

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Redlands Shooting Park - Removal Polrep
Initial and Final Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IX

Subject: POLREP #1
First and Final POLREP on Redlands Shooting Park BMP Installation and Lead Removal
Redlands Shooting Park
09XT
Redlands, CA
Latitude: 34.0874840 Longitude: -117.1860650

To:
From: Robert Wise, OSC
Date: 9/5/2013
Reporting Period: January 1, 2012- August 28, 2013

1. Introduction

1.1 Background

Site Number:	09XT	Contract Number:	Not Applicable
D.O. Number:	Not Applicable	Action Memo Date:	
Response Authority:	CERCLA	Response Type:	Emergency
Response Lead:	PRP	Incident Category:	Removal Action
NPL Status:	Non NPL	Operable Unit:	Not Applicable
Mobilization Date:	3/16/2012	Start Date:	3/16/2012
Demob Date:	8/28/2013	Completion Date:	8/28/2013
CERCLIS ID:	CAN000908348	RCRIS ID:	Not Applicable
ERNS No.:	Not Applicable	State Notification:	Not Applicable
FPN#:	Not Applicable	Reimbursable Account #:	Not Applicable

1.1.1 Incident Category

PRP Removal Assessment and Removal Action for lead contaminated soil within an Endangered Species Act (ESA) Preserve.

1.1.2 Site Description

The Redlands Shooting Park (RSP) has been in operation since the mid-1960s. The range consist of nine Trap, four Skeet and 10 Sporting Clay ranges. Since the range was set up, the lead shotgun pellets over shot from the RSP traveled over the berm for the Santa Ana River (River) and accumulated in the River. The lead shot has impacted a portion of a 42 acre area in the River, adjacent to and downstream of the RSP facility. This portion of the River is part of the Santa Ana River Woolly Star Preserve (Preserve). The Preserve is the home of the Santa Ana River Woolly Star (*Eriastrum densifolium* subsp. *Sanctorum*) (a flowering plant) and the San Bernardino Kangaroo Rat (*Dipodomys merriami parvus*) (SBKR). Both the Woolly Star and the SBKR are listed as Endangered Species pursuant to the ESA. The River consists of a series of sand alluvial benches and cobble/boulder stream beds. The water flow is intermittent and is directly controlled by the 7 Oaks Dam upstream. The lead shot had built up on both the sand benches and in the stream bed beneath the cobble and boulders.

1.1.2.1 Location

The RSP is located at 2125 N. Orange Street, Redlands, San Bernardino Co., CA 92374 (Latitude: 34.0874840, Longitude: -117.1860650). The Site extends into the Santa Ana River (River) and areas of the 746 acre Preserve within the River. The RSP and the River are separated by a levee. The Site is surrounded by a gun smith business and a residential development to the south the River to the north, Orange Street to the east and Interstate 210 to the west.

1.1.2.2 Description of Threat

Lead from the range activities have left the active range and deposited into the Santa Ana River. Data has indicated that elemental lead in the form of shot is in percentage level concentration in the River. That portion of the River is part of the Preserve. The Site is not secure and is readily accessible by members of the public. There is also an intermittent homeless population that lives under the Orange Street Bridge. The River bed is also a popular off-road vehicle riding areas, with tracks appearing even in the critical habitat

areas.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

The lead contamination in the River was identified by the California Department of Fish and Wildlife (CDFW) when the game warden observed a company retained by RSP conducting lead salvage operations in the River and Preserve in the fall of 2010. CDFW stopped the salvage operation and notified the other natural resource trustees for the Preserve which include: the U.S. Army Corp of Engineers (USACE); U.S. Fish and Wildlife Service (USFWS); San Bernardino County Public Works (SBCoPW); Riverside Co. Flood Control (RCofC) and Orange County Flood Control (OCofC). This led to a USFWS Criminal Investigations Division (CID) conducting an investigation into the destruction of habitat in the Preserve. Upon identifying the lead shot in the Preserve, the USFWS CID contacted Environmental Protection Agency (EPA) CID for assistance due to potential hazardous waste issues.

In July 2011, EPA CID referred the Site to the Emergency Response Section (ERS) for a CERCLA Removal Assessment. ERS met with the San Bernardino County Fire Department (SBCoFD) and the California Department of Toxic Substance Control (DTSC) to conduct a joint removal assessment. Large areas of the River bed adjacent to the RSP had visual surficial gross lead shot contamination. This included areas both inside and outside the Preserve within the River bed. The EPA Superfund Technical Assessment and Response Team contractor (START) collected surface soil samples along portions of the River with surficial lead shot. These samples were not sieved (shot and fines in sediment) and contained large quantities of lead shot to document the total lead contamination in the River and Preserve. The START also sampled the area in the River where the recycling took place, concentrating on areas containing the fines from previous lead shot filtering operations conducted by the recycler. These areas are within the Preserve itself. Elevated lead, antimony and arsenic concentrations from lead shot were detected in soil samples, indicating the need for further assessment for the purpose of determining future actions at the Site by delineating the lateral and vertical extent of lead, arsenic and antimony concentrations in soil in the areas adjacent to and down gradient of the Site.

