

FISCAL YEAR 2006
SECRETARY OF DEFENSE ENVIRONMENTAL AWARDS
U.S. ARMY NOMINATION

U.S. ARMY GARRISON GRAFENWOEHR

ENVIRONMENTAL QUALITY, OVERSEAS INSTALLATION



SUSTAINING THE ENVIRONMENT FOR A SECURE FUTURE

INTRODUCTION

The U.S. Army Garrison (USAG) at Grafenwoehr, Germany, commands, controls and operates the installations of Grafenwoehr, Hohenfels and Vilseck, and has the mission of supporting and enabling the readiness of its tenants, including the 7th Army Joint Multinational Training Command, the 2nd Stryker Cavalry Regiment (SCR) and NATO units, to facilitate deployment operations, and assist staging operations. This includes power projection, force protection and Conventional Forces Europe (CFE) training and support, including live-fire training, engineering operations, air-drop exercises, helicopter gunnery and aircraft operations, and maneuvering. The garrison provides the highest quality training environment for the Army's European theater of operations.

The USAG Grafenwoehr is located in a scenic area of Germany approximately 60 miles east of Nuremberg in Bavaria. The city of Grafenwoehr lies right outside the gates of the garrison and, due to a lack of industry in this rural area, the community owes much of its prosperity to the Army's presence. Approximately 2,750 local nationals are employed at USAG Grafenwoehr. The garrison population also includes 6,550 military personnel; 5,098 training troops – U.S., and NATO members (daily average); 810 Department of the Army civilian employees; 1,650 contractors; and 11,000 family members.

BACKGROUND

The responsibility for managing the environmental program at USAG Grafenwoehr lies with the Department of Public Works' (DPW) Environmental Division under the leadership of division chief Manfred Rieck. His goal, and that of his environmental team, is to prevent and correct negative impacts to the environment resulting from training and other mission-related activities in compliance with U.S. and host nation environmental laws and regulations. Due to the proximity of the training areas to the host nation communities, and limited training space (52,000 acres) available to support the various training operations, the biggest impacts to the environment at USAG Grafenwoehr are soil erosion, storm water runoff, water pollution and natural resources conservation.

The Environmental Division was established with just one environmental engineer in 1979 and has since then grown to 15 professionals who are specialists in hazardous waste and substances management, technical environmental protection, chemical matters and natural resource management and protection. The extended team members include a garrison public affairs specialist, the chief of range operations, a member of the directorate of logistics and other members of the Directorate of Public Works.

The key to the garrison's environmental management approach is its Environmental Management System (EMS), which was initiated, on time and in accordance with DoD policy and guidance, in 2003. USAG Grafenwoehr's EMS covers all aspects of environmental management, with emphasis on the health protection of community members and the protection of valuable natural resources in conformity with training requirements. All environmental programs initiated by the USAG Grafenwoehr Environmental Division are conducted in accordance with significant environmental plans and agreements listed below.

Figure 1. Plans and Agreements	
Name of Plan/Agreement	Date Established/ Date of Last Revision
Spill Prevention Control and Countermeasure Plan	Revised October 2006
Hazardous Waste Management Plan	Revised May 2005
Asbestos Management Plan	Revised June 2005
Storm Water Pollution Prevention Plan	Established October 2004
Tenant Unit Environmental SOP	Revised June 2006
Training Unit Environmental SOP	Revised January 2006
Hazardous Waste Disposal Guide	Revised August 2006
Noise Management Plan	Established May 2006
Lead Based Paint Management Plan	Established October 2005
Joint site surveys on environmental issues with German Authorities (e.g., Water Board, Federal Assets Office and County Office)	Surveys have been conducted every three years since the early 1980s.
German-American Advisory Council meetings on critical environmental issues	Meetings have been conducted twice yearly since the early 1990s.
Agreement between Host Nation Forestry Office and USAG Grafenwoehr to support the common Reforestation and Rehabilitation Program for the Training Area	Established in the late 1970s and is updated every six years, last update 2004
MOA Bavarian State Office for Environment & IMCOM-E to jointly solve critical issues at USAG Grafenwoehr	Established 22 June 2006

