



United States Department of the Interior
Redwood National Park
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Date: October 17, 2014

To: Regional Director, Pacific West Region

From: Superintendent, Redwood National Park *S.P. 10-17-2014*

Through: Stephen J. Mitchell, PE, NPS/PWR/FM, Operations/Environmental Program Lead

Subject: Engineering Evaluation & Cost Analysis Approval Memorandum
Alder Camp Road Firing Range at Redwood National Park

PURPOSE

This memorandum recommends and documents the decision of the National Park Service (NPS) to conduct an Engineering Evaluation/Cost Analysis (EE/CA) pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. §§ 9601 *et seq.*, for the impacted area at the Alder Camp Road Firing Range (Site) at Redwood National Park (REDW), California. The NPS is the CERCLA lead agency with authority to respond to the release or threatened release of hazardous substances at or from the Site. This Memorandum was prepared in accordance with CERCLA, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. Part 300, and the U.S. Environmental Protection Agency's (EPA) *Guidance on Conducting Non-Time-Critical Removal Actions Under CERCLA*, OSWER Publication 9360.0-32 (August 1993).

BACKGROUND

Redwood National and State Parks is a four-park system in Northern California, managed jointly by the NPS and the California Department of Parks and Recreation. The Site is located within the Redwood National Park established in 1968. The Site is located approximately 19 miles north of the town of Orick, off of Highway 101. The Site is located in an area of second growth forest. Access to the Site is via an unimproved road located off of Alder Camp Road. The road is closed to the general public and can only be accessed with NPS personnel escort. The NPS still uses the Site as a firing range and does not intend to open the area to public access.

The dirt entrance road is approximately 0.1-mile and terminates at the firing range. The range is approximately 20 yards by 75 yards and comprises a cleared space within an area of dense second growth forest. The range is a flat grassy area surrounded by alder, herbaceous plants, sword fern, salmonberry and other shrubs. The firing range within the Site, used since at least 1978, consisted of a line of 12 targets located at the northern end of the Site.

The Site was acquired in 1978 and was already an established firing range, according to NPS personnel. Approximately 10 NPS park rangers were using the Site twice per year for permit qualifying. The Site was also occasionally used as a firing range by personnel from State Parks, Bureau of Land Management (BLM) and the tribal police. Lead-based bullets were used until approximately 2008, at which time NPS personnel switched to green bullets.

No removal actions have occurred at the Site. Versar, Inc. (Versar) conducted a Site reconnaissance with NPS personnel on September 30, 2010. Versar subsequently conducted a Preliminary Assessment (PA) of the Site and the PA Report was issued March 1, 2011. This PA addressed the potential environmental pathways and environmental hazards, including the exposure pathways of groundwater, surface water, soil, and air. The PA also included an EPA hazard ranking system scoring package for the Site. The score for the Site was 6.3, well below the threshold of 28.5 that is required for listing on EPA's National Priority List.

Groundwater beneath the site is fairly shallow, based on groundwater data from surrounding properties, and ranges from approximately three to ten feet below ground surface. Groundwater is not used for drinking water purposes in the Site area and there are no municipal or private drinking wells within four miles of the Site.

There are three major bodies of surface water within 15 miles of the Site; Richardson Creek, Klamath River and the Pacific Ocean. Richardson Creek and Klamath River provide drinking water for surrounding communities (more than two miles away). Richardson Creek is located approximately 0.25-mile to the east of the Site and drains easterly to the Klamath River. The Pacific Ocean is located approximately 0.25-mile to the west of the Site. The Klamath River is located approximately one mile north of the Site and 1.5 miles east of the Site. The Site is not within a 100-year or 500-year floodplain.

There is no barrier behind the targets to catch stray bullets; therefore, bullets are likely present in the soil behind and near the target line. Bullet casings were observed sporadically on the soil surface at the Site during the PA. A release of lead to the soil is likely due to use of lead bullets for over three decades. The extent to which lead or other heavy metals associated with firing range activities may have migrated within the soil and potentially to underlying groundwater, has not yet been determined. Human exposure to this area is limited because visitors are not allowed access. There is no plan to open the area to the public.

