

Fort Ord Environmental Cleanup 2007 ANNUAL REPORT

Fort Ord BRAC Office

JUNE 2007

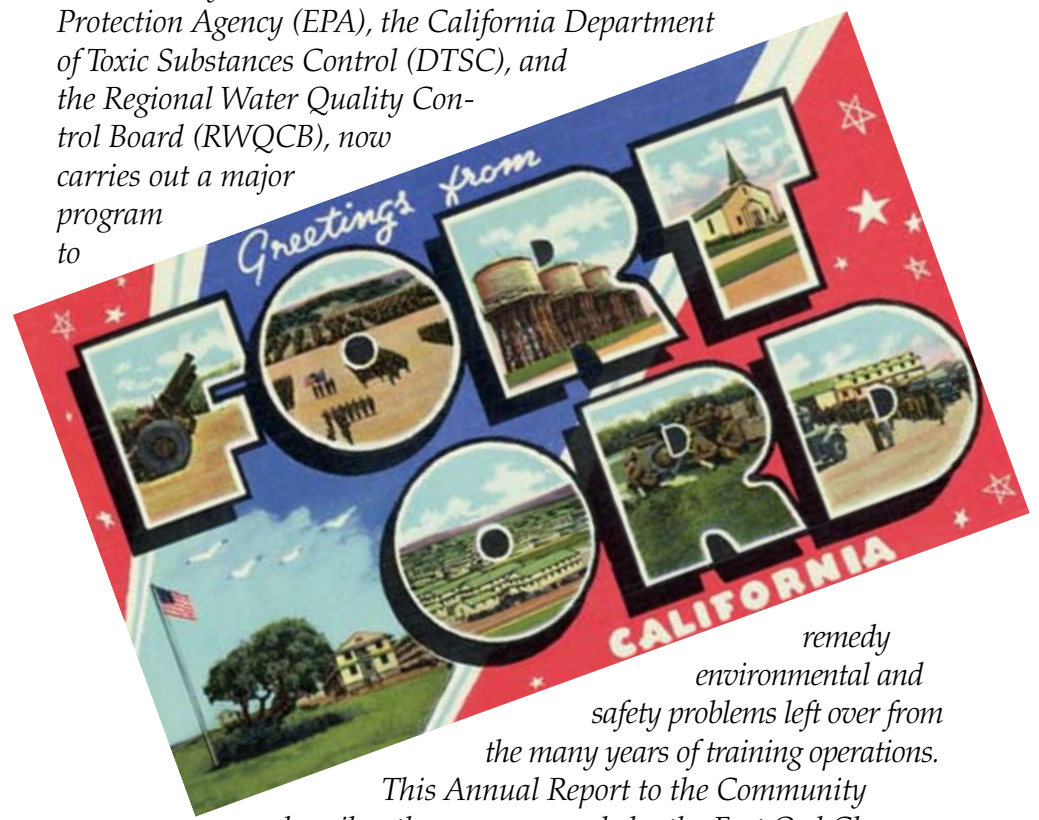
FORT ORD CLEANUP PROGRAM

The cleanup program at the former Fort Ord has two goals: (1) protect human health and the environment and (2) transfer land to the community for other uses. The Fort Ord Cleanup Program meets these goals by completing work in six major program areas:

- 1) Munitions cleanup: Cleaning up munitions and explosives left over from training activities
- 2) Soil cleanup: Cleaning up chemicals in the soil
- 3) Groundwater cleanup: Removing contaminants that have leaked into underground water
- 4) Management of environmentally sensitive lands: Protecting rare or endangered species and their habitat while cleanup activities go on
- 5) Land transfers: Preparing land for transfer to the community
- 6) Community Outreach: Keeping the public informed about cleanup activities and providing opportunities for involvement in key decisions

Fort Ord served as a major training facility for the Army from 1917 to 1994. Fort Ord was closed in 1994 as part of a nationwide program to consolidate and reduce the number of military installations after the end of the Cold War.

The Army, in consultation with the U.S. Environmental Protection Agency (EPA), the California Department of Toxic Substances Control (DTSC), and the Regional Water Quality Control Board (RWQCB), now carries out a major program to



remedy environmental and safety problems left over from the many years of training operations. This Annual Report to the Community describes the progress made by the Fort Ord Cleanup Program in 2007, and the activities planned for 2008, for each of six program areas (see box on the left).

Army Transfers 3,337 Acres and Cleanup Funds



On March 31, 2007 the U.S. Army signed an agreement with the Fort Ord Reuse Authority (FORA) that will allow the Army to transfer 3,337 acres of land on the former Fort Ord site to FORA to be used for housing, economic development and wildlife habitat, community services. The Army will also transfer sufficient funds for FORA to complete the cleanup of munitions on the transferred land through what is known as an Environmental Services Cooperative Agreement (ESCA). The FORA cleanup program will be overseen by environmental regulators including EPA and DTSC.

The Army has previously transferred land that was considered suitable for public uses, or where cleanup has already been completed. This includes lands transferred to the U.S. Bureau of Land Management, California State

continued on page 2

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Who Is FORA?

When the former Fort Ord was closed the closure had a major impact on the local community. There are estimates that as many as 10,000 jobs were lost. One of the hopes was that re-use of the former Fort Ord land for community purposes would offset some of this economic impact.

The California State Legislature set up the Fort Ord Reuse Authority (FORA) to make decisions about how the former Fort Ord land should be used. The FORA Board is composed of representatives of the nearby cities (Carmel, Del Rey Oaks, Marina, Monterey, Sand City, Salinas and Seaside) and Monterey County. There are also a number of ex officio members including local elected officials from Congress, the State Senate, the State Assembly, school districts, the California State University Monterey Bay, and several other local entities.

FORA has developed a Fort Ord Reuse Plan — following a substantial public process — that defines future uses of the land. The Base Reuse Plan is designed to create jobs, housing and regional support. It also provides facilities for improved beach access, trail systems, hiking, biking, other recreational activities and preserved habitat.

To see plan, visit www.fora.org.

