

### SUMMARY NOTES

On May 15, 2017, the U.S. Fish and Wildlife Service (Service) hosted a public Sharing Session focused on the topic of visitor safety and risk communication. This was the fourth and final meeting in a series of sharing sessions the Service hosted in order to ensure transparency with regards to the Service's plans to improve and open the refuge.

The Service invited the sharing session participants to submit their comments and question in writing at the sharing session or to submit them via email. This summary represents a compilation of the comments and questions received. To the extent possible, the Service and it's partners at the Department of Energy, U.S. Environmental Protection Agency, and the Colorado Department of Public Health have provided answers to the questions submitted.

#### **Questions** *(and responses from the Service and it's partners)*

- **How deep into the soil did you test for contaminants? Both in the central area + peripheral area?**

The sampling depths extend from land surface to greater than 50' below land surface. The specific numbers are:

- Approximately 7,230 surface soil sampling locations in COU/POU
- Approximately 15,890 subsurface sampling at the following depth intervals in the COU/POU:
  - 12,250 subsurface soil sampling intervals of .5'-12' below land surface
  - 3,640 subsurface soil sampling intervals of 12-50 below land surface
- **Has there been documentation of cancer clusters in Arvada residents close to Rocky Flats? Among workers at the plant?**

A number of Rocky Flats cancer and health studies have been conducted.

- CDPHE's Central Cancer Registry produced a study of cancer incidence in communities around Rocky Flats (including Arvada) in 1998. In 2016, the Cancer Registry produced an updated study, which looked at 25 years of new cancer data. Cancer diagnoses are reported to the Cancer Registry by independent doctors and medical laboratories across the state, as required by law. This is where CDPHE gets its data. The CDPHE cancer studies looked at ten separate types of cancer. These types of cancer were selected by a Health Advisory Panel because they are linked to possible plutonium exposure and/or were of concern to Health Advisory Panel experts. The CDPHE cancer studies found that cancer incidence was no different in the communities surrounding Rocky Flats than would be expected. That is, cancers generally occur as expected. While statistically significant elevations of lung, esophagus, colorectal, and prostate cancer were identified in a few communities around Rocky Flats, these cancers appear to be linked to higher rates of smoking in those areas – and, in the case of prostate cancer, better medical screening in a particularly wealthy community. Unfortunately, a certain percentage of people will get cancer in their lifetime. Therefore, it is important to assess any observed cancers against the expected overall cancer incidence in an area to determine whether there may be a cancer cluster, or whether the observed cancers are simply in the normal range of cancer occurrences. The Cancer

Registry's Rocky Flats cancer incidence studies are publicly-available, online:  
<https://www.colorado.gov/pacific/cdphe/cdphe-rocky-flats-cancer-study>

- In the 1990s, CDPHE also administered a series of Historical Public Exposure Studies, which looked at overall cancer risks and concluded that the risks posed by past releases from Rocky Flats were very low. These studies are also publicly-available, online, on CDPHE's Rocky Flats website: <https://www.colorado.gov/pacific/cdphe/rocky-flats-historical-public-exposure-studies>
- Multiple Rocky Flats worker health studies have been conducted. This link provides a list of some worker-related studies: [https://www.colorado.gov/pacific/sites/default/files/HM\\_sf-rocky-flats-adverse-health-effects.pdf](https://www.colorado.gov/pacific/sites/default/files/HM_sf-rocky-flats-adverse-health-effects.pdf)

- **What's the citation for the American Cancer Association information that Carl/CDPHE used in his presentation?**

The American Cancer Society citation is: <https://www.cancer.org/research/cancer-facts-statistics.html> The 2017 lifetime probability of contracting any type of cancer is 42% among males in the United States and 38% among females.

- **How can we research more about Rocky Flats NWR & the associated science?**

The Rocky Flats Stewardship Council has a set of fact sheets on its website. A number of these address the clean-up and can be accessed [here](#). In particular, the "How Clean Is Clean" fact sheet provides a concise summary of the site's history and clean-up.

