

# Fort Ord Environmental Cleanup 2013 ANNUAL REPORT

Fort Ord BRAC Office

July 2014

## **BUREAU OF LAND MANAGEMENT (BLM) LANDS RECEIVE COMPREHENSIVE SAFETY EVALUATION**

### **AREA B INVESTIGATION AND EVALUATION**

The Army transferred the Fort Ord Public Lands to the Bureau of Land Management (BLM) in 1996. The property includes 86 miles of trails, and is used extensively for hiking, bicycling, and horseback riding by local residents and tourists. On April 20, 2012 the President designated the Fort Ord Public Lands as the Fort Ord National Monument.

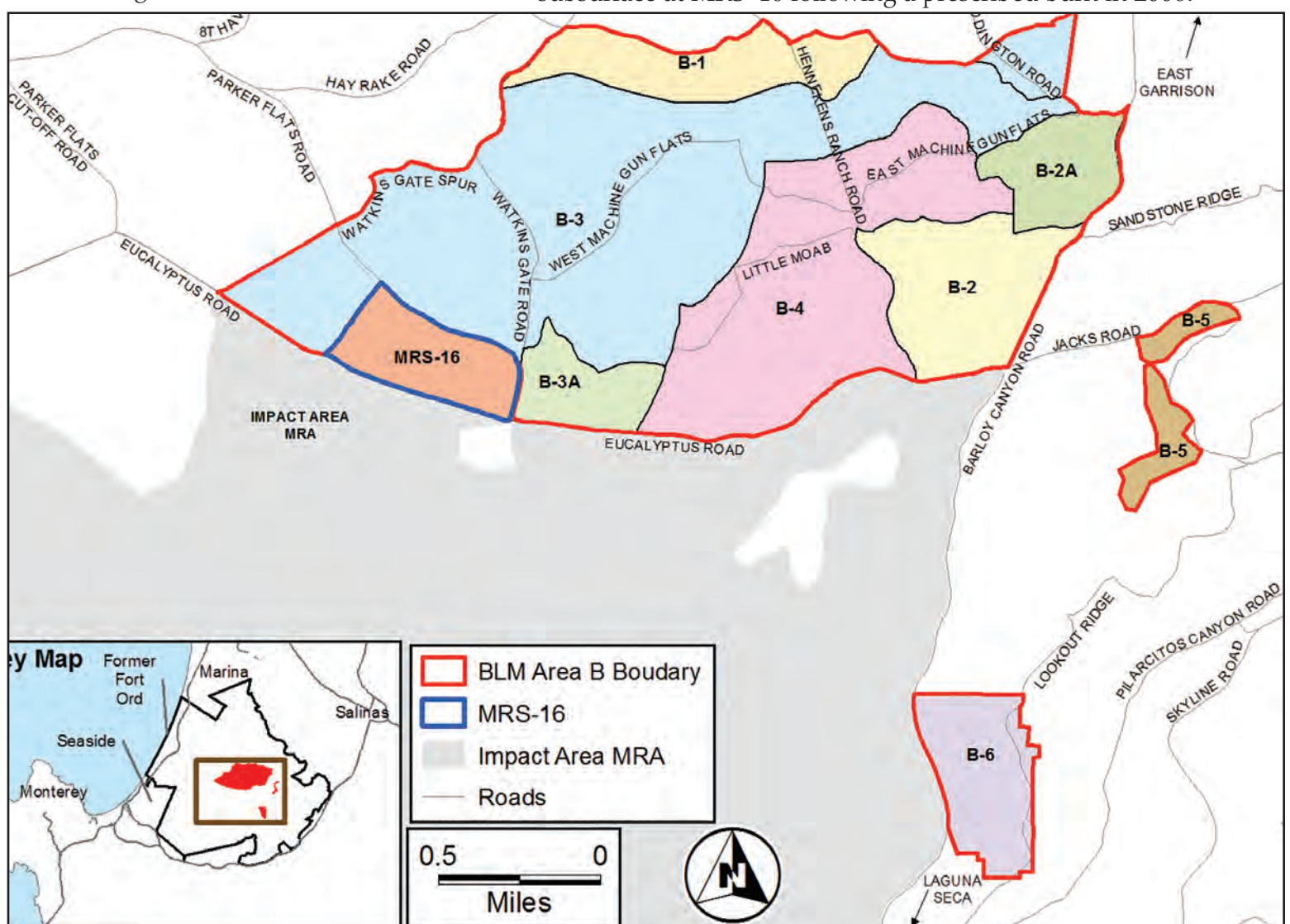
During the long history of Fort Ord as an Army training facility, many areas were used for training involving military munitions and explosives. The training often resulted in munitions and explosives of concern (or MEC) remaining in those areas.

