



Report to STAKEHOLDERS

July 2009

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Report to STAKEHOLDERS

Report to Stakeholders is a publication of Edwards Air Force Base, 95th Air Base Wing, Environmental Management. Its purpose is to inform and educate the public, base workers and residents about continuing environmental and safety efforts on base. It currently has a circulation of 6,000, including about 2,000 subscribers.

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Restoration Advisory Board (RAB) Meeting HIGHLIGHTS

The following report highlights the May 21 Restoration Advisory Board (RAB) meeting in North Edwards, Calif.

Federal Register Recommendations Update — Restoration Advisory Board members finalized the RAB charter and bylaws allowing the public to directly address RAB members during meetings. These suggestions were made because of changes to the federal regulations and guidelines for RABs as published in the *Federal Register*. The public can directly address the board during meetings for up to three minutes per person. Each RAB meeting could have up to 30 minutes of comments or questions from members of the public.

Site 19 Whey Powder Treatability Study Update — Air Force officials conducted an *in situ* bioremediation whey powder study on Site 19. The idea was to feed naturally occurring underground microbes and stimulate them to degrade the solvent trichloroethene (TCE), according to geologist Rebecca Mora. Whey powder was successfully injected and distributed throughout the fractured granite at Site 19. According to Mora, the microbe *dehalococcoides* is the only known bacteria capable of completing reductive dechlorination process taking TCE to ethane, which is nontoxic.

Operable Unit (OU) 5/10 North Base — Restoration program manager Bruce Oshita outlined the draft feasibility study for OU 5/10. He noted that the draft feasibility study is currently under restoration program manager review and received a 30-day extension, pushing the final record of decision (ROD) to a later date of December 2011. Oshita also mentioned that once the ROD has been signed, the remedial design/action will be due December 2012 and the remedy in place (RIP), January 2013. According to Oshita, the extension for OU 5/10 has pushed back the RIP date and does not meet the proposed Air Force-required RIP date of September 2012. Cleanup experts suggested a removal action plan in an engineering evaluation/cost analysis (EE/CA), which would accelerate cleanup activities. The groundwater contaminant requires active treatment to control the leading edge of the groundwater plumes from migration. Currently, the groundwater at the North Base property line does not show any signs of contamination. Base officials plan to hold two public comment periods, one for the EE/CA in September 2010 and one for the proposed plan in April 2012.

The next quarterly RAB meeting is scheduled for Aug. 20, at 5:30 p.m. in Mojave, Calif. The venue will be determined at a later time. For more information on the RAB, you may refer to the back page of this newsletter under RAB information.



What's on the cover?

ARCHAEOLOGY

Archaeologist Jim Johannesmeyer talks to students about the multifaceted history of Edwards Air Force Base at the Earth Day festival. See article on page 4.

For all environmental concerns, please call the Environmental Management Customer Service Desk at (661) 277-1401.

SUNSHINE and YOU

How the UV index affects your daily life

Summertime is here and you know what that means — fun in the sun. But too much fun in the sun can result in serious sun damage to your skin caused by harmful ultraviolet (UV) rays.

According to the U.S. Environmental Protection Agency (EPA), Earth has its own natural defenses against damaging UV rays — the ozone layer. The ozone layer forms a thin protective bubble around the Earth and shields it from those harmful UV rays that can cause skin cancer, eye damage and can even weaken your immune system.

Scientists at the EPA began finding clues that the ozone layer was going away or being depleted in the 1980s, allowing more UV radiation to reach the Earth's surface, according to EPA's Web site. To help protect people from the harmful rays, the EPA has teamed up with the World Health Organization to create a UV index. It identifies just how intense the UV rays are and how people can be affected, if exposed to these rays. This information is available to the general public at the the EPA's SunWise Web site.

UV INDEX

The UV index is a scale, numbered 1 to 11, and ranging from low to extreme. It shows the intensity of the rays reaching the ground. The EPA and National Weather Service developed a UV index forecast of radiation levels for the next day. Alerts for high UV levels will be sent to news broadcasting stations as well as directly to those who sign up for the service. The alerts ultimately

help the public determine suitable sun protection.

The UV alert is a message that is sent out when the amount of UV radiation in a certain area is expected to be unusually high compared to previous levels in that area. The alert stays in effect for 24 hours, starting at noon the previous day of the alert to noon the next day. If an area usually has low-to-moderate UV levels in the springtime, but is expected to have a sunny day with higher than normal UV radiation, there may be a UV alert for that day in that area.

The EPA issues UV alerts when the level of solar UV radiation is predicted to be unusually high, and the risk of overexposure to the sun is greater and can result in a sunburn. However, even on days when a UV alert is not issued, beachgoers should know that white sand and other bright surfaces reflect UV rays and increase UV exposure.

Here are some simple actions to take when the UV index is predicted to be 6 or higher, or if there is a UV alert in your area:

- Seek shade — minimize time in the sun, especially between 10 a.m. and 4 p.m.
- Cover up with clothing — wear a wide-brimmed hat and UV-protective sunglasses.
- Take extra precautions — unprotected skin can burn in minutes.
- Apply sunscreen generously — apply sunscreen with a sun protection factor of at least 15 to any exposed skin.

