



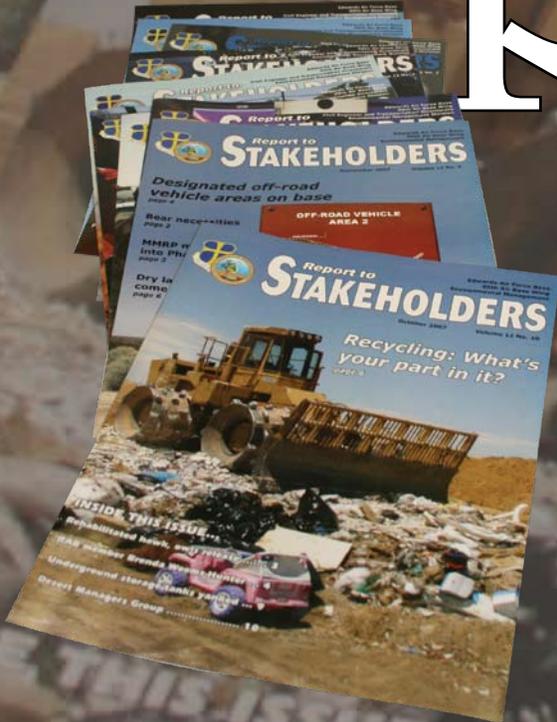
Edwards Air Force Base  
95th Air Base Wing  
Environmental Management

# Report to STAKEHOLDERS

December 2007

Volume 12 No. 12

# The Year in Review



# 2007

# Report to STAKEHOLDERS

*Report to Stakeholders* is a publication of the Edwards Air Force Base Environmental Management Office. Its purpose is to inform and educate the public, base workers and residents about continuing environmental management efforts on base. It currently has a circulation of 6,000, including about 2,000 subscribers.

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Ai Duong

**Division Chief,  
Environmental Conservation**  
Gerald Callahan

**Division Chief,  
Environmental Quality**  
Herb Roraback

## Next RAB Meeting

Feb. 21, 2008

5:30 p.m.

Mojave, California

Venue will be determined

The public is invited.

If you have a question about the Edwards Air Force Base Environmental Management Program, you may address it to, Attn: Gary Hatch or Miriam Horning, 5 E. Popson Ave. Bldg 2650A, Edwards AFB, CA 93524-8060, or send e-mail to: [95abw.pae@edwards.af.mil](mailto:95abw.pae@edwards.af.mil)

# FROM THE DIRECTOR



*The more things change, the more things stay the same.* While changes have taken place at Environmental Management, the processes have remained the same.

Despite the personnel changes, structural changes, and additions to subcontracts, contracts and remedial project managers, the one consistent component throughout has been a clear understanding of our responsibilities and doing what we said we would do.

The program is built on understanding requirements, and it is inevitable that there will be more changes to come. But it won't matter because we will still protect the worker and we will still protect the environment.

A change that has become apparent in the last couple of months is the increase in the number of pages to the *Report to Stakeholders* newsletter, going from eight pages to 12 pages. This change occurred because it is important for everyone to learn about the Occupational Health, Public Health and Safety Programs.

Another change happened when an extremely complex Record of Decision required four agencies to waive certain rules. It happened with almost all new players, but the stage was set 10 years ago.

We've received interpretations under the Clean Air Act for stationary emissions sources like rocket engines and this year we were able to write exemptions

while at the same time changing program managers internally.

The organization believes in and does the important thing.

A few events that took place this year allowed for an expansion to the Earth Day celebration at the Base Exchange. New players included the fire department, safety, security forces and motorcycle safety. They were added because all of these things are important to know.

The Earth Day celebration gets better every year and more people attend every year. Next year we're working on making the Earth Day celebration bigger and to focus on climate change.

The Base Environmental Analytical Laboratory opened its doors to officials like 95th Air Base Wing Commander Col. Bryan J. Gallagher and others to show it has increased its capabilities by a third.

We started a Volunteer Program, which is in its infancy, but has about 25 active volunteers to assist with Environmental Management. The number of tours Environmental Management does has also increased. Now, more people can see and learn about the base they live and work on.