PROGRAM SUMMARY

The USAG Grafenwoehr has a well-established, comprehensive environmental program known for meeting its challenges. In FY 2006 these challenges were expanded to include environmental impacts mitigation due to stationing the 2nd SCR Stryker Brigade from Fort Lewis at USAG Grafenwoehr and making many training area enhancements, including expanding the Grafenwoehr military installation to station 3,800 additional Soldiers by CY 2009 under its Efficient Basing – Grafenwoehr (EB-G) initiative. USAG Grafenwoehr has met these challenges and maintained the integrity of its environmental program through sound environmental management practice, innovations, and community partnerships. As a result, the following goals were accomplished:

- Accommodated the approx. 3,800 2nd SCR Stryker Brigade in an environmentally friendly manner.
- Increased acreage available for training operations and maneuvering.
- Completed erosion reduction initiatives.
- Preserved and rehabilitated threatened and endangered species habitats.
- Saved \$1.2 million in FY 2005 and FY 2006 due to the installation of a Hazardous Material Control Center in early FY 2005.
- Reused slightly contaminated material under sealed surfaces to accomplish cost savings of \$1.2 million in FY 2006.
- Signed a six-year agreement with the Host Nation Forestry Office to accomplish training area rehabilitation, erosion protection, biotope maintenance, and other environmental projects resulting in \$1.8 million cost savings to the Army.
- Met the goal of “making environmental protection easy” for Soldiers.

All of these accomplishments contributed to the achievement of the garrison’s environmental objectives, and not just those objectives that are aspects of the ongoing environmental program, but also those that are part of USAG Grafenwoehr’s expanded mission under USAREUR transformation.

ACCOMPLISHMENTS

Environmental Management System

Since the implementation of its EMS, the USAG Grafenwoehr has been successful in integrating it into the day-to-day business of the installation, according to an external EPAS audit in 2005. Credit for this success is founded on leadership support for the initiative and the resulting environmental management culture that it fosters. The EMS Environmental Quality Control Council (EQCC), which monitors the success of environmental initiatives, includes the garrison leadership, DPW environmental experts, and representatives from all garrison directorates and tenant units, including a representative of the new 2nd SCR Stryker Brigade. These leaders have taken a “divide and conquer” approach to identifying and meeting environmental challenges by creating five special boards for asbestos, hazardous waste, ozone depleting substances, lead based paint and noise management. In addition, the Training Area Maintenance Process Actions Team (PAT) – with representatives from the DPW, Range Operations, Integrated Training Area Management team, and the Host Nation Forestry Office – help to meet goals and targets of significant environmental aspects. The result of this management approach is that USAG Grafenwoehr’s EMS is being applied and incorporated into all aspects of the environmental program and the training mission.

Mission Enhancement

Soil erosion due to prolonged training and continual vehicle movement has diminished the environmental quality of some training areas at USAG Grafenwoehr. These conditions made the ability of training a Stryker unit at the garrison questionable. Despite that, the 2nd SCR Stryker Brigade arrived at Vilseck in the summer of 2006 as the first Stryker unit in Europe. This happened because the environmental division ensured the regiment’s ability to train at the garrison long before it arrived. The first task the environmental division undertook was to study the effect of the Stryker vehicles on soil, vegetation and surface water runoff. After conducting extensive tests and field trials, results from the survey indicated that the soil condition on training land previously restricted

for tracked vehicles was suitable for Stryker training with decreased negative impact to the environment.



Soldiers from the 2nd SCR Stryker Brigade conduct training exercises at USAG Grafenwoehr.

