



DEPARTMENT OF
ECOLOGY
State of Washington

Summary Response to Public Comments

*Proposed Changes to Cleanup Action Plans
RAU 2A, Small Arms Ranges and
RAU 3, Central Impact Target Area*

Camp Bonneville Military Reservation - Clark County, WA

October 2017
Publication no. 17-09-068

Publication and Contact Information

This report is available on the Department of Ecology's website at <https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid:11670>

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Table of Contents

| | |
|--|----|
| Camp Bonneville Cleanup Site | 4 |
| Proposed Cleanup..... | 7 |
| Frequently Asked Questions..... | 8 |
| Comments and Responses | 10 |
| 1. Support for cleanup | 11 |
| 2. Future land use | 11 |
| 3. Institutional controls | 12 |
| 4. Public meeting request | 13 |
| 5. Cleanup funding..... | 14 |
| 6. Protectiveness of cleanup RAU 2A..... | 15 |
| 7. Protectiveness of cleanup RAU 3..... | 15 |
| Explanatory Figures | 19 |
| Ecology Contact Information..... | 21 |

Camp Bonneville Cleanup Site

Site Background and Cleanup Status

Background

The Camp Bonneville Military Reservation Site (Camp Bonneville) is approximately 4,000 acres in size. Over half of the Site is forested land (see Figures 1 and 2).

The Department of Defense (Army) owned and operated Camp Bonneville for firing range practice and training from 1910 to 1995. The camp was officially closed in 1995. Since then, investigations have been ongoing to characterize the contamination from the ammunitions and other hazardous



substances, clean up the Site, and to develop a plan for re-using the Site once cleanup is complete.

Contaminants identified at the Site include: unexploded ordnance, explosive compounds, lead, petroleum products, pesticides and volatile organic compounds in the soil, and perchlorate and explosive chemicals in the groundwater.

Cleanup Status

Several cleanup reports and documents guide cleanup activities at the Site, and those documents can be found on the Washington Department of Ecology's (Ecology) Camp Bonneville website: <https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=11670>

Cleanup activities at Camp Bonneville have been ongoing since 1995. For cleanup purposes, Camp Bonneville has been divided into five remedial action units (RAUs). These units are primarily grouped by the nature of the particular release, not by physical locations. Cleanup status at each of the RAUs is described below.

| Unit | Nature of Contamination | Current Status of Cleanup |
|-------|---|---|
| RAU 1 | Various locations throughout the site with releases of hazardous toxic waste. | RAU 1 covered 20 small "conventional" chemical contamination sites. Sites underwent confirmational sampling of the Army's cleanup efforts and closeout. No further action issued on January 2008. |

| | | |
|---------------|--|--|
| RAU 2A | The small arms ranges where military munitions were used. | RAU 2A has undergone cleanup of 21 small arms ranges, including removal of 678 tons of lead-contaminated soil. Excavation of this area is complete, with the exception of portions of Ranges RAU 2A-16 and 21. Cleanup Action Plan was amended 2017 to complete cleanup at ranges RAU 2A-16 and 21. Cleanup is currently in progress. |
| RAU 2B | Demolition Areas 2 and 3 where military munitions were disposed. | RAU 2B covered Demolition Areas 2 and 3. These demolition areas were both a potential munitions and chemical contamination concern. Cleanup and confirmational sampling have been completed. No further action was issued on March 2009. |
| RAU 2C | Demolition Area 1 and Landfill 4 where military munitions and solid waste were disposed. | <p>Landfill 4 was excavated and most contaminated soils and munitions removed. Residual contaminated soil remains in place. Groundwater investigations and monitoring continues. RI/FS expected within the next 24 months.</p> <p>Surface water and groundwater monitoring at Landfill 4 and site-wide continues to ensure that all potential sources of contamination are identified and characterized and that public drinking wells and surface water are not harmed.</p> |

| | | |
|---------------------|---|--|
| <p>RAU 3</p> | <p>Addresses all munitions, unexploded ordnance, and munitions fragments throughout the site.</p> | <p>Extensive munitions cleanup has occurred within RAU 3 (see https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2216 for additional detail). Cleanup of RAU 3 has been divided into four phases:</p> <ul style="list-style-type: none"> • Phase 1: Munitions of explosive concern (MEC) sub-surface clearance to a depth of 14 inches on the Central Valley Floor, associated wetlands and Environmental Study Area. Completed 2017. • Phase 2: MEC surface clearance of Demolition Areas 1 and 2. Completed 2017. • Phase 3: Removal of fifteen (15) hard targets from the Central Impact Target Area (CITA) and firing points is completed. <p>CAP amended October 2017 after public review to include surface-only MEC removal of 100 acres with regular inspections of the cleared area within the CITA in perpetuity. This is underway.</p> <ul style="list-style-type: none"> • Phase 4: MEC surface clearance of the Western Slopes Area. Not started. |
|---------------------|---|--|

What's next?