This last year was a great success. We stayed in compliance, and with everyone's help next year we will be able to do the same.

# New members join EM team

*Ground Safety has joined Environmental Management. The safety team plays an important role at Edwards Air Force Base, ensuring employees and residents in the area are aware of how to drive safely to and from the base. They cover employee safety and workplace safety as well. The safety program team wants to also ensure that during the holidays proper safety precautions are taken. Also joining Environmental Management are the Public Health and Occupational Health offices.*

## Base hosts Voluntary Protection Program team in July

The Voluntary Protection Program was developed by the Occupational Safety and Health Administration to promote effective worksite-based safety and health. The Air Force hopes to reduce mishaps using this program to enhance Edwards Air Force Base's safety culture. Initially, the assessment team was trying to get a sense of current safety operations and how the base conducts business. The team provided a gap analysis to show Edwards personnel where they need to be.

"The VPP team doesn't tell the base how to do their business," said Col. Mike McKenna, Air Force Flight Test Center chief of safety. "It is up to the base to decide how they fill that gap."

## LIGHT SAFETY

- Look for the Underwriters Laboratories (UL) safety-certification label. On holiday lights, it's silver with a holographic image.
- Check last season's lights carefully and discard them if wires are frayed, cracked, or otherwise damaged, or if they have loose connections or broken sockets.
- Keep small bulbs and fuses away from young children as they can pose a serious choking hazard.
- Replace all broken or missing bulbs.
- Don't plug more than three standard-sized sets of lights into a single extension cord. It puts too much of an electrical load on the cord, posing a fire risk. Discard light sets that have been used for more than three seasons.
- If you're putting lights on a live tree, water the tree daily to make sure it doesn't dry out.

A safety checklist for the operation of decorative lights is available at [www.ul.com/seasonal/opdec/checklist.html](http://www.ul.com/seasonal/opdec/checklist.html).

## A FEW FOOD SAFETY REMINDERS

The United States Department of Agriculture (USDA) offers the following recommendations for consumers to help themselves and their families to be food safe this holiday season:

**CLEAN** – Wash hands, surfaces and utensils often to avoid spreading bacteria when preparing food. Hand washing is one of the best ways to prevent the spread of foodborne illnesses.

**SEPARATE** – Use different cutting boards for meat, poultry, seafood and veggies. Be sure to keep the raw meats, poultry and fish separate from other side dishes when preparing meals.

**COOK** – You can't tell if it's done by how it looks. Use a food thermometer. Every part of the turkey or chicken should reach a safe minimum internal temperature of 165 degrees Fahrenheit. For beef, veal, or lamb roasts and steaks, as well as fish, make sure the temperature reads 145 degrees; ground beef, pork and egg dishes should be cooked to 160 degrees.

**CHILL** – Keep the refrigerator at 40 degrees Fahrenheit or below to keep bacteria from growing. Pies and other dishes made with eggs should always be refrigerated and leftovers should be refrigerated within two hours.

# RESTORATION

The Restoration Program at Edwards Air Force Base (AFB) includes the Environmental Restoration Program (ERP) and the Military Munitions Response Program (MMRP). The MMRP is a Department of Defense initiative that follows the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, or CERCLA. CERCLA is the process that the ERP follows. In January and September, Records of Decision were signed — one at NASA's Operable Unit 6 and the other at the South Air Force Research Laboratory's Operable Units 4 and 9. The Restoration Program has a Restoration Advisory Board (RAB), made up of representatives from the on- and off-base communities surrounding Edwards AFB.

## RAB representatives keep a close eye on cleanup efforts at Edwards Air Force Base

The Restoration Advisory Board (RAB) received a few new representatives and several of them were profiled this year: Gemma Fregoso, Peter Zorba and Hugh Jamison have been representatives since 2006, but were featured in the Report to Stakeholders this year. Carolyn Coe, Brenda Weems-Hunter and Rachel Young became representatives during 2007.

NASA Dryden representative Fregoso replaced William Brandweiner, who moved into the alternate position. Zorba represents the City of Lancaster; Jamison represents Boron; Coe represents the Main Base Air Base Wing; Weems-Hunter represents South Base; and Young represents North Base. North Base had not been represented at the RAB since 1997.