ARMY TRANSFERS LAND

continued from page 1

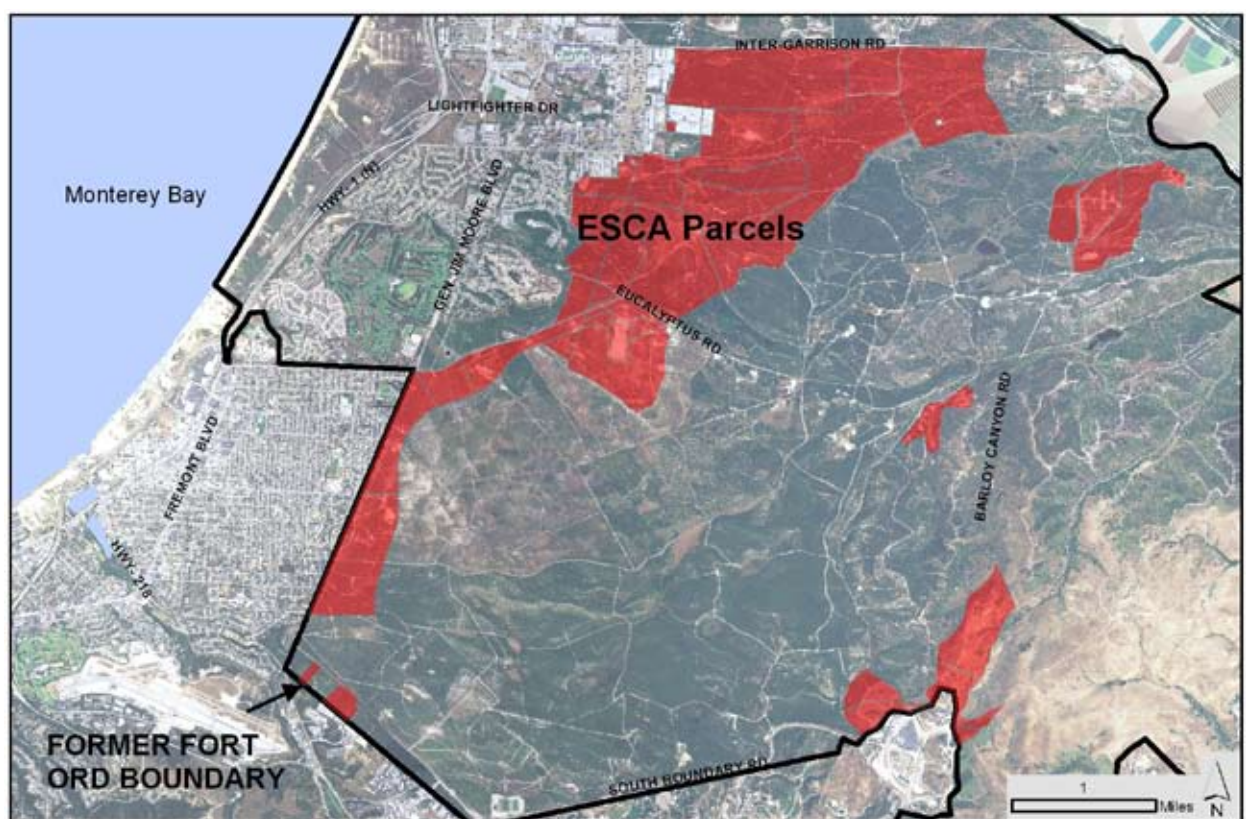
University Monterey Bay, California Department of Parks and Recreation, the University of California Santa Cruz and others.

The 3,337 acres that is being transferred now contains approximately 3,250 acres of land where there may still be munitions that need to be removed before the land can be used safely. In accepting the land, FORA is also accepting responsibility for cleaning the land to make it safe for use, with the ESCA funds provided by the Army. FORA has retained its own contractors, LFR, Weston Solutions and Westcliffe Engineering, to perform this work. FORA refers to its cleanup activities as the

“ESCA Remediation Program.”

One of the principal advantages of transferring the land and funds to FORA is that it locks in the funding to proceed with the cleanup. FORA also believes that the ESCA results in increased local control over the timing and pace of cleanup effort. It anticipates increased flexibility and freedom to explore innovative solutions. A final advantage is that FORA and the Army will both be able to proceed with cleanup on parallel tracks, and this will substantially speed up the cleanup process.

FORA has begun an extensive community involvement and outreach program regarding its ESCA Remediation Program. For more information see the FORA website at www.FORA.org.



Army Cleanup Will Continue

The Army will continue to be responsible for munitions cleanup on non-ESCA lands, including the majority of the Impact Area, the area with the highest concentration of munitions and explosives of concern (MEC). The Impact Area contains the former training ranges for artillery and explosives. Inevitably a small percentage of these shells, rockets and

explosives did not detonate and could be triggered if they are disturbed. They could be triggered for example, by someone bumping them while walking over the area. The Army is responsible for the cleanup of the Impact Area, which will be a nature reserve with no economic development uses.

Need More Information?

If you need more information about the Fort Ord Cleanup program, there's a primer covering the basics of all the cleanup activities on our web site at

www.FortOrdCleanup.com/foprimer

There are also a number of fact sheets at:

www.FortOrdCleanup.com/community/factsheets.asp



Clearance worker using a towed array to map and locate MEC.

Munitions Cleanup

The Army trained soldiers at the former Fort Ord in the use of artillery and explosives. Some of these munitions and explosives never detonated and remain on or near the surface of the land. The Fort Ord Military Munitions Response Program identifies where there are hazards from military munitions at the former Fort Ord. Then it evaluates which cleanup methods are appropriate in each situation. The Army has been investigating the location of munitions and explosives of concern since 1993. Thousands of acres have been investigated or cleaned up already.

The greatest concentrations of munitions and explosives of concern (MEC) are in certain training areas, known as ranges. But MEC have also been found in other areas. The challenge is to ensure that sufficient cleanup has occurred to allow the land use planned for each specific area.

Range 44 Special Case Area

In 2003 the Army conducted a prescribed burn on Ranges 43-48, the part of the Impact Area with the highest priority for cleanup. One of the reasons for this cleanup priority was that these ranges are close to roads (making it easier to

trespass in these areas) and nearer to residences and schools. The cleanup of Ranges 43-48 began shortly after the prescribed burn and was completed in late 2005. Nine thousand seven hundred thirty (9,730) munitions and explosives of

concern were removed or detonated during the cleanup.

Several areas within Ranges 43-48, such as Range 44, have been designated Special Case Areas (SCA) because a high concentration of subsurface anomalies made the planned cleanup unsuitable. "Anomalies" are metal items detected below the surface of the ground by using special equipment. They are called "anomalies" because there is no way to know whether they are munitions and explosives of concern, or just metallic debris, without digging them up. In the Special Case Areas, subsurface cleanup was not concluded during the work that occurred in 2005 because removal of anomalies below the surface of the land (subsurface) would have required digging up the land. Digging up the land is destructive to the plant life on the surface, some of which is protected under federal or state laws.

During habitat management activities on Range 44, workers noticed potential munitions apparently exposed by erosion and animal activity. As part of the cleanup of Ranges 43-48, and after consultation with regulatory agencies, the Army decided to remove all munitions of concern (and other munitions debris) that were accessible on the surface of these areas. Subsurface removal in the Special Case Areas would also have meant using up the financial resources needed to complete surface cleanup throughout Ranges 43-48.

Surface removal provides a certain degree of protection against someone accidentally triggering munitions. However,

continued on page 4



Example of munitions and explosives of concern (MEC)



MRS 16 cleanup is almost complete. This is both a surface and subsurface cleanup. To date 217 MEC items have been found, including 7 rifle grenades, 23 2.36-inch rockets, and a 37mm projectile. Cleanup work is expected to be completed later this year.

MUNITIONS RESPONSE SITES SELECTED FOR A FUTURE PRESCRIBED BURN

Four areas within the Impact Area — Units 2, 3, 18 and 22 (see map below) — are the next sites planned for military munitions cleanup activities. Because much of these areas are covered with dense vegetation, the Army must conduct a prescribed burn on all of these sites to clear the vegetation. Then, when the area is cleared of vegetation, the removal of munitions and explosives of concern can begin.

