



Partners *In Progress*

EPA Update on Federal Facility Cleanup and Reuse

6



New technology serves up a recipe for remediation.

8



Composting takes on explosive contaminants at military bases.

11

EPA is helping to ensure safety at formerly used defense sites.

12

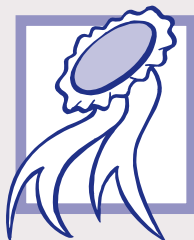


Does your underground storage tank comply with EPA regulations?

Going Wild

Bases Find New Life as Refuges

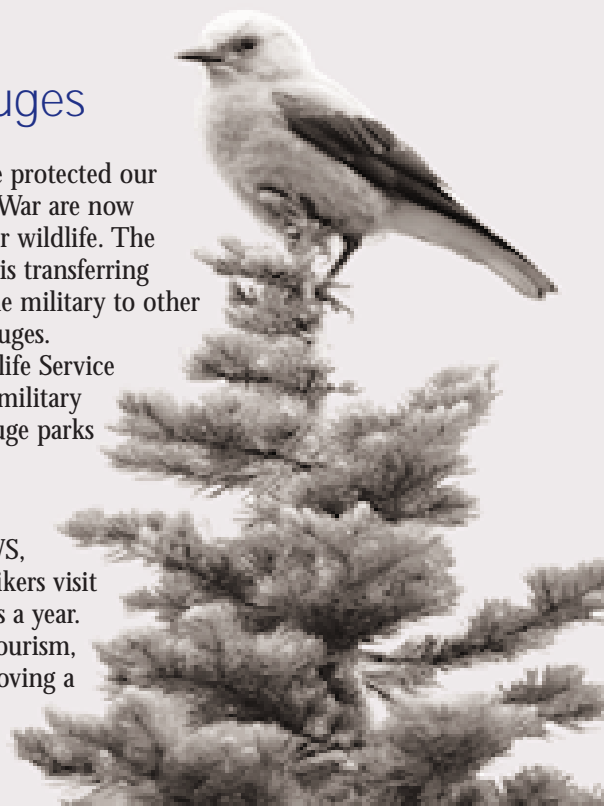
Celebrating
Success



Military facilities that once protected our nation during the Cold War are now being used to protect our wildlife. The U.S. Department of Defense (DoD) is transferring prime real estate once occupied by the military to other federal agencies for use as wildlife refuges. According to the U.S. Fish and Wildlife Service (FWS), as many as 100,000 acres of military property could be converted into refuge parks by the year 2000.

From coast to coast, communities are reaping the benefits of these land transfers. According to the FWS, tourists, educators, researchers, bird watchers, and hikers visit wildlife refuges in the United States 34 million times a year. Refuges contribute to local economies by boosting tourism, and enhance the quality of life for residents by improving a region's aesthetic beauty and by offering educational

<Continued on Page 9>



Stakeholder to Stockholder

A Tool for Environmental Justice and Public Participation

by John A. Rosenthal

For years, communities have felt alienated from Superfund cleanups, military base closures, and Brownfields redevelopment projects because they were not involved in remediation and land use decisions. As a result, residents were often unable to change unwanted land use patterns, reduce pollution levels, or maintain economic and employment opportunities.

A new business venture is changing this situation, enabling residents to become both stakeholders and stockholders. Community members partner with organizations to purchase stock that allows them to own all or part of a business dedicated to environmental cleanup, community redevelopment, or related services. As stakeholders, community members gain meaningful participation in decisions

<Continued on Page 10>

Fulfilling A Mission

The Government Performance and Results Act of 1993

by Renee Wynn

The principal purpose of the Government Performance and Results Act (GPRA), enacted in 1993, is to hold federal agencies accountable for achieving results, quality, and customer satisfaction by requiring them to set goals, measure performance, and report publicly on their progress. The three major requirements of the act are:

- Develop and submit a five-year strategic plan to Congress by September 30, 1997. The plan must cover EPA's mission, general goals, and objectives; explain how these will be met; and discuss any significant factors affecting the achievement of the goals.
- Submit an annual performance plan to the Office of Management and Budget each year during the budget development cycle beginning with the fiscal year (FY) 1999 budget. The plan must outline objectives, resources, and performance measures to meet the goals and mission of the Agency.
- Prepare annual program performance reports that outline the Agency's successes and failures in meeting the performance measures stated in the corresponding plan. The report for FY 1999 is due to Congress by March 30, 2000.

What do the terms mean?

EPA's Strategic Plan:

A blueprint for achieving human health and environmental protection over the next five years.

Goals:

Long-term guideposts or building blocks used together to achieve the strategic plan.

Objectives:

Short-term measures for each goal that describe in greater detail the specific, tangible results that EPA plans to achieve in five years.

Performance Measures:

Results or activities to determine whether the Agency is making progress towards its objectives.