The RAB is a group of individuals organized under federal guidelines to offer public feedback and advice on environmental cleanup efforts at Edwards AFB.

“Our purpose is to keep an eye on the base’s cleanup projects,” said Ruby Messersmith, the North Edwards representative and RAB public co-chair. “All of these communities are interested, and we don’t want our drinking water contaminated.”

Contact information for all of the RAB representatives is listed on the back cover of this Report to Stakeholders.



Restoration Advisory Board members Michelle Tucker and Dean Baker, far right, visit a cleanup site with Restoration Program Manager Tom Merendini, far left, and Restoration Division Chief Ai Duong, second from right. Below, starting from left are the latest additions to the board. Brenda Weems-Hunter, Carolyn Coe, Peter Zorba, Hugh Jamison and Gemma Fregoso. Rachel Young is not pictured.



# Perchlorate flushed out of soil at Site 285

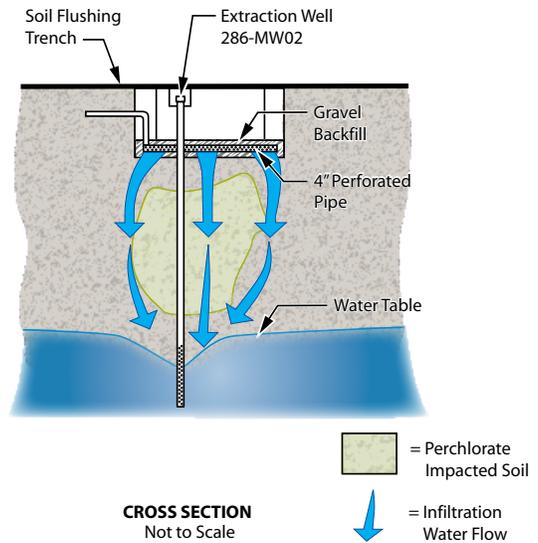
A study at Site 285, located near the northern boundary of Edwards Air Force Base, demonstrated the effectiveness of soil flushing to extract perchlorate. Perchlorate acts like a solid in soil but will dissolve like table salt when mixed with water. Within a 20-week period, an estimated 50 pounds of perchlorate was removed from a test area located near Building 4283. Data collected from the soil-flushing study will be used to create a feasibility study alternative for cleaning up soil throughout Operable Unit 5/10 North Base.



Operable Units 4 and 9 Record of Decision signing with 95th Air Base Wing Commander, Col. Bryan J. Gallagher, left.

## Restoration heads into Records of Decision

This year showed a new trend in the increase of Records of Decision (RODs) as restoration experts moved certain contaminated areas of the base into final cleanup phase. In January, the first action ROD was signed, requiring cleanup action for Operable Unit (OU) 6 NASA Dryden Flight Research Center. In September, the OU4/9 South Air Force Research Laboratory ROD was approved by state and federal regulators, issuing the base's first Technical Impracticability Waiver/Containment Zone. Currently, there is no technology available for the efficient and cost-effective removal of contaminants from the bedrock in that location. Nearly a dozen RODs are expected to be completed by 2011.



CROSS SECTION  
Not to Scale

 = Perchlorate Impacted Soil  
 = Infiltration Water Flow

## Active sodium persulfate tested at Site 18

Restoration engineers began a treatability study in May using *in situ*, or in place, chemical oxidation on Site 18 at Edwards Air Force Base. The first post-injection sampling was completed, following the activated-persulfate injections, in July.

The mixture is effective at eliminating chlorinated ethene contaminants, but not yet effective against chlorinated ethanes. Initial study results indicate that tetrachloroethene and trichloroethene levels were reduced from 30,000 – 53,000 parts per billion (ppb) to below five ppb. Based on samples collected in October, persulfate is still high in nearby monitoring wells throughout the study area, which may aid in removing the remaining persistent ethane contaminants.