Certain specific atmospheric conditions (such as wind direction and speed) must exist before the Army can conduct a prescribed burn. These atmospheric conditions aid firefighters in managing the burn and help minimize the smoke impacts of the prescribed burn on the surrounding communities.

The areas called MRS-BLM Units 2-3

MUNITIONS CLEANUP

continued from page 1

even after surface removal has occurred, access to some areas may continue to be controlled since munitions and explosive items may remain below the surface of the land.

In 2007, the Army conducted additional surface removal on 15 acres within Range 44. This was necessary because erosion and digging by animals had exposed some of the items that had previously been below the surface of the ground.

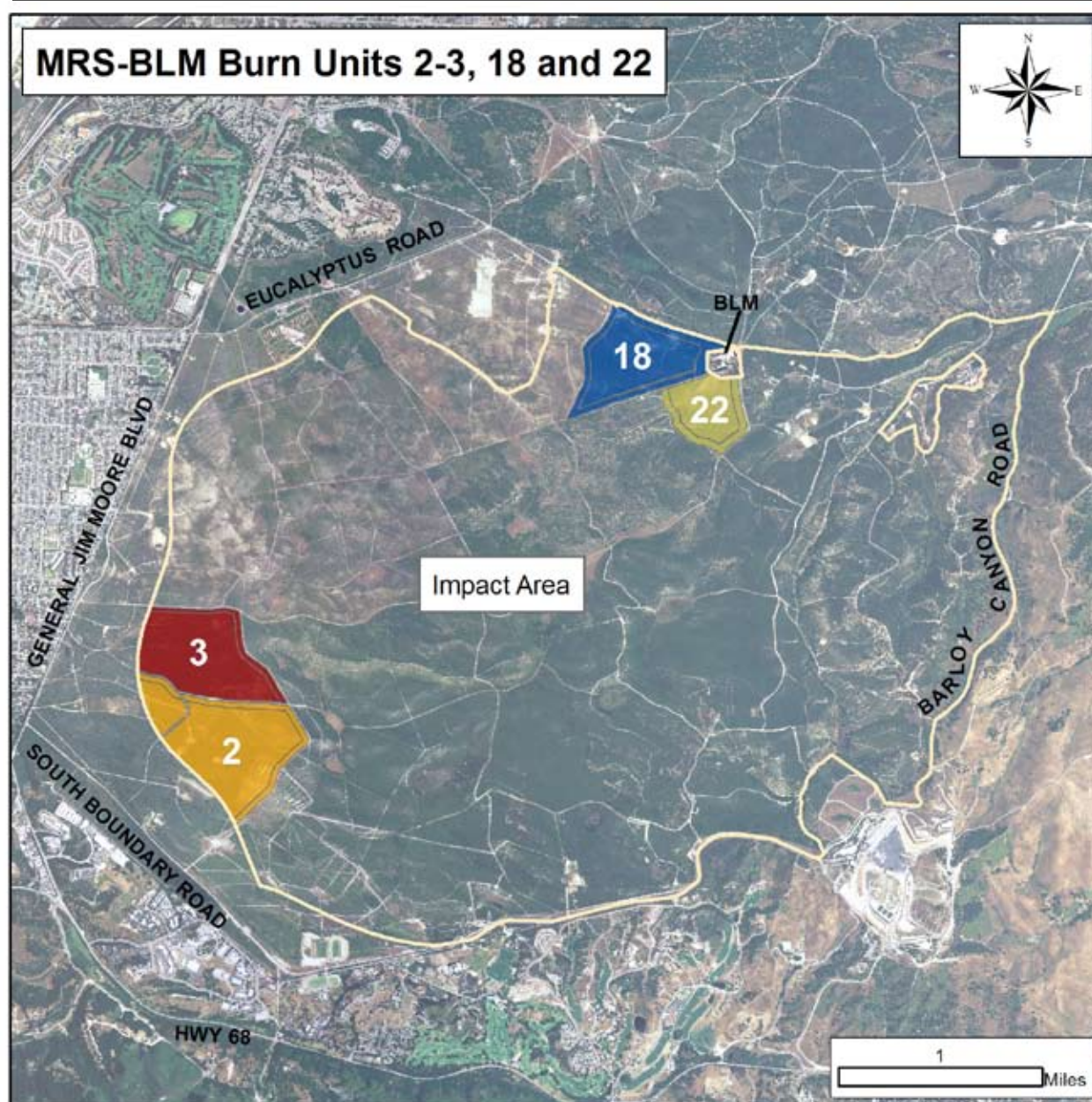
Teams of munitions cleanup technicians first inspected the land using Schonstedt magnetometers, machines that identify ferrous metal items both on and beneath the surface of the land. Munitions items on the surface needing removal were flagged by these teams. Those items that were safe for removal were consolidated and detonated. Items that were unsafe for removal were detonated in place.

The technicians found 236 unexploded ordnance items, including numerous 35mm practice rockets, rocket motors, and a 66mm high-explosive anti-tank rocket. In addition, technicians removed 702 pounds of other munitions debris.

The cleanup work on Site 44 has been concluded for now. But because this cleanup did not include removal of items located below the surface of the land, the Army will monitor the area to ensure that future erosion does not expose items. The Army also plans to remove contaminated soil in Range 44. The proposed cleanup methods were described in the Site 39 feasibility study/proposed plan for soil cleanup, a plan covering virtually all the Impact Area (see Site 39, page 5).

MUNITIONS RESPONSE SITE 16

Munitions Response Site (MRS) 16 is a 79 acre site where a prescribed burn was conducted in 2006. The prescribed burn was necessary to clear brush so that cleanup workers could safely enter the land.



are the first priority for cleanup. The Army evaluated alternative approaches before deciding to use prescribed burning to remove vegetation on munitions response site on the former Fort Ord. The Army consulted with the United States Fish and Wildlife Service, United States Environmental Protection Agency, California Department of Toxic Substance Control as well as the public in development of a decision on how to conduct the removal actions planned for 2007 and beyond. The completed decision document is known as a Record of Decision. The consultation for MRS-BLM Units 1-3 was completed in 2007 with the expectation that, following publication of a Record of Decision, a prescribed burn would be held in November — December 2007.

The required atmospheric conditions necessary for conduct of a prescribed burn on Units 1-3 are very infrequent in any burn season. When prescribed burn preparatory actions (cutting fuel breaks, etc.) are completed the vegetation may be adversely impacted if a prescribed burn is not completed in the same year. Therefore, preparations were completed on only Units 2 and 3 in 2007. The required atmospheric conditions did not occur during November — December 2007. The Fort Ord prescribed burn season ended on December 31, 2007. The next possible date for a prescribed burn will be July 1, 2008, when the burn season for 2008 begins.

The Army is in the process of preparing two other areas, called MRS-BLM Unit 18 and MRS-BLM Unit 22, for a prescribed burn. The proper atmospheric conditions for prescribed burns at these two sites is different (primarily in wind direction and speed) than for MRS-BLM Units 1-3. By preparing sites with different atmospheric requirements before a burn can occur, the Army increases the chances that appropriate weather conditions will allow at least one prescribed burn during each burn season. The required consultation and document preparation will be completed in 2008 with the expectation that a prescribed burn will be conducted in July — December 2008.