The EPA maintains a [summary web page](#) for the Rocky Flats site where they explain their involvement with Rocky Flats and the site's current status. Similarly, Colorado Department of Public Health and Environment maintains a [Rocky Flats web page](#).

The Department of Energy's Office of Legacy Management also maintains a [Rocky Flats website](#), which contains information on the site's history and remediation. [Here](#) you will find an overview of the site history and the DOE's Rocky Flats Closure Legacy Report.

The DOE's [Rocky Flats Environmental Technology Site Proposed Plan \(July 2006\)](#) concisely summarizes the site's history, explains the DOE's preferred final remedy for Rocky Flats, and provides rationale for their process.

For the most up-to-date Site Surveillance and Maintenance Reports within the operable unit, the portion of the site that DOE's Office of Legacy Management has retained and that is not part of the Refuge, visit the "Key Documents Archive" [here](#).

- **Will EPA + related budget cuts limit your monitoring and maintenance of the PDU?**

Budget cuts would have no bearing on this matter. This land is fully within the responsibilities of USFWS. In 2007 EPA certified that the cleanup had been completed (ref. 2007 certification letter) and the property was transferred from DOE to USFWS pursuant to the Refuge Act of 2004 and determined that the land was suitable for all uses without restriction or limitation.

- **How are you going to keep children, dogs and even adults from going down to the water where the trail crosses the creeks? The water comes from highly contaminated center of the plant.**

There are numerous waterways and 23.9 miles of riparian habitat found on the Rocky Flats NWR. The majority of these waterways are not associated with the Central Operable Unit.

The creek waters are monitored 24/7 and are subject to meeting drinking water standards or the Colorado statewide stream standards. In the case of plutonium, the standard is 1/100<sup>th</sup> of the drinking water level, while for uranium the standard is ½ of the drinking water level. Because the creek waters meet State standards, they are the same as any other stream in the State.

Regardless, dogs (and other pets) are not allowed on our Front Range national wildlife refuges and visitors are required to stay on trails.

- **Exactly what will FWS do to comply with NEPA and when will that happen? What NEPA compliance steps will DOE take?**

This question was received from an attorney that pursued litigation against the Service the next day following this meeting. Federal agencies do not comment on pending litigation.

- **Does FWS intend to perform an assessment of the impacts of these proposed changes from the CCP/EIS and CD, and when will that be available for public comment?**

This question was received from an attorney that pursued litigation against the Service the next day following this meeting. Federal agencies do not comment on pending litigation.

- **What additional sampling does FWS plan prior to disturbing any dirt? What steps does FWS plan to protect the public and construction workers from exposure to contaminants during construction? How will conditions be monitored over time to assure continued public safety?**

In 2006, the Service conducted its own confirmatory sampling of lands that are now the Rocky Flats NWR. This sampling included testing for radionuclides, metals, volatiles, semi-volatiles, and PCBs. The Service's conclusion was our sample results were consistent with those already reported by the Department of Energy and U.S. Environmental Protection Agency (EPA). This information can be found [here](#).

In April 2016, the Service agreed to support additional confirmatory soil sampling ensure that any construction activities follow State of Colorado requirements. Our letter can be found [here](#) and State of Colorado regulations can be found [here](#).

- **I'm wanting more information on who is responsible for the safety of the public? What events would prompt Closure and prevent Public Access to the Rocky Flats Wildlife Refuge? Which agencies would have the authority to call for a closure? What radiation levels would prompt closure? Who would call for a closure? In that event how would the public be notified?**

The EPA maintains a [summary web page](#) for the [Rocky Flats site](#) where they explain their involvement with Rocky Flats and the site's current status. Similarly, Colorado Department of Public Health and Environment maintains a [Rocky Flats web page](#). We encourage you to review these websites and the "5-Year Review" process. In each of these reviews, the remedy continues to be protective.

