

FY 2010 Secretary of Defense Environmental Awards

U.S. Army Garrison - Grafenwoehr

Environmental Quality - Overseas Installation

Located in Northern Bavaria, Germany, the U.S. Army Garrison (USAG) Grafenwoehr is part of the U.S. Army Installation Management Command Europe (IMCOM-E).



The garrison's mission is to provide quality base operations and community support for all U.S. personnel in Grafenwoehr, Hohenfels, and Garmisch, and directly support the military mission along with 7th Army Joint Multinational Training Command (JMTC), Grafenwoehr Training Area, and 56 tenant units.

Approximately 9,000 military personnel, 5,200 civilian employees, and 15,000 Family members call the garrison home.

On an average day, 2,450 U.S. and NATO troops train on the 56,000 acres of bogs, meadows, forests, grasslands, and open water features that compose the largest training area for the U.S. Forces in Europe.

In recent years USAG Grafenwoehr's appearance has changed considerably. To support the stationing of six additional battalions and a population increase of 8,000, \$1.1 billion was spent constructing 50 new facilities. Meeting the environmental requirements of this development was a tremendous challenge, which was met through cooperation with all garrison organizations and the community, and employment of environmental planning tools.



Judging Criteria



Program Management



Technical Merit



Orientation to Mission



Transferability



Stakeholder Interaction

BACKGROUND

The Environmental Management Division (EMD) is staffed with 14 environmental professionals covering pollution, cleanup and training land management, as well as engineering, chemistry, and biology. The team is committed to community boards, working groups, energy, sustainability, asbestos, and lead-based paint management teams, as well as range and training area working groups.

The grounding principles of the garrison's environmental stewardship are energy efficiency and sustainability of the installation. Our primary responsibility is supporting the Soldiers and Families through flexible and adaptive practices. We strive to leverage all the newest technologies and best practices.

The garrison declared conformance to the ISO 14001 environmental management system (EMS) standard in June 2009, having met all the Army and Department of Defense (DoD) EMS metrics. Asbestos in buildings, hazardous materials, energy, spill prevention, and solid waste were determined as the significant environmental aspects.

Regularly updated environmental management plans are available to the community in the following areas: asbestos (revised 2010), solid waste (2008), hazardous waste (2010), pollution & spill prevention (2010), lead hazards (2010), natural resources (2010), pesticides (2010), and others.

“USAG Grafenwoehr is a model organization for a systematic and exemplary environmental program and for smooth cooperation on various levels, such as the comprehensive network of environmental facilities, the methodical investigation and remediation of contaminated sites as well as the monitoring program for ground and surface water.” -

Emilia Mueller, State of Bavaria, Minister for European Affairs

PROGRAM SUMMARY

USAG Grafenwoehr ensures continuous improvement of all environmental aspects through a well-balanced and comprehensive environmental program by:

- Supporting the military mission by providing the best environmental facilities and ecological infrastructure to sustain training lands and preserve training capabilities for present and future generations.
- Improving business processes by fully implementing an ISO-14001 conformant EMS.
- Improving the reputation with the public and preventing encroachment by successfully partnering with German authorities.
- Reducing environmental impacts and risks to ensure safe and healthy communities by reviewing all activities and projects for potential impacts and then programming appropriate remediation measures.



Environmental and sustainability goals are reflected in top command planning tools like the Garrison Installation Strategic Sustainability Plan and JMTC Campaign Plan. The garrison's 25-year sustainability milestones were developed by a joint U.S. and German working group. They include optimizing sustainability, providing state-of-the art training facilities while partnering with German authorities, preserving our natural resources and meeting Leadership in Environment and Energy Design (LEED) platinum standards.

ACCOMPLISHMENTS - EMS

A fully engaged EMS cross-functional team and Environmental Quality Control Council (EQCC) with representatives from all Garrison directorates, major tenants, military units, JMTC, and Integrated Training Area Management are the backbone of the installation's EMS.

The EMS cross-functional team annually evaluates more than 200 garrison activities and their environmental aspects and impacts.

The garrison successfully met EMS goals and was able to close two significant aspects:

- A total of 546 lbs. of ozone-depleting substances were removed in 78 facilities.
- Erosion, previously impacting 5,000 acres of training land, was reduced to almost zero in recent years. To achieve this goal, the EMD, ITAM and German Forest Service developed and implemented a comprehensive erosion control program.