Fort Ord has a program for directly notifying residents in the community when a burn is imminent. Information about the 2008 prescribed burn direct notification program will be sent out during the first half of 2008. Because emails and phone numbers may change, people who have previously signed up for direct notification will be sent a form so they can update contact information.



SOIL CLEANUP

Most soil cleanups at Fort Ord were completed prior to 2007. The primary cleanup activity that remains is remediation of contaminated soil on the inland ranges within the Impact Area (Site 39).

Site 39 (Inland Ranges)

To date, the Army has identified approximately 125,000 cubic yards of soil contaminated with lead and explosive compounds that need to be removed from former military training ranges. These ranges are in an area known as Site 39. A Record of Decision was completed previously describing the cleanup action that would be taken in this area, but this Record of Decision did not include cleanup goals to address potential risk to plants and animals. In addition, the volume of soil to be excavated substantially exceeds the amount of soil described in the original Record of Decision. The Army has prepared a Feasibility Study Addendum and an Amendment to the Site 39 Record of Decision that will describe the cleanup of the contaminated soil.

Amending a Record of Decision is a rather lengthy process, and includes opportunities for the public to comment on alternatives. A 60-day comment period on the proposed plan was held during April — May 2008. A public comment meeting was held on April 10 in Seaside, CA. Comments from the public will be considered before the Army and EPA, in consultation with the State of California, make the final decision about how the soil cleanup will be conducted. The proposed plan and alternatives are part of a report posted on the Fort Ord Cleanup website at [www.FortOrdCleanup.com/AR RI-041/RI-041.pdf](http://www.FortOrdCleanup.com/AR%20RI-041/RI-041.pdf).

One of the key considerations in deciding how cleanup will occur is the potential impact on protected habitat. During 2007 the Army completed an Ecological Risk Assessment for Site 39. This is discussed further on page 8.

Site 3 (Beach Ranges)

The beach ranges were used for small arms training. The surface was covered with lead from bullets. In 1998, the Army excavated 163,000 cubic yards of soil, placing this soil in the Operable Unit 2 landfill (a covered landfill carefully designed to ensure that water cannot reach the waste and allow the lead to migrate to groundwater.)

In 2006 the Army completed a report called the Post Remediation Ecological Habitat Sampling Study. This study evaluated whether the cleanup program was successful in reducing contaminant levels to the point that environmental health was protected. After extensive review with the environmental regulators, the agencies concluded that the actions that had been taken were protective of both human health and the environment. However, some ecological monitoring will continue to ensure that the cleanup action was sufficient.

The beach ranges are part of property that has been transferred to the Department of the Interior and are expected to be transferred to California Department of Parks and Recreation in 2008. This land will become a new State Park. When evaluating the adequacy of the cleanup, the agencies took into account that the land would be used as a state park.

Groundwater Cleanup

When rain falls on the land, much of the water — especially where there is sandy soil like that found on the former Fort Ord — passes into the ground. The water percolates through the soil until it reaches an underground layer of clay or rock, and can go no further. When this happens, water accumulates in the ground and can be pumped from the ground. Geologists refer to water stored in the ground in this way as groundwater. The areas where the water accumulates are known as aquifers.

Chemicals of concern have leaked into the groundwater at four known sites on the former Fort Ord. Drinking water

meets all safety standards, but the Army is still required to remove the contamination.

At three of the sites, the Army has built treatment facilities to extract water from the ground and remove contamination from the water. The Army will continue to treat the water until the concentrations of contaminants are low enough to meet cleanup standards that were identified in Records of Decision issued for each site. At a fourth site, discovered more recently, the Army is completing planning for a new treatment system that uses a different technology.

The four contamination sites are:

1. A former fire drill area at Marina Municipal Airport (Operable Unit 1),
2. A landfill south of the corner of Imjin and Abrams Roads (Operable Unit 2);
3. A former truck and auto maintenance facility just east of Highway 1 (Sites 2 and 12), and
4. A former signal corps training facility plume north of the corner of Imjin and Abrams Roads (Operable Unit Carbon Tetrachloride Plume).

The following is a summary of the progress on these sites.

Operable Unit 1: *A fire-fighting training area near the former Fritzsche Army Airfield, now called Marina Airport*

Contamination Source

This was a training area for the Fort Ord Fire Department and other municipal fire departments. A commonly used method to train fire fighters was to place fuel in an unlined pit, set it on fire, and then have the trainees put it out. Some of the chemicals from the fuel leaked into the groundwater. The Army closed the training area in 1985.

Prior Cleanup Activities

In 1988, the Army installed a groundwater extraction and treatment plant to clean up contaminated groundwater. The system pumps water from wells placed in the contaminated areas. The extracted water is then treated, removing hazardous chemicals. The treated water is re-injected back into the ground.

In 2000, groundwater monitoring identified that there was contamination beyond the treatment system capture zone. The Army started investigating and discovered that contamination had migrated approximately 2500 feet away from the former treatment system. In 2003, the Army awarded a Performance Based Contract (PBC) to complete all remaining remediation.

The original treatment facility installed in 1988 has been shut down as contamination has been addressed. The remaining groundwater contamination at the site on the former Fort Ord will be addressed by a new treatment system called the Northwest Treatment System.

So far, the treatment systems have been used to remove contamination from more than 40,000,000 gallons of water. The Army monitors groundwater every quarter, and will continue treating the

water until it meets cleanup standards.

In 2005, the Army found that contamination exceeding the groundwater cleanup levels had migrated off the former Fort Ord site. The contamination migrated approximately 1500 feet from the property boundary. The contractors who had received the Performance Based Contract informed the Army they were not responsible for that contamination. The Army utilized another contractor to characterize and install a remediation system.

2007 Activities

On-Site Contamination

An expanded groundwater extraction and treatment unit has been completed. This treatment process should keep additional contamination from migrating off-site.

Off-Site Contamination

— In 2005, the Army discovered that a portion of the chemical plume had migrated from Operable Unit 1 and was now outside the boundary of the former Fort Ord.

The Army has developed plans to substantially expand extraction and treat-

ment activities in order to capture the contamination. The Army is evaluating the results of a pilot study to determine the most effective approach.

Some initial steps were taken during 2007 to expand the treatment process. These included:

- An existing treatment facility was upgraded to increase extraction and treatment.
- Several pipelines were installed to transport water from wells to the treatment facilities — some of these were pipeline carrying untreated water extracted by wells, and some were carrying treated water back to areas where the water is re-injected into the ground
- Two infiltration trenches were installed.

The contaminated water does not pose an immediate health risk because it is located below the surface of the ground, and does not affect Marina's drinking water supplies. However Monterey County has adopted ordinances prohibiting new water supply wells in this area until cleanup is completed.

Operable Unit 2: *A former municipal waste landfill south of the corner of Imjin and Abrams Roads*

Contamination Source

The Army operated a municipal waste landfill, now closed, during most of the time that Fort Ord served as a training base (1950-1987). Like many municipal landfills from this era, Fort Ord landfill was later found to be leaking hazardous chemicals into the groundwater beneath the landfill. The Army stopped accepting waste into the landfill in 1987.