# CONSERVATION

The Conservation branch provides environmental assessments for test programs and construction projects. This branch also manages the protection and preservation of natural resources and cultural historic sites on the base. A new program that started in late 2006, but was fully implemented this year allows base personnel and their family members a dynamic opportunity to better their community. The Volunteer Program is a new way for people to give back. Also, the desert tortoise Head Starting Program continued research by releasing 32 nondiseased young tortoises into the wild. This program is an ongoing effort and has helped with the study of this federal- and state-threatened species. Base biologists also thought it important to show base employees and residents how to share the environment with migratory birds. A video on the Migratory Bird Treaty Act of 1918 was produced this year and copies were distributed along with written information.

## Tortoises get a head start at Edwards Air Force Base

Through Environmental Management's Head Starting Program, biologists are continuing to look for a way to help the threatened desert tortoise population. More than 60 baby tortoises live at the pens on base; and this fall, biologists released 32 one-year-old tortoises. Some of these tortoises were also a part of the fast release study. The long-term studies at the pens will help biologists find the ideal age and size for releasing baby tortoises to give them the best chance to

survive in the wild.

Baby tortoises are small and have soft shells, which make them easy prey for birds, coyotes, kit foxes and even ants. Tortoise shells harden as they grow older and larger. Biologists raise the baby tortoises in the enclosed pens to give them a head start at survival in the wild.

"Head starting is an important tool for conserving the desert tortoise, but we won't see results for a few years," said Mark Bratton, a biologist.



Top, a baby desert tortoise crawls out of a role of tape. Left, an adult female tortoise equipped with a radio device is tracked by biologists as a part of the Head Starting Program at Edwards Air Force Base.



## Base community educated about living with birds

This year, Environmental Management biologists set out to show base community members how to share the environment with migratory birds, while preventing them from nesting in areas where nests could pose problems. Environmental Management employees created three videos and published articles to demonstrate and remind base community members how to keep the birds from nesting near their homes, businesses or playgrounds by taking preventative measures.

Environmental Management plans to distribute the new videos and publish additional articles on nesting prevention before the nesting season, which falls between February and August at Edwards Air Force Base. For more information about migratory birds, nesting prevention measures or the Migratory Bird Treaty Act of 1918, you can call (661) 277-1401.



*The house finch seen here is one of the many birds protected under the Migratory Bird Treaty Act of 1918.*

## Volunteers help preserve off-road vehicle areas for future



*Off-road vehicle signs are posted in key areas on base.*

Several volunteers are helping Environmental Management keep off-road vehicle (ORV) users on the right path. The volunteers keep an eye on users of the base's ORV areas.

To help protect the federally threatened desert tortoise and comply with

the Endangered Species Act, all ORV area users must attend desert tortoise training; and all motorized vehicle operators must satisfactorily complete the approved Specialty Vehicle Institute of America (SVIA) safety training course.

Irresponsible ORV use could damage important habitat for the desert tortoise and many other desert species. Going off designated trails can kill animals, destroy their homes and the habitat and plants they need to survive.



*A volunteer releases a barn owl.*

## Environmental Management volunteers lend a hand

Environmental Management's Volunteer Program opened the door for base community members to get involved with environmental work at Edwards Air Force Base. The program is designed to give base personnel and their family members an outlet for bettering their community. During the past year, 22 volunteers worked alongside Environmental Management employees to guide tours, catalog artifacts, conduct wildlife releases and more.

"Volunteers helped a great deal in

getting thousands of artifacts tagged and bagged for curation delivery," said Apasara Nicol-Bark, a base archaeologist. "They visited the lab to help out whenever they could. It was a large task we were working on in small bites; and because of their help, we finished it in good time."

If you would like to learn more about Environmental Management Volunteer Program opportunities, or for a brochure and application, you can call (661) 275-2436 or (661) 277-1401.