Developing the strategic plan was a challenge for the Agency, given the complexity of environmental statutes and the number of partners and stakeholders involved (e.g., other federal agencies, tribes and tribal governments, state and local governments, organizations, and citizens). By working with these partners and stakeholders, however, EPA can better achieve these goals and more easily develop future strategic plans, objectives, and performance measures for protecting human health and the environment. [PIP](#)

Renee Wynn is the associate director of FFRRO.

The first in a series of three, this article introduces GPRA. Additional articles will outline what the Superfund Federal Facilities program is doing to comply with the law and identify ways for stakeholders to participate.



Acronyms Explained

ASTSWMO	Association of State and Territorial Solid Waste Management Officials
BCT	BRAC Cleanup Team
BRAC	Base Realignment and Closure
DERTF	Defense Environmental Response Task Force
DoD	U.S. Department of Defense
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
FFRRO	Federal Facilities Restoration and Reuse Office
FUDS	Formerly Used Defense Sites
FWS	U.S. Fish and Wildlife Service
NPL	National Priorities List
SWMU 91	Solid Waste Management Unit 91
TCE	Trichloroethylene
UST	Underground Storage Tank
UXO	Unexploded Ordnance

Partners In Progress Philosophy

Stakeholders involved in federal facility cleanups are diverse, with differing backgrounds, interests, and perspectives. All of these stakeholders, however, share a single common goal—progress. *Partners In Progress* (PIP) provides an open forum for stakeholders to exchange information, offer solutions, and share stories about what works and what doesn't. We encourage you—our readers—to write to us about your activities that foster teamwork, promote innovation, and strengthen community involvement. Only by working together can we achieve “federal cleanups that put citizens first.”

Articles written by non-EPA authors do not necessarily reflect the views, positions, or policies of the Agency.

Hot Off the Presses

To receive a free copy of any of the following three FFRRO documents, contact Leo Pineda at 703 841-0893 or <lpineda@erg.com>. The documents are also available on FFRRO's Web site at <www.epa.gov/swerffr/ >.

Overview of Early Transfer Guidance

U.S. EPA, Solid Waste and Emergency Response
EPA505-98-007
January 1999



By allowing the transfer of property that poses no unacceptable risks before cleanup is completed, EPA helps communities benefit from faster reuse and redevelopment of federal facilities. FFRRO developed this fact sheet to inform communities and federal facility cleanup teams of this opportunity while ensuring that proposed transfer and land use decisions protect human health and the environment. The publication answers pertinent questions such as who benefits from early transfer; when the early transfer guidance applies; how the early transfer process works; how a property gets considered for early transfer; and when early transfer occurs.

Federal Facilities Restoration and Reuse Office Introductory Brochure

U.S. EPA, Solid Waste and Emergency Response
EPA505-B-98-003
November 1998

Since its establishment in 1994, EPA's FFRRO has worked with DoD, the U.S. Department of Energy (DOE), and other federal agencies to develop creative, cost-effective solutions to environmental problems at federal facilities. This brochure combines facts and figures with individual case studies to demonstrate how FFRRO is helping to restore environmental and economic well-being to affected communities through partnerships, innovative technologies, and community involvement.



Strengthening Brownfields Redevelopment

U.S. EPA, Solid Waste and Emergency Response
November 1998

FFRRO's new fact sheet, *Strengthening Brownfields Redevelopment*, describes how various groups and federal agencies have teamed up to develop new outreach strategies to clean up Brownfields. Brownfields are abandoned, idled, or under-used industrial and commercial facilities where expansion or redevelopment is complicated by environmental contamination. Because Brownfields properties and contaminated federal facilities face similar challenges and must comply with the same environmental laws, it is important that EPA offices and federal agencies work together to help rebuild these properties into environmentally safe and economically productive communities. This fact sheet explains what FFRRO is doing to help achieve that goal.

BRAC Talk

Environmental Base
Realignment and Closure
News

Published by the Naval Facilities Engineering Service Center, this quarterly newsletter focuses on environmental cleanup at Navy BRAC installations. *BRAC Talk* has reported on such issues as covenants and indemnification in property transactions, overlapping environmental regulations, and specific actions taken at various naval facilities. Also included in the newsletter is a list of Web sites and a Navy BRAC contacts list (provided in every other issue).



To receive a copy of the latest *BRAC Talk*, contact Ernestine Rodriguez at 805 982-4876 or <rodrigueze@nfesc.navy.mil>. The newsletter also can be viewed in PDF format on the Internet at <www.navy.mil/homepages/navfac/env/newslet.html>.

Community Dynamics Explored at Recent Conference

by Marsha Minter

The January issue of PIP shared highlights from EPA's 1998 National Community Involvement Conference. This is the second article of a two-part series.



At EPA's 1998 National Community Involvement Conference, several workshops provided techniques and guidelines for working effectively with communities. Below are the five "tools of the trade" summarized from the workshops. I hope they can assist with strengthening your community connections.