Cleanup work at Camp Bonneville will continue at several sites. In the next two years, activities are expected to include:

- Cleanup work at RAU 2A (Small Arms Ranges), within the CITA (RAU 3, Phase 3) and the Western Slopes (RAU 3, Phase 4).
- A Remedial Investigation and Feasibility Study to inform the cleanup at RAU 2C.
- Continued monitoring activities throughout the site to ensure the protectiveness of the cleanups conducted.

Proposed Cleanup

Cleanup actions at the site are guided by the 2012 Amended Prospective Purchase Consent Decree including cleanup action plans for RAU 2A and RAU 3. The public was invited to provide comments on proposed changes to Cleanup Action Plans (CAP) for two RAUs at the Camp Bonneville site: RAU 2A (Small Arms Ranges) and RAU 3 (Site-wide Munitions) (see Figure 3). The proposed changes to the RAU 2A CAP and RAU 3 CAP include the following:

RAU 2A Small Arms Ranges, areas 16 and 21

Excavation and removal of soil is complete at the small arms ranges as described in the Final RAU 2A CAP; however, confirmation sampling and visual observations in RAU 2A show:

- Lead-impacted fill soil remains at the “1,000-inch Rifle Range and Machine Gun Range,” a 1.8-acre area designated as RAU 2A-16 that was constructed over lead-impacted fill soil.
- Lead slugs remain at the heavily wooded overshoot area adjacent to the Field Fire Ranges No. 1 and No. 2, a 6.2-acre area designated as RAU 2A-21.

Proposed changes to the RAU 2A CAP include partial excavation and/or covering the lead-contaminated soil with a geotextile fabric and one foot of clean soil, depending on results from lead leachability tests. These tests determine the likelihood of lead contamination washing or draining from the soil into ground or surface water.

RAU 3 Central Impact Target Area (CITA)

The proposed change to the RAU 3 CAP is within the area called the CITA. Proposed changes to this CAP generally include:

- Surface-only MEC removal of 100 acres within the artillery practice areas and surrounding borders. This changes cleanup from the removal of subsurface MEC to a depth of 14 inches over 10 acres.
- Regular inspection of the cleared area for munitions that could potentially surface due to severe rain storms or deep winter frost.

Introduction to Summary Response

Proposed changes to the Cleanup Action Plan for RAU 2A and RAU 3 were issued for public comment on August 16, 2017 and the public comment period ran through September 18, 2017. During the public comment period, Ecology provided the following public involvement materials and opportunities:

1. Distributed a fact sheet describing the Site and the documents through a mailing to addresses in the area and other interested parties.
2. Published a paid legal ad in Oregonian, Columbian and the Reflector newspaper.
3. Published a notice in the Toxics Cleanup Program Site Register.
4. Posted draft documents on the Ecology website.
5. Provided copies of the documents through information repositories at:
 - WSU Vancouver Reading Room
 - Ecology's Headquarters Office

This Summary Response to Public Comment provides information about the Camp Bonneville site and responds to public comments received during the public comment period. Ecology has reviewed and carefully considered all comments received on the draft documents, and determined that no significant changes to the documents issued for public review were needed.

Camp Bonneville Cleanup Site

Frequently Asked Questions

This section answers some of the common questions heard about the site. Written comments received during the comment period are recorded and responded to beginning on page 9.

Who is responsible for cleanup?

Ecology maintains overall responsibility and approval authority for the activities outlined in the Amended Proposed Purchaser Consent Decree. Clark County is responsible for cleanup at the Camp Bonneville site. Ecology will oversee all future cleanup activities conducted by the county and their contractors to ensure that contamination on the Site is cleaned up to standards that protect human health and the environment, as established in state regulations.

Who pays for cleanup?

For the Camp Bonneville site, the Army provides funding directly to Clark County to support cleanup activities. Clark County manages the funds and reimburses Ecology staff time as appropriate. To date, the Army has provided funds for all cleanup activities conducted at the site.