# ENVIRONMENTAL QUALITY

*This branch of Environmental Management encompasses pollution prevention and compliance. Pollution prevention develops processes to minimize the use of hazardous materials, minimize generation of hazardous waste, reduce solid waste going into the landfill and promotes reuse and recycling programs. Compliance manages air quality, water quality, hazardous waste, aboveground and underground storage tanks, and special programs like polychlorinated biphenyls (PCB), asbestos and lead-based paint. Compliance Program employees also assist base organizations in applying for and maintaining permits. The Compliance Program's goal is to meet and satisfy all applicable environmental laws, statutes and regulations. This year, those who work in solid waste management moved in a direction to allow those who live and work on base to become more aware and educate them on the recycling process. Other topics featured this past year included Unit Environmental Coordinators, or UECs, who are around in case there are questions that come up about environmental issues, and the Base Environmental Analytical Laboratory's open house, which showcased its capabilities to the community.*

## Recycling goes a long way

The Edwards Air Force Base Recycling Program emphasizes awareness and education on recycling. Built in 1995, the recycling center kicked off its program in 1997. Base residents can have their recyclables picked up every week with their regular trash. They should simply place the gray recycle bin out with the trash bin and the landfill staff will take care of it from there. Also, people who work on base, but live elsewhere, can use the base recycling center to turn in their glass bottles, plastic bottles and aluminum cans, and in return get paid for them.

A list of current running prices for recyclable material is posted at your local recycler.

In the world of consumer goods, many items are recyclable. Three items are mandated by regulatory agencies – cardboard, white paper and newspaper – so those items would be good to start with. Beyond that it's probably easiest to look at items you use every day – soda cans, plastic water bottles, colored paper, magazines, and the list goes on.



*These bales of recycled material at the Edwards Air Force Base Recycling Center will be sent to buyers.*



*A Unit Environmental Coordinator makes sure a safety shower is working properly.*

## Unit Environmental Coordinators

Unit Environmental Coordinators, or UECs, were profiled in March because of the crucial role they play ensuring that Edwards Air Force Base (AFB) remains in compliance with all county, state and federal environmental regulations.

The UEC program began at Edwards AFB in 1994. Each two-letter director or unit commander on base is required to appoint at least one UEC to be the chief liaison for their organization. This liaison can be military, civilian or contractor, depending upon the needs and employees within that unit.

The UECs then coordinate with Environmental Management on their organization's compliance, ultimately supporting base efforts to reduce and prevent environmental pollution.



# Base lab opens doors to new opportunities

The Edwards Air Force Base community received the gift of a newly renovated and expanded Base Environmental Analytical Laboratory (BEAL) in May. Col. Bryan Gallagher, 95th Air Base Wing commander, was among several base officials who attended a daylong open house that included tours of the facility, demonstrations, a ribbon cutting ceremony and luncheon.

“The BEAL has grown immensely during this past year with the addition of more state-of-the-art equipment,” said Mark Taberner, BEAL manager. “We wanted to demonstrate the lab’s various analytical capabilities used every day to support flight testing and environmental compliance.”

For more information regarding the BEAL’s analytical capabilities, contact Taberner at (661) 277-9276.



*Base Environmental Analytical Laboratory (BEAL) chemist Edward Soto looks through a microscope. The BEAL chemists can do a variety of environmental analyses; such capabilities support the Edwards Air Force Base mission.*

*Col. Bryan J. Gallagher, Commander, 95th Air Base Wing, gets ready to cut the ribbon at the Base Environmental Analytical Laboratory open house in May.*



# 2007 EM EVENTS

The 2007 Environmental Management events included the annual Earth Day celebration and a Mojave Environmental Education Consortium (MEEC) workshop. With the success of the location for Earth Day last year, those who put together the event decided to keep it at the Base Exchange. This year, Earth Day was bigger and better. A live band as well as a variety of booths from Environmental Management, the Edwards Air Force Base fire department, Security Forces and the Green Knights Motorcycle Club were on hand to answer any questions and inform the base public about what they do. The MEEC teacher workshop emphasized cultural resources and how teachers can use them in their classroom curriculums.

## Awareness, education big items at the Earth Day celebration in April

Children lined up at the Base Exchange parking lot April 19 for the Environmental Management Earth Day celebration at Edwards Air Force Base.

Base residents, schools and workers participated in the activities. Child identification kits were issued by the Security Forces squadron; various Environmental Management section booths such as air quality, cultural resources and natural resources provided educational information and materials; and the

Environmental Buzz game tested event-goers' knowledge of the environment.

Director of Environmental Management, Robert Wood, announced the winners of the Earth Day essay and poster contests and presented them with certificates.