Encourage active community participation:

- Pick a convenient location within the community rather than at the federal facility.
- Arrange seating in a circle to facilitate interactive dialogue.
- Introduce those in attendance.
- Establish a meeting process and set ground rules at the beginning.
- Provide various ways to participate (verbal or written and public or private).
- Take outside concerns such as meeting time, accessibility, and child care into consideration when planning the meeting.

Validate public participation:

- Show that public input was used and in what way.
- Initiate procedures to track correspondence and responses.
- Interview stakeholders and tailor the participation process accordingly.

Recognize community knowledge:

- Listen carefully to what is being said and build upon what is offered.
- Work with community leaders.

Use the appropriate cultural approach:

- Provide translators or translated materials when necessary.
- Create a new participation process to reflect the community's culture(s).
- Encourage participation through appropriate media (e.g., newspapers, public notices, flyers, letters, and radio and television ads).

Maintain honesty and integrity:

- Articulate goals, experiences, and limitations.
- Show a willingness to discuss tough topics.
- Enhance attendance through personal contact and sincerity.

When properly applied, these tools can create a successful community involvement program in which citizens and

Community Connection Reflection:

"The American city should be a collection of communities where every member has a right to belong. It should be a place where every man feels safe on his streets and in the house of his friends. It should be a place where each individual's dignity and self-respect is strengthened by the respect and affection of his neighbors. It should be a place where each of us can find the satisfaction and warmth which comes from being a member of the community of man. This is what man sought at the dawn of civilization. It is what we seek today."

— President Lyndon B. Johnson



At the International Association for Public Participation Conference in Arizona (October, 1998), Minter met up with fellow community involvement directors, Jennifer Roberts (left) and Grechen Schmidt (right) from Alaska.

agencies are seen as equal partners in the dialogue on cleanup issues. As a result, those most affected by federal cleanups have the opportunity to be fully informed and to work together with federal officials to develop cleanup solutions. Collectively, community members can reach reasonable solutions that improve our communities and protect our environment. **PIP**



Minter speaks about community involvement at an environmental justice symposium.

Marsha Minter is FFRRO's Community Involvement National Program Manager.

Mark your calendar for :

EPA's 1999 National Community Involvement Conference

May 24-27, 1999
Crowne Plaza
Kansas City, Missouri

In response to the Community Connection column in the January issue, public participation leaders from across the country have been in touch with the FFRRO office. Representatives from New York to California, and even Hawaii, want to build successful community involvement programs in their own areas and are looking for more information. These and other representatives will be happy to know an abundance of information on public involvement techniques is available. For a partial listing of these guides and manuals, please visit the EPA home page at <www.epa.gov/epahome/partners.htm>. I hope they will be useful in your endeavors. As always, questions or comments concerning this article or other community issues can be directed to me at 202 260-6626 or <minter.marsha@epa.gov>. Thanks for your response and keep reading.

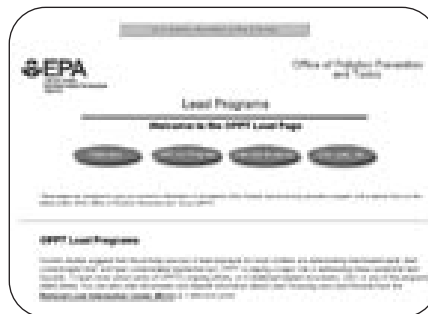
Marsha d. Minter

CyberNews

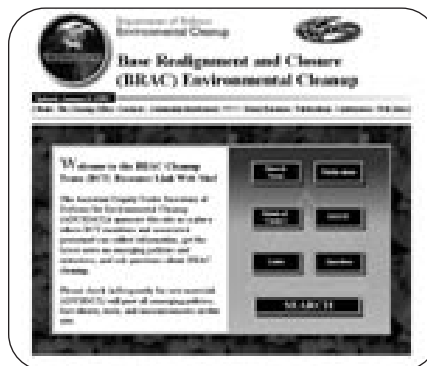


<www.epa.gov/opptintr/lead/>

In an effort to make residential and federal buildings environmentally safer for everyone, the Office of Pollution Prevention and Toxics' lead Web site offers a comprehensive list of educational and preventive lead poisoning programs and lead hazard standards. Lead-based paints were used widely at federal facilities, presenting a potential health risk to children and adults. Included on this site are numerous general education documents providing information on the health hazards of lead-based paint and lead dust and debris, as well as links to non-EPA resources for lead poisoning prevention.



<www.dtic.mil/envirodod/brac>

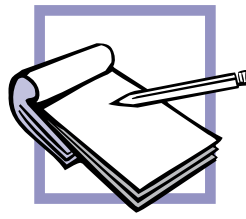


The DoD BRAC Environmental Cleanup site provides the latest news on emerging policies and initiatives, publications, points of contact for each branch of the military, and links to related sites. A key section

housed within the site is the Defense Environmental Response Task Force (DERTF) home page, which contains findings and recommendations related to environmental response actions at military installations that are being closed or realigned under BRAC legislation. DERTF annual reports to Congress and meeting minutes also are available.