Like all landfills, the landfill also produces methane gas, which is flammable at certain concentrations.



Prior Cleanup Activities

The Army program is designed to cleanup existing contaminated groundwater, prevent further contamination of the groundwater, and ensure that methane — a naturally occurring gas produced whenever organic material decomposes — is maintained at safe levels.

Because some contaminants had already leaked into the groundwater, in 1995 the Army constructed a groundwater extraction and treatment system to remove this contamination. This system started operation in October 1995. The Army pumps water from wells placed in areas of contamination, removes hazardous chemicals from the water, and then returns the water back into the groundwater system. Water from the contaminated area is not used for drinking water or for crops.

To prevent future groundwater contamination from the landfill the Army installed a cover system over all waste areas, to keep all surface water from reaching the materials in the landfill. The Army also cleaned one area, which will allow for future reuse and provided needed soils for the cover system. This system has proven effective at other municipal landfills.

In 2001 the Army installed a system to extract and remove methane and other gases from within the landfill. An additional thermal treatment unit was added in 2006. This system also enhances the groundwater cleanup system, by removing contamination before it reaches the groundwater.

2007 Activities

The groundwater treatment system continues to operate. The OU2 system extracted and treated over 327 million gallons of groundwater in 2007, for a total of almost four billion gallons treated since the extraction and treatment system began operation in 1995.

Treated water is injected back into the aquifer. This treatment will continue until the water meets cleanup levels specified in the Record of Decision. This process will take some years.

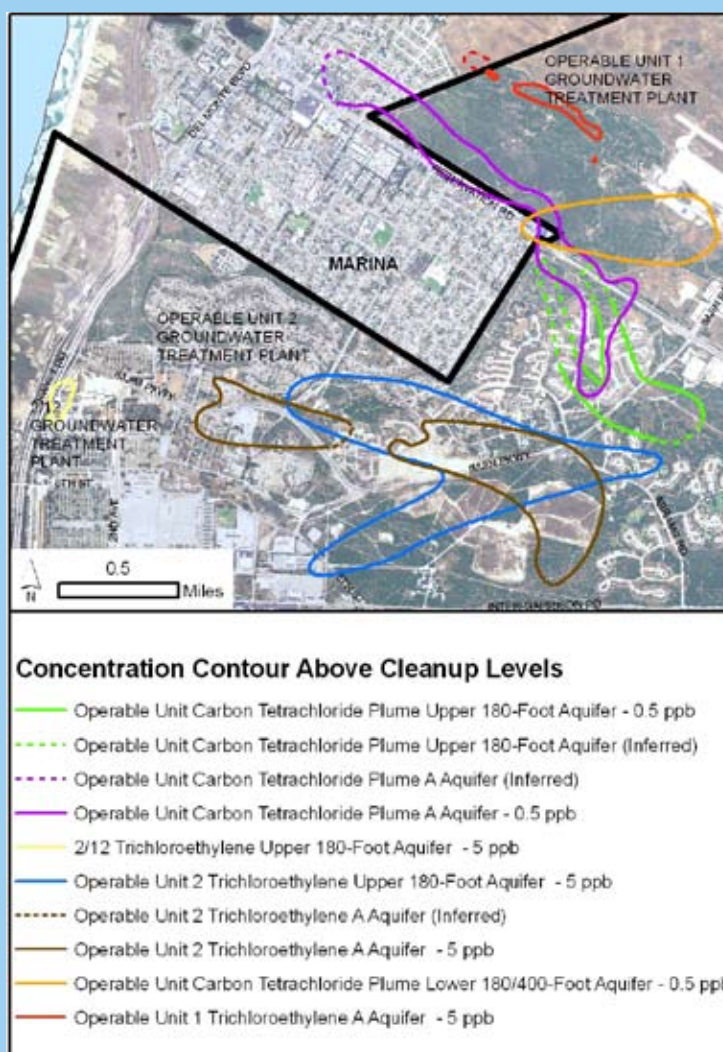
The existing methane gas extraction system keeps methane concentration levels below state health standards.

Sites 2 and 12: A former Vehicle maintenance facility just east of Highway 1

Contamination Source Solvents and other chemicals from the vehicle maintenance facility.

Prior Cleanup Activities

In 1999 the Army began operating a groundwater extraction and treatment plant to address groundwater contami-



nation. Subsequently an air stripper was added to the extraction and treatment system. To accommodate property development, the Army allowed the developer to relocate a number of extraction and monitoring wells.

2007 Activities

The treatment program continues to be effective and has significantly reduced the extent of the plume. Treatment will continue until the water complies with cleanup levels specified in the Record of Decision.

The extraction and treatment system has removed contaminants from 1 million gallons of water.

Operable Unit Carbon Tetrachloride Plume: A groundwater plume located just north of the corner of Imjin and Abrams Roads which extends northwestward into the City of Marina

Contamination Source

Groundwater is contaminated with low concentrations of carbon tetrachloride — a chemical that was frequently used as a solvent and cleaning fluid — and this contamination is spreading underground in a plume.

Based on considerable research and field investigations, it now appears that the source of the carbon tetrachloride was a training facility used in the 1950s, which no longer exists. In the 1980s, the Army built part of the Abrams Park housing

area over this area. Apparently, after the solvent was used to clean radios and other equipment at least some of the solvent was dumped out on the ground, a common practice at the time.

Some of the carbon tetrachloride that was disposed of on the ground remained in the soil in the form of a gas, and the potential existed for these gases to intrude into indoor air in houses near Lexington Court. Subsequent investigations showed that Carbon Tetrachloride was not found to be concentrating in indoor air.

Prior Cleanup Activities

There are two issues: (1) cleaning up the contaminated soils that are the source of the contamination, and (2) removing the contamination already in the groundwater. The Army used a soil-vapor system to remove chemical vapors from the soil. After several months of operation, the Army found the levels of carbon tetrachloride were so low that they

were barely detectable. The Army and the regulatory agencies believe that no additional cleanup activity is required for soil gas in the vicinity of Lexington Court.

The Army has installed wells within the Marina city limits to help monitor the carbon tetrachloride plume. By monitoring these wells the Army will also learn about the effectiveness of the treatment methods it is using.

2007 Activities

The Army has developed a treatment plan and the formal Record of Decision was signed February 2008.

The treatment that will be used in the aquifer closest to the surface (known as the "A Aquifer") is "in situ biodegradation." This means that contaminants will be left in the ground and destroyed in place by naturally occurring bacteria that are stimulated by the injection of lactate. Lactate is produced by fermentation of lactose, and is found in sour milk. A pilot test is underway to determine final design elements. Results of the pilot study are expected to be available in 2008.

The contamination in the aquifer beneath the A aquifer (known as the "180 Aquifer") will be removed by the extraction and treatment facilities already in place for Operable Unit 2.

Contamination concentrations in the third aquifer (the "400 Aquifer") are very low and will be monitored to be sure it does not increase. It is expected that concentrations will drop naturally over time.

Management of Environmentally Sensitive Lands

There are a number of animal and plant species on the former Fort Ord site that are protected by federal or state environmental laws. In addition to cleaning up the former Fort Ord site, the Army must ensure that these species and their habitat are protected as cleanup work goes on.