The garrison and mission command groups restructured the EQCC and improved the decision-making process. Examples are immediate funding of a critical asbestos survey, and the tracking of environmental officer training and non-compliance issues by the Command Sergeant Major.

The garrison’s EMS Emergency Preparedness and Response Plan was developed together with the Directorate of Plans, Transportation, Mobilization and Security and integrated into the garrison’s overall emergency planning. In FY 2010, this plan was put to use when the EMD participated in a major emergency exercise with German authorities.

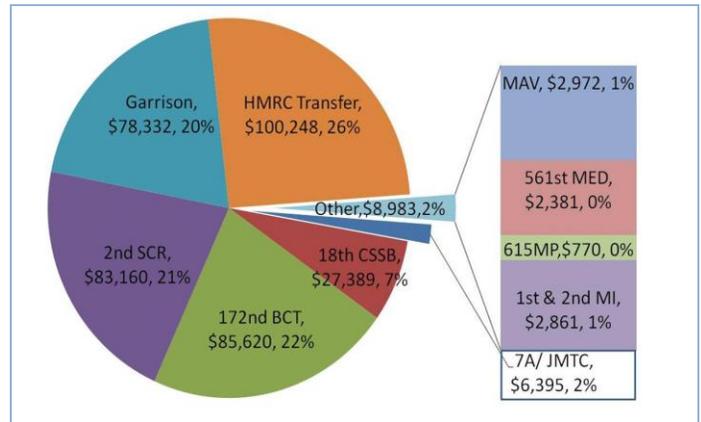
WASTE REDUCTION EFFORTS

The recycling team developed a new garrison-wide recycling system, using pictograms and photos at the containers. Batteries are collected separately at all recycling centers.

Within the last decade, total refuse quantity dropped from 3,923 tons to 3,173 tons. In spite of the increasing population, the overall waste-stream diversion rate improved from 29 percent to 65 percent. The goal is to realize an additional five percent or more to this already high rate within the next five years.

During the reporting period, the garrison upgraded the hazardous material control center to a state-of-the-art facility. The Directorate of Logistics implemented a comprehensive Hazardous Material Management Program, picking up and delivering hazardous materials. This created

the potential for shelf-life extension and reuse of material thereby reducing hazardous material procurement and hazardous waste disposal.



FY 10 Excess/Expired Hazmat recovered from area of responsibility – total value \$ 409,863.



A mobile petroleum, oil and lubricant (POL) separator purchased by the EMD provides on-site separation of POL. This reduces the risk to drinking water and cuts hazardous waste disposal costs by more than 90 percent. Other installations (e.g. Hohenfels) have emulated Grafenwoehr’s success by procuring the same equipment.

The garrison stripping or reuse yard was improved technically to provide Soldiers a safe and convenient facility and low-cost spare car parts. This facility meets the highest German certification standards, annually decreases hazardous waste by 18,000 lbs. and provides a safe and healthy operating environment.



Airfield runway de-icing substances pose a significant risk to soil and groundwater. Based on multi-year studies identifying the optimum control method, a new treatment facility was installed in FY10. U.S. Air Force, Europe is also considering adopting this low-maintenance approach.

All permits, policies, procedures, and management plans are tracked and updated as required by U.S. and German laws. Timely renewal is ensured by the EMS document control system.

COMPLIANCE ASSESSMENT AND MANAGEMENT PROGRAM



Environmental compliance is assessed with the internal and external Environmental Performance

Assessment System (EPAS). Root causes and findings corrections are addressed in quarterly EQCC meetings.

Upon recommendation of IMCOM-E, the Environmental Readiness, Safety and International Environmental Programs Office of the Deputy Undersecretary of Defense selected Grafenwoehr for an EPAS on-site observation by South African Army representatives. The visit supported the Defense Environmental International Cooperation program in cooperation with the U.S. African Command.

All 70 garrison organizations and military units handling hazardous materials have appointed Environmental Officers (EO). Quarterly inspections by EMD personnel improve their compliance status. The EMD records inspection results, tracks notices of non-compliance and monitors hazardous material inventories through a self-developed database.

The EMD conducts on-site 32-hour environmental and annual hands-on refresher training for EOs at motor pools ensuring direct interaction and feedback. In addition, spill prevention training is provided to all personnel handling hazardous substances. To make environmental protection easier for military units, the EMD developed an environmental handbook with all operational controls, policies and legal guidance.