Lasagna™ Is Served!

FromTheField



To learn about the innovative Lasagna™ Technology used to remove trichloroethylene (TCE) from clayey soil at the Paducah Gaseous Diffusion Plant in Paducah, Kentucky, Partners In Progress interviewed Carl R. Froede Jr., of EPA Region 4.

Q: What are your responsibilities at the Paducah facility?

A: The Paducah Gaseous Diffusion Plant can be viewed as two separate facilities: the active uranium enrichment plant, now operated by the United States Enrichment Corporation, which provides fuel for commercial reactors; and the legacy waste site, currently undergoing remediation by DOE. Recently, I had the opportunity to work with the Commonwealth of Kentucky and DOE on a tough cleanup project involving TCE contaminated soil at part of the legacy waste site we identified as Solid Waste Management Unit 91 (SWMU 91). DOE used the site to test the structural integrity of steel drums used to transport uranium ore. This testing resulted in the release of large volumes of TCE into the surrounding soils.

Q: What is TCE and how did the soil and groundwater around Paducah become contaminated?

A: Before it was known how dangerous it could be to human health and the environment, the chemical solution TCE was used at many industrial complexes as a solvent to clean mechanical parts and components. Although its hazardous nature now precludes its use as a solvent, years of use and poor housekeeping practices resulted in widespread contamination across the Paducah facility. At the Paducah SWMU 91 site, TCE contamination of the soils and underlying groundwater is a result of leakage from a concrete cooling tank and splashing associated with drop-testing steel containers.

Q: What is the goal for remediation at Paducah?

A: Our goal from the start was to find an effective and efficient solution for removing TCE contamination from the soil while restoring a safe drinking water supply to the neighboring community. Removing TCE from the soil, the source of the contamination, is our first priority because doing so will alleviate further contamination of groundwater. Cleanup options were limited, though, involving digging up the soil and either burning it to eliminate the TCE or hauling the soil to a remote

location. Neither option is ideal. DOE, EPA, and the Kentucky Department for Environmental Protection sought an innovative solution that would address contamination in ways that reduced toxicity, mobility, and the volume of waste. That's where Lasagna™ comes in.

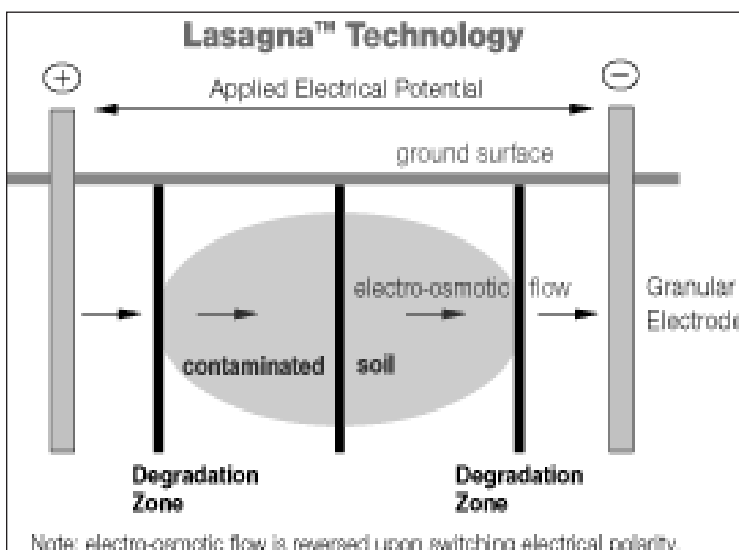
Q: How does Lasagna™ help you achieve your cleanup goals?

A: Lasagna™ is an innovative technology that remediates TCE-contaminated soil. Named for the layering of sands, silts, and clays beneath ground level, Lasagna™ generates an electric field in the soil that drives water with dissolved contaminants through destruction zones made of kaolin (a fine white clay) and iron reactive walls. As the water comes into contact with the iron filings, the TCE is destroyed by chemical means.

Lasagna™ performed well in two rounds of testing. In fact, the technology showed such promise as a way to flush contaminants out of the tight, clayey soil found at Paducah, we signed a Record of Decision on August 10, 1998, to use Lasagna™ to remediate the SWMU 91 site. As a result, two years of full-scale testing to verify the efficacy of the technology at SWMU 91 has begun and can be extended for another 18 months.

Q: What results do you anticipate?

A: When Lasagna™ is fully operational, DOE anticipates complete destruction of the TCE within two to four years, as opposed to potentially hundreds of years with conventional treatments. That's why we're excited. We're not transferring contamination to another media; we're eliminating it altogether.



