

Fort Ord Environmental Cleanup 2015 Annual Report

Fort Ord BRAC Office

August 2016



Army Makes Progress on Fort Ord Cleanup

The former Fort Ord covers an area almost the same size as the City of San Francisco, about 28,000 acres. When Fort Ord closed in 1994, the closure had a significant economic impact on the surrounding community. With the closure of the base, land on the former Fort Ord could be used for other community purposes.

Some of the land needed to be cleaned up before it was safe for other uses. There was contamination of groundwater and soil that required cleanup. In addition, approximately 12,000 acres, slightly less than half the site, were known or suspected to contain munitions and explosives of concern or MEC. Training activities left old metal targets as well as unexploded artillery shells or explosives. At some heavily used target areas, soil cleanup was also required.

Cleanup must meet rigorous federal and state standards. Cleanup of munitions and explosives of concern is expected to be completed in 5-8 years. Some of the groundwater cleanup sites are almost cleaned up; however, groundwater cleanup and monitoring at other sites will continue for 30 years or longer.

The Fort Ord Reuse Authority developed the Fort Ord Reuse Plan, and is working with land recipients and other organizations to identify sites for housing and commercial development. Most of these projects, which are in various stages of planning and financing,

are on land that has already been transferred from the Army to the local community. But cleanup continues on other parts of the former Fort Ord.

Clean and Safe Land Serving Community Purposes

- Fort Ord National Monument
- Fort Ord Dunes State Park
- Veteran's Cemetery (construction is in progress)
- California State University Monterey Bay
- Monterey Peninsula College's Education Center at Marina
- Bayonet and Blackhorse Golf Courses
- Abrams Park Housing
- Marina Municipal Airport
- Ord Military Community
- Bayview Community
- East Garrison housing
- Dunes Shopping Center
- Veterans Clinic

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Installation of native plants at Range 37 where contaminated soil was removed.

2015 Accomplishments

HABITAT RESTORATION SHOWS GOOD PROGRESS IN SITE 39

The Site 39 Inland Ranges were used for live fire training exercises with a variety of military munitions including artillery and mortar projectiles, rockets, guided missiles, and rifle and hand grenades. The majority of Site 39 is located within habitat reserves and is part of the Fort Ord National Monument. In addition to cleaning up munitions or explosives of concern, the Army is also responsible for cleaning up soil contamination. Lead, antimony, and copper are the primary contaminants of concern resulting from small arms range uses. Explosive compounds, metals, and hydrocarbons could also be present in areas where munitions-related training occurred. The Army must meet cleanup standards that protect both human health and the environment.

Areas are initially cleared of munitions and explosives of concern. Then, the area is investigated for possible soil contamination. Where necessary, contaminated soil is removed. Removing soil also impacts the habitat/plant life in these areas. The habitat within the impact area primarily consists of a Central Maritime Chaparral plant community with