Through additional bi-annual briefs, the EMD informs and trains the Garrison Commander and Director of Public Works on the latest developments in the environmental program.

To avoid unintended destruction of nature and to ensure legal compliance, the EMD conducts annual **nature conservation training** in German and English to supervisors, executive officers and staff.

EMS awareness activities for garrison personnel and contractors include publishing flyers, brochures, newspaper articles and on-site presentations, as well as information boards in frequently visited areas. Most effective was an on-site EMS awareness campaign for almost 1,000 military and civilian employees. Useful feedback was received from employees, e.g. turning off radiators in hallways or exterior lighting at motor pools when not needed.

Working and living environments are made safer through an interactive database which tracks asbestos, lead-based paint and other toxic substances within facilities. Based on this data, warning signs are installed in buildings where non-friable asbestos is found and residents receive awareness briefings. Remediation projects are ongoing for seven buildings with high risk ratings.

In close cooperation with German authorities, the EMD optimized surface and ground water monitoring. Risk analysis and re-evaluation of data from more than 300 groundwater and 25 surface water sampling points increased drinking water safety and reduced monitoring costs by \$80,000.

To avoid potential health risks to approximately 500 community members who participate in the garrison's hunting and fishing program, the EMD and German Forest Service run a joint fish and game testing program.

EFFECTIVE USE OF FUNDS

The EMD maintains lists of environmental projects that are prioritized and programmed to meet its goals. Environmental funds savings include:

- Partnering with the U.S. Army Public Health Command's Europe office for a 1,000-unit Family housing lead based paint survey. Their X-ray fluorescence equipment saved nearly \$1 million from a contractor proposal and made it possible to examine all housing units within FY10, ensuring public health and safety.



- Having the garrison's training area maintenance team implement conservation and erosion control projects with existing equipment resulted in annual savings of approximately \$110,000 compared to outsourcing the work.
- Continuing the re-use of slightly contaminated soils as backfill under sealed surfaces reduced disposal costs by \$1.8 million within two years.
- Reuse of construction debris as gravel resulted in additional cost avoidances of \$870,000.
- Receiving the German Forest Service's erosion control and environmental mitigation projects saved \$490,000. This enabled additional conservation work on the land and increased flexibility for Soldiers training in heavy-use areas. With no cost to the U.S., the monetary value of the mitigation account increased to \$ 2.235 million that can be used for military construction projects.
- Using Multiple Award Remediation Contracts for soil disposal reduced costs from \$1.06 million to \$ 373,000 in FY 2010.
- Supporting the upgrade of motor parks and helipads with \$4.6 million of FY09 Compliance Deficiency Resolution funds is another example of funding synergies.



- Clearing 40 acres of grassland from invading shrubs increased the ecological value and enhanced the quality and amount of off-road training land. The EMD plans to open up an additional 40 acres by FY 2012, with a long-term goal of 200 total acres by FY 2020.

COMMUNITY RELATIONS



Through numerous awareness and outreach activities, the environmental program has earned a positive reputation from U.S. military and local, state and federal German

authorities. This was affirmed by receiving the FY10 environmental county award.

Earth Day activities in the Grafenwoehr military community in 2009/2010 included:

- Energy awareness
- Flea market and recycling
- Disposition of household hazardous waste
- Nature quiz and making birds' nests
- Hands-on composting and plant potting work-shop (Town of Weiden)
- Crafts using Tetrapak – a type of recyclable food container (County Office Neustadt)
- Field trips for more than 1,000 U.S. students to the nature trail, beaver dam, water treatment and recycling plants
- Installation of bat and bird houses in Family housing and recreation areas with Child and Youth Services and boy scouts.



A new nature trail was constructed for U.S. Soldiers and Families near the future outdoor recreation center. In June 2010, the trail was opened with a ribbon-cutting ceremony by the JMTC Commander BG Salazar, Garrison Commander COL Sorensen, Forest Director Maushake and Grafenwoehr Mayor Waechter.

The EMD staff provided presentations and environmental tours to:

- German, Tanzanian, Bulgarian, Albanian, and Georgian Forces;
- Mayors and county commissioners;
- The Westphalian Natural Science Society;
- German Forest Service Liaison Officers; and
- The European Sustainable Range Program workshop.

SI The EMD achieves conservation goals by partnering with local communities, county offices, German Forest Service, University of Bayreuth, Colorado State University, Bavarian Nature Protection Associations, and others. It actively employs volunteers, summer hires and interns.