The Army has conducted investigation, sampling, and removal of MEC within the transferred BLM lands.

Visitors who comply with posted restrictions and remain on designated trails on the Fort Ord National Monument are safe from risk associated with MEC.

Nevertheless, the Army is conducting a final comprehensive evaluation of explosives safety under the Superfund process at Fort Ord. This evaluation will address BLM Area B (see map) within the Fort Ord Public Lands. It will also include a final review of a parcel known

as Munitions Response Site 16 or MRS-16 (see map). Munitions and explosives of concern were removed from the surface and subsurface at MRS-16 following a prescribed burn in 2006.



Map showing BLM Area B and MRS-16

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## REMEDIAL INVESTIGATION/ FEASIBILITY STUDY (RI/FS) RESULTS FOR BLM AREA B AND MRS-16

Even when a cleanup has already been completed (such as occurred on MRS-16), it is impossible to guarantee that 100% of all MEC have been detected and removed. There's always some degree of risk left. The comprehensive evaluation of BLM Area B and MRS-16 will be conducted in the form of an RI/FS. BLM Area B is approximately 1600 acres located north and east of the former Impact Area. MRS-16 is 81 acres, located north of the Impact Area. The RI/FS for BLM Area B and MRS-16:

- Reviews previous investigations, including sampling and removal actions.
- Assesses risks associated with MEC that may be present.
- Evaluates cleanup alternatives to manage risks and support future designated use of the property as a habitat reserve with public access as part of a National Monument managed by BLM.

The RI/FS recommends the use of Land Use Controls at sub-

areas of BLM Area B (B-1, B-2, B-3A, B-4, B-5, B-6) and MRS-16 (see map on page 1). Land Use Controls are measures such as use restrictions, public education, or requirements that UXO-trained staff be present during excavation. For sub-areas B-2A and B-3, the RI/FS proposes surface remediation across the sub areas and subsurface remediation in certain areas, and Land Use Controls.

The goal of the RI/FS for BLM Area B and MRS-16 is to support the designated use of the property as a habitat reserve with public access as a part of the Fort Ord National Monument.

The Army has circulated the draft and draft final versions of the RI/FS report for public review and addressed comments and questions received from the public and regulatory agencies. The document can be viewed at [www.fortordcleanup.com](http://www.fortordcleanup.com).

During the development and review of the RI/FS, existing public access to the National Monument lands will not be affected.

After the RI/FS is finalized, the final recommendations will be summarized in a proposed plan.

There will be an opportunity for the public to comment on the proposed plan. Public comments will be considered before cleanup decision is made.

These documents will be made available at [www.fortordcleanup.com](http://www.fortordcleanup.com).

## WHAT'S THAT DRILL RIG DOING IN A SHOPPING CENTER PARKING LOT?

Local residents may have seen drill rigs in the parking lot at The Dunes shopping center in Marina. Currently, the Army is removing contaminants (volatile chemicals) in the groundwater in areas below Fort Ord, including the water located about 80 feet below the shopping center (Sites 2/12 — see page 6).

The groundwater cleanup is done by pumping out water from beneath the surface, sending the water through a carbon filtration system to remove contaminants, and then reinjecting the treated water back into the ground. Re-injection of the water also helps prevent salt water intrusion.

Soil gas, also known as soil vapor, is the air found in the spaces between soil particles. Soil gas found near groundwater contaminated with volatile chemicals can also become contaminated when these chemicals vaporize or evaporate into the soil gas. The Army is currently evaluating a soil vapor cleanup method in a pilot study. If soil vapor analytical results indicate remediation is necessary, the pilot study will guide the Army as it designs and implements soil vapor cleanup. Results of the initial 2012 and 2013 soil vapor sampling

events are publicly available online at [http://fortordcleanup.com/adminrec/ar\\_pdfs/AR-BW-2647/BW-2647.pdf](http://fortordcleanup.com/adminrec/ar_pdfs/AR-BW-2647/BW-2647.pdf) and [http://fortordcleanup.com/adminrec/ar\\_pdfs/AR-BW-2647A/BW-2647A.pdf](http://fortordcleanup.com/adminrec/ar_pdfs/AR-BW-2647A/BW-2647A.pdf).