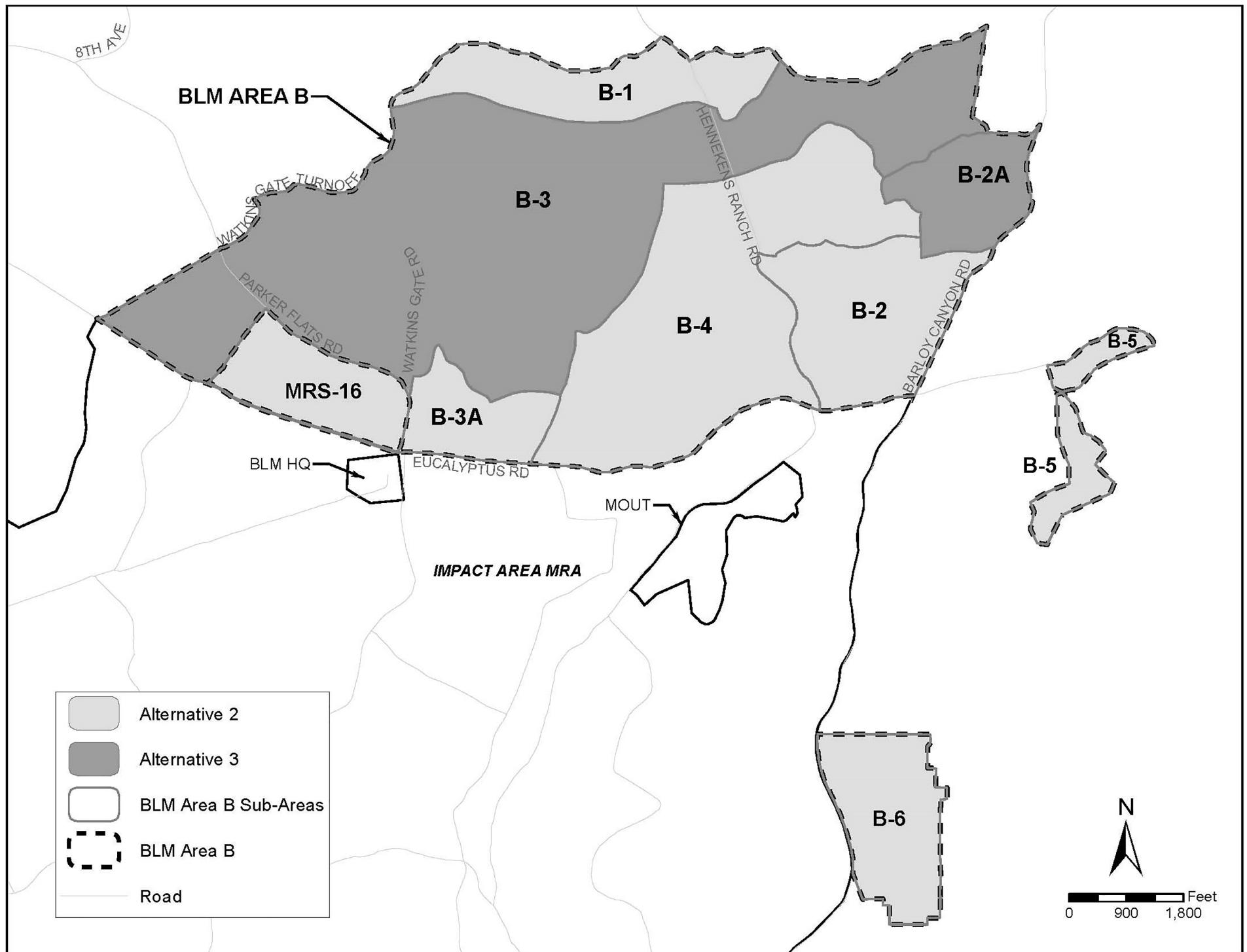
many rare species. The Army is required to restore the habitat that is impacted during soil excavation. Habitat restoration includes collecting seed and growing plants that will be used to revegetate areas disturbed by soil excavation.

To date, the Army has restored 8.8

acres of Central Maritime Chaparral plant community and is currently restoring 52.4 acres. An additional 2.3 acres are planned to be restored in the future. All restored sites are monitored to ensure plants are growing successfully. To date, the Army has planted more than 30,000 plants.



Enjoying a guided tour of the Site 39 Inland Ranges.



Bureau of Land Management Area B and MRS-16

Alternative 2: Land Use Controls, for sub-areas B-1, B-2, B-3A, B-4, B-5, B-6 and MRS-16.

Alternative 3: Technology-aided Surface MEC Remediation, with Subsurface MEC Remediation in Selected Areas, and Land Use Controls, for sub-areas B-2A and B-3.

***BUREAU OF LAND MANAGEMENT AREA B AND MRS-16
(NORTHERN PORTION OF THE FORT ORD NATIONAL MONUMENT)***

In 1996, the Army transferred a large section of the former Fort Ord to the Bureau of Land Management. This property, which includes miles of trails, is now extensively used for hiking, bicycling and horseback riding by local residents and tourists, and is located in the northern part of the Fort Ord National Monument.

Visitors who comply with posted restrictions and remain on designated trails on the Fort Ord National Monument are safe from munitions risk. The possibility exists that away from the trails, some munitions or explosives could still be present. As a part of the Superfund cleanup project, the Army has completed a comprehensive evaluation of safety on

Bureau of Land Management Area B. This evaluation also included the final review of MRS-16, an area where munitions removal was conducted following a prescribed burn in 2006.

The proposed cleanup plan was presented to the public in April 2015. Public comments were reviewed and considered by the Army and regulatory agencies. The cleanup plan is in the final step of the approval process. The Army's proposed plan includes a mix of land use controls and both surface and subsurface removal of munitions and explosives of concern in selected areas. The goal is to make the land safe for a habitat reserve area with controlled public access.

