

HQ Forces Command Pollution Prevention Team

FY 2002 Secretary of Defense Environmental Awards



Installation Sustainability

- Sustain the mission
- Sustain well-being
- Sustain our communities
- Sustain our environment



*Bringing all our resources
to bear to sustain
the MISSION.*



INTRODUCTION

As Fiscal Year 2000 started, Forces Command (FORSCOM) had a great pollution prevention (P2) program. This was in part due to the far-sighted leadership of George Carellas and Rudy Stine, former and current FORSCOM Environmental Branch Chiefs who had started earmarking funds in 1995 for P2 projects—years before P2 was a well-entrenched concept. However, most of the program’s success was due to the work of the talented, energetic people at the installations who actually changed the way the Army conducts business, and implemented P2 projects on the ground.

By 2000, FORSCOM installations had already claimed tremendous P2 accomplishments—as well as many Department of the Army (DA), Department of Defense (DoD), White House, and state awards. Beginning the new decade sparked a most important question...what to do next? The creative visions of many groups and individuals from diverse Army organizations worked together to answer this question. It was in 2000 that the FORSCOM Pollution Prevention Team conceived the **Installation Sustainability Program (ISP)**. But it wasn’t done in a day. And it couldn’t be done alone.

FORSCOM P2 Program Accomplishments FY 92–98

- 42% hazardous waste reduction
- 24% pesticide reduction
- 16% water use reduction
- 33% solid waste diversion
- \$11 million per year cost avoidance
- Thousands of hours of soldier time saved
- 3 White House Closing the Circle Awards
- 3 Secretary of Defense Environmental Security Awards
- 5 Governor’s Awards

BACKGROUND AND TEAM ORGANIZATION

HQ Forces Command environmental branch staff and support contractors, in consultation with installation staffs, designed the core elements of the initiative, developed the Command policy signed out by LTG Magruder in June 2001, identified resources to accomplish the program, and assisted the installations through the process. They include Manette Messenger, Rudy Stine, Mike Frnka, Rick Sinclair, Rudy Ruddock, Ann Gabriel, Kevin Palmer, T.L. Griffin, Adam Lynch, Kristen Walden, Kim Gotwals, Mark Clements, and Cynthia Trout. Their major job responsibilities are to support installation environmental programs.

Two key members of the Army’s **Office of the Director of Environmental Programs staff**, LTC Dave Jones, the Compliance team leader, and Bob Schroeder, the P2 team leader, provided a sounding board, helped formulate the concept of a sustainable installation, and championed the initiative at the Department of the Army level.

Army Environmental Policy Institute staff provided invaluable assistance in understanding the future issues that could impact the Army by providing direction to the work on sustainability being done by businesses, communities, and other organizations, and by facilitating installation workshops and community conferences. They include Ron Webster, Dave Eady, John Wuichet, Roc Tschirhart, and Elizabeth Keysar. Their major job responsibilities are to foresee future environmental trends that can impact the Army, and put policy in place to position the Army for success in dealing with those trends.

Army Environmental Center staff also facilitated installation workshops and conferences, helped engage the regulatory community to participate, and provided technical assistance on how to meet the aggressive goals the installations set for themselves. They include Tom Broadwater, George Carellas, and Eric Hangeland. Their major job responsibilities include liaising with the regulatory community and providing environmental expertise to the Office of the Director of Environmental Programs (ODEP) and the installations.

Construction Engineering Research Lab staff focused the incredible technical expertise of its research staff on helping installations set goals and determining appropriate technologies to apply in what order—and at what cost benefit—to meet those goals. They include Robert Lacey, Michelle Hanson, and Annette Stumpf. Their major job responsibilities are to do research in support of Army environmental and engineering programs.

As always, the **installation staffs** did the heavy lifting, by turning the concept of a sustainable installation into reality. Paul Wirt, Christine Hull, Dave Heins, and KrisTina Wilson from Fort Bragg led the way as the pilot installation. Fort Lewis staff includes Paul Steucke, Terry Austin, and Lana Leiding. Fort Hood staff includes Randy Doyle, Jeff Basile, and Jeff Salmon. Fort Carson staff includes Tom Warren, Mary Barber, Burla Martin, and Kelly O’Neill. Rounding out the team are Dave Barber from Fort McPherson; and Tim Powers, Mike Davis, and Mike La Duc from Fort Campbell. The major job responsibilities of all installation environmental staff are to plan and execute environmental programs at their installations.