Q: Why is Lasagna™ called an "innovative technology?"

A: An innovative technology is something that has never been done before. Lasagna™ is considered an innovative technology because although it involves an existing technology, its application is entirely new. Electro-osmosis—the process of generating an electric current between a positive and negative pole in the ground—has been used in industry for so long that it gets big yawns from engineers now. But adding iron-filing reactive walls to destroy contamination within the subsurface and driving contaminated water through those walls, that's where the technology becomes innovative.

Q: Who developed Lasagna™?

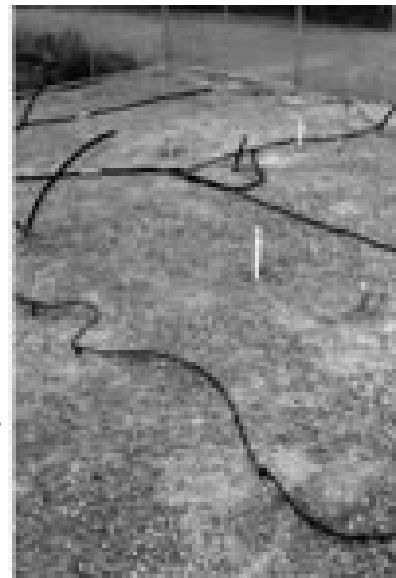
A: DOE solicited major industries to test innovative technologies at its facilities. The Lasagna™ group, made up of Monsanto, Dupont, and General Electric corporations, approached DOE with this technology that eliminates TCE. DOE selected Paducah as the most appropriate site to demonstrate that technology and solicited EPA's involvement. We all worked together to test the Lasagna™ technology.

Q: What does this mean for future cleanups?

A: Lasagna™ gives us technology that results in effective TCE destruction at a reasonable cost. The cost of cleaning 1 cubic yard of soil in this way is estimated to be \$190, considerably less than alternatives that require removal and possible transportation of contaminated soil. This project also shows that the regulating community can work with federal facilities and with partners in industry to demonstrate and successfully implement innovative technologies across the nation.

To learn more about the use of Lasagna™ at the Paducah Gaseous Diffusion Plant, look for FFRRO's newest fact sheet, Cooking Up Solutions: Cleaning Up With Lasagna™, due to be published in May 1999. PIP

Photos are courtesy of DOE



Lasagna™ in operation at Paducah.

Composting Saves Millions Naturally

BreakingNews



At a growing number of military bases, an innovative remediation technology proves that it is possible to completely eliminate munitions-derived contaminants found in soil for less money and time than traditional treatments. Performed on-site, composting cleans up facilities

using naturally occurring microorganisms in the soil, which digest and break down chemical compounds in explosives into harmless fragments that are incorporated into the humus of the soil, creating a potting-soil quality material.

At both Umatilla Chemical Depot in Hermiston, Oregon, and Hawthorne Army Depot in Hawthorne, Nevada, unlined evaporation lagoons held wastewater produced from cleaning Trinitrotoluene, Royal Demolition Explosives, and other explosives out of decommissioned bombs. After the water evaporated, workers excavated and burned the residual solids. Over the years, however, the contaminants in the wastewater seeped into the underlying soil and groundwater, placing both facilities on the National Priorities List (NPL) for hazardous waste cleanup.

Testing Composting Efficiency

In an effort to save time and money, the BRAC Cleanup Team (BCT) considered a number of innovative treatment methods to address the contamination problem. The BCT, made up of representatives from the Umatilla Chemical Depot, EPA Region 10, and the Oregon Department of Environmental Quality, ultimately chose composting. Workers at Umatilla mixed the contaminated soil with nutrients in the form of hay, cow manure, sawdust, and potato scraps to aid in the composting process.

Umatilla's use of composting represented the first time this method was employed to remediate explosives at an NPL site. The cleanup effort was a success. A total of 14,800 tons of soil were completely decontaminated of hazardous substances, and the composting method saved the base an estimated \$3.8 million—approximately one-

half the cost of incineration, the treatment method usually employed. In addition, the combination of composting and other innovative site assessment and remedial technologies reduced the cleanup time by three years.

Repeated Success

Based on the positive results demonstrated at Umatilla, cleanup officials at Hawthorne Army Depot and the Nevada Division of Environmental Protection decided that composting should be used to treat contaminated soils there. They estimated that composting could potentially save the base \$3.6 million in treatment costs. A pilot project focusing on 2,800 cubic yards of soil was conducted in 1997.

Workers excavated targeted soils and mixed them with clean soil. This step was necessary because contamination levels were as high as 10,000 parts per million, exceeding allowable levels for soil excavation. The mixed soil was then combined with wood chips, cow manure, hay, and potato scraps to provide the ingredients needed for successful composting to occur.