Until the final decision is announced, there will be no change in public access to the land. During remedy implementation there will be temporary closures of roads and trails. Information about trail access during munitions removal will be shared with the community on the Army's web site: fortordcleanup.com.

FORT ORD FACT

There are 4 plants and 3 animals federally listed as threatened or endangered known to occur on Former Fort Ord. For more information visit:

fortordcleanup.com/programs/habitat

PRESCRIBED BURNS PLANNED IN 2016

As this report is being prepared for publication, the Soberanes Fire is on-going. The Army will not consider a prescribed burn unless all weather requirements, fuel moistures and adequate fire resources (trucks, helicopters, water tenders, etc.) are available. We appreciate all of the hard work and commitment by the fire community as they continue to battle the Soberanes Fire and other wildfires.

The Army has identified three areas in the former Fort Ord Impact Area for prescribed burning as part of its 2016 plan. These burns are an important part of the munitions cleanup and habitat recovery of the former Impact Area. The burns remove brush allowing cleanup workers access to conduct munitions removals and encourage recovery of the rare, threatened and endangered fire-dependent plant species. In addition, prescribed burns help reduce the risk of wildfire.

The Army intends to conduct a prescribed burn as soon as weather permits during the burn season, which is between July 1 and December 31. A prescribed

burn may commence when conditions provide for efficient operations and good fire and smoke behavior. Suitable weather conditions include clear skies, moderate temperatures (between 45° and 90°), and a few days without much wind. These conditions help minimize smoke impacts. These weather conditions typically occur September through November. The Army has designated Units 11, 12 and 31 for prescribed burning in 2016. The prescribed burns are required as part of the Army's on-going cleanup requirements.

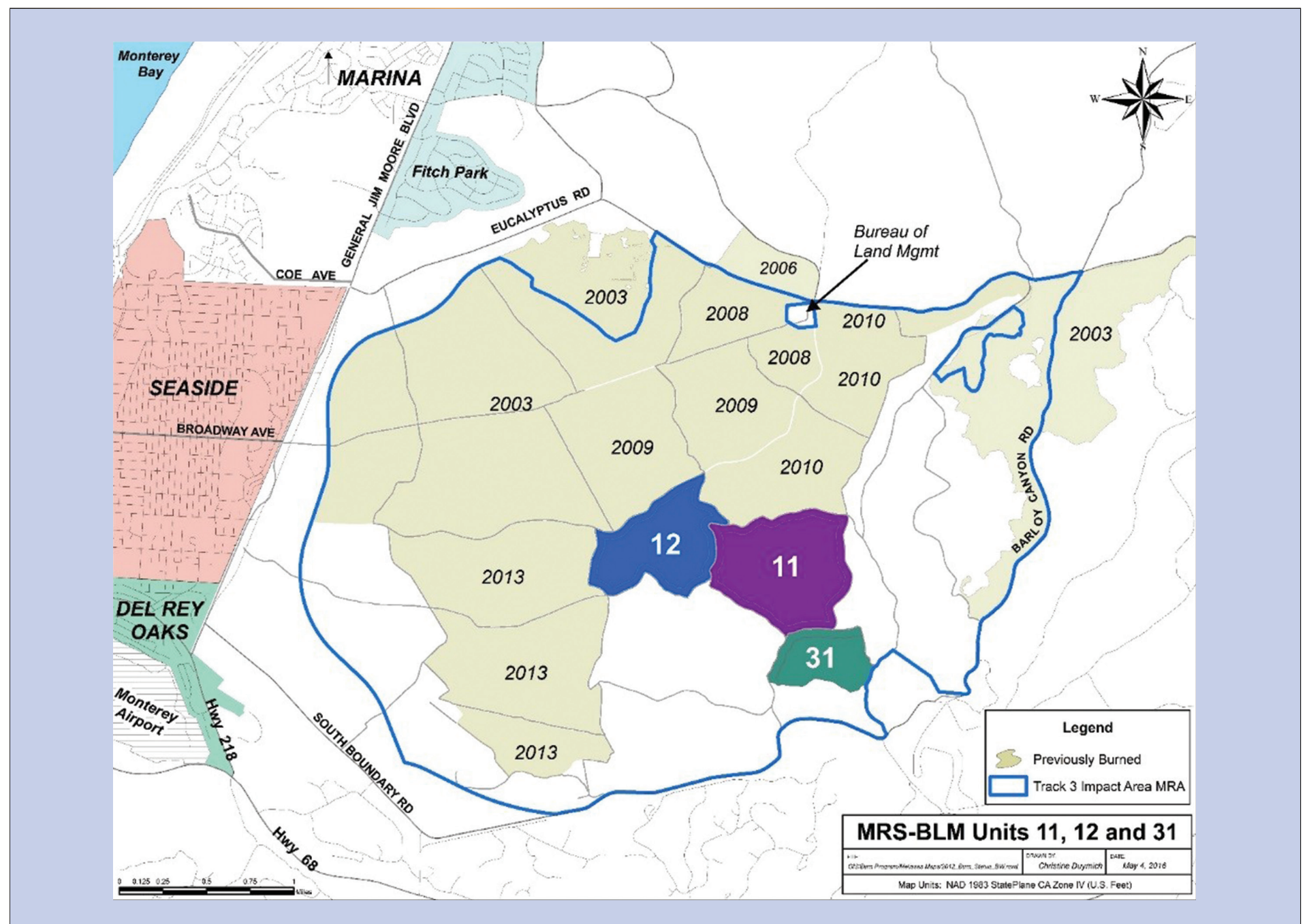
Surface removal of munitions at Unit 11 (273 acres) and Unit 12 (203 acres) was previously completed in 2012 due to site-specific safety considerations. The brush was cut, surface munitions removal was completed, and limited subsurface munitions were also removed. Now that the vegetation has grown back sufficiently it will be burned to encourage recovery of the habitat. This is in compliance with the Track 3 Record of Decision and the Installation-Wide Multi-species Habitat Management Plan as fire-adapted habitat needs fire to recover. These two units were prepared for burning in 2015