When will cleanup take place?

Cleanup activities at the Camp Bonneville site have been ongoing since the Camp closed in 1995. Cleanup in some areas has been completed, and additional cleanup work is planned in several locations. For more information on future cleanup work, visit Ecology's website at <https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=11670>

How does the cleanup protect against harm to people or the environment?

The cleanup supervised by Ecology is intended to clear contaminants from areas that have been identified for possible future public use. Areas that cannot be cleaned to a safe level (such as the Central Impact Target Area, Phase 3) will be permanently fenced and access restricted with regular monitoring and removal of munitions that may emerge to the surface.

Are there logging activities at the Camp Bonneville site?

The Washington Department of Natural Resources (DNR) owns property near the Camp Bonneville site. This land is used as a quarry, and is separate from the Camp Bonneville cleanup site. Logging activities on DNR lands do not impact or affect the cleanup of the site. There are no plans for DNR to transport any timber through Camp Bonneville. Ecology does not have authority over these operations. For more information on DNR activities please contact DNR or Clark County representatives at (360) 566-6992.

Comments and Responses

The comments received were reviewed and evaluated by the Ecology cleanup team. Comments were categorized into seven areas for response, though many comments touched on aspects of more than one comment category. The comment categories include:

1. Support for cleanup

Comments in support of the cleanup at the Camp Bonneville site.

2. Future land use

Comments about the future uses for the Camp Bonneville site after cleanup is complete.

3. Institutional controls

Comments about how the public will be protected from exposure to contaminants at the site.

4. Public meeting request

Comments requesting a public meeting.

5. Cleanup funding

Comments about who is responsible for paying for cleanup.

6. Protectiveness of cleanup RAU-3

Comments about how the cleanup at RAU-3 protects human health and the environment.

7. Protectiveness of cleanup RAU-2A

Comments about how the cleanup at RAU-2A protects human health and the environment.

A total of 11 persons provided comments regarding the draft documents. In the comment table, each commenter is referenced by an assigned commenter number.

List of Commenters:

- Alicia Baird, Commenter 9
- Rachel Fleming, Commenter 3
- Elizabeth Hoffman-Hicks, Commenter 10
- Steven Hokett, Commenter 6
- Allan Jeska, Commenter 5
- Mark Meredith, Commenter 2
- Karen Pickering, Commenter 11
- Andrew Sarkkinen, Commenter 4
- Gregory Shaw, Commenter 13 (phone call to request public meeting)
- John Spencer, Commenter 7
- Kirk & Jodi VanGelder, Commenter 8

1. Support for cleanup

Responses included an acknowledgement of Ecology’s work to ensure the cleanup is conducted at the site.

| Comment | Ecology’s Response |
|--|---|
| <p>1.1 Yeah, clean the [site] up [Commenter 4]</p> | <p>Thank you for your comments. We are working with Clark County to assure that the site cleanup is conducted according to the standards and requirements in the cleanup plan and consent decree.</p> |

2. Future land use

Responses included in this category relate to comments about the future use of the Site after cleanup is complete.

| Comment | Ecology’s Response |
|---|--|
| <p>2.1 Hello, I favor opening the Bonneville Reservation to park usage as promptly as possible. I have had a long history of working on the site during its military use era. I was the Committee Coordinator for the 104th Division Training for several years and oversaw the various committees that trained our assorted military forces there. Then as a 6th grade teacher in the Vancouver School District, I took my 6th graders out there for a week of Outdoor Schooling each year. We roamed the woods, learned about the beauty of its parklike nature, and yes, we found munitions, but safely turned them in without any incident. Again common sense made sure that we enjoyed the training facility and its parklike nature. I advise you to open Bonneville to use by all and fence off the</p> | <p>As the property owner, Clark County is responsible for determining how the land is used in the future and will involve the public in discussion of possible park uses. There was an extensive public process in the late 1990s to develop a concept plan showing intended park uses. This concept plan helped determine an appropriate cleanup action plan at the site. Any future land use decisions will be consistent with the cleanup. Please see Clark County webpage for more information https://www.clark.wa.gov/public-works/camp-bonneville.</p> <p>The cleanup supervised by Ecology is intended to clear areas identified within the reuse plan for safe public use. Areas that cannot be cleaned to a safe level (such as the Central Impact Target Area, Phase 3) will be permanently fenced to</p> |