If the soil vapor does contain contaminants above State and Federal approved levels, the Army will be responsible for cleaning up the contaminants. No threat to shoppers or store employees has been identified during these investigations.



Drill rig at the Pilot Study location

# PRESCRIBED BURNS PRODUCE SOME SMOKE IMPACTS

The Army designs its prescribed burns to keep smoke impacts to neighbors to a minimum. In consultation with regulatory agencies, the Army has developed a “prescription” for a prescribed burn that takes into account plant moisture levels, weather conditions (including temperature, humidity, wind speed, etc.), equipment availability, and other conditions.

In 2013, the Army conducted two prescribed burns in Units 7 and 10 (see map). The first burn, on October 14, followed the plan perfectly. Vegetation was burned off of nearly 280 acres, and much of the smoke went up into the high altitudes.

On October 15, during the second fire, a combination of meteorological events resulted in the burning of more than 100 unplanned acres. The fire remained within the established containment line network, so there was little danger of the fire spreading beyond Fort Ord. But the fire did result in smoke impacts on neighbors and a precautionary evacuation of a nearby school.

“We strive mightily to prevent these impacts,” said William Collins, Envi-



Prescribed Burn at Unit 10 on October 14, 2013.

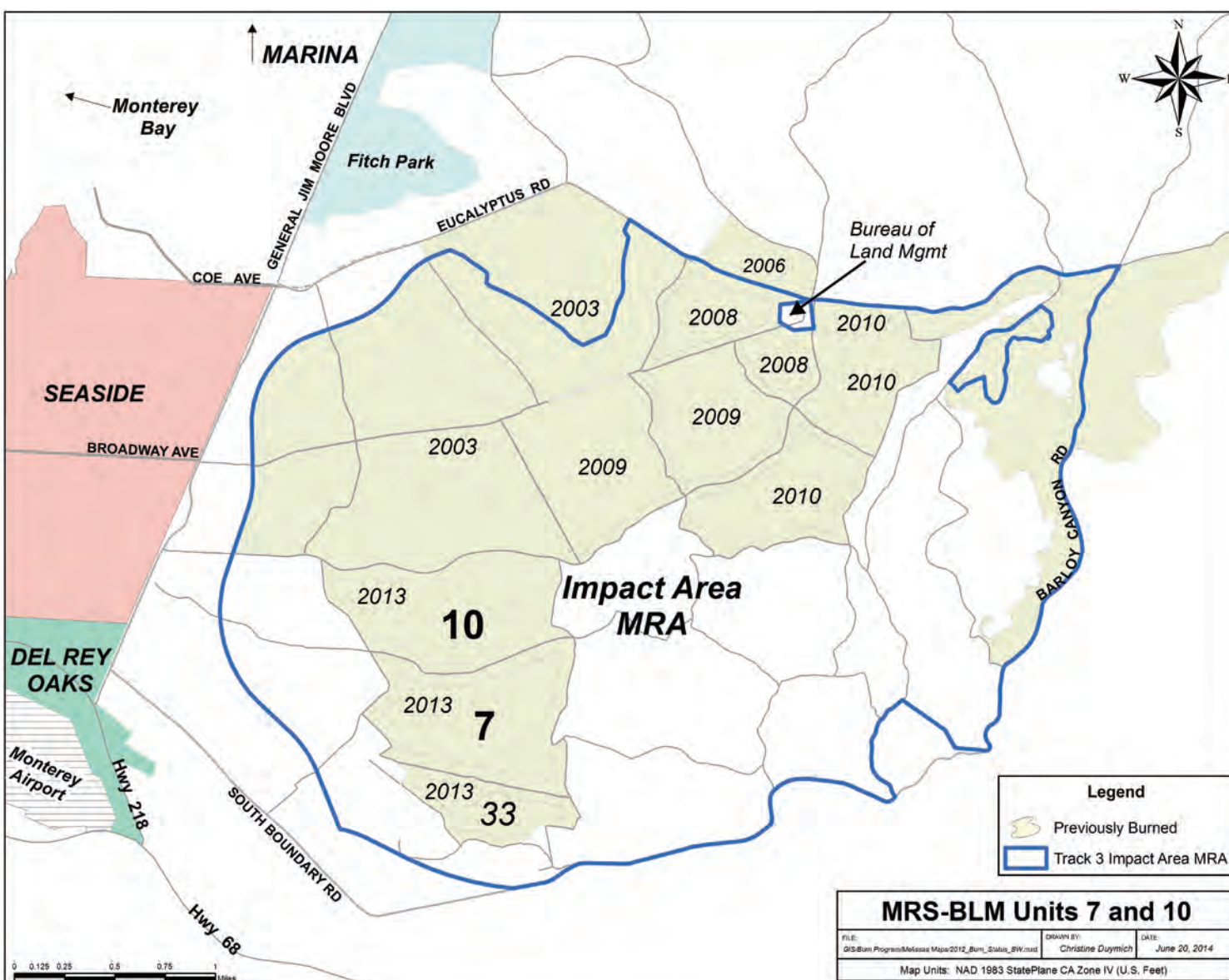
ronmental Coordinator of the Fort Ord cleanup, “but we did cause smoke impacts for our neighbors. We appreciate your patience and tolerance during the burns,” said Collins.