Workers formed the soil mixture into piles, or windrows, adjacent to the contaminated area. They facilitated the composting process by watering and turning the windrows daily to provide essential oxygen and water that the bacteria need to thrive. Also, project managers monitored moisture and temperature levels regularly to ensure the proper conditions were maintained throughout the process. After only 20 days, composting was completed. Sampling showed that no detectable levels of explosives remained in the soil. The remediated soil was used to backfill the excavated lagoons. The area was then seeded with desert plants. Because composting produces a nutrient-rich product comparable to an enriched top soil, plant growth occurred easily. Due to the success of the pilot project, composting of the remaining 41,000 cubic yards of contaminated soil began in late 1998.

Additional Opportunities for Savings

Promising results at these and other facilities demonstrate that composting is an effective and practical way to remediate explosive-contaminated soils. The U.S. Army Corps of Engineers estimates that \$200 million could be saved if composting were used to clean up the remaining U.S. munitions sites. This innovative and natural decontamination approach also fulfills FFRRO's goal to ensure faster, more effective, and less costly cleanups.

To read more about composting explosives and some successful cleanup projects, visit these Internet sites: The Composting Alternative to Incineration of Explosives Contaminated Soils, <www.clu-in.org/products/newsletters/ttrend/ttcmpost.htm>; Innovative Uses of Compost: Composting of Soils Contaminated by Explosives, <www.epa.gov/epaoswer/non-hw/compost/explos.pdf>. PIP

Going Wild

<Continued From Page 1>

and recreational opportunities.

Hunting, fishing, and hiking are just a few of the activities the citizens of Laurel, Maryland, now enjoy at Patuxent Research Refuge, formerly Fort Meade. DoD turned over more than 8,000 acres of the former Army munitions testing ground to the refuge in 1991. The facility now provides a haven for hundreds of species of migratory birds and wildlife, including bald eagles, deer, and foxes.

EPA Remedial Project Manager at Fort Meade, Nicholas Dinardo, recalled that citizens did not want the facility developed into an industrial or commercial area. "Because of the community's input, Fort Meade is now a wildlife refuge." "The community was very supportive of the transfer," added Nell Baldacchino, Education Team Leader of the Patuxent Research Refuge.

In the neighboring state of Virginia, the former Woodbridge Research Facility is enjoying similar success. Used by the Army as a radio transmission and electromagnetic research facility for 48 years, it was officially transferred to FWS in June 1998. Today, the 580 acres of wetlands, forests, and meadows are part of the Occoquan Bay National Wildlife Refuge. More than 214 bird species have already been documented on the refuge, making the facility one of the richest concentrations of bird life in Virginia. The tall bluffs of the refuge also provide havens for eagles and great blue herons.

Great blue herons are also finding a home at the Fort Devens Sudbury Training Annex in Massachusetts, which is currently being transferred to FWS. The facility will primarily be used for habitat restoration efforts and as a migratory

bird refuge where rare species like red-tailed hawks and osprey already have taken up residence. A variety of other wildlife such as deer, beavers, owls, foxes, hawks, and song birds also call the annex home. According to Bud Oliveira, Refuge Manager at the Great Meadows National Wildlife Refuge, FWS is working to acquire a total of 2,205 acres of the site by the end of 1999.

On America's west coast, Mare Island Navy Base, a major ship construction and repair facility in California, has undergone a successful transformation of its own. In January 1998, FWS and the California State Lands Commission negotiated a lease that added 2,370 acres of

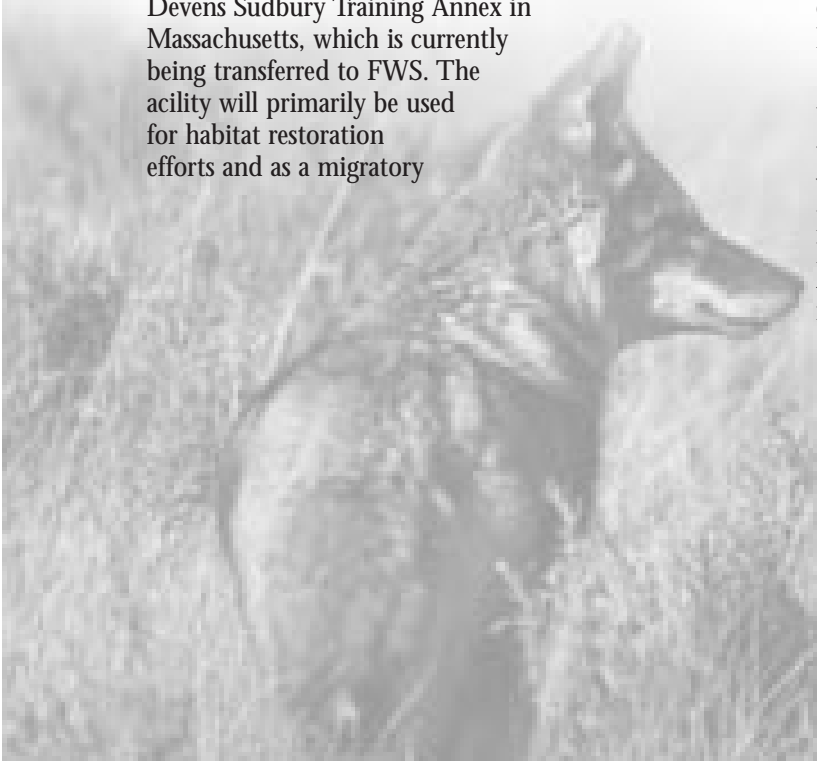
"Because of the community's input, Fort Meade is now a wildlife refuge."