but the required conditions did not occur during the 2015 burn season.

Site preparation for Unit 31 (103 acres) is well underway. A prescribed burn in this unit will remove dense vegetation which allows cleanup workers to safely enter former firing ranges and remove munitions and explosives of concern. The map below shows the locations of Units 11, 12 and 31 as well as the areas burned since 2003.

All of these units are part of the Fort Ord National Monument and, following completion of the cleanup of the Impact Area, will be transferred to the Bureau of Land Management.

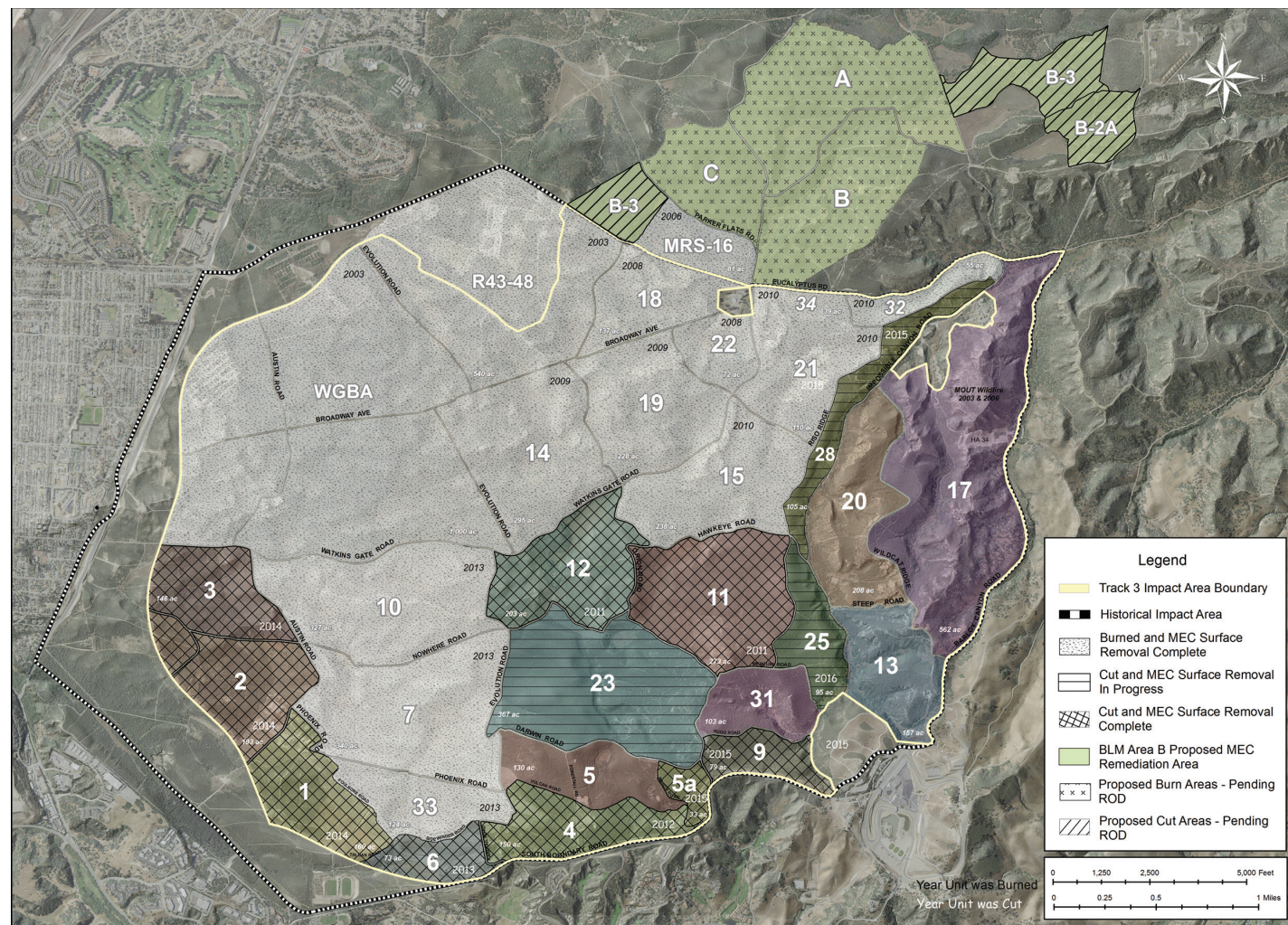
Burn notifications: If you would like to be notified before any prescribed burn, please register for the Army's direct notification program. You will receive messages when a prescribed burn is imminent. To register go to the prescribed burn section of fortordcleanup.com or call (831) 242-7383 or toll free 1-800-852-9699. Notification is available via email, text message, a phone call, or a combination of all three. Note: Even if you registered in previous years, you must register for this year.



MUNITIONS CLEANUP WORK IN OTHER FORT ORD AREAS

In 2015, surface removal and digital geophysical mapping activities were conducted in Units 1, 2, and 3. Surface removal in Unit 23 also began in 2015. Currently there is surface removal of munitions and explosives underway in Unit 25 and in Unit 28. The map below is a snapshot of the Army's current munitions and explosives of concern cleanup work on the former Fort Ord.

Right: Former Fort Ord MEC Cleanup Status



ARMY BEGINS PREPARATION OF FIVE-YEAR REVIEW REPORT

Every five years, the Army must prepare a Five-Year Review Report as required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund). The next report is due September 30, 2017. Five-Year Reviews involve a comprehensive assessment of the performance of a cleanup program and its ongoing protectiveness of human health and the