Removal of munitions and explosives of concern is underway on the areas that were burned in 2013. The goal of the prescribed burns is to make it possible to safely clean up unexploded munitions and explosives left over from when this was the Army’s primary training area for the use of munitions and explosives. Once the land is considered safe for its intended use, it can be turned over to the BLM for ownership. It is already a part of the Fort Ord National Monument.

There are about 3,000 acres within the former Impact Area that still need to be cleaned up. Clearing these lands of munitions and explosives of concern will require prescribed burns as a first step. Current plans are that the cleanup will occur over the next 8 to 10 years. Transfer of this property will not occur until the entire former Impact Area has been cleaned up. The cleanup of the former Impact Area is designed to support the intended reuse of the land—a habitat reserve with public access.

The photos on the following page show the “before and after” views of a burn containment line as the Army prepares the land for a prescribed burn. A critical step is to establish a sufficient containment line to help manage the fire. This is done using large machines that cut the brush and feed it through a machine (see photo) that chews up or masticates it into small pieces. Mastication significantly reduces the rate at which the fire burns in the masticated areas, reduces the height of the flame, and enables the surrounding roadway to contain the fire.

The Army is not planning prescribed burns in 2014 but will resume planning for a prescribed burn to occur in 2015.



Locations of 2013 Prescribed Burn Units



Roads inside Impact Area before they are widened as a primary containment line.



Example of pre-burn preparations: enlarging a fuel break.



Heavy equipment used to prepare a burn containment line.

## **HABITAT AND RARE SPECIES MONITORING AND RESTORATION**

The Army continues to monitor rare plant and animal species both before and after cleanup activities (i.e. remediation). The Army uses biological monitoring data to assess whether the success criteria specified in the Habitat Management Plan and the Biological Opinions have been met. The Army coordinates habitat-related activities with the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife.

The units within the impact area where monitoring was conducted in 2013 are shown in the map on page 5. Additionally, the Army conducted monitoring in the University of California Reserve to assess the effects of groundwater remediation activities on rare plant species. The Army also continues to restore the habitat in areas disturbed by remediation of lead or explosives in soil. Full reports of these monitoring and restoration activities are available at [www.fortordcleanup.com](http://www.fortordcleanup.com).

Central maritime chaparral habitat and rare plant species in areas where there have been prescribed burns are regenerating very well, and data collected in the 3<sup>rd</sup>, 5<sup>th</sup>, and 10<sup>th</sup> years following the burns indicate that the habitat is on a path towards pre-cleanup conditions. Rare annual plants continue to thrive in the remediated areas. Some of the restoration sites have difficult planting conditions due to compacted soil and erodible soils, and the ongoing drought also poses a challenge. Monitoring data from 2013 show that federally-listed threatened California tiger salamanders are breeding in vernal pools adjacent to the restoration sites; although, due to low levels of precipitation, few vernal ponds on Fort Ord filled up with enough water to support them.