Next, the environmental division installed and respectively upgraded a network of 250 environmental facilities throughout the training area, including 24 maintenance pads and 24 refueling pads, HM/HW sheds and used oil tanks. These facilities make it easier for Soldiers in the field to maintain safe environmental practices, and contribute in a meaningful way to the accomplishment of the garrison's environmental mission even as they train for their war fighting mission. This helps to meet the environmental division's goal to "make environmental protection easy" for Soldiers, and also provides them with more time for training.

Erosion Mitigation

After extensive testing, the second task the environmental division undertook was to implement several projects to manage the biggest problems – erosion and soil compaction. To keep the soil from washing away during rainstorms, or blowing away on windy days, the environmental division, with support from the operations and maintenance (O&M) division and in close cooperation with the trainers, relocated and opened berms that eliminated erosion bottle necks and contained stormwater runoff. While they were at it, the strategic placement of the berms added the benefit of increasing maneuver space.

The environmental and O&M divisions, with the support and flexibility of the training community,

also re-seeded 4,000 acres of training land with a selected native grass seed mixture that not only anchored the soil, but also provided better physical resistance, faster root development and greater horizontal expansion. Collaboration on this major task resulted in its completion within two months.

In places where the soil was so compacted that grass developed only sporadically, special equipment that loosened the soil without destroying existing protective vegetation cover and mixing the different soil layers had to be devised. The device consists of a roller with special hardened steel teeth attached to it and is pulled by a tractor. Approximately 2,000 acres of land were recovered with a 50 percent reduction of closure time because of this method, which ensures that top soil with a high nutrient content stays in place to support growth for the new grass seed.



Native grass seed restores eroded training areas.

Forest Management

Limited to only 52,000 acres, training land at USAG Grafenwoehr is at a premium, and since much of this area is wooded, 80 percent of the compensation measures during the period of performance were accomplished through forestry management. Approximately 110 acres of native deciduous trees, shrubs and bushes were planted, increasing both suitability for infantry training and the ecological quality and biodiversity of the environment. Improvement of forest stands along the training area border compensated for construction-related tree cutting without reducing maneuver space. These forest stands will also

reduce dust problems and noise impact on neighboring communities. Opening and thinning of forest stands also created four hectares of additional training land for maneuvering. In more open lands, environmental health was improved by thinning out tree stands that had overgrown high value grass lands and heather. Together these improvements also enhanced threatened and endangered species (TES) habitats by providing a more native environment.

Pollution Prevention

Pollution not only affects the installation, but has a major impact on the communities surrounding the base. USAG Grafenwoehr has met the challenge to prevent pollution with an extensive water monitoring program. The installation has established an environmental surveillance system that monitors water protection and erosion control measures, and to provides defensible water quality data. There are currently seven monitoring stations at all creeks draining from the Grafenwoehr Training Area. The stations monitor water flow, suspended solids, pH value and other parameters.

Annual sampling includes the analysis of 230 groundwater monitoring wells, 30 fishing ponds including fish sampling, and the operation of 7 water monitoring stations. The sampling and analyses are used to determine potential negative impacts from training activities, and prevent contamination on 10 off-post water protection areas from potential on-post contamination sources. Furthermore, this program, in close cooperation with the MWR hunting and fishing section and the host nation water board, protects the health of community members fishing in training area lakes and creeks.

The cost of such an extensive program can be prohibitive. But Grafenwoehr has taken a partnership approach to keeping costs down. While more than \$30,000 is spent annually for ground/surface water and fish sampling programs, the costs are halved by the support received by host nation authorities. That support comes in the form of sampling equipment and laboratory analysis, and provides Grafenwoehr residents and communities with the peace of mind that the stream and lakes remain free from contaminants.

TES Initiatives

A threatened and endangered species survey for the Training Area revealed 764 different types of endangered species, which is thought to be the highest density in Germany. In negotiations with host nation authorities, a "big picture" agreement was achieved that allows certain impacts on some threatened and endangered species, as long as the TES affected exist in sufficient numbers at different parts of the training area. When impacts on the species are made, compensations can be performed to ensure survival of low number species.