environment.

Community involvement is an important part of this review. In September 2016, the Army will conduct interviews with community members (individual residents, concerned parties, or groups) to collect information about successes and/or problems with implementation of the cleanup. The Army is also interested in community

feedback about site conditions or concerns. Interview findings and community input will be incorporated into this report. If you are interested in participating in these interviews, please contact Community Relations, U.S. Army, Fort Ord Base Realignment and Closure Field Office: call (831) 393-1284 or 1-800-852-9699 or send an email to Melissa.M.Broadston.ctr@mail.mil.

GROUNDWATER TREATMENT PLANT WILL SOON BE RELOCATED

The Army continues to operate two groundwater treatment plants as part of the groundwater remediation project. Water is extracted from the ground through a series of wells and sent to a treatment plant where contaminants are removed by a granulated activated carbon filtration process. The clean water is then returned underground. Operable Unit 2, with its big blue tanks located off Imjin Parkway, will be relocated next to the Army's landfill parcel. The new location provides operational efficiencies. In addition, the move will allow Monterey Peninsula College (the land owner) to expand their campus on the current site of the treatment plant. If you travel on Imjin Parkway, you may see some of the construction activities. Groundwater treatment will not be interrupted during these transitional activities.



Operable Unit 2. The existing granulated activated carbon (GAC) is changed-out with fresh granulated activated carbon. The GAC is in the large blue tanks.