Wildlife continues to utilize the extensive area of undeveloped

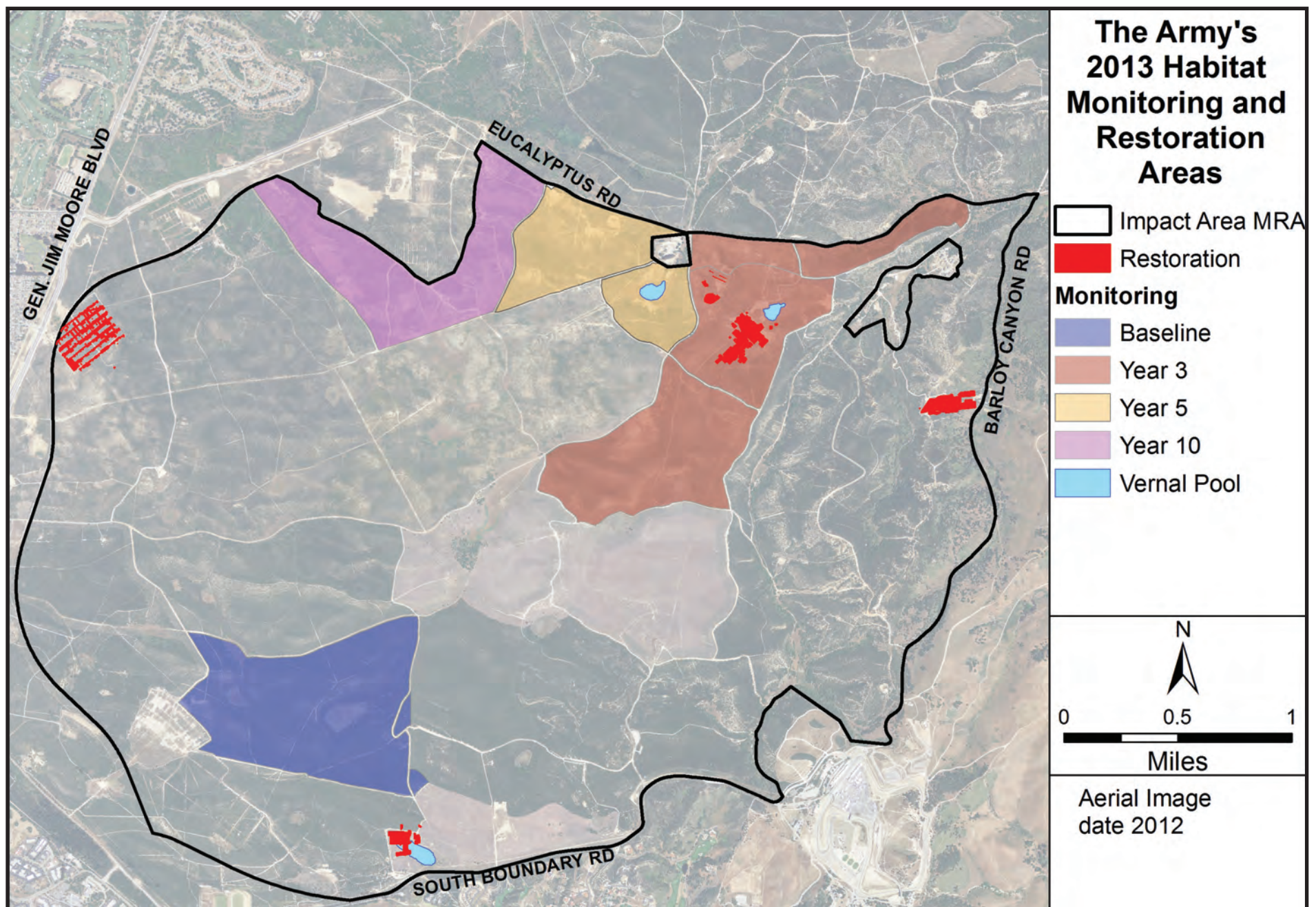


Installation of plants in one of the restoration areas.

land on the former Fort Ord. Some sightings include savannah sparrows, lazuli buntings, and a peregrine falcon hunting a flock of American wigeons. Even the elusive mountain lion has left a trail of clear tracks in the sandy soil.