Arsenic and antimony are inherent to the lead shot and are commonly added as hardening agents. At the request of the USFWS Contaminants Biologist, poly aromatic hydrocarbons (PAHs) were added as a target analyte. Clay pigeons contain PAHs as part of the manufacturing process. Sampling data indicates the presence of PAHs in the clay pigeon fragments found throughout the Site in low concentrations. After assessing the Site, the SBCoFD formally referred the Site to EPA for potential removal activities.

RSP originally retained a contractor pursuant to the CERCLA General Notice Letter (CGNL), but that contractor was terminated after they could not prove compliance with Title 29 Code of Federal Regulations, Part 1910.120: HAZWOPER. Subsequently, the Bear Valley Mutual Water Company (BVMWC), the land owner, at the direction of and under oversight by EPA retained a contractor to assess the impacted areas of the River. Their samples were sieved to remove the lead shot in accordance with EPA protocols. The assessment indicated that once the lead shot was removed, the fines fraction of the lead in the sediment was minimal. The total lead concentrations in soil samples from the Site are as high as 203,000 mg/kg for lead shot (unsieved) and 94.1 mg/kg for lead (sieved) in the sediment fines which exceed ecological soil screening levels for lead developed by EPA for assessing risks to small mammals, avian wildlife, plants and soil invertebrates. EPA requested USFWS conduct an eco-risk assessment specific to the Woolly Star and the SBKR. The eco-risk assessment was conducted in mid 2013 and subsequently documented minimal risk to the species due to the exposure to the lead pellets.

Starting in 2013, the RSP owners observed a high level of illegal lead scavenging in the River and Preserve. This scavenging has removed the majority of the surface lead based on observations by OSC Robert Wise on August 19, 2013.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

The PRPs have conducted a removal assessment of the affected area of the Preserve and installed a shot curtain as a BMP to prevent further migration of lead into the site. The lead contamination in the River and Preserve have been mostly mitigated due to illegal salvage operations. The removal action which consisted of the installation of the shot curtain BMP began on approximately March 1, 2012 and was completed in mid-August 2013. The removal action was completed and EPA demobilized on August 28, 2013.

2.1.2 Response Actions to Date

On January 29, 2012, EPA met with the natural resource trustees and agency stakeholders to discuss the BMPs to prevent the lead shot from entering the River and the results of the removal assessment. The RSP has proposed the installation of a shot curtain as the BMP to prevent lead from entering the River/Preserve. The trustees and stakeholders agreed to this BMP as the best solution to the problem. On March 16, 2012, RSP began the installation of the shot curtain, but it was halted after the City of Redlands "red tagged" the project for lack of permits. EPA subsequently had several meetings with the City concerning the permit exemption under CERCLA. The settlement was that the City would fast track an amendment to the "Conditional Use Permit" to allow for the operation of the shot curtain and waive the "building permit". On September 4, 2012, the Planning Commission issued an amended "Conditional Use Permit" to allow for the installation of the shot curtain and the long term maintenance of the shot curtain.

After the Conditional Use Permit was issued, the SBCoFC directed the RSP to move the shot curtain because part of it was within SBCoFC property. OSC Wise negotiated with SBCoFC on the shot curtain placement, resulting in a property line survey of the border between the RSP and the SBCoFC property line. It was subsequently learned that neither the RSP nor the SBCoFC knew where the property line actually lay and that approximately 100 meters of the shot curtain was inside the SBCoFC's property and

the Preserve. Due to the shot curtain's accidental placement in the Preserve, another agency meeting was scheduled with EPA, RSP and the trustee/stakeholders.

On January 23, 2013, the meeting on the shot curtain placement was held at the gun range. In addition to this issue, OSC Wise asked the trustees/stakeholders to determine how much additional cleanup needed to be done in the River/Preserve and where. In the interim time since the project had started, illegal lead salvage operations had been occurring the Preserve and River and had removed a large amount of the lead shot had been removed by unknown parties. After negotiations with the stakeholders and trustees, EPA directed RSP to submit an encroachment permit to SBCoFD. The BVMWC agreed provide land for a land swap for the land within the Preserve lost to the installation of the shot curtail. The RSP submitted an encroachment permit to the SBCoFC in July 2013. OSC Wise provided the USFWS with the contact information for the BVMWC to arrange for the land swap.