THE CHALLENGE

Despite tremendous progress in the P2 program, which had greatly reduced the soldier time and mission funds spent on environmental management, warning signs were looming by the year 2000. Army and DoD leadership were voicing concern that environmental issues could constrain military training. Community concerns over environmental issues had completely stopped military training at a National Guard installation, and limited training time, space, and realism at many others. The FORSCOM P2 community had a rude awakening to the fact that “being less bad is not good,” to quote Bill McDonough, the father of green architecture. Being less bad is not nearly good enough when it comes to the Army’s ability to provide tough, realistic military training—because when the Army can’t do that, our soldiers face unnecessary risks in battle.

In March 2000, US Army leadership met at the Senior Environmental Leadership Conference (SELC) in Washington, D.C., to discuss its concerns about environmental issues and Army missions. The conference mandate, published in *An Operational Directive and Campaign Plan* signed by the Vice Chief of Staff of the Army on November 17, 2000, was to develop “an integrated strategy, with a defined end-state, that ties resources to objectives and engages stakeholders at all levels—to sustain the mission.” FORSCOM’s **Installation Sustainability Program** was developed to meet this mandate, under the guidance of MG Geoffrey D. Miller, the FORSCOM Deputy Chief of Staff for Personnel and Installation Management.

MAJOR P2 ACCOMPLISHMENTS

FORSCOM's Pollution Prevention Team achieved three major accomplishments during FY2000–2002:

1. **Education, outreach, and partnering** to engage the right players from inside and outside the environmental community and the Army in pollution prevention planning and implementation.
2. **Process improvement** for pollution prevention planning, by redefining the priorities for preventing pollution and environmental impact.
3. **Integrating “greening of government” requirements of Executive Order 13148 into the ISP**, thereby implementing an Environmental Management System (EMS) focusing on the pollution prevention efforts for environmental aspects and impacts with the greatest potential to degrade future readiness.

EDUCATION, OUTREACH, AND PARTNERING TO BUILD A COMMON LANGUAGE AND VISION

The team knew in general terms what it had to do: figure out how to prevent or reduce those environmental impacts that could constrain military training, affect quality of life, or cause concerns in the local community—both now and in the future. But it needed a common framework and vision for how to go about achieving that goal.

Educating Ourselves

The common language chosen was that of “sustainability,” a concept focused on meeting today’s needs without limiting the ability of future generations to meet their needs. Sustainability is about the interdependence of environment, social well being, and economic productivity—or in Army terms, “mission readiness.” While sustainability has been discussed worldwide since the late 1980s, and in the United States since the early 1990s, the concept of sustainable design of facilities was just reaching the military. The challenge facing the team was to quickly learn what was known about sustainability planning—for all the diverse activities that take place on a typical installation—and to translate best practices from industry and communities into an Army setting. The team had to educate itself and create a vision in the wider Army of a sustainable installation.

The solution to building a foundation of knowledge about the concepts and theory of sustainability, as well as learning how to practically apply this knowledge to the US Army sounded simple: to read the growing body of literature on the subject. But this takes time that busy people have precious little of. The team pondered, “How do you get busy people to read books?” The answer had a certain “retro-simplicity”: form a book club.



The FORSCOM P2 Team on a field trip to Rocky Mountain Institute, a sustainability think tank

Each member of the club was asked to read one book and create a briefing summarizing both its content and what it means to the Army. These reports were shared by e-mail and discussed at bi-

weekly teleconferences. The process was both effective and fun. The book “leader” had to make time to read the book, and typically, after hearing and discussing the report, the other members of the group were intrigued enough to also read it. The discussions provided an excellent forum to noodle over how the concepts could apply to Army installations.

The Sustainability Team formed the first book club, choosing *Natural Capitalism*, *Mid-Course Correction*, *The Natural Step for Business*, *Biomimicry*, *The Ecology of Commerce*, and *Believing Cassandra* as the first group of books. The popularity of the book club spread well beyond the original team and spawned numerous other book clubs, which discussed the books above, as well as many others. The book club idea resulted in many people, at all levels in the Army, rapidly gaining a conceptual grasp of “sustainable operations,” and thinking about how to make Army installations more sustainable. This knowledge turned into an understanding that pursuing long-range environmental goals was a fundamental part of sustaining readiness training and community relationships. That knowledge then had to be communicated to the wider Army population.