In 2007 there were several studies conducted to assess the impact that cleanup actions have had on protected species. There are two primary concerns. First, there is a concern that cleanup actions, such as prescribed burns, constructing or maintaining firebreaks, or construction

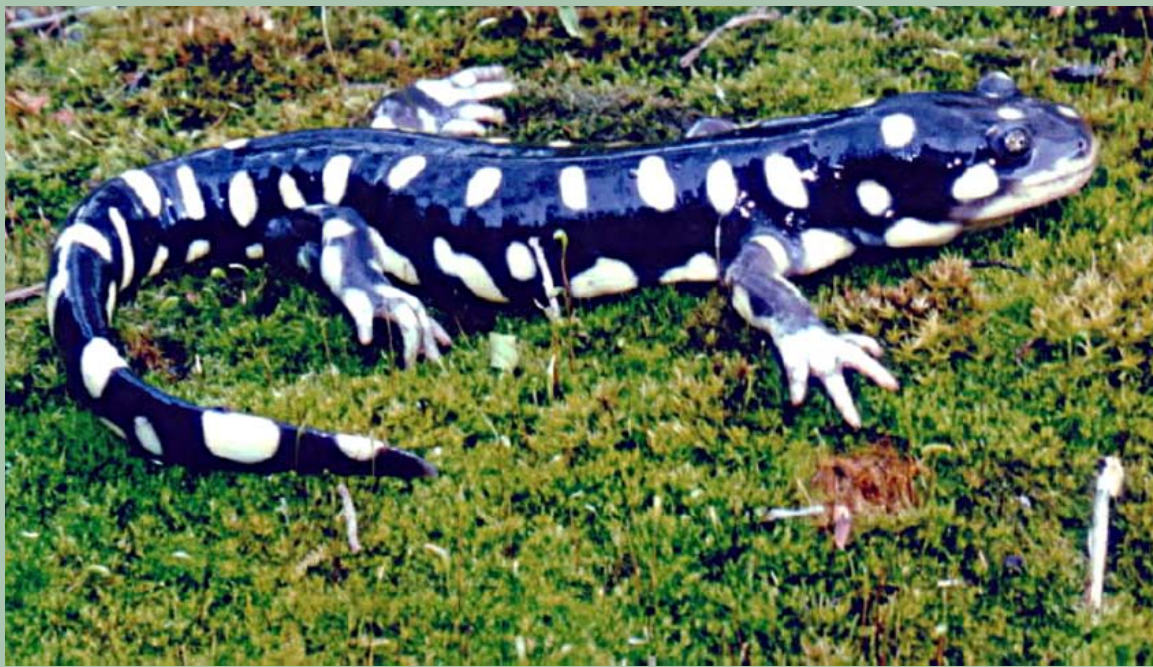
and maintenance of groundwater cleanup facilities, could have a direct impact on the number and density of protected species. Second, there is a concern that any disturbance caused by prescribed burns, or by mowing or clearing fuel breaks, could allow invasive species to move into sites.

Researchers looked primarily at two protected species, the Sand Gilia and the Monterey Spineflower. These species are considered indicators for the survival of the entire protected habitat. Researchers also looked at the percentage of areas covered by annual grasses, since these

grasses compete with protected species such as the Sand Gilia and Monterey Spineflower. Studies were conducted during the spring or early summer of 2007, since this is blooming season and an optimal time for identifying these plants. The research procedures followed a research plan developed in consultation with the U.S. Fish & Wildlife Service (the federal agency responsible for protection of threatened and endangered species).

A table summarizing these studies, including the reason for and results of each study, is provided on the next page.

Two California Tiger Salamanders, a protected species (pictured), were found while conducting cleanup activities. In both cases they were relocated to nearby vernal pools. Two Black Legless Lizards were also found in cleanup areas and were relocated out of harm's way.



The former Fort Ord is home to an environmentally sensitive habitat known as central maritime chaparral. In fact, a very high percentage of all the central maritime chaparral in the world is located at the former Fort Ord. The U.S. Fish and Wildlife Service has issued several Biological Opinions protecting species within maritime chaparral.

Site 39 Ecological Risk Assessment

Occasionally the Army's various cleanup responsibilities come into apparent conflict. One example is when cleanup activities involve soil excavation in areas where there is environmentally sensitive habitat that probably would not recover from excavation. That's the challenge at Site 39.

In 2007 the Army completed an Ecological Risk Assessment of habitat areas that are within the Impact Area. These habitat areas have been designated as part of a natural resource area that will be turned over to the Bureau of Land Management and will be managed as a nature reserve, with limited access.

Some of these areas were previously used for small arms training, and there are relatively high concentrations of lead debris on the site. Previous studies of the ecological risk associated with the lead and other chemical contaminants were completed in 1995. These studies were constrained by limited access to the Impact Area at that time.

Now that more is known about the Impact Area, it seems clear that the amount of lead-contaminated soils on the site was significantly underestimated. Also, the Basewide Record of Decision — the controlling document for cleanup efforts in this area — specifies cleanup levels for protection of humans, but doesn't set standards for protection of plants and animals. So the Army has prepared amended documents to address these issues.

The Biological Opinions currently limit excavation to 75 acres within these habitat areas. In addition, restoration of habitat is required after any cleanup where these protected species are present. The problem is that maritime chaparral is extremely difficult to replace after excavation. In fact, this is one of the reasons that the Army uses prescribed burn to remove brush prior to cleanup work. Maritime chaparral is actually rejuvenated by fire, but excavation removes the seeds of these species along with the soil.

Based on all these considerations the Army decided to conduct an Ecological Risk Assessment (ERA) to assess exactly what the risks of contaminated soils are to plants and animals, using more up-to-date information. This information was used to guide decisions about the cleanup approach described in the Feasibility Study.

The ERA concluded that there were somewhat elevated risks (although still low) to some birds that eat insects, such as the bushtit and American Robin. There was low likelihood of risk for aquatic life, including the protected tiger salamander. The highest risks may be to reptiles, although there is a lack of toxicity data, so this is not certain. But because there are risks, the Army must address cleanup of these contaminated soils.

But since the impact on plants and animals of leaving the contaminated soils in place appears relatively low, and the chances of restoring the protected habitat after excavation is very unlikely, should the Army proceed with the soil excavation? This is a question that has been addressed in the Feasibility Study Addendum and Record of Decision Amendment.

Studies of Environmentally Sensitive Areas

Following is a summary of these studies, including the reason for and results of each study. Please note that an increase in sand gilia and spineflower is considered positive, and that an increase in annual grasses is undesirable.

1 Area Studied — Operable Unit 1 operated as a fire drill area between 1962 and 1985)

Reason for Study 1) Assess impact on habitat of installing wells and groundwater treatment facilities used to remove contaminants from groundwater; 2) Identify areas to avoid when designing additional wells and infiltration trenches

Impact on Sand Gilia Sand gilia was mapped in 12 of the potential construction sites. Total = 335 plants. No sand gilia populations were observed in a prior (1998) study. Efforts to mitigate impacts during construction appear to be successful and will be continued.