Cleanup Program Continuing Operations

CONTINUING GROUNDWATER TREATMENT

Cleaning up contaminated groundwater takes many years. The Army is evaluating the closure of Operable Unit 1, which has been operating since 1988. Other treatment facilities will continue to operate for a number of years. The table shows a snapshot of each treatment facility.

The Army is using an in situ bioremediation process for removal of carbon tetrachloride in groundwater at Operable Unit Carbon Tetrachloride. A dilute lactate solution is injected into the groundwater. The lactate feeds the microbes naturally present in groundwater and gives them energy to break down or “eat” the contaminants. The Army has monitoring wells

to assess how effectively the treatment is working. Studies and water quality data

show that the bioremediation is effective in removing the contaminants.

	Operable Unit 1 *	Operable Unit 2 and Operable Unit Carbon Tetrachloride Plume **	SITES 2/12
Source of contamination	Former burn pit used for aircraft fire-fighting practice	Former landfill/ improper disposal of solvents	Improper disposal of solvents from former vehicle repair facilities
Treatment started	July 1988	October 1995	April 1999
Gallons treated	319.3 million	6.911 billion	1.871 billion
Pounds of contaminant removed	31	792	467
Gallons of contaminants removed	3	64	37

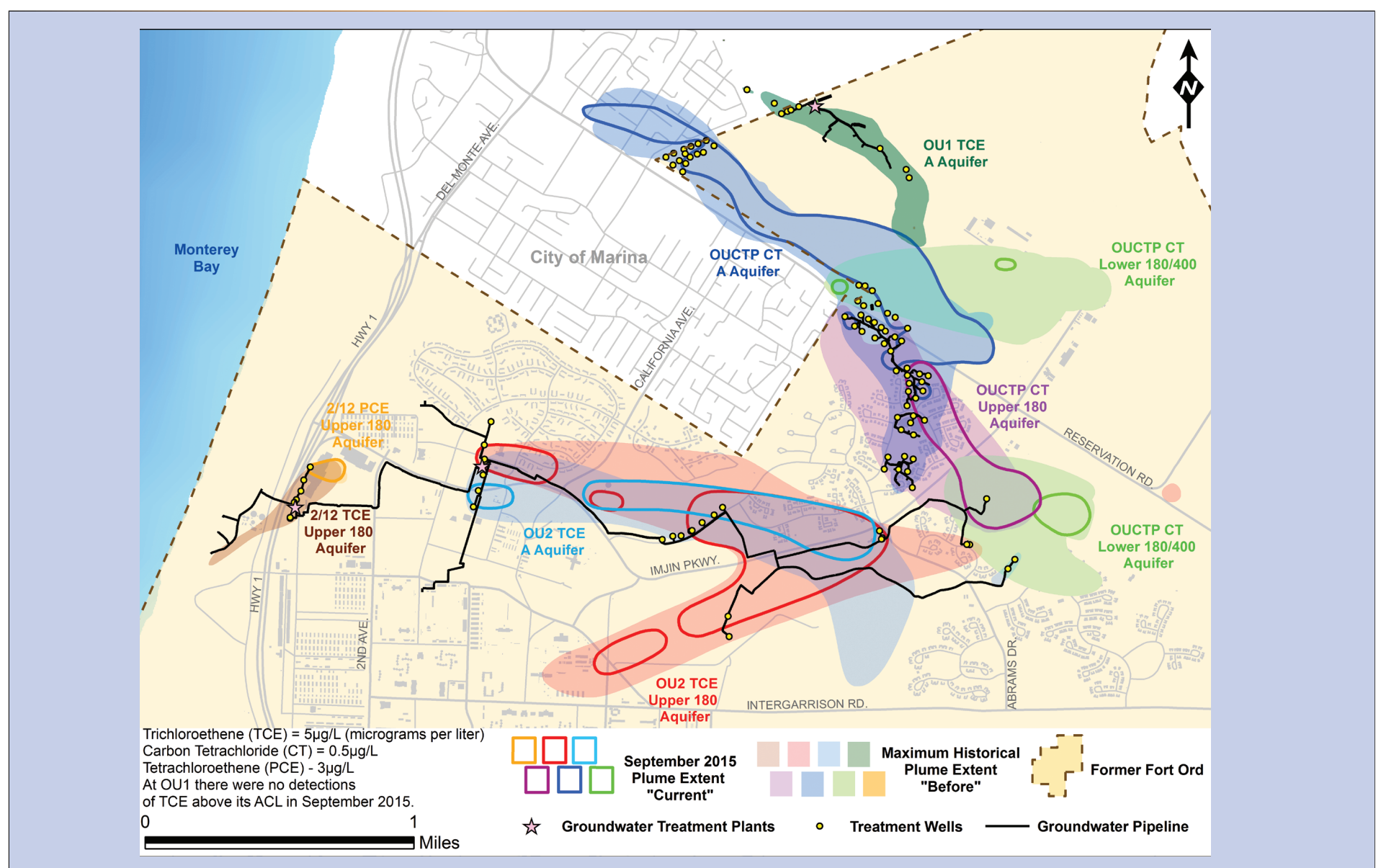
*Currently meets safe drinking water standards. Being evaluated for closure.
 ** A single treatment facility treats water from these two contamination areas.