For more information about the UV Index, you can visit the EPA's SunWise Web site at <http://www.epa.gov/sunwise/uvindex.html>.

RTS

Understanding the UV index level and tips for avoiding harmful exposure to UV radiation:

- **11+: Extreme**
A UV Index reading of 11 or higher means there is an extreme risk of harm from unprotected sun exposure. Apply sunscreen with an SPF of at least 15 liberally every 2 hours.
- **8 - 10: Very High**
A UV Index reading of 8 to 10 means there is a very high risk of harm from unprotected sun exposure. Protect yourself by liberally applying a sunscreen with an SPF of at least 15. Wear protective clothing and sunglasses to protect the eyes.
- **6 - 7: High**
A UV Index reading of 6 to 7 means there is a high risk of harm from unprotected sun exposure. Apply a sunscreen with an SPF of at least 15.
- **3 - 5: Moderate**
A UV Index reading of 3 to 5 means there is a moderate risk of harm from unprotected sun exposure.
- **2 or less: Low**
A UV Index reading of 2 or less means there is little danger from the sun's UV rays for the average person.

UV INDEX	
EXTREME	11+
VERY HIGH	8-10
HIGH	6-7
MODERATE	3-5
LOW	<2

EARTH DAY 2009



ROBOTIC — The Explosive Ordnance Disposal team shows visitors one of the robots used to retrieve and dismantle bombs.

NATURAL RESOURCES

Biologist Amber Hoehn shows visitors one of the many snakes on display.

Children's Corner
 Music with Bubble Paper,
 Short Play and Book Reading
 Performance Times: 10:45, 11:45, 12:45



SUSTAINABILITY

Wendelyn Leon and Miriam Horning, community relations specialists at EM, present a children's play on protecting the environment.



ARBOR DAY TOO — Col. Nancy Reeves-Flores, 95th Air Base Wing vice commander, right, along with some children planted a young Modesto ash tree to commemorate Arbor Day during the base's Earth Day celebration.

The hallways of the Center of Excellence were bustling with the pitter patter of students' feet during the Earth Day festival April 21 at Edwards Air Force Base. The former site of the Edwards Middle School, now called the Center of Excellence, hasn't had this much action in its halls since the junior high students moved to Desert High School in 2006.

Approximately 1,700 people of all ages participated in the event; more than 1,000 of those participants were children. Attendees were able to take part in 36 different booths and exhibits that either focused on educating visitors about living a sustainable life and protecting natural resources or highlighted a base program.

Robert Wood, director of Environmental Management, said the goal is to teach people how to think about protecting the Earth every day of the year. "In the beginning, Earth Day was intended to stop pollution. Over the years, as pollution decreased, the next step was recycling. Now pretty much every child knows that, so next is sustainability, and with climate change, the question we need to ask ourselves is what do we need to do to ensure the Earth is around forever with us living on it?"

Col. Nancy Reeves-Flores, 95th Air Base Wing vice commander, received assistance from some young visitors as she planted a Modesto ash tree in observance of Arbor Day. This particular species is drought tolerant and makes a great shade tree.

"I explained it's a tree we would want on the base because of the importance of shade and water conservation in a desert environment," Reeves-Flores said.

One of the new attractions at the Earth Day event this year was a walk-in cave. Visitors could draw on the walls of the cave simulating pictographs made by American Indian tribes that inhabited the area long before Edwards became an Air Force base. Visitors also could peer into a display that focused on life in the former town of Muroc during the 1920-30s and replicated forts that children living in the desert during that era would sometimes build as their private clubhouses.

A Children's Corner area—also new this year—featured a short play on recycling and sustainability, singalong music by the group Bubble Paper, and workshops on protecting the Earth hosted by an environmental geologist with NASA. Outside, the crowd was entertained on the lawn area by Blues Tribe, a five-member band featuring their own blend of blues and rock-and-roll music.

The Earth Day festival at Edwards continues to expand each year adding more exhibits and more ways to educate people about reducing their carbon footprint and consumption of the planet's natural resources.

"I think it's bigger and better than it was last year," Reeves-Flores said. "You can tell by the turnout here, by looking around at all these kids and the adults, that everyone is having a really good time. And next year will be even bigger and better."

In the beginning, Earth Day was intended to stop pollution. Over the years, as pollution decreased, the next step was recycling. Now pretty much every child knows that, so next is sustainability, and with climate change, the question we need to ask ourselves is what do we need to do to ensure the Earth is around forever with us living on it?"

Robert Wood
Director
Environmental Management



TEST — Children test and learn about acids and bases from Base Environmental Analytical Laboratory chemists.

Wild about flowers in the desert

As the guide's truck approached the first stop on the tour, what looked like gray-green groundcover from the window of the moving vehicle became a florescent field of pale yellow wildflowers once the group was on foot. Minutes later, most of the group members were crouched near the ground observing the interior of a dissected desert dandelion.