Mountain lion tracks in sand at one of the restoration sites.



Locations where restoration and monitoring has occurred in 2013 within the former Impact Area.

## SOIL CONTAMINATION CLEARED FROM AREAS ON SITE 39

Soil contamination has been removed from all identified cleanup areas of the former Impact Area (known as Site 39). Contaminated soil was removed and transported to the Army's landfill in an area called cell E. This area has now been covered to prevent

water from leaching contamination into the groundwater.

The Army will evaluate all additional lands in the former Impact Area as they are cleared of MEC and will clean up soil contamination if present in concentrations above established levels.

## LAND TRANSFERS

The ultimate goal of the cleanup program is to get land ready so it can be transferred for community use. When Fort Ord was listed for closure, it included over 27,827 acres of land. Since closure in 1994, much of Fort Ord (19,290 acres so far) has been transferred. The documentation that must be prepared for each transfer is extensive.

No land transfers were made in 2013; however, there are two areas that are very close to being transferred. One is a 46-acre area

called S.2.1.2, in Marina. These 46 acres will be transferred to the University of California at Santa Cruz and will become a part of the Fort Ord Natural Reserve. The other area, called E20c.1, is about 70 acres in size and is in Seaside. All required property transfer documentation has been prepared for both pieces of land. If you are interested in the Fort Ord property transfer process, please navigate to the PROPERTY section of [www.fortordcleanup.com](http://www.fortordcleanup.com). You can use the interactive parcel map and parcel search tool for details on property transfer.

## THE ARMY CONTINUES TO PROMOTE PUBLIC SAFETY

Public access to the former Impact Area is prohibited. The entire area is fenced and posted with signs describing the dangers of unexploded ordnance and warnings against trespassing.

But every year there are trespassers. When found, these people are immediately turned over to local law enforcement. An analysis of trespass incidents and reports of evidence of trespass from 2002 to 2012 indicates that the most common trespasser is a nearby area resident, visitor or student who intentionally ignores warning signs and enters the land. Fortunately, no one has recently caused a detonation of munitions or explosives. But the risk

is still there, and the Army continues to apply considerable efforts to prevent trespassing.

The Army requires MEC safety training for all personnel before authorizing entry into the former Impact Area. The Army also provides this training to contractors, service providers, fire, police, media, regional environmental agency personnel and staff, and volunteers and employees of BLM conducting activities at the former Fort Ord. This training is designed to help workers identify potentially dangerous munitions or explosives, and teaches the procedures to be followed when such items are identified. A total of 303 personnel received this training in 2013.

# GROUNDWATER CLEANUP – CAPSULE SUMMARIES

At several areas throughout the former Fort Ord, the Army is cleaning up contaminants (volatile chemicals) that have seeped into groundwater in aquifers below the surface of the ground. These contaminants were spilled onto the ground sometime during the period when Fort Ord operated as an Army training center. Once in the groundwater, the contaminants spread out in what is known as a plume. The map below shows the areas where there are contaminant plumes beneath the surface at Fort Ord.

Here's a short summary of progress at each site.

## OPERABLE UNIT 1 (OU1)

Treatment is ongoing, but is getting close to the point that the Army will be able to verify that the site has been cleaned up.

## OPERABLE UNIT 2 (OU2)

Treatment continues. In 2015, the treatment plant, with its big blue tanks, will be moved to an area inside the landfill parcel. The