- **What examinations of Wildlife have taken place to conclude the wildlife are healthy? If these studies have taken place when were they last conducted and when are the next scheduled studies? What is the average body burdens of these contaminants? How often will wildlife be**

**studied and tested for contaminants? Who will conduct these tests? What will be the protocols if mutations show up in the wildlife or flora?**

There were extensive surveys of fish, wildlife, and plants conducted as a part of the remedy. Many of these are available or synopsized on the Department of Energy's webpage [here](#). We have also attached additional references specific to biological pathways to the end of this document.

- **What is your plan for Wildlife Refuge maintenance? Does this plan include BURNING vegetation? If so, will “burn box” vegetation radiological assaying be done, without washing it first (of course), so uptake and statically attracted particles will be intact?**

The question of “maintenance” is very broad. In general, the FWS maintains its lands and facilities to the best of its abilities. The majority of maintenance on our Front Range national wildlife refuges involves maintaining roads, trails, signs and fences. The remainder of the question is about burning vegetation.

- Cleanup of the former weapons facility is complete and the EPA and CDPHE have certified Refuge lands as available for unrestricted use (including prescribed fire). Due to the possibility of wildfire, extensive modeling was conducted as a part of the study and Record of Decision for the site. These models indicate two things: (1) there is no additional human health risk associated with the burning of vegetation on the site (specifically they modeled a fire in an area that was contaminated); and (2) spring fires are preferred to a fall fires, because vegetation will recover and reduce the risk of soil erosion.
  - Further, in 2000, the site conducted a 50-acre test burn (adjacent to the burn proposed in 2015) to evaluate prescribed burning. Following the burn, a portable wind tunnel was used to generate high winds and collect soil particles eroded from the burn. The results of this study showed that any airborne particulate matter was low below 40 mph of wind and that even after burning, the land was observed to retain many of the characteristics that limit wind erosion.
  - Contamination of the site occurred in manufacturing areas and as a result of wind-blown contamination of down-wind soils. Prescribed fire would occur in the “buffer zones” of the Refuge where any contamination is very low (below  $1 \times 10^{-6}$  residential risk).
- **What warning and disclosure will be posted to advise the public about the risk of contamination?**

The master plan for the Rocky Flats NWR states that the FWS will provide maps and interpretive signs at all trailheads to inform visitors about the site's history, cleanup, and access restrictions. Additional information can be found [here](#).

- **With all the ongoing budget cuts what is the bare bones budget FWS would need to keep this Wildlife Refuge operating safely to include all mandatory testing? If the budget drops below that limit would that call for automatic closure until the funds can support the refuge and keep the public safe? What events would close the refuge such as fire, floods what else?**

The EPA and CDPHE have decided that all of the lands that encompass the Rocky Flats NWR are safe for unrestricted use. There are no “mandatory testing” requirements for the FWS. The refuge manager may (at any time) close portions of the refuge. Such closures may be for emergencies (such as fires or floods) or for fish and wildlife conservation.

- **In light of all of the hazards associated with Rocky Flats I am wondering why is it necessary to build the potential 20 miles of trails through it? Or trails of any being that Colorado and Arvada**

**already has so much to offer in the form of trails and outdoor adventure. Is it really necessary to add even more to that?**

There are some individuals that disagree with construction of trails at the Rocky Flats NWR and there are others that desire these trails. Over many years, the FWS worked with the public and stakeholders to develop a master plan for the Rocky Flats NWR. This plan states that when funding becomes available, the FWS would construct trails and other amenities.

- **Isn't there a way we can keep the property as natural and untouched as possible while making use of the land? For example, is there a way to use the land to build an outdoor shooting range for the public as well as police training?**

Our goal is to fulfill the purposes of the Rocky Flats National Wildlife Refuge Act of 2001 which does mandate conservation of the unique natural resources found on the Refuge. The FWS believes that its plans strike the appropriate balance between conserving natural resources and providing visitors with opportunities for compatible wildlife-dependent recreation. The FWS does not believe a public shooting range is necessary to fulfill these purposes.

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