Impact on Spineflower Spineflower mapped in 54 populations in the survey areas, but typically were very sparse. Little conflict with proposed construction sites. Efforts to mitigate impacts during construction appear to be successful and will be continued.

Annual Grasses Annual grasses cover 41 percent of the study area. Native plants cover 25 percent.

2 Area Studied — Carbon Tetrachloride Plume (an area where the Army plans to construct 25 new wells and extraction equipment to control a carbon tetrachloride plume in groundwater).

Reason for Study Develop a base-

line for the existing habitat prior to beginning construction of wells and pipelines. Baseline will be used for comparison post-construction. Identify measures needed to protect habitat to be taken during construction.

Impact on Sand Gilia Total area of sand gilia is 0.075 acres, with a total number of 528 plants. This is comparable to past studies.

Impact on Spineflower Total distribution is 2.17 acres out of the 6-acre survey area, of which 1.94 acres was very sparse. 14 of 25 wells will be located in spineflower range, but none in high density areas. Mitigation measures need to be taken to protect seed bank in areas of access roads.

Annual Grasses More than 50% of site currently (pre-construction) occupied by annual grasses at high density.

3 Area Studied — Munitions Remediation Site 16 (site of a 2006 prescribed burn and munitions cleanup)

Reason for Study Assess the impact of the prescribed burn on protected species

Impact on Sand Gilia The three patches of sand gilia found before the fire remain, and the number of plants has increased significantly following the fire. The combination of the fire plus 2007 climate conditions apparently stimulated germination.

Impact on Spineflower Some possible shrinkage in the range following the fire (although this may due to some methodology problems with the 2006 baseline study). However, the density of coverage was much greater following the fire, indicating improved germination.

Annual Grasses Increase of 2.5 acres in medium or high density grass areas (a relatively small change considering the size of the site).



Photo of Sand Gilia

4 Area Studied — Proposed 2007 Burn Units 1, 2 and 3

Reason for Study Develop a pre-fire baseline for studying the impact of the proposed prescribed burns on protected habitat

Impact on Sand Gilia Baseline developed for existing species. Comparisons will be made post-fire.

Impact on Spineflower Baseline developed for existing species. Comparisons will be made post-fire.

Annual Grasses Baseline established for annual grasses pre-fire.

5 Area Studied — Ranges 43-48 (an area where a prescribed burn was conducted, followed by cleanup of munitions and explosives of concern)

Reason for Study Determine whether past disturbance (mowing and clearing) of fuel breaks increased the amount of non-native annual grasses

Impact on Sand Gilia Not studied in 2007

Impact on Spineflower Not studied in 2007

Annual Grasses A 2005 study showed that annual grass coverage had increased immediately after disturbance, but coverage was now declining. Conclusion: so long as disturbance is minimal, native species compete successfully with non-native grasses over time.

Area Studied — Fusilade treated plants in Ranges 43-48

Reason for Study Evaluate the use of Fusilade, an herbicide, for reduction or elimination of invasive annual grasses

Impact on Sand Gilia Not studied

Impact on Spineflower Not studied

Annual Grasses Fusilade was effective in reducing invasive grasses in only 1 of 5 plots. Fusilade may be effective in some conditions but not all. It may need to be applied earlier in the growing season.



Photo of Monterey Spine flower

Community Outreach Program

The Fort Ord Cleanup Program maintains an extensive community outreach program to keep the public informed about the cleanup activities at the former Fort Ord and provide opportunities for the public to participate in decisions before they are made.

Here's a summary of the major community outreach activities:

Fort Ord Cleanup Web Page

The Fort Ord Cleanup web page (www.FortOrdCleanup.com) is increasingly becoming a major source of information for the public. The web page not only provides current news, there are also numerous fact sheets available, and it is now possible to access virtually all recent technical documents in the Fort Ord Administrative Record through the website. It is also possible to search the site using the Google search engine.

Community Involvement Workshops

Fort Ord hosts quarterly workshops that are open to anyone in the community. The Army provides briefings on current topics and upcoming decisions. The public has the opportunity to provide input and request topics for future workshops.

Public Comment Meetings

Public comment meetings are held, when needed, in addition to the Community Involvement Workshops. These meetings provide an opportunity for the public to comment on pending decisions. In 2007 there were three public comment meetings.

Monthly Mailing

The Fort Ord Cleanup Office publishes a monthly bulletin with updates on technical reports, announcements about upcoming events, and other news bulletins.

Information Repositories

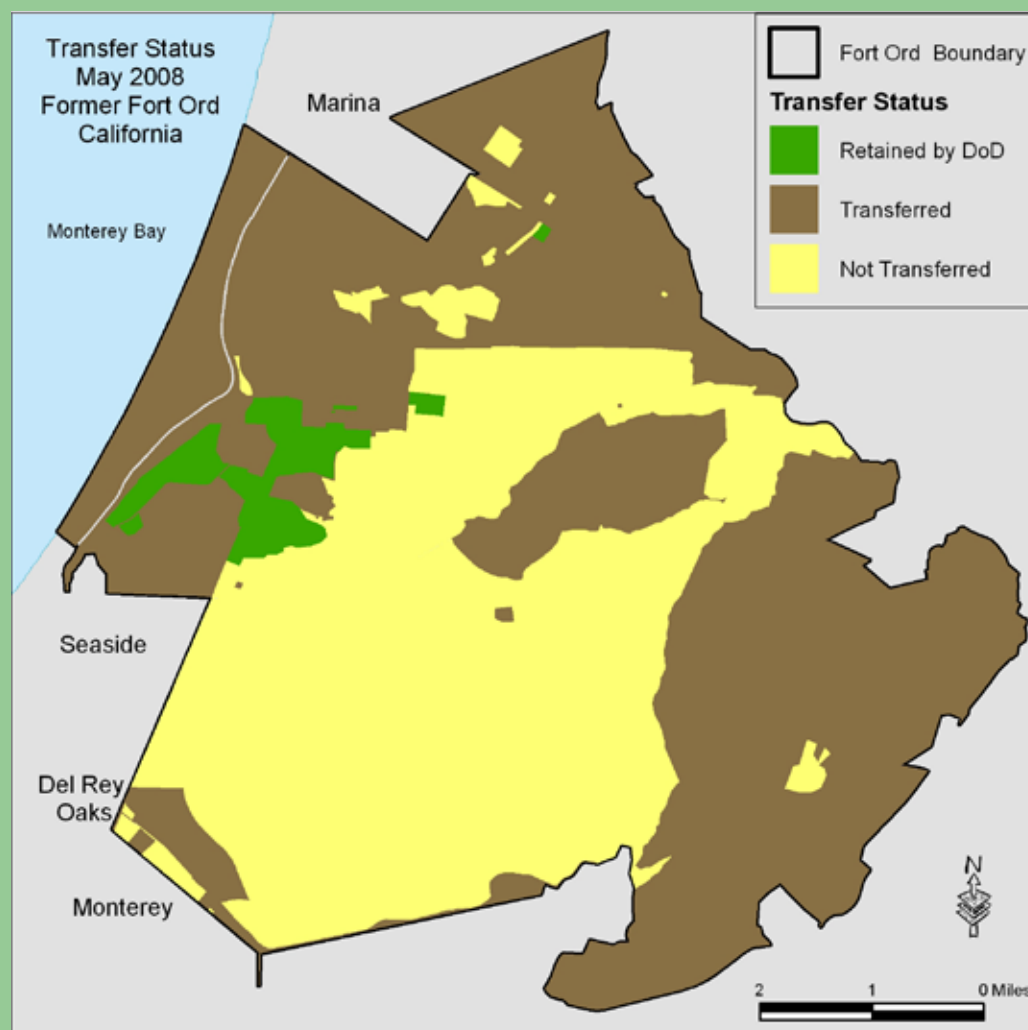
The easiest way to access documents is on the web at www.FortOrdCleanup.com. But documents are also available at information repositories located at:

- Fort Ord Administrative Record, Building 4463, Gigling Road, former Fort Ord
- California State University Monterey Bay Library

For assistance in finding information of interest to you please contact the Administrative Record desk at (831) 393-9186.