Educating Our Colleagues

The team evolved two training courses to prepare key garrison staff to implement the sustainability program. The first course, called “The Natural Step (TNS) Training,” is taught by Mary and Brian Natrass, the authors of the book by the same name. The course provides a theoretical understanding of the framework, concepts, and tools to measure the sustainability of various operations. The second course, “Building the Pyramid,” was initially developed by Alan AtKission for helping communities set sustainability goals. The team modified the courses to teach key garrison staff about the relationships between mission, environment, the economy, and well being.

Reaching Out to Our Communities

The installation staffs developed aggressive engagement strategies to “reach out and touch” key community members, including chambers of commerce, local government officials, Native American Tribes, and interest groups. They also reached out to state agencies and regulatory authorities. They briefed all these groups on sustainability, explained their desire for installations to become sustainable, and then invited each group to participate in sustainability planning with the installation. As a result of these initial education and outreach efforts, FORSCOM installations began hosting a series of sustainability planning conferences. These conferences have been effective for forming partnerships among military and community stakeholders on many levels for strategically integrating long-term, mission-oriented environmental goals.



Fort Carson’s ISP Team considers the first links toward building an installation sustainability pyramid.

IMPROVING THE P2 PLANNING PROCESS

P2 planning had formerly been done by environmental staffs or consultants, working alone. The major driver for the process was to identify investments in reducing pollution that had a five-year, or less, payback period. This was a worthy goal, and much success was derived from it. But, other criteria for investment are also of critical importance to the Army. The team's mission, therefore, was to refocus the P2 program on critical Army issues, and to specifically tie mission requirements to environmental issues.

To this end, the team developed the Installation Sustainability Program process around an ISO 14001 framework. FORSCOM's Deputy Commanding General, LTG Magruder, sent a memo and guidance to the installations outlining basic program elements:

**Significant
Environmental Issues**

- Constraints to military training
- Decreased soldier, family, and civilian well being
- Community concerns over economic or environmental issues
- High management costs
- Irrecoverable degradation to the environment

- Examine **macro-environmental** aspects and impacts of the installation as a whole
- Determine which ones are significant to the Army using a **mission-focused definition**
- Develop **long-range goals** to prevent those impacts, in consultation with installation, community, and regulatory stakeholders
- Develop five-year plans to **identify resources** needed to achieve the goals
- Bring resources to bear from **all funding elements**, not just environmental, to implement the plans
- Submit **periodic reports** on progress toward goals to the Command Group and stakeholders

The New Process in Action

Fort Bragg volunteered to take the point, becoming the first FORSCOM installation to host a Sustainability Executive Conference. Because the installation was blazing a new path through the woods, the development of the baseline document outlining significant aspects and impacts, and other preparations for the two-day conference, required monumental efforts by the Fort Bragg staff. Making it happen involved every member of the Sustainability Team. Ultimately, over 250 soldiers, civil servants, community representatives, and regulators attended the conference, which was held in April 2001.

To review the baseline, participants were divided into seven groups, each addressing a significant environmental aspect, such as water quality or energy use. The groups then went through a facilitated process of brainstorming, discussion, and consensus building to propose a suite of 25-year goals to make the installation more sustainable. The Garrison Commander, COL Tad Davis, selected ten of these as top priorities. A proponent and team were assigned to each goal to develop a detailed five-year plan that would outline specific projects and the required resources.

The commitments made in April 2001 are already paying dividends. Fort Bragg public works staff has diverted 66,000 tons of concrete from the landfill for reuse as road aggregate. This, together with initiating curbside recycling to over 5,000 family housing units, has reduced the solid waste going to the landfill by nearly 60% since 2000. The Master Planning and Contracting Departments have cooperated to change the *Installation Design Guide* and the “Request For Proposal” verbiage, ensuring that all future construction will follow the Army’s SPiRiT guidelines, the energy and environmental design guidelines for sustainable building construction. Additionally, a recently completed study determined the economic feasibility of reusing treated wastewater for irrigation on the Fort Bragg golf course. This will take pressure off the installation’s primary source of water, the Little River, which dried up the summer of 2002 due to an extended drought.



Ft. Bragg's Garrison Commander and Environmental Chief count votes to reach consensus on 25-year goals.

Fort Bragg has also entered into partnership with the North Carolina Department of Commerce, committing \$250,000 to field a seven-county Geographical Information System (GIS) that will provide local planners with information required for developing regional strategies. This cooperation is paving the way for Fort Bragg and its surrounding communities to develop regional transportation and land use plans, and to avoid future encroachment issues.