—Nicholas Dinardo, EPA Regional Project Manager at Fort Meade, MD

the former Navy base to the San Pablo Bay National Wildlife Refuge. This land, comprised of wetlands, ponds, and open water, will be used primarily as a habitat for migratory birds, waterfowl, and the endangered California clapper rail and saltmarsh harvest mouse.

In addition to the wildlife protected by these refuges, dwindling plant life also is reaping the benefits of base transitions. Formerly the world's largest TNT factory, the Joliet Arsenal in Illinois was cleaned up and transferred by the Army in 1997 to the U.S. Department of Agriculture Forest Service to create the Midewin National Tallgrass Prairie. The nation's first federally designated tallgrass prairie spreads across 19,000 acres, providing the nearby community with recreational opportunities and conserving habitats for plants and wildlife.

Successful transformation of these military facilities benefits communities. EPA, in cooperation with DoD, the U.S. Department of Interior, and local residents, is working to make cleanup efforts more efficient while providing a safe environment for both wildlife and the public. With continued support from EPA more of America's closing military sites will now defend the nation's wildlife. **PIP**



Stakeholder to Stockholder

<Continued From Page 1>

that impact their lives. As stockholders, residents have greater access to timely and correct information.

The general principle behind the Stakeholder to Stockholder idea is to maintain the proper balance of professional managers and community members to ensure sound and profitable practices are carried out in the best interest of the community. The Stakeholder to Stockholder strategy enables residents, who might lack the business skills or capital necessary to develop and manage a profitable business, to own all or part of this new business. Residents can buy stocks at a price as low as \$1 per share while professional business managers and others with sufficient capital own the remaining shares of stock. Cleanup and redevelopment decisions and the resulting profits are therefore shared among all stockholders.

- **Improve communication between business and the community:** Traditionally, businesses that operate in low-income or minority areas do not keep local residents informed about company activities. A business partially owned by the community provides a model for how businesses can interact more positively with the surrounding community.
- **Create wealth in the community by developing a profitable business:** Since Stakeholder to Stockholder will create a for-profit business, residents should expect the enterprise to turn a profit, of which they will receive their fair share. In addition, the enterprise will create other kinds of wealth such as new job skills, opportunities for spin-off businesses, and social connections that come from broad-based community work.

Stakeholder to Stockholder businesses may be created on publicly or privately owned Brownfields or military bases that are being disposed of as part of the base realignment and closure BRAC process. The individual steps for

An Added Benefit

Increased participation by residents speeds up the pace of Brownfields and BRAC projects. With broad-based community support, projects tend to have less opposition and move more quickly through the approval process. Waivers and exceptions, for example, tend to be easier to grant when there is a cross-section of community support for the request.



The four goals of Stakeholder to Stockholder are:

- **Empower community residents to meaningfully participate in environmental and economic development:** Residents who own all or part of a for-profit business will gain a larger voice in their community's cleanup, redevelopment, and sustainability. A business owned in whole or in part by the community is in a unique position to help shape the commercial development of the neighborhood.
- **Empower community residents to meaningfully participate in environmental decisionmaking:** Community residents with a present or future equity interest will demand more information about the remediation component of a redevelopment project, and have a greater influence in how the cleanup and redevelopment proceeds.

business formation are identical, but the order of those steps might differ slightly depending on a variety of factors. The desired outcome, however, will be the same—a profitable business owned in whole or part by impacted community residents and operated in the best interest of the community.

John A. Rosenthal is Director of the Howard University Urban Environment Institute in Washington, DC. Stakeholder to Stockholder, a project of Howard University Continuing Education and Arthur Andersen, LLP, was developed through a cooperative agreement between Howard University Continuing Education and EPA's Federal Facilities Restoration & Reuse Office (FFRRO). Stakeholder to Stockholder pilot projects are currently in progress at Brownfields and BRAC sites. For additional information about Stakeholder to Stockholder contact John Rosenthal at 301-585-2295 or <jrosenthal@con-ed.howard.edu>. PIP

Working Toward the Safe Reuse of FUDS

by Douglas A. Bell and Sean M. Flynn

Recipients of former DoD property could unknowingly be sitting on a former military range. Most of the more than 9,000 formerly used defense sites (FUDS) scattered across the country are now resting in the hands of private parties. Many of these properties are former U.S. military ranges, which were used for everything from testing conventional, chemical, and biological weapons to training troops. It is not yet known how many FUDs are former ranges; however, the military currently estimates that approximately 2,700 of these sites contain unexploded ordnance (UXO).