ARMY PREPARES TO DECLARE “SUCCESS” ON GROUNDWATER CLEANUP ON OPERABLE UNIT 1

Operable Unit 1 was a burn pit used for aircraft fire-fighting practice. It was the main source of contamination under the

former Fritzsche Army Airfield (now the Marina Municipal Airport). Groundwater cleanup started in 1988 and, as of 2015, the

groundwater in that area meets clean drinking water standards, based on groundwater monitoring results.



FORT ORD FACT: Local drinking water supplied to communities by the Marina Coast Water District on the former Fort Ord meet all drinking water standards. Supply wells on Fort Ord are tested frequently to ensure water quality is maintained. Trichloroethylene or TCE has been found at detectable concentrations in three supply wells but is well below the Maximum Contaminant Level. The Army and the Marina Coast Water District monitor this situation closely.

COMMUNITY OUTREACH

Community outreach is a very important part of the Fort Ord Cleanup project. The cleanup program engages the community by conducting surveys, holding public meetings and information sessions and providing displays and tours where community members can learn about the cleanup and share their ideas and concerns with cleanup officials.

The semiannual Community Involvement Mobile Workshops, held in February and July, include an open house and a bus tour. These remain well attended events for those interested in a closer look at the cleanup projects. Typically, 120-150 people participate in this event which includes an open house with display booths that showcase the cleanup projects as well as narrated bus tours of the cleanup sites. The July Community Involvement Mobile Workshop typically features a bus tour in the Impact Area – a portion of the Fort Ord National Monument that does not currently have public access. The February bus tour includes a tour of the groundwater treatment plants and the former Fort Ord landfill. Each May, the Army also hosts a guided walk inside the Impact Area for a closer look at the munitions cleanup process and an opportunity to see the recovering Central Maritime Chaparral habitat. Project biologists accompany each May tour group to interpret the local ecology and identify plants and animals along the route. For information about past and future events, please check the news section of www.FortOrdCleanup.com.



A snapshot of the springtime guided nature walks inside the Impact Area.



(Above two photos) Community Involvement Mobile Workshop bus tour participants look at former Army targets in a closed portion of the Fort Ord National Monument.



Chris Duymich (Chenega) discussed the Army's prescribed burn program during a Community Involvement Mobile Workshop bus tour.

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Fort Ord Environmental Cleanup

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FORT ORD CLEANUP TEAM CONTACTS

The Army is responsible for conducting cleanup of the former Fort Ord, but it must do so in a manner that complies with federal and state laws and under the supervision of federal and state regulatory agencies. The Fort Ord cleanup is being conducted under the "CERCLA" cleanup process. CERCLA is an acronym for the federal law entitled the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, also known as Superfund. It encompasses cleanup of soil and groundwater that contain hazardous substances such as metals, pesticides, and other chemical contaminants common to landfills, firing ranges, chemical spills, and other military sites. At Fort Ord, the Superfund cleanup is supervised by the U.S. Environmental Protection Agency, California Department of Toxic Substances Control and the California Regional Water Quality Control Board. Under an agreement between the agencies, each regulatory agency assigns a representative to a Base Cleanup Team.

Contacts for each of the participating agencies in Fort Ord's cleanup are listed below. The Environmental Services Cooperative Agreement (ESCA) is an Army grant to the Fort Ord Reuse Authority (FORA) for munitions remediation on 3,340 acres that have been transferred to FORA.

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

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