| Comment | Ecology's Response |
|--|--|
| impact areas that will never be fully demilitarized. [Commenter 5] | restrict access and require regular monitoring and removal of munitions that may emerge to the surface. For more information see response 7.1. |
| 2.2 Has Clark County released any timelines or plans regarding what will be done with the land once "clean-up" has been completed? Does Phase 3 remain as an area that will never be open for public use? Is the county/state considering other uses for this area or any other areas of Camp Bonneville other than fallow lands or public recreation? [Commenter 9] | See response to comment 2.1 |
| 2.3 Please consider establishing a national cemetery in part of Camp Bonneville. As a Washington retired U.S. Army veteran, it would be a great comfort knowing that I could stay in my state even after I'm gone. Thank you for considering and, hopefully, implementing this request. [Commenter 6] | See response to comment 2.1 |

3. Institutional controls

Responses included in this category relate to comments about the use of institutional controls at the Site.

| Comment | Ecology's Response |
|--|---|
| 3.1 Is it cost efficient to have the areas continually reviewed and potentially cleared annually and after heavy rainfalls in perpetuity versus the in depth clean-up initially proposed?" [Commenter 9] | <p>Any cleanup action for the Central Impact Target Area (CITA) will include requirements for long-term institutional controls for the property. This is due to the nature of the contaminant and how extensively the CITA area was used.</p> <p>Nearly all of the ordnance in the area is located either deep within the ground (deeper than 14") or on the surface. Potential exposure of a trespasser with munitions within the access-controlled CITA area is likely to be with a surface-located munition. Therefore, the purpose of expanding the clearance area from 10 acres to</p> |

| Comment | Ecology's Response |
|---------|--|
| | <p>100 acres in the CITA is to increase the protectiveness of the cleanup. Surface clearance is a more cost-effective method in this case, and will be more effective in reducing the risk of potential trespassers encountering unexploded ordnance.</p> <p>The regular cleanup monitoring inspections at the CITA are precautionary, and required regardless of size of cleanup area. These inspections will include removal of munitions that may emerge at the surface due to seasonal weathering or erosion including from frost heaves. The remoteness and inaccessibility of the area will help to limit access as will the fencing and warnings posted around the CITA property.</p> |

4. Public meeting request

Responses included in this category relate to requests for a public meeting at the site.

| Comment | Ecology's Response |
|---|--|
| <p>4.1 We request a public meeting regarding this Camp Bonneville proposal. That is the only effective way to hear comments, address them, and discuss the proposals. [Commenter 8]</p> | <p>Thank you for your request. We are required to hold a public meeting if 10 or more requests are received during the comment period. A public meeting was not scheduled since fewer than 10 requests were received during this comment period. Knowing and responding to your comments and questions are important to us. We have reviewed and considered all comments received during the comment period and are responding to your questions and concerns through this response to comments. While a public meeting was not held during this comment period, you are welcome to contact us at any time with questions or concerns that you have about the cleanup at the Camp Bonneville site.</p> |
| <p>4.2 I have a few questions regarding the ongoing clean-up of Camp Bonneville. I</p> | <p>See response to comment 4.1</p> |

| Comment | Ecology's Response |
|--|------------------------------------|
| <p>would be happy to discuss these with you via e-mail or would like to request a public meeting as I'm sure that others have these same questions. If you are able to answer my questions let me know. Otherwise, hopefully a public meeting can be set up. [Commenter 9]</p> | |
| <p>4.3 I'd like a public meeting, please, to discuss the proposed changes to the bonnevillie clean up plan and how it could impact our neighborhood. [Commenter 10]</p> | <p>See response to comment 4.1</p> |
| <p>4.4 I would like to request a public meeting to discuss Camp Bonneville and the planned cleanup action and proposed changes. [Commenter 11]</p> | <p>See response to comment 4.1</p> |
| <p>4.5 I want to go on record there should be a public meeting because there is a large amount of interest about this project. [Commenter 13]</p> | <p>See response to comment 4.1</p> |

5. Cleanup funding

Responses included in this category relate to comments about who is responsible for paying for cleanup activities.