Another result of negotiation with host nation authorities was the establishment of a mitigation account. Increase in forest cover and other positive natural resources impacts after 1998 were put into this account. This was the first mitigation account established in Bavaria and within the entire U.S. Army in Europe. Presently the credit side of the account shows 100 acres of open land compensation and 250 acres of forest compensation. It enables USAG Grafenwoehr to compensate for training area construction measures without an additional financial burden and construction delay.

A former drainage channel in the Grafenwoehr training area was restored to a natural water flow at a total length of 1,000 meters. The unnatural straight water body was reshaped and rounded to imitate a meandering creek bed. Steep slopes were flattened to encourage natural riparian vegetation development, which is a very rare biotope type throughout Europe and therefore a priority habitat of the European Flora, Fauna, Habitat (FFH) Directive. Shallow water zones and little islands were created to provide habitats for threatened and endangered species adapted to temporary wet soil areas with little or no vegetation. Many endangered plant and animal species benefit from this restoration project, which is also nominated on the internal mitigation account to compensate for environmental impacts of Garrison construction. This new wildlife will host a variety of rare indigenous species, such as the Black Stork, May Fly, Brown Trout, etc. In addition, the existing active beaver population will find

new creative opportunities with improved dynamic landscaping already in progress. A beaver management plan is presently under development that helps to eliminate negative impacts on training facilities without a time consuming coordination process with host nation authorities.



Top: Rehabilitated former contaminated site. Below: Restoration of a wetland area filled in by heavy vehicle traffic recreated an area where endangered species can recover and thrive.



Community Partnerships

USAG Grafenwoehr has established partnerships with host nation and local authorities to preserve the beautiful environment surrounding the garrison. A partnership with the University of Bayreuth produced the development of native, "training resistant" seed mixtures to be used for the training area re-seeding program. Another working partnership with the University of Freiberg helped the environmental division to modify their erosion model to meet specific requirements.

USAG Grafenwoehr also worked with the local forestry office for the preparation of a GIS layer to manage ecologically highly valuable orchard meadows. This project called for the establishment of a historic fruit tree species conservation site. Other partnerships resulted in the following outreach accomplishments during the period of performance:

- Projects coordinated with the local German Water Protection Office resulted in the installation of five retaining/sludge settling basins and two fish passes to eliminate water runoff problems.

- A press conference with representatives of three TV stations, four radio stations and five newspaper publishers resulted in newspaper articles like "CLEAN US ARMY."
- Several briefing and training area tours to military and press representatives of Czechoslovakia Republic, Bulgaria and Albania about the smooth integration of the environmental program into military training resulted in increased acceptance of U.S. military with these countries.
- The environmental division provided a briefing and training area tour to over 200 members of the Bavarian Society for Contaminated Sites Cleanup resulting in a statement from the State Secretary of the Bavarian Ministry for Environmental Affairs saying that the USAG Grafenwoehr environmental program is outstanding in Europe and exemplary for Bavaria.
- On June 22, 2006, the Bavarian State Secretary for Environment and the IMCOM-Europe Regional Director signed a Memorandum of Agreement to jointly solve critical environmental issues at USAG Grafenwoehr that have the potential to negatively impact military training before they become political problems.

CONCLUSION

In Germany, 14 major Army communities will be reduced to four, one of which is USAG Grafenwoehr. The key features of the garrison – its world class facilities and infrastructure of the Army's Joint and Combined Expeditionary Training Center – are critical to transformation success and the effectiveness of the Stryker Brigade Combat Team strategically based at Grafenwoehr. The environmental division is successfully fulfilling its commitment to provide the same level of excellence in environmental programs it has always provided, and meeting applicable Overseas Environmental Baseline Guidance Document requirements, even with the increased demands that have been placed upon it.

On the cover: U.S. Army Capt. David Gohlich, the commander of Iron Company, gives his Soldiers a quick briefing on their performance following the unit's training at the Grafenwoehr training area in Germany. (U.S. Army photo by Arthur McQueen)