Door-to-door Notification

In some cases, when the former Fort Ord's immediate neighbors could be directly affected by cleanup activities, the



Land Transfers

The primary land transfer activity in 2007 was the Environmental Service Cooperative Agreement with the Fort Ord Reuse Authority. This transfer is described on page 1. Other land transfer activities include:

Transfers to the Community

In 2007 the Army transferred approximately 97 acres of property for community use. The land was transferred to Monterey Peninsula College and York School for education facilities, to the California Department of Transportation for right-of-way for Highway 1, and to the Veterans Transition Center, a non-profit organization that provides services for homeless veterans and their families. As of the end of 2007, the total amount of property at the former Fort Ord transferred for beneficial reuse is approximately 15,208 acres.

Documentation for 2008 Land Transfers

In 2007 the Army also completed two significant property transfer documents and received regulatory agency concurrence. This means that this property can be transferred during 2008. The planned transfers include:

- The Army completed a Finding of Suitability to Transfer (FOST), for areas known as "Former Fort Ord, California, Track 0 Plug-in Group D, Track 1 Plug-in East Garrison Areas 2 and 4 NE, and Track 1 Plug-in Groups 1 – 5 Parcels (FOST 10)." With completion of these documents and regulatory agency concurrence the Army expects to transfer approximately 710 acres of property.
- The Army also completed a Finding of Suitability for Early Transfer (FOSET), Former Fort Ord, California, for the Environmental Services Cooperative Agreement (ESCA) Parcels and Non-ESCA Parcels (Operable Unit Carbon Tetrachloride Plume) (FOSET 5). In 2008, the Army expects to transfer approximately 3,337 acres of property.

Community Relations Program Office will provide door-to-door notification of upcoming events.

Technical Review Committee

The Technical Review Committee meets quarterly. Technical Review Committee meetings are targeted primarily at technical staff of local government agencies, although the public may attend.

Publications

The Fort Ord Cleanup Program issues an annual report to the community, usually in April-May of each year. The Program also issues occasional Community Bulletins, usually concerning particularly controversial topics such as planned prescribed burns, or other major decisions.

Presentations

The Army is pleased to make presentations to community groups. Please give us a call if your group would be interested in such a presentation. Last year, the Rotary Club of the Monterey Pacific took a tour of the Fort Ord cleanup as a club presentation.

Information Booth/ Community Events

The Fort Ord Cleanup program sets up information booths at major community events such as the Bureau of Land Management Public Lands Day, the California State University Monterey Bay Club Showcase, the Monterey County Fair, the Marina International Festival of the Winds, Earth Day celebrations at both the Monterey Institute of International Studies and California State University Monterey Bay, and Seaside's Night Out celebration.

Open Houses/Bus Tours

The Community Relations Office conducts bus tours of the former Fort Ord for



As a part of the Army's community outreach program for the cleanup of the former Fort Ord, tours of the former Fort Ord cleanup sites and facilities are offered as well as presentations about the cleanup process. On Saturday, April 26, the BRAC office sponsored an environmental cleanup tour for the Tahoe-Baikal Institute. The focus of this tour emphasized the team collaboration of the cleanup efforts with base reuse.

community groups and environmental professionals interested in cleanup issues.

Media Relations

The Community Relations Office issues news releases whenever there are stories that could be of interest to the public. In 2007 the Army issued several news releases related to prescribed burns including: the opening of burn season, signing up for direct notification of prescribed burns and black-lining (small prescribed burns used to establish fuel breaks).

Munitions and Explosives Safety Awareness Class

As part of the Military Munitions Re-

sponse Program, the Army conducts munitions and explosives safety awareness classes. Training is also conducted for all contractors or other workers who will be working on parts of the former Fort Ord lands where munitions and explosives might be found.

How to Get Involved

- **To receive the monthly mailing** summarizing cleanup activities and announcing all meetings call the Fort Ord hotline at 1-800-852-9699 or send an e-mail to: Melissa.Broadston@monterey.army.mil. The local number for the information line is (831) 242-7383.
- **To request information** call the Fort Ord hotline at 1-800-852-9699 or is (831) 242-7383.
- **To get documents** go to www.FortOrdCleanup.com or get them at the repositories at the Fort Ord Administrative Record, Building 4463, Gigling Road, former Fort Ord; Seaside Library, and California State University Monterey Bay Library. For assistance in finding information of interest to you please contact the Administrative Record desk at (831) 393-9186.
- **To get information** on the ESCA Remediation Program contact esca@fora.org or call (831) 883-3506.



Fort Ord Hits The Road for Earth Day

The Fort Ord BRAC office and the Fort Ord Reuse Authority shared a cleanup information booth at California State University's Earth Day event, April 22, 2008. Since some of the cleanup work is complicated and difficult to understand; the information booth can help the community become familiar with the cleanup process.

How Can You Contact Us?

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. At Fort Ord, the cleanup is supervised by the U.S. Environmental Protection Agency, California Department of Toxic Substances Control and the Regional Water Quality Control Board. Under an agreement between the agencies, each team assigns a representative to a Base Cleanup Team (BCT). This team makes day-to-day management decisions about the cleanup program. Contacts for each of the participating agencies in Fort Ord's cleanup are listed below.

U.S. Army Representative

US Army Fort Ord Base Realignment and Closure

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Regulatory Representatives

U.S. Environmental Protection Agency (Region IX)

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California EPA-DTSC (Department of Toxic Substances Control)

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Joyce Whiten, Public Participation Manager
8800 Cal Center Drive
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JWhiten@dtsc.ca.gov
(DTSC Public Participation hotline with Spanish Translation capability 1-866-495-5651)

California Regional Water Quality Control Board

Grant Himebaugh, Remedial Project Manager
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401-7906
(805) 542-4636
ghimebaugh@waterboards.ca.gov

Fort Ord Reuse Authority

Stan Cook, ESCA Program Manager (for issues concerning the Environmental Services Cooperative Agreement [ESCA] Remediation Program)
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2007 Annual Report

Inside This Issue

Property Transfer to FORA	1
Munitions and Explosives Cleanup....	3
Soil Cleanup	5
Groundwater Cleanup	6
Management of Environmentally Sensitive Lands	8
Land Transfers	10
Community Relations Activities	10
Get Involved.....	11

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