| Comment | Ecology's Response |
|--|---|
| <p>5.1 Has the Dept, of Ecology received any funds to date from the federal government for the clean up of these two phases? [Commenter 9]</p> | <p>The cleanup is being paid by the U.S. Army. Funding for cleanup is provided directly to Clark County. Clark County manages the funds and reimburses Ecology staff time as well. To date, the Army has provided funds for all cleanup activities conducted at the site and is responsible for paying the full cost of the cleanup at Camp Bonneville. Funding for cleanup is described in the Environmental Services Cooperative Agreement (ESCA) between the Army and Clark County. The ESCA commits the U.S. government to pay for cleanup (as defined in the</p> |

| Comment | Ecology's Response |
|---------|--|
| | site CAPs) of contamination at the site. Ecology and Clark County have not contributed any significant funding to the cleanup. |

6. Protectiveness of cleanup RAU 2A

Responses included in this category relate to comments about how the cleanup at RAU 2A will be protective of human health and the environment.

| Comment | Ecology's Response |
|--|--|
| 6.1 In short, as a nearby resident just downstream on Lacamas Creek, we are concerned about leaving lead in the ground RAU 2 that will leach out. We also don't believe that just covering it up for the time being is a good option. [Commenter 8] | The soil has been tested for lead leachability by an EPA approved process and was found to be in compliance with State and Federal standards. If you have any further concerns or questions about this please call the Clark County staff representatives for Camp Bonneville cleanup at (360) 566-6992. |

7. Protectiveness of cleanup RAU 3

Responses included in this category relate to comments about how the cleanup at RAU 3 will be protective of human health and the environment.

| Comment | Ecology's Response |
|---|---|
| 7.1 Good day. Thank you for reading and considering my comments concerning the MEC cleanup at Camp Bonneville. Since this project started, my wife and I have had a concern about insufficient cleanup. The possible injuries from MEC and county liabilities has us skeptical of the current proposed changes to the cleanup tasks. Specifically, the change in cleanup actions pertaining to the 10 acres in the 2010 RAU 3 CAP. In our opinion, the cleanup depth should remain at 14" (depth of frost) and NOT be amended to surface only. In addition, we suggest that | Considering past military operations of this property and its rugged terrain and on the ground cleanup experience since the implementation of the CAP, it is not possible to assure full removal of munitions from the CITA. Nearly all of the ordnance in the area is located either deep within the ground (deeper than 14") or on the surface. Potential exposure of a trespasser with munitions within the access-controlled CITA area is likely to be with a surface-located munition. Therefore, the purpose of the expanding the clearance area from 10 acres to 100 acres in the CITA was to increase the protectiveness of the cleanup. This is a more effective cleanup and provides a better |

| Comment | Ecology's Response |
|---|---|
| <p>the area be expanded to include, AT MINIMUM, surface cleanup of the additional 90 acres mentioned in the proposed amended cleanup action plan with yearly inspections to follow. Knowing some of the history of this site, it is our belief that every reasonable precaution should be taken to reduce the risk of future injury from MEC and resulting liability problems for the county. [Commenter 2]</p> | <p>way to reduce the risk of potential trespassers encountering unexploded ordnance.</p> <p>The regular cleanup monitoring inspections at the CITA are precautionary and are a standard requirement. The amended cleanup action increases the area that will receive regular monitoring and removal of munitions by 10-fold. These inspections will include removal of munitions that may have appeared at the surface due to seasonal weathering or erosion.</p> <p>Public access to the Central Impact Target Area (CITA) will never be allowed. The CITA will be permanently restricted with perimeter fencing and warning signs posted every 50 feet. Visitors entering the Camp Bonneville property will also receive educational information alerting them to the danger and restrictions within the Camp. The remoteness and inaccessibility of the CITA will prevent access as will the fencing and warnings posted around the property. These fenced areas will be off limits to any activities, including those that would disturb the soil. Though the CITA is remote and highly restricted to access, surface monitoring inspections are intended to prevent potential encounters of unexploded ordnance at the soil surface by trespassers.</p> <p>Any potential contact with unexploded ordnance will be on the surface and therefore expanding the surface clearance to 100 acres with regular inspections will be more effective in reducing exposure to any potential trespasser. For additional information also refer to comment topic, "Cleanup Funding".</p> |
| <p>7.2 Cleanup of the 100 acre RAU 3 Central Impact Target Area (CITA) should be to a depth of 14". As the surrounding area</p> | <p>See response to comment 7.2</p> |

