_684qk/?is=feed_commenter) [Share](#)

Does anybody that supports a road through Rocky Flats realize how many elk use this refuge or care?

Like Reply  1



(/profile/01sQjzCnCCFY9LDms/?is=feed_commenter)

David Wood (/profile/01sQjzCnCCFY9LDms/?is=feed_commenter) [Share](#)

Julie (/profile/01kFkKGqmLZ_684qk/) There **were** roads through Rocky Flats while the plant was there, and there **remain** dirt access roads used by Fish&Wildlife. No one is proposing a road-it would be trail improvements for hikers and cyclists. F&W has done a great job of keeping people from bothering the herd.

Like Reply  1

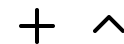


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Julie Miller (/profile/01kFkKGqmLZ_684qk/?is=feed_commenter) [Share](#)

David (/profile/01sQjzCnCCFY9LDms/) I know ow there were roads I have lived in Colorado for 52 years. I guess the name cross way gets to me. I know there are bicyclists now and people which I don't mind. But I know that if more trails are put in more people will use, the bicyclists will

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demand that they are "there" trails
meanwhile disturbing many populations of
elk nd animals that call it home. I would
like to see it left as is!



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