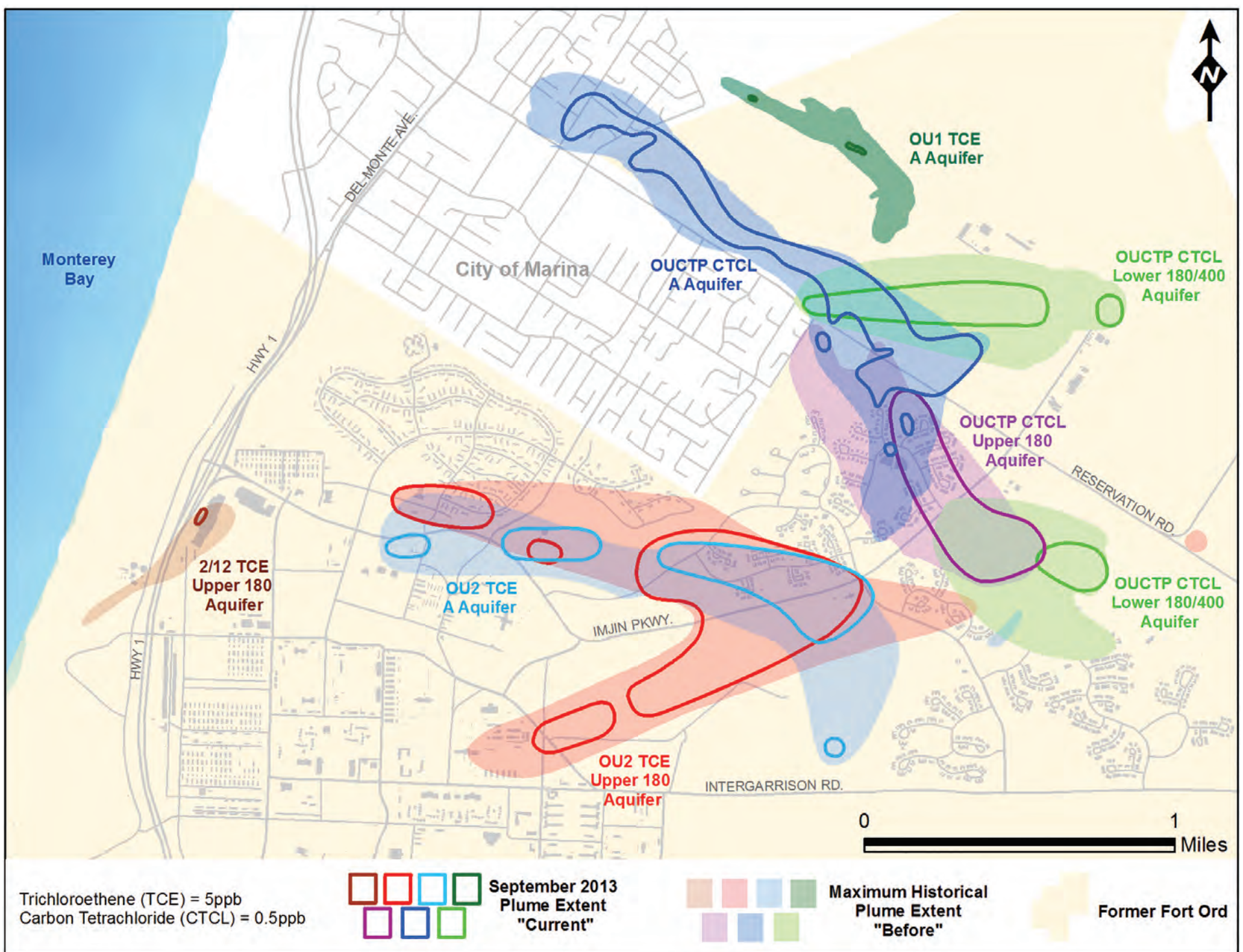
new location provides operational efficiencies and will expedite the cleanup of groundwater at OU2. In addition, the move will allow Monterey Peninsula College (the land owner) to expand their campus with a new building on the current site of the treatment plant.

## SITES 2/12

Treatment is ongoing and the plume has been reduced in size.

## OPERABLE UNIT CARBON TETRACHLORIDE (OUCTP)

Treatment is ongoing. This area is being treated using a bioremediation process in which a dilute lactate solution was injected into the groundwater. The lactate, a milk product, feeds the microbes present in groundwater and increases their ability to break down or "eat" the contaminants. Recent studies show that the bioremediation is effective in removing contaminants at OUCTP.



A "before" and current look at the groundwater cleanup on Fort Ord.

# COMMUNITY OUTREACH ACTIVITIES

The Army maintains an extensive community outreach program. Here are a few highlights:

## WEB PAGE REVISED

The Fort Ord Cleanup website has been re-designed ([www.fortordcleanup.com](http://www.fortordcleanup.com)). The purpose of the change is to make the web site more attractive and easier to use. Information on the old site will be found on the new one.



The cleanup web site at [www.fortordcleanup.com](http://www.fortordcleanup.com) has a new look and easy-to-use features.