Fort Lewis was the next installation to host its Sustainability Executive Conference, in February 2002. Again, the installation staff accomplished daily miracles in preparing the baseline and setting up the conference. Fort Lewis had just received certification in ISO 14001, so it had a solid handle on the aspects and impacts its operations had on the environment. The Sustainability Conference helped Fort Lewis focus the power of its existing EMS on making the installation more sustainable, and on gaining synergy by combining sustainability principles with EMS procedures.



The Ft. Lewis ISP Team thinks through a problem at its sustainability pyramid training.

Fort Lewis already had several projects underway to support the long-range goals established at their conference. Its Model Motor Pool program was leading the way in reducing material use and waste for all motor pool operations. In 2002, Fort Lewis purchased 14 Neighborhood Electric Vehicles (NEVs) for use on the installation, which will reduce harmful air emissions and greenhouse gases. Implementing the ISP at Fort Lewis has also allowed for a new technology—a low-NOx boiler—to compete favorably, using life-cycle cost analysis methods to select equipment. Most recently, Fort Lewis signed a new solid waste contract that will require the contractor responsible for collecting and disposing of the municipal solid waste generated on the installation to divert 40 percent of the waste currently going to the landfill by the year 2005. By 2005, only 25 percent of the solid waste generated in 2002 on Fort Lewis will be landfilled.

After participating in Fort Lewis's Sustainability Conference, Washington state officials invited Fort Lewis staff members to participate in the Governor's Sustainable Washington Advisory Panel. Colonel Richard Conte, the Director of Public Works, and Paul Steucke, the Environmental Branch Chief, received special recognition for their contribution in developing the panel's sustainability action plan.

Fort Hood was the next installation to host a Sustainability Executive Conference, in June 2002. The installation took full advantage of the lessons learned from the previous two installation experiences and developed the most comprehensive baseline document to date. During the conference, the Fort Hood group selected seven long-range goals. Traveling down the seven-mile stretch of motor pools crowded with thousands of vehicles puts a unique perspective on how much effort will be required to make Fort Hood operations sustainable—and also shows how vitally important it is.

Fort Carson was next to host a P2 sustainability conference, in September 2002. The conference continued the string of installation sustainability planning successes, and provided a catalyst to finish a Cooperative Agreement (CA) to secure buffer lands along Fort Carson's southern border. The CA between Fort Carson, The Nature Conservancy, and the Walker family will protect about 30,000 acres of prairie from development, and provide a buffer for Fort Carson's multi-purpose range complex.

Fort McPherson and **Fort Campbell** have scheduled ISP conferences to follow, in turn, in 2003.

Selected Examples of Installation Goals

Fort Bragg

- Develop land-use planning ordinances with local communities by 2006
- Develop an effective regional commuting program to improve air quality by 2015
- Meet minimum platinum standard for all construction by 2020
- Reduce by 70% the amount of water taken from Little River by 2025

Fort Lewis

- Reduce by 85% regional congestion and air emissions due to transportation by 2025
- Zero discharge of wastewater by 2025
- Zero net waste by 2025
- Sustain all activities on post using renewable energy sources, and generate all electricity on post by 2025

Fort Hood

- Reduce by 45% potable water consumption by 2025
- 75% of facility energy from renewable resources by 2027
- 50% of electricity to be generated on post through distributed generation by 2027

Fort Carson

- Create regional partnerships to leverage sustainability initiatives
- 100% local procurement of environmentally preferable products by 2027
- Zero waste disposal by 2027

The environmental goals just cited may sound, to some, like the same old songs that the P2 community has been singing all along. However, the significance of FORSCOM's ISP—what's different about this new process for P2 planning—is that the environmental staffs at each installation are capturing the imaginations of their leadership. The planning process has generated a new excitement throughout the installations and communities by incorporating all their concerns—the sustainability of the mission, the installation, and the community—as points of departure and consensus-building for managing environmental issues and setting prevention goals. Meeting the long-range goals will be achieved through familiar P2 strategies, including use of material substitutions, process modifications, improved material management practices, affirmative procurement, energy improvements, water conservation, and “green” building methods. These strategies, in combination, will continue to help FORSCOM installations meet the requirements of Executive Orders 13101, 13123, 13148, and 13149.



Ft. Hood Sustainability Conference participants take a break to pose with a tracked vehicle.