Two volunteer guides — Alessandra Venuti-Soltis and Tech. Sgt. Jesse Waite — told the group about the makeup of the desert dandelion and guided them through three areas packed with wildflowers.

While different wildflowers bloom at various times throughout the year, the peak usually falls during the first week

of April and last between six to eight weeks. Knowing this, Environmental Management biologists scheduled seven free wildflower tours for the base community to attend during March and April.

“This year's early rainfall provided a spectacular display of wildflowers, but little diversity,” said David Charlton, a biologist at Environmental Management. “The best area to find wildflowers on base is on the PIRA [Precision Impact Range Area], but access is restricted. So, we selected areas that people could visit and demonstrated the range of wildflower diversity for this year.”

The desert dandelion dominated this season, setting the hue at Edwards to a pale yellow. “The landscape has changed quite a bit since our training,” Venuti-Soltis said. “When the experts brought us out to train us on how to give these tours, the landscape was different. There are many, many desert dandelions and pin cushions. Two weeks ago, this field was full of filaree and gilias.”

“I am a nature lover, and especially love plants and flowers,”



CARPET OF FLOWERS — Tour guides Tech. Sgt. Jesse Waite and Alessandra Venuti-Soltis tiptoe through an area covered in desert yellow dandelions and white *Xanthus pincushions*.

Venuti-Soltis said. “I had never lived in the desert before I came here and it was a unique experience to be trained to lead wildflower tours. Now that I’ve been volunteering to do wildflower tours, I notice them more on the sides of the roads and try to figure out what they are... there’s just so much to know.”

The experts at Environmental Management trained 17 volunteers to lead groups out to locations where they could see the assortment of wildflowers. Rainfall amounts, soil type and disturbance level are some factors that determine what plants are present at a site. In the three stops that Venuti-Soltis and Waite took their group to, the wildflowers that were blooming were different.

“I taught for 10 years, but don’t do much botany work anymore. So, teaching the volunteers about the wildflowers was a lot of fun,” Charlton said. “The volunteers asked many questions. They wanted to learn about the geology and historical uses of the wildflowers, in addition to identification.”

For instance, some of the wildflowers on base were used in American Indian and pioneer meals. The wildflower seeds were ground up to make flour, mush, breads and so forth. Today, the wildflowers found on base mainly feed wildlife on base.

Wildflowers are a staple food for the federally listed, threatened desert tortoise. According to Charlton, cattle and sheep are in direct competition with desert tortoises when it comes to eating wildflowers and for that reason, the Bureau of Land Management has allowed many grazing permits to be retired or bought out by conservation groups to reduce competition for desert tortoises to graze.

When the wildflowers bloom, they play a large role at the bottom of the ecosystem on base, starring as a main entrée for many creatures like insects, butterflies, lizards and so forth. Without wildflowers to eat, many of these creatures would remain dormant. The wildflower diversity and population levels affect the diversity and population levels of many of the smaller wildlife species during spring and summer, especially those that are only active during that time.

“The hope with offering these tours is that if people understand nature a little better, they’ll take better care of it,” Charlton said.



STAND TALL — These purple phacelia and fiddleneck flowers were spotted at the final stop of the wildflower tour.

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. Here is a list of our current information repositories:

Edwards Air Force Base Library

5 W. Yeager Blvd.
Building 2665
Edwards AFB, Calif.
(661) 275-2665
Hours of operation: Mon-Thu 9:30 a.m. – 7 p.m.
Fri 9:30 a.m. – 6 p.m.
Sat-Sun 10:30 a.m. – 6 p.m.

Kern County Public Library

Wanda Kirk Branch
3611 Rosamond Blvd.
Rosamond, Calif.
(661) 256-3236
Hours of operation: Tue-Wed 12 p.m. – 8 p.m.
Thu-Sat 10 a.m. – 6 p.m.

Los Angeles County Public Library

601 W. Lancaster Blvd.
Lancaster, Calif.
(661) 948-5029
Hours of operation: Mon-Wed 10 a.m. – 8 p.m.
Thu-Fri 10 a.m. – 5 p.m.
Sat 11 a.m. – 5 p.m.

For general information about Edwards and an electronic version of the latest issue of Report to Stakeholders or other documents of public interest, please visit the following link:

<http://www.edwards.af.mil/library/environment/index.asp>.

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Restoration Advisory Board (RAB) Information

The RAB is made up of appointed representatives from communities in and around Edwards Air Force Base, regulators from federal and state agencies and base officials. The board's purpose is to provide a forum for two-way communication among base restoration officials, regulators and representatives regarding the cleanup of contamination from past military activities.

The board meets quarterly, rotating meeting locations in communities surrounding the base. The public is welcome to attend. If you have any questions or concerns about the cleanup activities going on at Edwards, you

may contact your community's RAB member or Gary Hatch, Environmental Public Affairs, at (661) 277-1454.

Next Quarterly Meeting

Date: Aug. 20, 2009
Time: 5:30 p.m.
Location: Mojave, Calif.
Venue is to be determined at a later date.

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