## PUBLIC MEETINGS

Three public meetings were held during 2013 for the public to comment on proposed plans. Two of these meetings were for land



Fort Ord cleanup information booth at the 2013 Earth Day celebration at California State University Monterey Bay.

being cleaned up by the Fort Ord Reuse Authority Environmental Services Cooperative Agreement Remediation Program and the other was for the parcel of land known as MRS-34. For each of these areas, the next step is to complete a Record of Decision, which will include responses to public comments.

## BUS TOURS AND ANNUAL NATURE WALK

Bus tours and the annual Nature Walk inside the former Impact Area are both becoming increasingly popular ways to become familiar with the Fort Ord cleanup program. The semi-annual bus tours are a popular means for community members to participate in a 90-minute guided tour of significant cleanup areas. The next tour, with a focus on the munitions cleanup and prescribed burns, will be held on August 23, 2014.

During each nature walk, visitors are escorted inside the former Impact Area so they are able to visit sites that are otherwise closed to the public. For information, check the NEWS section of the web site at [www.fortordcleanup.com](http://www.fortordcleanup.com) or call (831) 393-1284. The next nature walk will be scheduled in the Spring of 2015, likely on a Saturday during May.

## BOOTHS AT FAIRS AND PUBLIC EVENTS

The Army maintains booths at various public events, such as local fairs. In 2013, the Army provided information at the Monterey County Fair, CSUMB Earth Day, and other events throughout the community.



Another Fort Ord cleanup information booth. This photo was taken at the 2013 Monterey County Fair.

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## Fort Ord Environmental Cleanup

Community Relations Office  
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# FORT ORD CLEANUP PROGRAM AGENCY CONTACTS

### U.S. Department of the Army Base Realignment and Closure (BRAC)

#### Former Fort Ord Contacts

P.O. Box 5008  
Monterey, California 93944-5008

**William Collins**, Fort Ord BRAC  
Environmental Coordinator  
Phone: (831) 393-1284  
Email: William.K.Collins.civ@mail.mil

#### Fort Ord Community Relations Office

Phone: (831) 393-1284 or  
1-800-852-9699  
Email: melissa.m.broadston.ctr@mail.mil

### Fort Ord Reuse Authority (FORA) Environmental Services Cooperative Agreement (ESCA) Remediation Program Contacts

920 2nd Ave, Suite A  
Marina, CA 93933

**Stan Cook**, Program Manager for issues  
related to the ESCA Remediation  
Program for Military Munitions  
Phone: (831) 883-3672  
Website: www.fora-esca-rp.com  
Email: ESCA@fora.org

### United States Environmental Protection Agency (EPA) Region IX Contacts

75 Hawthorne Street  
San Francisco, CA 94105

**Martin Hausladen**, Remedial Project Manager  
for Sites 2/12 soil vapor cleanup  
Phone: (415) 972-3007  
Email: hausladen.martin@epa.gov

**Lewis Mitani**, Remedial Project Manager for  
groundwater and soil remediation and the  
Army's military munitions response program  
Phone: (415) 972-3032  
Email: mitani.lewis@epa.gov

**Judy Huang**, Remedial Project Manager for the  
FORA's ESCA Remediation Program  
Phone: (415) 972-3681  
Email: huang.judy@epa.gov

**Viola Cooper**, Community Involvement  
Coordinator  
Phone: (415) 972-3243 or (800) 231-3075  
Email: cooper.viola@epa.gov

### California Environmental Protection Agency Department of Toxic Substances Control Contacts

8800 Cal Center Drive  
Sacramento, California 95826-3200

**Ed Walker**, Remedial Project Manager for  
issues related to military munitions  
Phone: (916) 255-4988  
Email: Ed.Walker@dtsc.ca.gov

**Min Wu**, Remedial Project Manager for water  
and soil cleanup  
Phone: (916) 255-3621  
Email: Min.Wu@dtsc.ca.gov

**Tammy Pickens**  
Public Participation Specialist  
Phone: (916) 255-3594  
Email: Tammy.Pickens@dtsc.ca.gov

### California Environmental Protection Agency Regional Water Quality Control Board Central Coast Contacts

895 Aerovista Place, Suite 101  
San Luis Obispo,  
California 93401-7906

**Grant Himebaugh**, Remedial Project  
Manager for water issues  
Phone: (805) 542-4636  
Email: ghimebau@waterboards.ca.gov

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