| Comment | Ecology's Response |
|--|------------------------------------|
| <p>is developed, the CITA will become more of an attractive nuisance. Children are likely to gain entry to the area despite fences and warning signs. [<i>Commenter 7</i>]</p> | |
| <p>7.3 We also don't believe that surface cleaning of RAU 3 is adequate, or a good idea. Even though it is fenced off, people will still breach that and be put in danger. If people are going to be using Camp Bonneville as a park, it needs to be made safe. That said, removing vegetation and trees to excavate for MEC can lead to downstream flooding of nearby properties if too large of area is excavated at a time. So this needs to be done in small sections over several years. [<i>Commenter 8</i>]</p> | <p>See response to comment 7.2</p> |
| <p>7.4 I believe the public should not be able to use any of the sites where munitions have been used. Isn't this a Superfund site? Why after 16 years is the clean up process being hurried along? Shouldn't this be a process that is as thorough as possible? I know for a fact that this place cannot be swept and deemed clear 100%. How do we know that targets were not undershot and there are bigger UXOs in places that are not going to be thoroughly swept with this new proposal? What if after a rainstorm, which we have a lot of, a piece of ordnance percolates to the surfaces and a child or adult decides to see what this item is and hurts themselves either fatally or seriously? I think it would be great to turn the barracks into a museum or visitors center with a day recreation</p> | <p>See response to comment 7.2</p> |

| Comment | Ecology's Response |
|---|--------------------|
| area, but I do not believe it is safe nor worth opening the rest of the camp to the public. The risk outweighs the reward. [Commenter 3] | |

Explanatory Figures

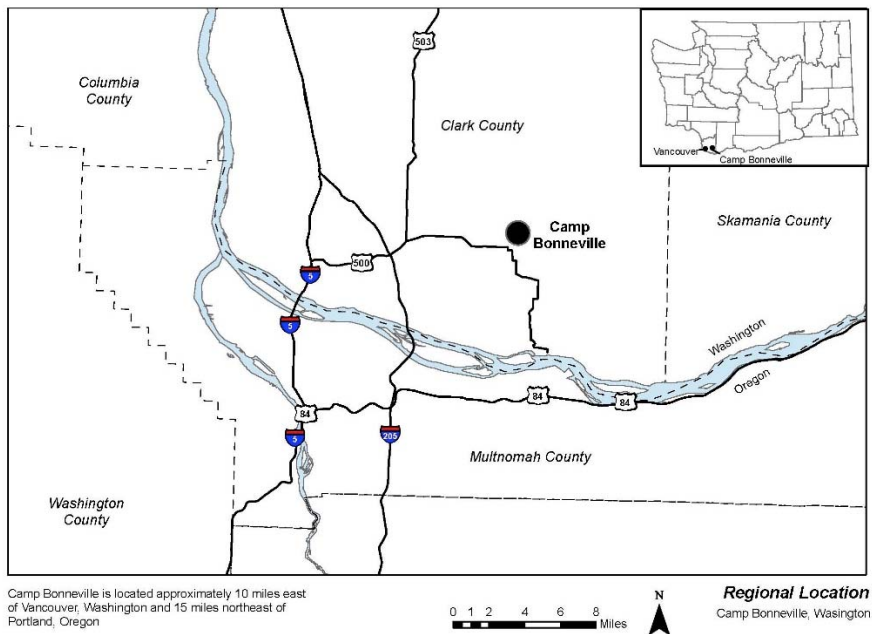


Figure 1. Location of Camp Bonneville Military Reservation Site.