In May 2013, the RSP began to install the remaining portions of the shot curtain BMP. The shot curtain was in place by early August 2013. Also to prevent shot from entering into the river, the sporting clay ranges trajectories were moved to allow all shot to fall within the boundaries of RSP. RSP also lowered the trajectories of the trap and skeet ranges to insure the lead overshot did not go over the top of the shot curtain. RSP installed a geo-synthetic liner beneath the shot curtain to recover the lead that was being stopped by the curtain. RSP's representatives have stated that the lead from the shot curtain is being picked up weekly and recycled.

On August 19, 2013, OSC Wise conducted an assessment of the River and Preserve. The majority of the surficial lead was gone. There was extensive evidence of illegal scavenging in the River and Preserve. OSC Wise, RSP, USFWS, SBCoFD and City of Redlands Officials have notified the Redlands Police Department and SBCoFC of this scavenging activity. Although there is still lead shot in the soil and collected around the boulders/cobbles in the channelized portion of the River, its removal would result in massive disruption and destruction of habitat in the River and Preserve. After consulting with DTSC, SARWQCB and SBCoFD, OSC Wise made the determination that no further cleanup of the lead in the River/Preserve is warranted. Over time, the illegal scavenging operations will remove the lead currently present in the River/Preserve.

On August 28, 2013, OSC Wise met with the trustees and stakeholders and notified them of EPA's decision to not pursue additional cleanup due to the minimal threat the environment and public health and welfare. No further action is required at this time.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

The PRPs for this site are the RSP, BVMWC (land owner of range) and the County of San Bernardino (land owner of reserve). A CGNL have been issued to the RSP and the BVMWC. A written CGNL was not issued to the County, but the County was given verbal notice by OSC Wise.

2.1.4 Progress Metrics

Approximately 1300 feet of shot curtain bmp have been installed on-site. A large amount of lead has been removed from the Preserve by illegal metal scavengers. The amount of lead remove is unknown.

2.2 Planning Section

2.2.1 Anticipated Activities

No further EPA activities are anticipated. SBCoFD will oversee the management of lead shot generated from the shot curtain as part of their delegated RCRA Program.

2.3 Logistics Section

Not Applicable

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

Not Applicable

3. Participating Entities

3.1 Unified Command

The lead agency for the cleanup is EPA. The SBCoFD formally referred the cleanup to EPA.

3.2 Cooperating Agencies

However, a stakeholder group of natural resource trustees and interested agencies has also participated in the decision making process for this PRP removal action.

Participating agencies include:

- USFWS;
- USACE;
- SBCoPW;
- SBCoFD

- RCoFC;
- OCoFC;
- SARWQCB;
- DTSC; and
- CADFW.

4. Personnel On Site

The START contractor and the OSC have provided periodic oversight of assessment and removal activities throughout the life of the project.

5. Definition of Terms

DO: Delivery Order
 NPL: National Priorities List
 CERCLIS: CERCLA Information System
 RCRIS: RCRA Information System
 RSP: Redlands Shooting Park
 ESA: Endangered Species Act
 SBKR: San Bernardino Kangaroo Rat;
 CADFW: California Department of Fish and Wildlife
 USFWS: U.S. Fish and Wildlife Service;
 SBCoPW: San Bernardino County Public Works
 RCoFC: Riverside County Flood Control
 OCoFC: Orange County Flood Control
 EPA: Environmental Protection Agency
 CID: Criminal Investigations Division
 ERS: Emergency Response Section
 SBCoFD: San Bernardino County Fire Department
 DTSC: Department of Toxic Substance Control
 START: Superfund Technical Assessment and Response Team
 PAH: Poly Aromatic Hydrocarbons
 OSC: On-Scene Coordinator
 BMP: Best Management Practice
 BVMWC: Bear Valley Mutual Water Company
 PRP: Potentially Responsible Party
 CERCLA: Comprehensive Environmental Response Compensation and Liability Act
 CCGNL: CERCLA General Notice Letter
 HAZWOPER: Hazardous Waste Operations and Emergency Response
 SARWQCB: Santa Ana Regional Water Quality Control Board
 ORC: Office of Regional Counsel
 RCRA: Resource Conservation and Recovery Act

6. Additional sources of information

6.1 Internet location of additional information/report

The web site for this Site is: http://www.epaosc.org/site/sitrep_edit.aspx?site_id=7034&counter=20191.
 Additional information can be found in the "Bulletins" link on this web site.

6.2 Reporting Schedule

This is the Final Polrep for this site. No further EPA activities are required at this time.

7. Situational Reference Materials

Additional information can be found on the "Bulletins and Documents" sections of the web site.