“Grafenwoehr Training Area ... demonstrated outstanding stewardship commitment in managing hundreds of endangered flora and fauna species, protecting soil, surface and ground water while supporting a World Class training area.”

BG Steven L Salazar, JMTC Commander

EMD coordinated many environmental events to support the 100th anniversary celebration.

- Provided environmental outreach at the Town of Grafenwoehr museum, German Forest Office, and “first-shot re-enactment”
- Published 12 articles in the local media
- Contributed to the nature documentary “Among Red Deer and Guns” by Bavarian TV
- Organized and conducted information tours for high-ranking US and German stakeholders with displays of cultural and natural resources at an abandoned village
- Contributed to several TV reports on the white-tailed eagle and biodiversity



Soldiers preserve the wetlands and habitats of both beaver and kingfisher birds.

As part of the squadron Spur Ride, members of the Fires Squadron of the 2nd Stryker Cavalry Regiment gained environmental stewardship experience while repairing breakages at a dam with technical support from the German Forest Service and garrison EMD.

ENVIRONMENTAL PLANNING AND ANALYSIS

Through established management tools like a legal inventory, the garrison ensures compliance with the Overseas Environmental Baseline Guidance Document (OEBGD), Final Governing Standards (FGS) and German laws.



A geographic information system (GIS) with data on central servers is shared with the garrison, JMTC, Integrated Training Area Management (ITAM), and German authorities. The EMD provides GIS-based data on threatened and endangered species, geology, soil, groundwater, and contaminated sites to U.S. planners and German authorities. Beneficial products of the GIS include:

- High-quality designs that avoid delays in mission-critical construction; as an example, the facilities for the planned outdoor recreation center have been relocated to avoid wetland destruction.
- Coordination of mitigation projects in a team effort between the EMD, German Forest Service and Nature Conservation Board.
- Customer-oriented maps displaying customer services and environmental considerations for Soldiers and the civilian workforce.

The environmental review is the European equivalent of the NEPA process. In FY09, the EMD developed a systematic review process covering all environmental pillars and established a Standing Operating Procedure, which was used as a template across European installations. The EMD further improved the environmental review process by

annual quality checks that consider and incorporate stakeholder comments.

The EMD evaluates approximately 12 military construction (MILCON) projects, 3,000 work orders and 15,000 service requests, annually. Soldier, worker and Family safety was substantially increased by the improvement of Family housing and installation facility databases. Entering a building number where there may be an exposure risk into the database automatically creates a warning message for workers and planners to protect human health.

“Grafenwoehr Training Area is a complex habitat of Central-European significance to the preservation of endangered species, habitats and biocenoses.” - Dr. Heinrich Stetter, Senior Biologist, District Government, Upper Palatinate

About 90 percent of Grafenwoehr’s training area has the status of a European Natura 2000 nature sanctuary, resulting in additional requirements for training area maintenance and new approval procedures for construction projects. To mitigate the impact on the military mission, eliminate potential delays, and to conserve valuable natural resources, the EMD coordinates all actions with the German Forest Service and Nature Conservation Board.

The training area provides habitats for more than 3,000 plant and animal species; 1,272 which are threatened, endangered or legally protected. Grafenwoehr is also known for the largest population of red deer within Germany (approximately 8,000), that is outstandingly managed through a cooperative partnership between the German Forest Service and the U.S. Army. In 2010, this was recognized by the Edmond Blanc Prize of the International Council for Game and Wildlife Conservation.



The Tanzania’s People Defense Forces and African Wildlife Fund visited Grafenwoehr Training Area to adapt

the U.S. Army’s approach for a coexistence of dense wildlife populations in a highly used military training area.



The University of Bayreuth and the Colorado State University conducted a study at Grafenwoehr to determine the effects of military disturbance on biodiversity. Cross-comparison to similar off-post studies provides scientific proof that military training significantly enhances biodiversity. As a result of this study, previously restricted areas are reopened for military training. This provides more realistic training space and a variety of training patterns while increasing biodiversity.

CONCLUSION

The garrison has successfully improved business processes and met environmental quality program goals while maintaining effective operations and sustaining training capabilities for future generations.

This is mainly attributable to building a reliable and effective environmental team consisting of EMD personnel along with other garrison organizations, and U.S. and German stakeholders.



Workers band a white-tailed eagle thriving in Grafenwoehr. This is one of the rarest bird species in Bavaria; only six nestlings hedged in 2009.