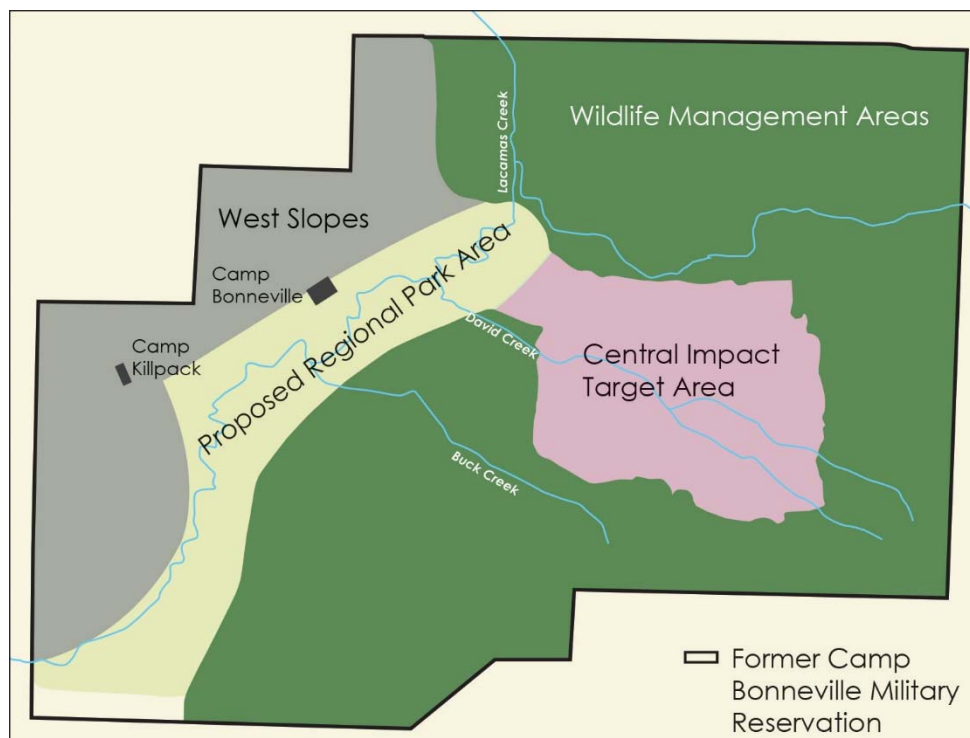


Figure 2. Camp Bonneville Site map.

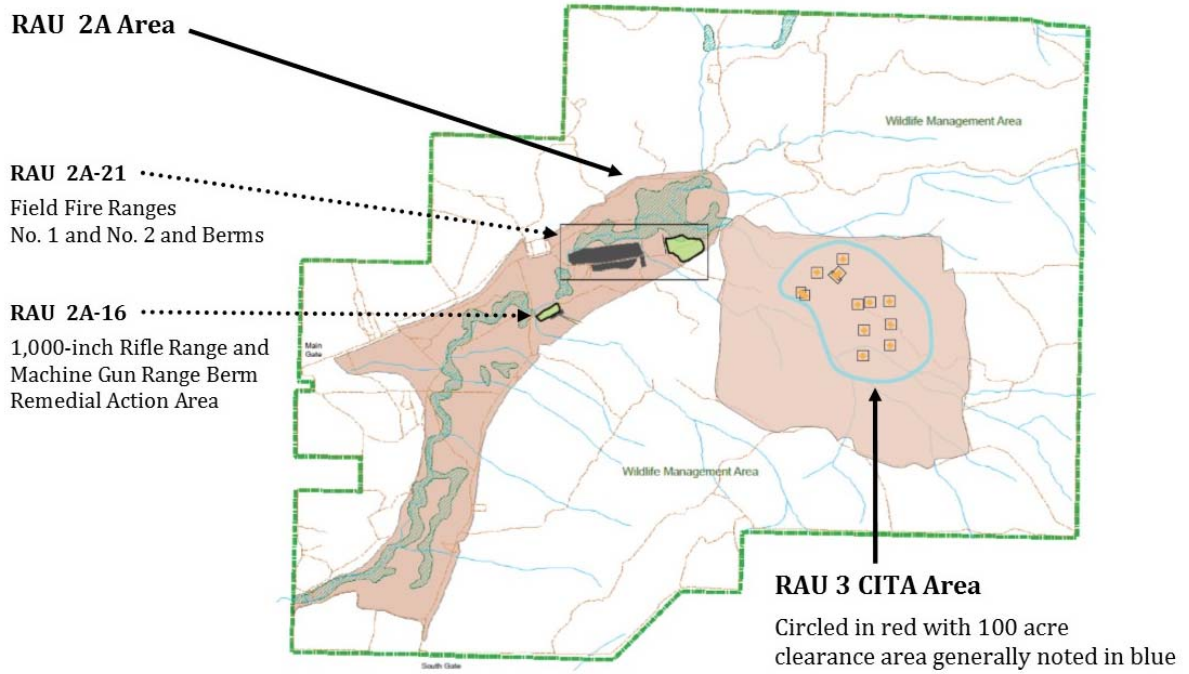


Figure 3. Location of cleanup areas RAU 2A and RAU 3.

Ecology Contact Information

For more information on the Camp Bonneville Site, contact:

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Ecology's Website

<https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=11670>