"The attendance and participation were the highest yet, with a total attendance of more than 800 people," said Heidi Gesiriech, community relations supervisor in Environmental Management.

*Col. Bryan J. Gallagher, 95th Air Base Wing commander, right, plants a tree with help from a few Earth Day participants including the Edwards AFB community queens as Bob Wood, Environmental Management director looks on. The tree planting was for Arbor Day, which was part of the Earth Day celebration in April.*

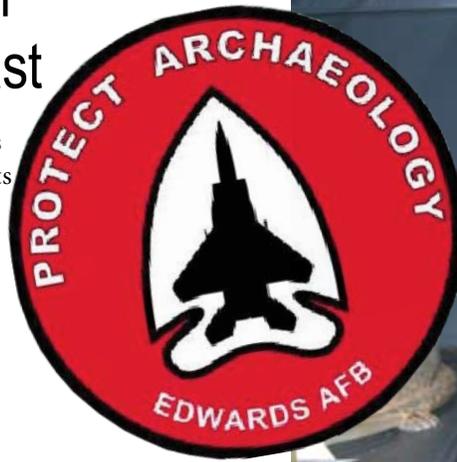


## Teachers receive an education on the past

Elementary and middle school teachers had the opportunity to play archaeologists during a Mojave Environmental Education Consortium event held earlier this year and sponsored by Environmental Management.

History came to life as the teachers made a sunset visit to the legendary Pancho Barnes' "Happy Bottom Riding Club" archaeological site. They also toured the Edwards Air Force Base Curation Facility where base artifacts are cleaned, preserved and stored for historical purposes.

The event concluded with the teachers trying to deduce the origins of artifacts found on base. They also were provided curriculum developed by the Smithsonian Institute to take back to their classrooms to help students explore the past through archaeology.



*A couple of teachers who were part of the Mojave Environmental Education Consortium take a look at artifacts at the Edwards Air Force Base Curation Facility.*



## GIS

*Geographic Information Systems, or GIS, is an important component at Environmental Management. The system allows all departments within Environmental Management to utilize it. Biologists may need such technology to locate certain species of plants or animals, archaeologists may need it to map out archaeological sites on the base, and cleanup engineers can use it to locate groundwater contamination plumes.*

## Geographic Information just a few mouse clicks away



The Geographic Information System (GIS) at Edwards Air Force Base is a well-established interactive mapping and spatial analysis program that can display roads, buildings, environmental factors and much more with a few simple clicks of a mouse.

Most on-base computer users have access to GIS in the form of an easy-to-use program called WebMap. A colored legend makes for quick identification of objects on the map, and several layers of information can be displayed at once. The versatility of GIS means you can use the program as a database, interactive map or visual aide. Using GIS saves the Air Force money by decreasing the need for costly fieldwork.

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**Where to Find More INFORMATION**

Published data and documents relating to Environmental Management are available for public review in information repositories at three locations. The current information repositories are located in the cities of Lancaster and Rosamond, as well as Edwards Air Force Base. They are updated when new documents are released.

For questions about information in the repositories, you may contact Gary Hatch, Environmental Public Affairs at (661) 277-1454 or by e-mail at [95ABW.PAE@edwards.af.mil](mailto:95ABW.PAE@edwards.af.mil).



Location	Days	Hours
<b>Edwards AFB Library</b> 5 W. Yeager Blvd. Building 2665 Edwards AFB, Calif. (661) 275-2665	Mon-Thu Fri Sat & Sun	9:30 a.m. - 7 p.m. 9:30 a.m. - 6 p.m. 10:30 a.m. - 6 p.m.
<b>Kern County Public Library Wanda Kirk Branch</b> 3611 Rosamond Blvd. Rosamond, Calif. (661) 256-3236	Tue & Wed Thu-Sat	Noon - 8 p.m. 10 a.m. - 6 p.m.
<b>Los Angeles County Public Library</b> 601 W. Lancaster Blvd. Lancaster, Calif. (661) 948-5029	Mon-Wed Thu & Fri Sat	10 a.m. - 8 p.m. 10 a.m. - 5 p.m. 11 a.m. - 5 p.m.

**Report to STAKEHOLDERS**

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