Many FUDS were transferred by DoD in the 1950s or 1960s, prior to the introduction of extensive investigation and site characterization requirements by environmental regulators. In addition, a significant number of these sites were located in remote areas and generally thought to be forever out of reach by the public. As cities have expanded outward over time, some of the more remote FUDS have become prime targets for development or redevelopment.

Such increased public access to these sites concerns EPA, states, citizens, and other stakeholders, given the suspected widespread UXO contamination at FUDS and the uncertainties regarding exposure risks. Former military ranges represent possibly the greatest cause for concern because they have been relinquished from DoD control, in many cases without adequate site

characterization or risk assessment. Since these sites often are being used for recreational, residential, or retail purposes, the public might be at risk from exposure to UXO and other military waste and not even know it.

Meaningful EPA and state involvement is essential to ensure the protection of public health and the environment at these sites. Presently, EPA is working with DoD, military components, and the U.S. Army Corps of Engineers (Corps), which administers DoD's FUDS program, to better address UXO contamination nationwide, especially at former military ranges where UXO is known or suspected to be present.

In addition, an internal EPA workgroup continues to assess the challenges EPA regional offices face when working with the Corps to oversee identification and cleanup of FUDS. The Association of State and Territorial Solid Waste Management Officials (ASTSWMO) Current Issues Task Force is performing similar work, recently conducting a survey concerning the validity of the Corps' cleanup assessments at FUDS. In the spirit of partnering, EPA and the ASTSWMO Current Issues Task Force are meeting jointly with the Corps to discuss key issues and to mutually explore mechanisms for working together to improve the FUDS program through enhanced regulatory participation.

These and other partnering efforts will result in greater assurances that former military ranges and other FUDS are cleaned up well enough to support safe reuse of the property. **PIP**

Douglas A. Bell is an environmental scientist at FFRRO where he manages military range issues nationwide. Sean M. Flynn is a program analyst for FFRRO.

Write To Us

We encourage your questions, comments, and contributions. Please send your input to Deborah Leblang by mail at U.S. EPA/FFRRO, Mailcode: 5101, 401 M Street, SW., Washington, DC 20460; e-mail at <leblang.deborah@epa.gov>; or fax at 202 260-5646.

Join Our Mailing List

If you would like to be on the FFRRO mailing list to receive future issues of *Partners In Progress*, please fill out and return this form to ERG, c/o Leo Pineda, 2200 Wilson Boulevard, Suite 400, Arlington, VA 22201-3324; or fax to 703 841-1440. Alternately, you can send your request via e-mail to <lpineda@erg.com>.



Name: _____

Agency/Organization: _____

Street Address: _____

City: _____

State: _____ Zip Code: _____

Phone Number: _____

E-mail: _____

Are Your Tanks In Compliance?

by Deborah Leblang

The deadline for complying with EPA's Underground Storage Tank (UST) regulations has passed. If you still have a substandard UST installed before December 22, 1988 on your federal facility, it is time for action.

All USTs should now be protected against corrosion, spills, and overfills. Compliance can be achieved by implementing one of the following remedies:

- Upgrade the UST by adding spill, overfill, and corrosion protection.
- Replace the UST with a new tank that has spill, overfill, and corrosion protection.
- Permanently close the UST or temporarily close the tank until it can be upgraded or replaced.

These UST regulations are vital in preventing yet another generation of substandard tanks from contaminating soil, groundwater, and drinking water. More than 370,000 UST releases have been reported—about half of which have contaminated groundwater. Such leaks have

caused fires and explosions or released toxic fumes into schools, homes, and other buildings. Not only can leaking USTs harm people and the environment, but they produce costly cleanup bills. The average cost of a UST cleanup is \$125,000; groundwater cleanups often exceed \$1 million.

Failure to meet the above requirements can result in penalties of up to \$11,000 per day, per tank, for each violation. EPA is focusing inspection resources in areas that will produce the greatest benefits to the environment and human health. In particular, EPA is concentrating on federal facilities, owners and operators of multiple facilities or large facilities with multiple USTs, and facilities endangering sensitive ecosystems or drinking water.

*To learn more about UST policies, visit the home page for the Office of Underground Storage Tanks at www.epa.gov/oust/. You also can order a free 16-page booklet entitled Don't Wait Until 1998: Spill, Overfill, and Corrosion Protection for USTs by calling EPA's RCRA Hotline at 800 424-9346. **PIP***



Open manway showing catch basin and pressurized piping (without the line leak detector yet installed).