GREENING THE GOVERNMENT THROUGH LEADERSHIP IN ENVIRONMENTAL MANAGEMENT

Executive Order 13148 requires all government agencies to implement an EMS at appropriate facilities by the year 2005. Members of FORSCOM's ISP Team immediately saw the potential for developing a symbiotic relationship between the ISP and an effective EMS. The ISP serves to focus the EMS on the environmental aspects and impacts that will most seriously affect the sustainability of installations and the readiness of the units stationed there. The ISP does not consider installation activities and aspects in isolation, but rather starts with a big picture analysis of cumulative environmental impacts by an installation as a whole. The ISP then defines as *significant* any impacts that are identified as constraining to military training, degrading to the quality of life, or causing public concern about the economy or environment. Finally, the ISP presents a method for deciding long-range goals to reduce or prevent those significant impacts.

Two essential benefits result from this approach to building an EMS. First, the cumulative impact analysis highlights those environmental areas that threaten continued operations, which lower, process-level analysis often misses. More importantly, the ISP definition of *significance* focuses EMS procedures, targets, and objectives on those impacts that could constrain the mission, while the usual definition focuses solely on environmental criteria. The ISP engages the installations' commanders and staffs on the subjects they care most about—the future of the mission, and the future of the installation—in a way that more narrowly-focused environmental management, by itself, does not. Therefore, using the ISP as a planning tool for developing the EMS ensures that the EMS will be mission-focused fence-to-fence, and receive the top management support it needs to be successful.

AWARDS AND RECOGNITION

The P2 team has received tremendous recognition from FORSCOM and installation Command Groups, including Commander's coins and awards, certificates of appreciation, and two- and three-star notes. The FORSCOM installations also have received an impressive array of environmental and pollution prevention awards that gave the team a solid foundation to build upon. Some examples are included in the text box on page one.

The positive feedback from leadership and community members has also been greatly rewarding. In fact, some of the conference comments and suggestions have been as gratifying to ISP Team members as the more formal awards and commendations. However, the installation sustainability conferences are not "love-ins"—in fact, they can get a little contentious as community needs are weighed against Army needs. A member of the Puyallup Tribe at the Fort Lewis conference introduced herself by saying that the Army had taken tribal lands, and the tribe wanted its land back. This seemed an inauspicious beginning for her work group. After two days of discussion, however, at the end of the conference she stood up again and said she understood better what the Army was about, and that she was grateful to Army soldiers for protecting their freedom. ISP teams take great pride in this memory and legacy.

Another comment, from LTG James T. Hill, I Corps Commander at Fort Lewis, summed up the close of his sustainability conference: *"We will either set up this stuff now and work towards these goals...or I will set up my successors 10–15 years now for a certain fall. We won't do that."*



Presentation of the coveted "Lorax" to Fort Bragg Sustainability Planner Leslie Walrath, by the Garrison Commander, Col Tad Davis.

THE ISP GOES ARMY-WIDE

The commitment and enthusiasm of the garrison commanders has become the springboard for the ISP throughout FORSCOM and beyond. As the program has built a string of successes and exposed more decision-makers to its benefits, Headquarters Department of the Army (HQDA) decided that the ISP should be institutionalized and implemented throughout the Army. Planning is now underway to roll it out Army-wide starting in Fiscal Year 2004.

HQDA has recognized that FORSCOM's ISP benefits the Army in a number of ways:

- Enhanced military training opportunities
- Increased well being of soldiers and families—leading to recruitment and retention benefits
- Mutually beneficial relationships with local communities and regulatory agencies

- Better strategic planning at installations to promote better communication and conserve resources
- Better prediction of budget requirements in the Program Objective Memorandum
- Reduced costs to operate the installations
- Better compliance with environmental laws
- A healthier environment

In just two years, FORSCOM's Pollution Prevention team has created an award-winning and far-reaching ISP. Conceived and nurtured through the efforts of a team of dedicated and creative environmental professionals working in tandem with diverse groups of community stakeholders, the ISP began as a small environmental book club. Since then, it has created ever-wider circles of interest and enthusiasm for installation sustainability concepts, and for the long-range goals being set by the installations.

Initially, this excitement grew from educating people about possibilities that can result from new ways of planning. The excitement developed into cooperative efforts for setting, assessing, and attaining long-range goals for environmental stewardship, quality of life, cost-savings, and support of Army missions. By widening the focus of P2 planning to include these critical concerns, the installations have buffered themselves from the effects of community growth, encroachment, and other potential mission distractors. They have been able to position themselves to continue their proud records of service to the United States Army, our soldiers, and the nation well into the future.