The PA included a list of 10 endangered or threatened species that are known to be present within the REDW; however, NPS personnel stated that none of these species are known to present in the Site.

USE OF REMOVAL ACTION AUTHORITY

Pursuant to Sections 104(a)(1) and (b)(1) of CERCLA, 42 U.S.C. §§ 9604(a)(1) and (b)(1), whenever there is a release or substantial threat of a release of a hazardous substance into the environment, the President is authorized to act, consistent with the National Contingency Plan (NCP), to remove or arrange for the removal of such hazardous substance or take any other response action, including appropriate investigations, deemed necessary to protect public health or welfare or the environment. Section 104(a) and (b) is the authority under which non-time critical removal actions [NTCRA] are performed. This response authority has been delegated to the Secretary of the Department of the Interior (DOI) pursuant to Executive Order 12580, 52 Fed. Reg. 2923 (1987), and further delegated to the NPS by DOI Departmental Manual Part 207, Chapter 7, with respect to property under the jurisdiction, custody, or control of the NPS. Therefore, the NPS has the authority to perform a NTCRA at the Site that is the subject of this Memorandum,

Section 300.415(b)(2) of the NCP establishes the criteria for determining the appropriateness of a removal action. The following are applicable criteria that support the determination to consider a removal action at the Site:

- i. Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;
- ii. Actual or potential contamination of drinking water supplies or sensitive ecosystems;
- iii. High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate; and
- iv. Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.

The PA conclusions state that a release of lead to the soil is likely due to use of lead bullets for over three decades. The extent of contamination is unknown, which represents a gap in Site characterization. Soil sampling has not yet occurred at the Site, but it is one of the initial activities that would be conducted in an EE/CA.

Units of the National Park System are considered sensitive ecosystems. See, e.g., National Park Service Organic Act, 16 U.S.C. § 1 (National Park System units shall be managed "to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.").

The PA indicates that shallow groundwater beneath the Site is unlikely to be impacted by the firing range, as lead is relatively immobile in soil. Surface water targets are not in close proximity to the Site and therefore, do not present a migratory pathway to these resources. Restrictive air flow due to the forested terrain between the source and potential targets make it unlikely that an airborne pathway exists. However, if soils were to be excavated in the future or if Site access restrictors were modified, a potential for exposure to lead and potentially other heavy metals could exist. The quantity of hazardous substances at the Site should be estimated.

The purpose of an EE/CA is to determine the nature and extent of contamination, assess potential risks posed to human and ecological receptors from exposure to such contamination, identify and evaluate removal action alternatives to address unacceptable risk, and identify a recommended removal action alternative that best meets the end state objectives for the Site.

The NPS has determined that the use of removal action authority at REDW to investigate, abate, prevent, minimize, stabilize, mitigate, and/or eliminate the release or threat of release of hazardous substances at or from the Site is appropriate. Additionally, the NPS has determined that a planning period of at least six months exists before on-site activities must be initiated. Therefore, the NPS is authorized to conduct an EE/CA (or its equivalent) pursuant to and in accordance with Section 300.415(b)(4) of the NCP.

EE/CA IMPLEMENTATION AND FUNDING

The NPS has received funding from the DOI Central Hazardous Materials Fund (CHF) to implement the Site EE/CA. Upon approval of the recommendation, the Site EE/CA will be implemented.

APPROVAL

Based upon the information and analysis presented in this memorandum, please indicate your concurrence on non-concurrence with the recommendation to perform an EE/CA as part of a NTCRA at the lead contaminated site identified herein and located within REDW. If you have any questions, please contact Steve Mitchell at (415) 623-2286.

I Concur



Date:

11/6/14

Christine S. Lehnertz, Regional Director
National Park Service, Pacific West Region

I Do Not Concur

Date:

