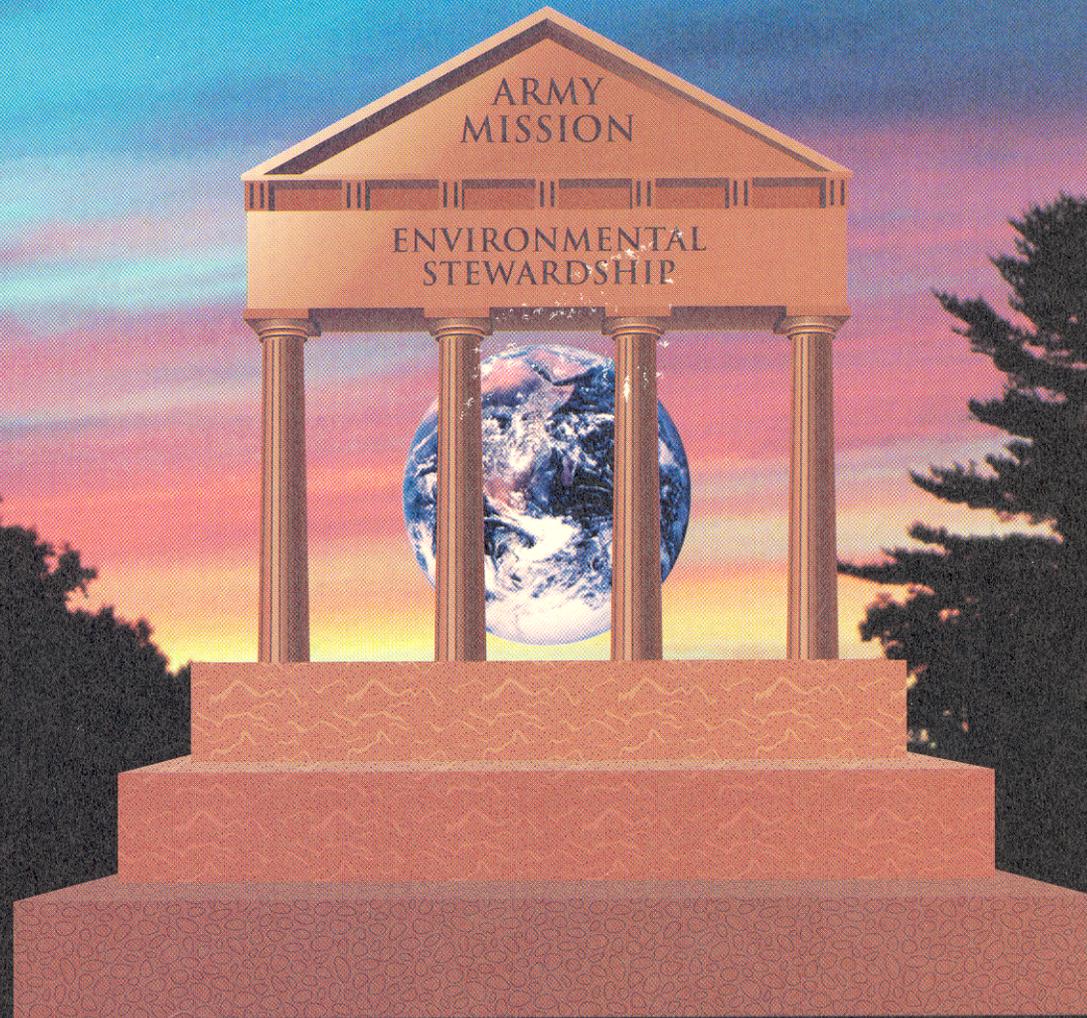


# U.S. ARMY ENVIRONMENTAL STRATEGY INTO THE 21ST CENTURY



# VISION STATEMENT

*The Army will be a national leader in environmental and natural resource stewardship for present and future generations as an integral part of our mission.*





# U.S. Army Environmental Strategy Into The 21<sup>st</sup> Century

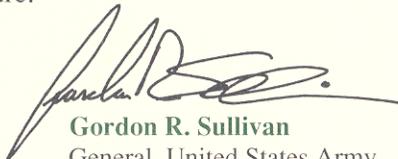


Throughout its history, the Army has been an integral part of the fabric of this nation. It is unique among the services because it has both military and civil responsibilities. Meeting these responsibilities and maintaining trained and ready forces of the Total Army—Active, Guard, Reserve and Civilians—is a vital component of national security. In the 1990s, the dynamics of national security are changing. The President's national security strategy recognizes that environmental factors weigh heavily in protecting our nation. Like our national military strategy, our environmental strategy will promote national stability and protect our citizens and our national and international interests.

The importance of environmental stewardship is growing. The Army now faces the largest restructuring of funds, facilities, equipment, personnel and operations in recent history. As the force is reduced, the base structure will decline, putting more pressure on the land, air, and water necessary to support the mission of maintaining a trained and ready Army. Environmental stewardship has emerged as the ethic for future national policies and actions.

The Army is proud of its environmental program and its accomplishments. A comprehensive strategy will build on these achievements and provide a structure and framework for the Army to meet and fulfill the growing environmental challenges we face as we enter the next century. With more than 20 million acres at military installations and civil works projects, the Army is entrusted with the care of two-thirds of the Department of Defense lands. Environmental stewardship of these resources is our responsibility and our legacy into the 21<sup>st</sup> century. A formal strategy—focusing on compliance, restoration, prevention, and conservation—provides a mechanism for identifying new opportunities and defining ways to meet this responsibility as part of our mission to maintain a trained and ready Army.

Leadership is the key to success. Each of you in the chain of command is responsible for ensuring that the *U.S. Army Environmental Strategy Into the 21<sup>st</sup> Century* is implemented and that environmental stewardship is an integral part of everything you do. Each soldier, civilian, and family member is a steward of this environment. It is up to you, in partnership with others, to do your share to implement the strategy. Environmental stewardship, both at home and abroad, must be our legacy and our future.



**Gordon R. Sullivan**  
General, United States Army  
Chief of Staff, Army



**M.P.W. Stone**  
Secretary of the Army

# TABLE OF CONTENTS

Executive Summary .....	iii
1. Army Environmental Vision .....	1
2. Army Environmental Strategy .....	2
3. Army Environmental Pillars: Goals and Objectives .....	7
4. Foundation for Environmental Stewardship .....	19
5. Critical Elements for Success .....	24
6. Resourcing and Implementing the Strategy .....	26
Appendix A: Strategy Element Definitions .....	30
Appendix B: The Army Environmental Program: A Solid Record of Accomplishments .....	31
Acronym Glossary .....	37



# ARMY ENVIRONMENTAL STRATEGY

## THE STRATEGY

The Army's environmental strategy provides the necessary direction to attain the environmental vision. The strategy consists of specific goals, objectives, and an implementation or action plan. The strategy harnesses the strengths of the Army—command leadership, organization, and commitment to purpose—to achieve environmental stewardship by wisely using and managing environmental resources. In so doing, the Army recognizes its responsibility to this nation and the world to protect the environment. Environmental stewardship is part of the United States' basic value system, and as such, is an integral part of the Army mission and national defense.

The Army environmental strategy is focused on four pil-

lars to form a sound environmental program. These pillars are compliance, restoration, prevention, and conservation. To be on a firm foundation, these pillars require the Army to build on its core competencies and develop an integrated approach. This includes six critical elements:

- Commit the chain of command
- Organize for success
- Spread the environmental ethic
- Train and educate the force
- Prioritize Army resources
- Harness market forces.

In addition to a firm foundation and an environmental

ethic extending throughout the total force, the Army's four pillars will be balanced. Environmental stewardship will be built into everything Army soldiers and civilians do to improve performance of the Army's national defense and civil works missions. This includes:

- Giving immediate priority to sustained compliance
- Continuing to restore previously contaminated sites as quickly as resources permit
- Focusing efforts on proactive pollution prevention to reduce or eliminate pollution at the source
- Conserving and preserving natural and cultural resources so they will be

available for present and future generations to use.

Guided by this strategy, the Army will achieve the established goals and objectives to accomplish environmental stewardship.

This strategy will enhance the Army mission, reduce the Army's direct cost, and eliminate future cost to the Army, the nation, and the environment. This strategy will establish the Army as a steward of all the environmental resources entrusted to it.

# THE MODEL

The Army environmental strategy is depicted in a model of a building established on a solid foundation with four pillars supporting the environmental stewardship vision and the Army mission.

The roof of the building represents the overall Army mission to protect and defend the nation and its fundamental values. This mission requires effectively managing and using all Army resources, including environmental resources.

The horizontal structure supporting the roof represents the Army's vision of environmental stewardship. Stewardship is the desired outcome for the Army's environmental program and will be integral to the Army mission.

The four pillars symbolize the Army environmental program. These pillars represent the four major activity areas of compliance, restoration, prevention, and conservation. Maximum support for the Army mission is

realized when all four pillars are strong and well-balanced.

Four key building blocks provide the foundation for all Army activities, including environmental stewardship. These building blocks—people, resources, communication, and management and organization—provide the infrastructure which makes all Army achievements possible. Strong commitment to each part of the foundation is critical to ensure a solid base for environmental initiatives and for the long-term success of the Army mission.

The foundation rests on a bedrock of shared national values which tie the Army to the nation and give it stability. Finally, the model reflects the crucial and integral role leadership has in directing, supporting and sustaining the Army's commitment to environmental stewardship.



# PURPOSE AND RELEVANCE

## National Relevance

For more than 200 years the Army has been a vital force in U.S. society, promoting national stability and defense while developing skills and techniques to enhance future operational effectiveness.

The Army is integral to the fabric of American society. The Army shares with all Americans their values of democracy, equal opportunity, and wise use of environmental assets. The American people expect the Army to responsibly manage the resources entrusted to it.

The Army is an important overseer of natural resources. In its national defense and civil works missions, the Army manages more than 20 million acres, which include unique natural and cultural resources. These lands also represent a public resource that is an important component of the overall ecosystem and offer special opportunities for national contribution. Actions taken on these lands will have

local ecological effects and may have regional effects.

The Army has proven skills in the environmental management area. Both directly and in-

must not only be used to meet Army responsibilities but also to provide service to the nation. Environmental management also can be an important compo-

cies. The Army recognizes its responsibility to each of these groups.

In recent years, concern for the environment has increased. Both the Army and the public have increased their expectations for emphasis on stewardship. The Army is committed to a course of action which meets current responsibilities and enhances the environment for future generations.

The Army has a tradition of excellence. Its vision of being an environmental leader builds upon this tradition to promote future success. In a world of limited resources, an environmental strategy is needed to target funds and personnel to the most important environmental issues. A formal strategy also provides a mechanism for identifying new opportunities and defining ways to meet these challenges.

In this context, the Army leadership sets forth this environmental strategy. The Army will not wait for the future to

---

*“We must never lose sight of our responsibility to preserve and protect the resources that have been entrusted to our care.”*

M.P.W. Stone  
Secretary of the Army

---

directly, the Army has provided strong leadership in the areas of medicine, scientific research, environmental management, and engineering. The Army has targeted research and development efforts to assess potential environmental risks and to improve efforts to mitigate adverse environmental effects. These skills

of assistance provided to nations worldwide.

There are many stakeholders in Army environmental management activities. These include civilian and military personnel, their families, the public, Congress, public interest groups, as well as state, local and federal environmental agen-

take shape; the Army will shape the future. The Army will be a leader in environmental policy and management. This environmental strategy reflects the Army's commitment to national well-being and military effectiveness. It also enhances the Army's ability to respond dynamically to future environmental issues.

This strategy recognizes the challenges facing the Army in achieving its mission and serving the nation. It provides a framework for demonstrating leadership in a changing world.

The Army has already made successful efforts in becoming an environmental leader. Appendix B provides examples of these efforts.

## Military Relevance

The Army's environmental activities are inextricably linked with its military goals and challenges. The environmental program supports the Army in meeting the following four challenges:

- Maintain the edge
- Reshape the force

- Provide resources to the force
- Strengthen the total force.

These four challenges include keeping the Army's six imperatives in balance. The six imperatives are:

- Winning doctrine
- Appropriate force mix
- Quality force
- Continuous modernization
- Competent, confident leaders
- Tough, realistic training.

The Army now faces the largest restructuring of funds, facilities, equipment, personnel, and operations in history. The base realignment and closure process will continue over the next decade. At the end of this restructuring, the Army will have the smallest total number of divisions since before World War II. As the force structure is reduced, the base structure will decline, putting more pressure on the land, air, and water of installations that remain active.

Force deployment will also change significantly. Most forces will be based within the United States and geared for rapid, worldwide deployment.

Environmental issues, if not managed effectively, can consume funds needed elsewhere and hinder training and mobilization activities. Furthermore, good environmental management offers an effective means of overseeing key Army assets and addressing issues related to compliance, restoration, prevention, and conservation.

Environmental leadership is a key ingredient for the Army of the future to be successful. There will be heavier, faster, and longer-range weapons. Training with this equipment will create the potential for increased environmental damage. Proper environmental management is critical to protect Army resources and to ensure high quality and realistic training.

Environmental leadership can be achieved only if environmental and natural and cultural resource concerns are integrated into Army decision-making and activities. Army operations and strategies will include these concerns from the outset so that environmental issues are identified and resolved in a timely fashion. Similarly, wise environmental management will en-

hance the Army's transition to a smaller force with a quick response capability.

## **Army Environmental Management**

Secretary of the Army, M.P.W. Stone provided the following guidance on Army environmental management in a 17 July 1990 memorandum:

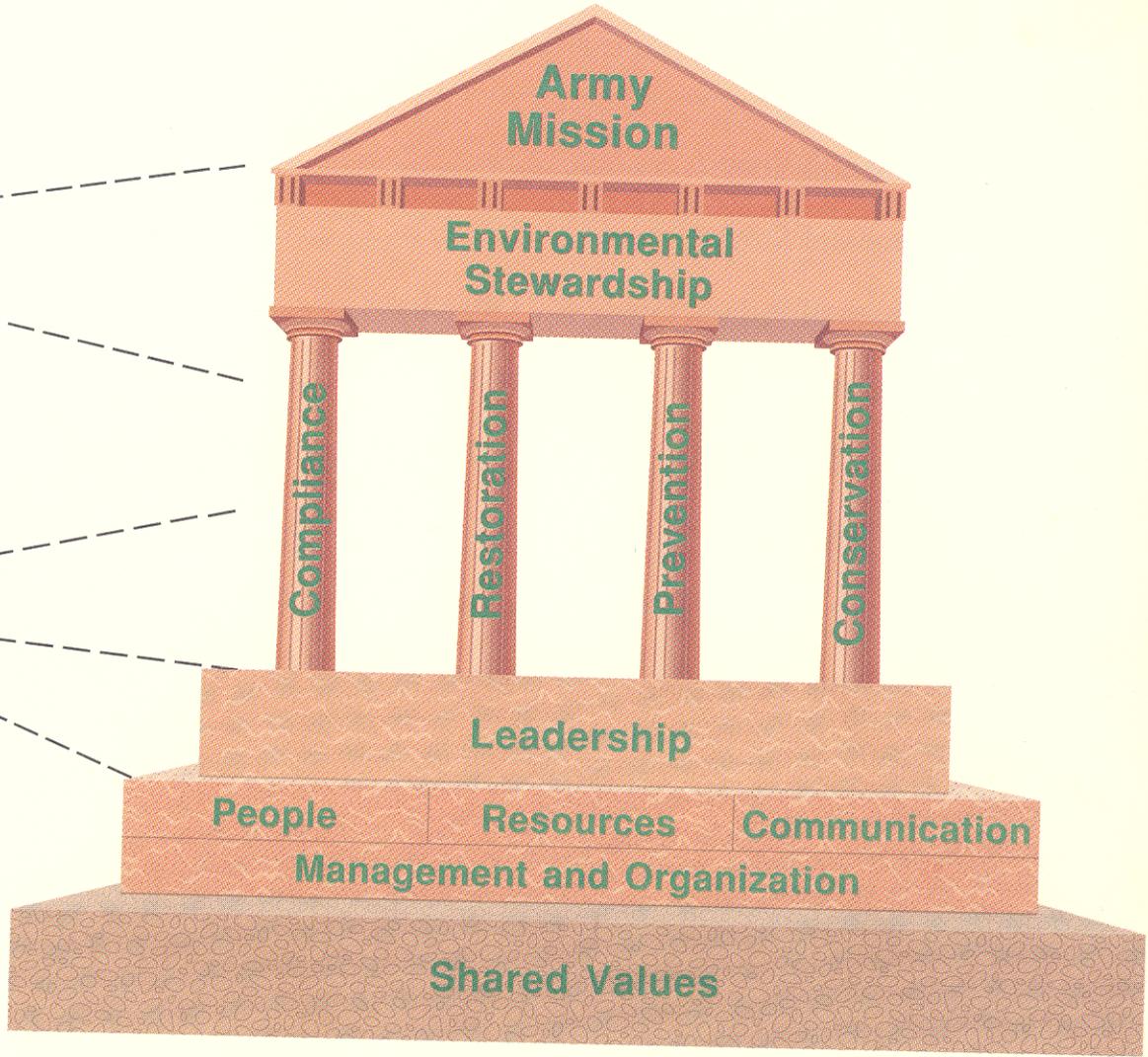
- Army operations will be environmentally sustainable, meeting current needs without compromising the integrity of the environment for future generations.
- Environmental considerations will be integrated into all Army activities. Resources and training will be allocated to protect our environment.
- All Army installations will meet or exceed environmental standards.

**VISION**

**GOALS**

**OBJECTIVES**

**ACTION PLAN**



# EXECUTIVE SUMMARY

The *U.S. Army Environmental Strategy Into the 21<sup>st</sup> Century* defines the Army's leadership commitment and philosophy for meeting present and future environmental challenges. It provides a framework to ensure that environmental considerations are integral to the Army mission and that an environmental stewardship ethic governs all Army activities. The strategy provides a unity of direction and a cohesive framework for all Army activities associated with Army installations, facilities, training areas, as well as acquisition, manufacturing, industrial operations and activities, and for the Army's civil works mission.

This strategy takes its direction from a vision and consists of goals, objectives, and an implementation plan. The Army's environmental vision is to be a national leader in environmental and natural resource stewardship for present and future generations, as an integral part of all Army missions. This vision is enduring and will guide the Army into the 21<sup>st</sup> century. The strategy's goals and objectives provide the long- and mid-term actions necessary to achieve the vision and form the basis of an Eight-Year Action Plan. This action plan corresponds to the military budgeting and programming cycles and implements the goals and objectives. The plan specifies tasks and timeframes, responsible parties, and estimated costs. The Army pledges itself to this strategy and will ensure that adequate resources are requested to implement it effectively. The Army is equally committed to working with local communities and other non-federal interests in preserving the environment at all civil works facilities.

The Army's environmental strategy is depicted in a model of a building with a foundation and four pillars supporting the overall vision of environmental stewardship. The strategy is founded on the bedrock of shared

national values which support the foundation. People, resources, communication, and management and organization represent foundation blocks that support the Army's tradition of leadership. This leadership, together with the foundation, provides a sound footing for the four pillars. This comprehensive structure provides the framework to bring the Army closer to its environmental stewardship vision in support of the overall Army mission. The strategy's goals, objectives and action plan focus on the four pillar areas: compliance, restoration, prevention, and conservation.

Through the framework set out in this strategy, the Army strives to achieve environmentally sustainable operations at all of its military installations, to enhance national security and quality of life, and to meet similar environmental standards at all Army civil works facilities. This entails four simultaneous efforts: giving immediate priority to sustained compliance, continuing to restore previously contaminated sites, focusing efforts on prevention, and conserving and preserving natural resources.

The *U.S. Army Environmental Strategy Into the 21<sup>st</sup> Century* was developed under the direction of the Secretary and Chief of Staff of the Army and solidifies the Army's enduring commitment to environmental stewardship.

This strategy is an important component of the Army's overall mission and will be the basis for all future planning, programming and budgeting decisions for the Army environmental program. The Secretary of the Army and the Chief of Staff of the Army will receive annual briefings from the Assistant Secretary of the Army for Installations, Logistics, and Environment on the progress in implementing this strategy for military installations and from the Assistant Secretary of the Army for Civil Works for progress on civil works projects.

## U.S. Army Environmental Strategy Into The 21<sup>st</sup> Century

- Give immediate priority to sustained compliance with all environmental laws.
- Simultaneously continue to restore previously contaminated sites as quickly as funds permit.
- Focus efforts on pollution prevention to reduce or eliminate pollution at the source.
- Conserve and preserve natural and cultural resources so they will be available for present and future generations to use.



# ARMY ENVIRONMENTAL VISION

The Army's environmental vision statement communicates the Army's commitment to the environment. The vision defines the Army's military and civil works leadership role in environmental management. The vision is intended to inspire, direct, and empower Army personnel at all levels to participate in managing change to ensure the future success of the Army and the nation.

Throughout the strategic planning process, the main values and themes that have evolved for a vision of the future are: demonstrating leadership, being environmental stewards, and protecting the environment as an integral part of the overall Army mission. These fundamental commitments are all reflected in the Army's environmental vision statement.

---

## VISION:

*The Army will be a national leader in environmental and natural resource stewardship for present and future generations as an integral part of our mission.*

---

## Water Resources Management

The Army, through the Corps of Engineers, has been a leader in managing the nation's water resources for more than 200 years. When the country was young, this mission was essential to establish and maintain transportation and communication links between geographic regions. Today's program enhances the quality of life by providing flood damage prevention, improved navigation capabilities, electricity from hydroelectric projects, fish and wildlife management, recreational facilities, and water supplies, as well as by maintaining a capability to respond to major natural emergencies such as hurricanes and earthquakes.

The civil works program offers the Army a skilled, experienced team, able to rapidly meet any civil emergency, and to mobilize in the event of a national defense emergency. In mobilization, many Corps members involved in civil works would be shifted to similar work in military functions, and some civil works operations could be

shifted to support a military mission.

This program gives an Army presence and a positive grass roots image in thousands of communities. Civil works

## The Future Army

The Army of the future may be asked to play a greater role in assisting the growth of other nations through peacetime op-

---

***“The Army environmental program is an excellent opportunity to demonstrate Army commitment to the world community. We all have an interest in the environment since we inhabit the Earth together.”***

General Gordon R. Sullivan  
Chief of Staff, Army

---

projects preserve open space, often in rapidly urbanizing areas. For many U.S. citizens, this is the primary, if not the only, contact with the Army. Unquestionably, the Army's commitment to environmental values embodied in this strategy document will be as strong at the Army's civil works project sites as in all other activities.

erations that improve economic development, environmental management, and national security. Greater environmental interdependence of nations provides an opportunity for the Army to demonstrate worldwide leadership on these issues. The Army can be a good world citizen by respecting host nations' standards for the environment and by encouraging responsible treatment of the territories com-

mon to all nations. The Army can also be a leader in helping to resolve global environmental issues which pose national security risks.

Tough and realistic training will remain the cornerstone of readiness. Effective land management will be needed to continue providing this training at the highest standards. Preparing for war is inherently destructive; however, the Army's continued success requires an aggressive effort to minimize or avoid permanently destroying training lands. Anticipating and planning for the effects military activities have upon the environment and natural and cultural resources are highly effective investments for the Army of the future.

# 3

# ARMY ENVIRONMENTAL PILLARS: GOALS AND OBJECTIVES

Army environmental stewardship requires supporting all four pillars, each with a general goal statement and many supporting objectives. The general goal statement for each pillar summarizes the intent of the pillar and addresses opportunities for improving and enhancing specific aspects of that pillar.

Each pillar has several objectives which are grouped into focus areas. These focus areas summarize and provide organization to the numerous objectives associated with each pillar goal.

Each focus area includes several objectives. The objectives are incremental steps toward meeting the broader goal and define actions needed within the next ten years to achieve the goal and implement the strategy.

For the Army's defense mission, these goals and objec-

tives provide the basis for the Eight-Year Action Plan that implements the Army's environmental strategy. This action plan for the pillar goals and objectives incorporates present and future efforts.

Because of the shared values of the entire Army community, the environmental goals and objectives apply to both the military and civil works missions. In this chapter, objectives apply to all Army missions except as noted, where applicable regulations and/or the separate budget and programming cycles create differences between military and civil works programs.

## NOTE

There are numerous acronyms used in this chapter. Please see the Acronym Glossary on page 37 for the full text.

The Army's environmental program is organized into four pillars: compliance, restoration, prevention, and conservation. These pillars comprise a comprehensive approach to environmental management.

### *Compliance*

The compliance pillar addresses all activities that ensure that current operations at Army installations and civil works project sites meet federal, state, local, and applicable host-nation environmental requirements and Army regulations. These requirements include laws and regulations in the areas of wastewater discharge, endangered species, noise abatement, wetlands, air quality attainment, historic sites, and solid and hazardous waste management.

The Army strives to achieve compliance at all sites in the United States and abroad. Compliance, however, is a constantly moving target. Part of the Army's responsibility is to keep abreast of changing requirements and to establish relationships with communities and regulators.

### *Restoration*

The restoration pillar includes all activities necessary to clean up contaminated sites at Army installations and civil works projects. The major focus has been at defense sites through the Installation Restoration Program (IRP) and the Formerly Used Defense Sites (FUDS) Program. IRP identifies sites, assesses risk, allocates resources, and cleans up hazardous wastes from previous activities at Army installations. The Army works closely with the EPA and the states in defining appropriate cleanup measures and schedules for remediation.

DoD has given the Army responsibility for implementing the Defense Environmental Restoration Program (DERP) for sites formerly owned or used by any DoD component (FUDS). Investigation and cleanup procedures at these sites are similar to those at currently owned installations.

### *Prevention*

The prevention pillar focuses on eliminating pollution to the greatest extent possible. This includes reducing hazardous materials use and hazardous waste generation. All phases of the materiel management life cycle from cradle-to-grave are also included.

Prevention is generally achieved in a hierarchical process, starting with source reduction. The amount of waste generated is reduced by changing process inputs, seeking environmentally acceptable or less toxic material, or increasing efficiency by reusing materials and by-products and by treating residuals prior to discharge.

In the long term, proactive prevention requires instilling an environmental ethic that will change behavior across the Army and help to avoid future compliance and restoration problems.

### *Conservation*

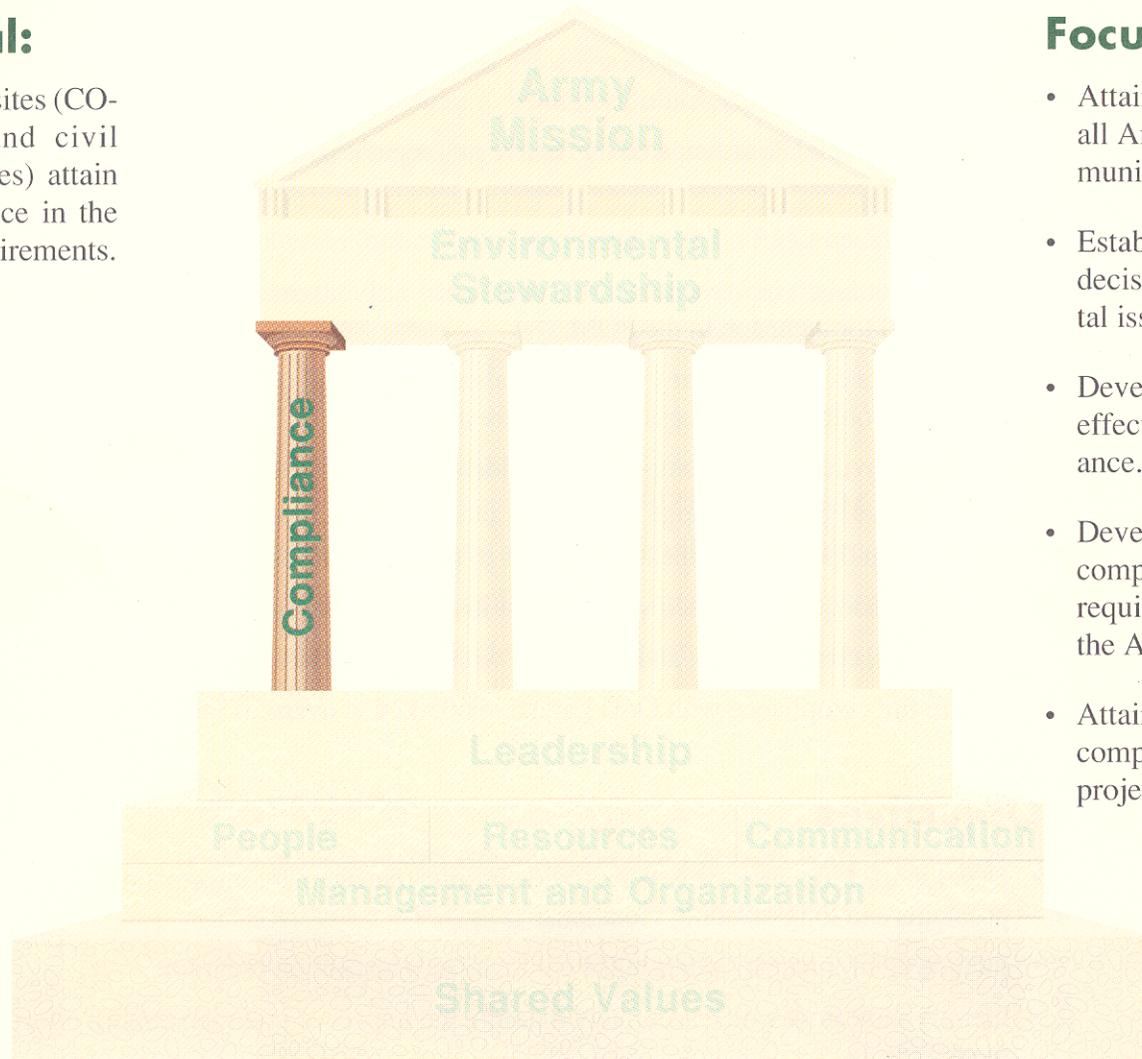
The conservation pillar includes two different types of resource management at Army installations and civil works project sites: conservation and preservation. Conservation focuses on responsibly managing Army lands to ensure long-term natural resource productivity so the Army can achieve its mission. Conservation balances the need for long-term resource use and resource protection.

As steward of natural and cultural resources, the Army also practices preservation. Preservation focuses on resource protection. This means limited use by the Army community. Preservation is essential for ensuring the future integrity of valuable national resources, such as wetlands, endangered species habitat, and historic and cultural sites.

# COMPLIANCE

## General Goal:

Ensure that all Army sites (CONUS, OCONUS, and civil works project facilities) attain and sustain compliance in the face of changing requirements.



## Focus of Objectives

- Attain and sustain compliance at all Army installations and communities.
- Establish a feedback system for decision-makers on environmental issues.
- Develop and adopt more cost-effective approaches to compliance.
- Develop and adopt approaches to compliance that meet regionwide requirements extending beyond the Army site.
- Attain and sustain environmental compliance at all civil works project sites.

# COMPLIANCE

## Focus (Military)

Attain and sustain compliance at all Army installations and communities.

## Objectives

- Build and staff a quality, multidisciplinary organizational structure able to manage a major DA program.
- Identify and validate anticipated legislative and regulatory issues that define potential compliance requirements.
- Adjust policies and funding to anticipate future compliance concerns.
- Identify funding requirements for all compliance activities and projects as required by OMB Circular A-106 and for inclusion in the POM.
- Implement a consistent Armywide external environmental compliance assessment program to identify potential problems and necessary corrective actions.
- Integrate environmental compliance considerations in all Army planning (e.g., acquisition, mobilization, Installation Master Plan, ASIP).
- Establish an open communication process to resolve compliance issues.
- Ensure an adequately trained workforce at installations for environmental compliance.
- Coordinate, communicate, and cooperate with all regulators and citizen groups.
- Ensure full compliance with DoD Directive 6050.16 at overseas installations.

## Focus

Establish a feedback system for decision-makers on environmental issues.

## Objectives

- Develop tracking systems which provide on-line management information on significant noncompliance problems and long-standing violations.
- Include environmental issues in the commander's inspection program.
- Identify indicators which accurately measure the impact of pollution control efforts in achieving environmental results.
- Monitor environmental compliance trends and identify generic pollution problems and solutions.
- Improve Army Environmental Award Programs.

## Focus

Develop and adopt more cost-effective approaches to compliance.

## Focus

Develop and adopt approaches to compliance that meet regionwide requirements extending beyond the Army site.

## Focus (Civil Works)

Attain and sustain environmental compliance at all civil works project sites.

## Objectives

- Implement media-specific pollution control programs.
- Identify as the highest funding priority those projects which protect public health.
- Coordinate abatement efforts with other DoD components to ensure consistency and eliminate duplication.
- Emphasize technology and “good idea” sharing with EPA, DoI, industry, and other DoD components.
- Implement policy/procedures and actions for proper hazardous waste disposal.
- Ensure that innovative technology and capabilities are incorporated into ECAP.

## Objectives

- Ensure excellent community relations.
- Obtain EPA and other regulatory agencies’ high-level commitment to ensure that significant non-compliance problems and long-standing NOVs are resolved.
- Participate in EPA and DoI-sponsored geographic initiatives.
- Use public utility systems for water treatment, waste treatment, and solid waste disposal where feasible.

## Objectives

- Maintain a quality organization that interacts with the total Army.
- Implement a consistent nationwide environmental compliance assessment program.
- Assure that environmental compliance is given proper weight when developing the civil works budget.

# RESTORATION

## General Goal:

Clean up contaminated sites as quickly as resources permit to protect human health and the environment.



## Focus of Objectives

- Protect human health and the environment.
- Clean up contaminated sites as quickly as resources permit.
- Expedite cleanups to facilitate disposal of excess Army properties for local reuse.
- Establish and maintain a positive relationship with regulators, other public agencies, local communities, and the general public.
- Identify and fulfill environmental responsibilities for contamination at OCONUS sites in accordance with laws, treaties, and guidance.

# RESTORATION

## Focus

Protect human health and the environment.

## Objectives

- Initiate removal actions to control the spread of contaminants.
- Acquire and disseminate information on risks from Army-unique actions.

## Focus

Clean up contaminated sites as quickly as resources permit.

## Objectives

- Identify and prioritize all sites requiring actions.
- Target funds based on human and environmental risk.
- Initiate innovative and efficient contracting and project management.
- Aggressively identify, justify, and defend resource requirements.
- Optimize use of Army and private sector resources.

## Focus (Military)

Expedite cleanups to facilitate disposal of excess Army properties for local reuse.

## Objectives

- Pursue resources to expedite the congressionally mandated BRAC programs.
- Initiate innovative and efficient contracting and project management to attain or exceed the congressionally mandated BRAC timetables.
- Design cleanups to maximize net return on property sales with emphasis on early property transfers.
- Cooperate with local reuse committees to identify potential reuse alternatives.
- Minimize cross-media effects in restoration.
- Develop and apply realistic standards for remediation, in cooperation with federal and state regulators.
- Develop cost-effective technologies and facilitate technology transfer.

## Focus

Establish and maintain a positive relationship with regulators, other public agencies, local communities, and the general public.

## Focus (Military)

Identify and fulfill environmental responsibilities for contamination at OCONUS sites in accordance with laws, treaties, and guidance.

## Objectives

- Negotiate and sign Federal Facility Agreements, emphasizing NPL sites, with EPA and states.
- Work closely with federal and state regulators and other public agencies to resolve issues concerning site assessment and remediation issues, and to identify legislative issues.
- Maximize use of technical review committees at NPL sites.
- Develop and employ community relations programs to involve local communities in the restoration process.

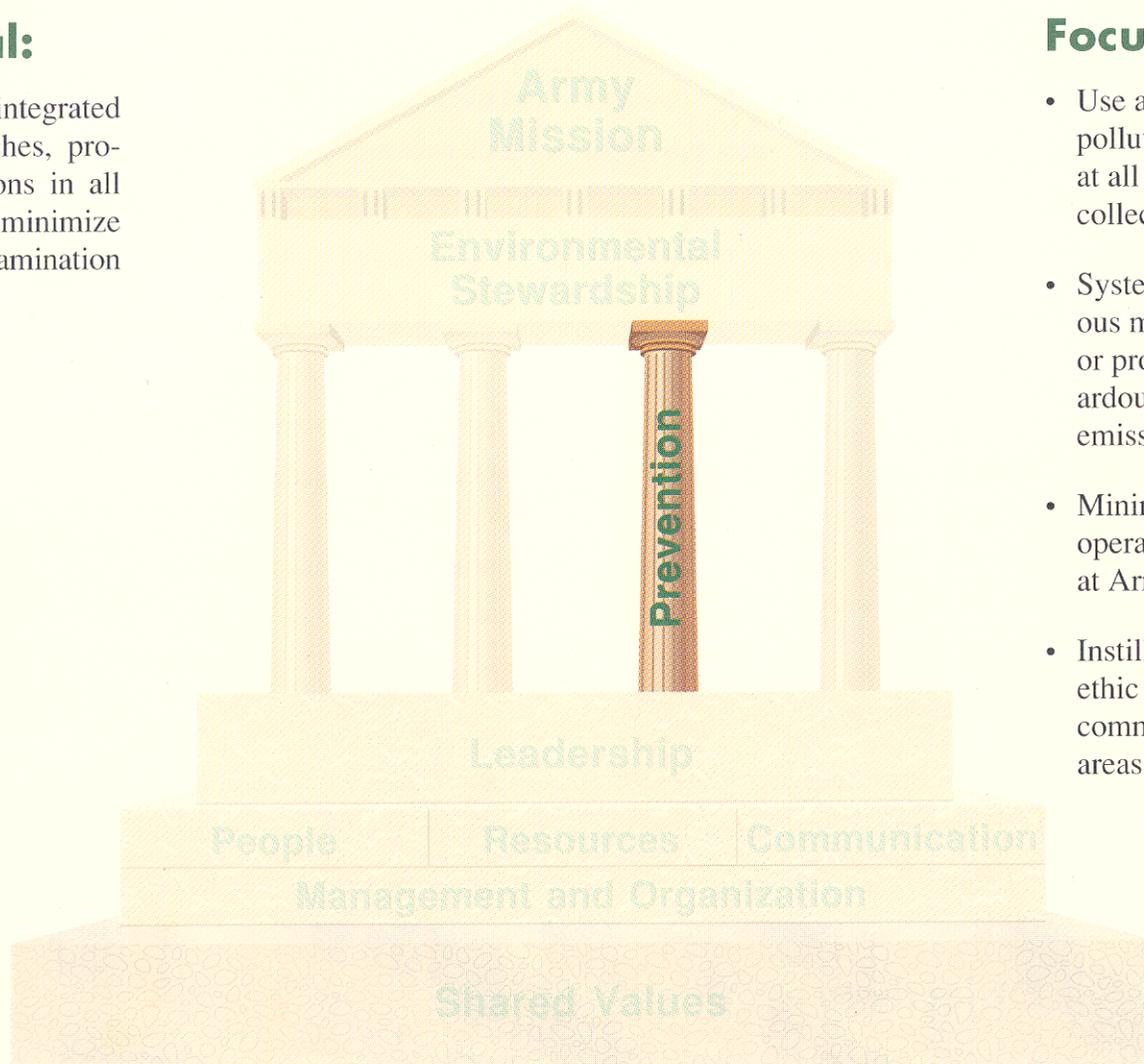
## Objectives

- Respect host-nation requirements.
- Negotiate with host nations.

# PREVENTION

## General Goal:

Adopt and implement integrated management approaches, procedures, and operations in all Army mission areas to minimize all environmental contamination and pollution.



## Focus of Objectives

- Use a holistic approach to pollution prevention which looks at all environmental media collectively.
- Systematically eliminate hazardous materials use and operations or processes that produce hazardous/solid waste and other emissions.
- Minimize environmental risks to operating personnel and visitors at Army civil works facilities.
- Instill the pollution prevention ethic throughout the entire Army community and all mission areas.

# PREVENTION

## Focus

Use a holistic approach to pollution prevention which looks at all environmental media collectively.

## Focus (Military)

Systematically eliminate hazardous materials use and operations or processes that produce hazardous/solid waste and other emissions.

## Focus (Civil Works)

Minimize environmental risks to operating personnel and visitors at Army civil works facilities.

## Focus

Instill the pollution prevention ethic throughout the entire Army community and all mission areas.

## Objectives

- Establish an investment strategy to fund the Pollution Prevention Program.
- Establish pollution prevention partnerships with industry, the public, and special interest groups.
- Acquire world class pollution prevention technology and capability, and distribute Armywide.
- Reduce energy use, maximize energy efficiency, and reduce pollutants from energy and fuel sources.

## Objectives

- Meet DoD goals on HW and SW reduction at installations and GOCOs (CONUS and OCONUS).
- Reduce or eliminate hazardous or environmentally unacceptable materials in new weapon system acquisition programs.
- Reduce or eliminate hazardous or environmentally unacceptable materials in existing weapon systems management.

## Objectives

- Adopt operating procedures for all equipment which reduce or eliminate waste.
- Communicate environmental values to visitors at all project sites.
- Establish and apply rules which meet national environmental, health, and safety standards.

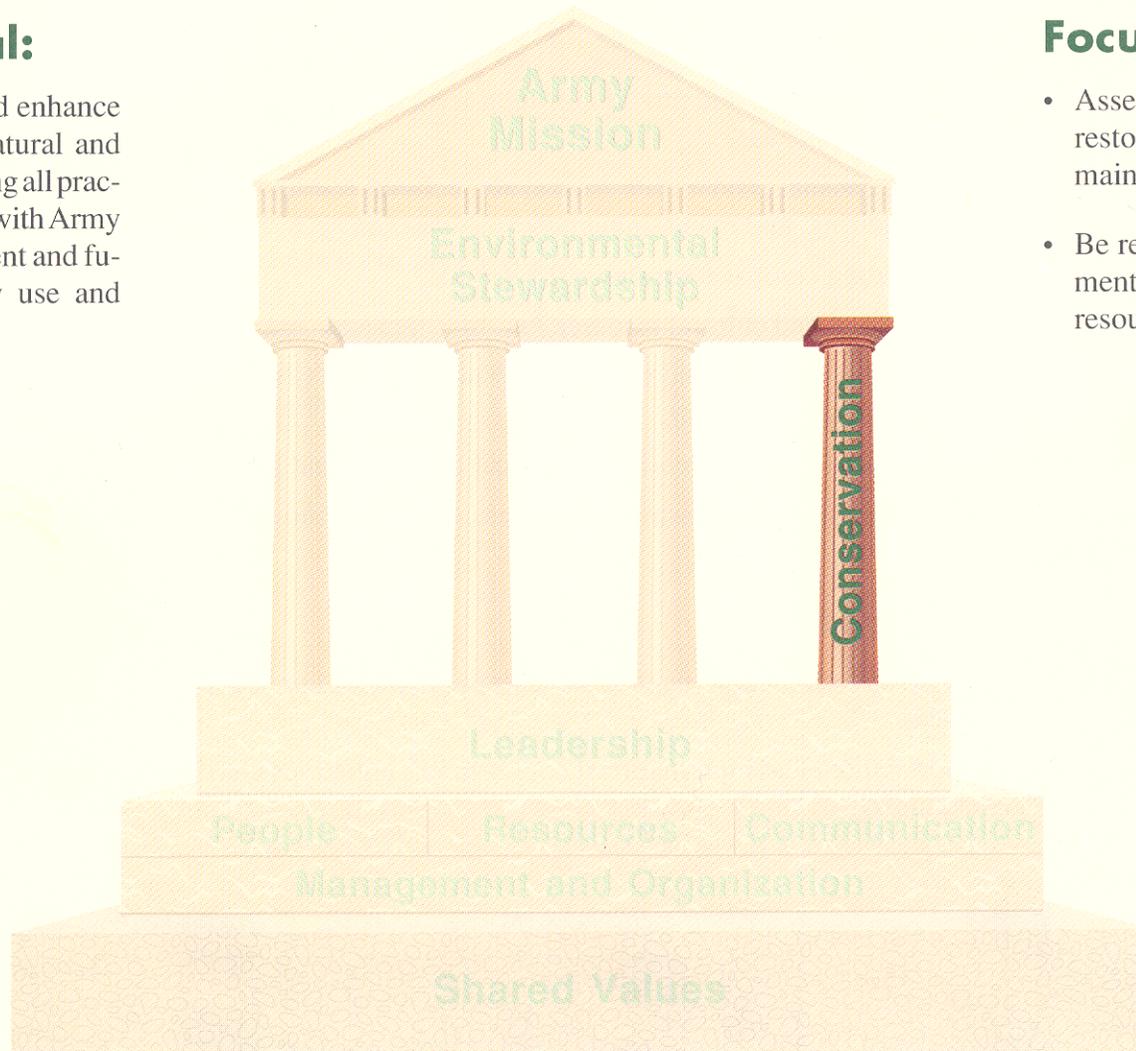
## Objectives

- Obtain command support and involvement.
- Integrate environmental health and safety concerns into all Army operations and activities.
- Develop multidirectional, open communications through comprehensive public affairs planning.

# CONSERVATION

## General Goal:

Conserve, protect, and enhance environmental and natural and cultural resources, using all practical means consistent with Army missions, so that present and future generations may use and enjoy them.



## Focus of Objectives

- Assess, conserve, preserve, and restore ecological resources to maintain carrying capacities.
- Be responsive to global environmental and natural and cultural resource concerns.

# CONSERVATION

## Focus

Assess, conserve, preserve, and restore ecological resources to maintain carrying capacities.

## Objectives

- Achieve compliance and provide for long-term natural and cultural resource conservation, protection, and multiple use.
- Establish, enhance, and ensure natural and cultural resource management capabilities through identifying, acquiring, and maintaining necessary resource (i.e. fiscal and personnel) requirements.
- Instill a strong conservation stewardship ethic.
- Obtain natural and cultural resource baseline data and determine carrying capacity.
- Base land use planning and real property management decisions on natural and cultural resource capabilities and constraints.
- Enhance mission effectiveness, ecological diversity, and productivity through R&D.
- Establish ecosystem assessment as the basis for environmental management.

## Focus

Be responsive to global environmental and natural and cultural resource concerns.

## Objectives

- Develop environmental (natural and cultural resource) review process for Army responsibilities overseas.
- Support national and international conservation initiatives consistent with mission and funding constraints.

# 4 FOUNDATION FOR ENVIRONMENTAL STEWARDSHIP

Certain elements are common to achieving success in each pillar area. These are embodied in the strategy's foundation. A sound foundation is critical to the overall success of the Army's environmental strategy. Army leadership will assure that the four environmental program pillars are supported on a solid foundation of people, resources, communication, and management and organization. These blocks support the Army's tradition of leadership and are supported by the bedrock of shared national values.

The foundation addresses those issues that affect all four environmental program pillars. Before adopting new environmental initiatives, it is essential to ensure that the Army's environmental program is resting on a sound base.

This section describes the significance and importance of

the four foundation blocks, as well as specific policy objectives for each. The policy objectives indicate areas where senior leadership emphasis is needed to strengthen and enhance these four foundation blocks.

## NOTE

There are numerous acronyms used in this chapter. Please see the Acronym Glossary on page 37 for the full text.

This foundation block focuses on total Army support for environmental stewardship.

To realize the Army's vi-

sion of being a leader in envi-

ronmental stewardship requires

environmental awareness and

commitment throughout the

Army organization. This envi-

ronmental ethic must be institu-

tionalized and interwoven into

every aspect of the Army orga-

nizational culture. All Army per-

sonnel, military and civilian at

all grade levels, as well as con-

tractor personnel, will be sensi-

tive to and responsible for the

environment.

Trained and competent en-

vironmental professionals are

essential for managing and ex-

ecuting a quality environmental

program. Commensurate staff-

ing and structure, combined with

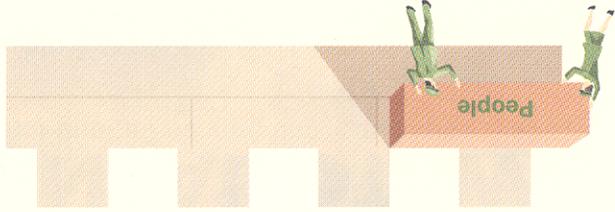
a rigorous recruiting and train-

ing program, will ensure that

quality environmental profes-

sionals are available to support

all of the pillars.



### Policy Objectives

- Train all Army personnel to execute assigned duties in an environmentally sound manner.
- Ensure environmental professionals continue to acquire necessary skills and training.
- Include environmental management as a factor in performance appraisals, wherever appropriate.
- Recruit high quality college graduates as interns to serve in Army environmental positions.
- Recruit and retain a high quality, interdisciplinary professional environmental workforce.
- Recognize the excellence of environmental team members, partners, and clients.
- Require environmental excellence from Army contractor personnel.
- Continue Army initiatives to capture the environmental expertise of HBCUs, MIs and SADBs.

# RESOURCES

This block articulates and incorporates environmental requirements into Army planning and budgeting. Adequate resources are needed to maintain a balanced environmental program. This block includes military policy objectives necessary to participate in and coordinate with the Army PPBES to support, balance, and execute the four environmental pillars. Separate policy objectives will be identified to ensure support for this strategy in the civil works budget and programming process. For all missions, intelligent resource allocation includes using good business practices to accomplish requirements and commitments.

Without sufficient resources, appropriately budgeted and managed, no actions can be accomplished in any of the pillar areas. It is essential that resource considerations be addressed at the foundation level to provide a firm footing for all of the pillars.



## Military Policy Objectives

- Identify, promote, quantify, and gain programming support for validated environmental funding and personnel requirements.
- Develop an investment-based funding policy which assures funding for high-priority, rapid pay-back environmental projects in order to reduce future compliance costs.
- Include environmental considerations and costs in all Army decisions.
- Improve the identification of requirements in the 1383 report, especially in the outyears, in order to better support POM development.
- Consider cost avoidance for hazardous waste management and maximize pollution prevention in the life cycle management model during research, development, and acquisition.
- Establish a single office that combines resource management and policy coordination for the Army environmental program.

## Civil Works Policy Objectives

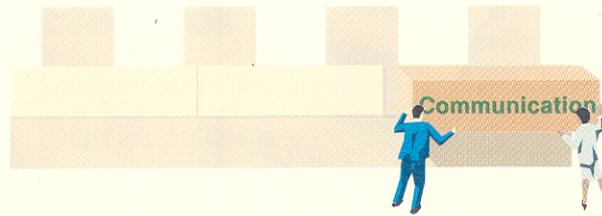
- Include valid conservation and pollution prevention requirements in the civil works budget requests.
- Retain flexibility, through reprogramming capability for budgeted funds, to allow Army personnel to respond quickly and decisively to any emerging environmental problem.
- Seek opportunities to include environmentally sensitive R&D in the civil works budget.

# COMMUNICATION

This foundation block includes effective internal and external communication. Enhanced internal communication is essential to spread the environmental ethic, instill command emphasis, provide access to information systems and databases, and maintain open dialogues at all Army levels on environmental issues and activities.

Effective external communication is necessary to support efficient program management, to understand the legislative and rule-making process, and to enhance cooperation with state and federal regulators, other public agencies, special interest groups, local communities, and industry. This will allow the Army to share its technologies, ideas, and successes, as well as learn from others and engage in joint problem solving.

Internal and external communication transcends the four pillars, providing a mechanism to accomplish goals and objectives in each of these areas.



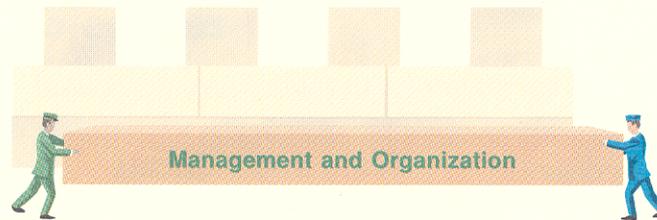
## Policy Objectives

- Promote active public affairs involvement in every aspect of environmental strategy implementation.
- Provide and promote access to electronic environmental communication and information systems.
- Provide effective analyses in support of the legislative and rule-making process.
- Establish open dialogues with special interest groups, local communities, and industry.
- Disseminate policy on activities affecting the environment to all parts of the Army in an expeditious manner.
- Reduce conflict, obtain cooperation, and expedite actions with EPA regions and state and local regulators by establishing regional liaison offices.
- Build and strengthen continuous open dialogue at all levels within the Army on environmental activities and issues.
- Establish an environmental partnership based on cooperation with regulators, industry, citizen groups, and local communities.

# MANAGEMENT AND ORGANIZATION

This block provides the appropriate structures for an efficient and effective environmental program that is completely integrated throughout the Army. This involves building and maintaining a quality, multidisciplinary organization, integrating environmental policy into all Army activities, and interacting with the Congress, the public, and other agencies.

Effective management and organization are necessary to successfully implement and execute all four pillars. Attention to these policy objectives ensures that the appropriate management and organization structures are in place to make progress toward attaining the strategy's vision, goals, and objectives.



## Policy Objectives

- Build and sustain an organization capable of integrating environmental management and policy direction at HQDA and at all subordinate levels.
- Adequately staff environmental management organizations at all levels.
- Ensure coordination among logistics, acquisition, and engineer communities to form partnerships on environmental issues of joint concern, such as energy conservation and hazardous materials management.
- Provide clear and timely environmental program guidance.
- Develop an interdisciplinary approach to environmental management.
- Develop performance indicators for each of the pillars to enhance management oversight of execution.
- Establish and develop environmental partnerships to leverage scarce resources and enhance commitment.

# 5

# CRITICAL ELEMENTS FOR SUCCESS

The Army environmental strategy's Critical Elements for Success are the cement that holds the structure together. As a matter of senior leadership policy emphasis, these six policy elements are critical to the strategy's fulfillment.

## Commit the Chain of Command

Senior Army leadership is committed to environmental stewardship. This commitment will be mirrored by leaders at all levels in the Army chain of command. Leadership direction and support are needed to implement improvements in all facets of Army activities and operations to achieve environmental stewardship. Environmental directives will be communicated through the chain of command and Army leaders will ensure their effective implementation.

## Organize for Success

One of the Army's outstanding features is its ability to organize and lead. To meet future environmental challenges, the Army will continue to build high quality, multidisciplinary organizations with access to top management on environmental issues.

## Spread the Environmental Ethic

An environmental stewardship ethic will be institutionalized throughout the Army community. Stewardship—wisely using and managing environmental resources—is a natural outgrowth of the Army's role as a protector of U.S. national and economic security. In everything it does, the Army community will demonstrate concern for the environment.

## Train and Educate the Force

Effective training and education is a cornerstone of the Army's success. Just as good training is instrumental in winning wars on the battlefield, proper education and awareness will play a crucial role in implementing changes within the Army to promote environmental stewardship. Concern for the environment will be integral to all Army training activities. As a leader in environmental stewardship, the Army can promote greater environmental awareness worldwide.

## Prioritize Army Resources

The cost of environmental protection is included in the costs of maintaining a ready, well-equipped, and well-trained

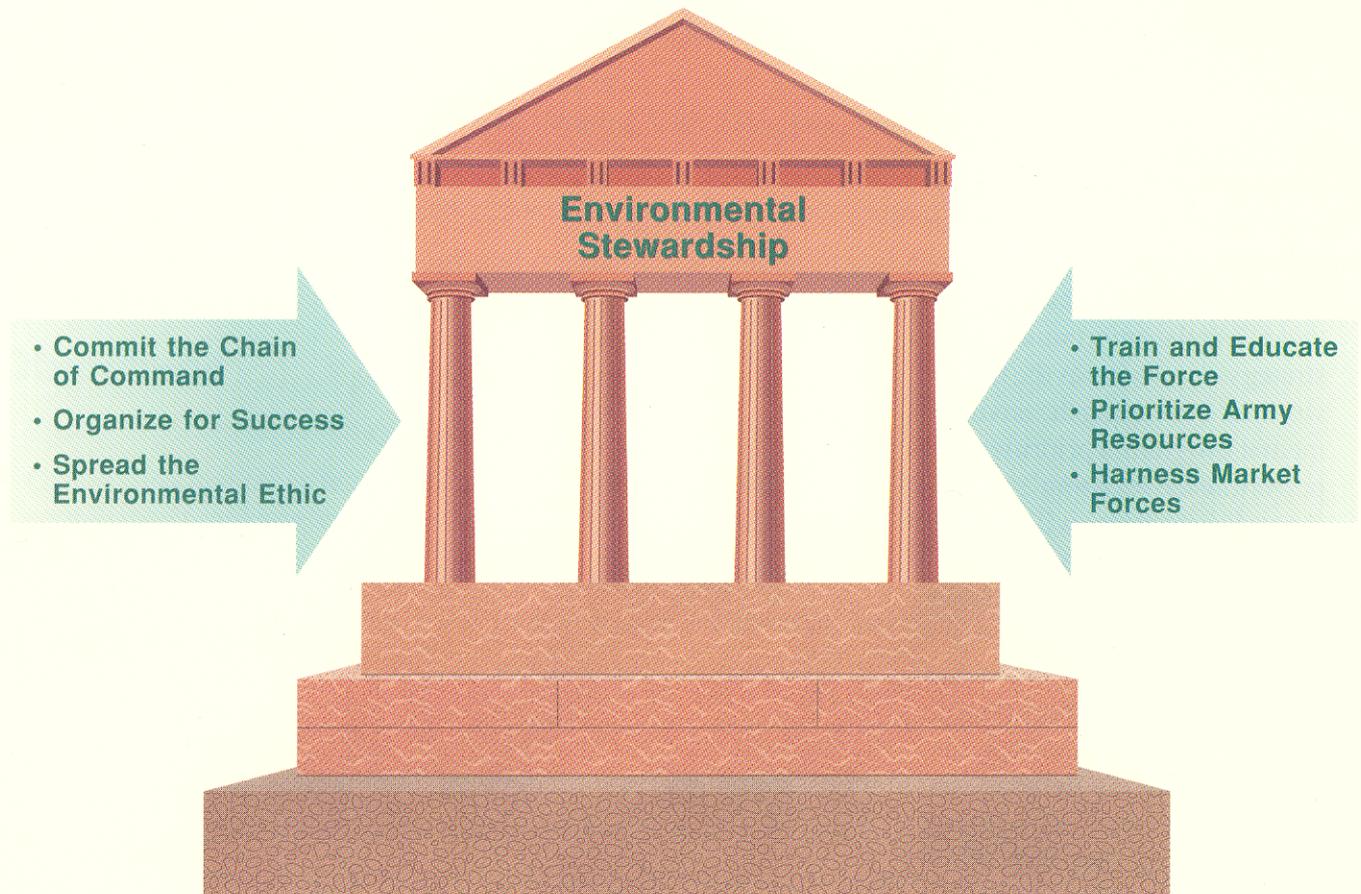
Army. Only by openly considering these costs can the Army achieve its mission and provide environmental stewardship. Army resource managers have one of the most efficient and structured systems available for applying resources to requirements. In a time of declining resources, it is essential that this expertise be applied to managing environmental programs. It is also crucial that innovative, cost-effective approaches to environmental problems be emphasized.

## Harness Market Forces

Market forces provide a vehicle for addressing environmental problems. The availability of innovative and less destructive products can be influenced by purchasing decisions. Considering environmental costs in Army acquisition deci-

sions can spur suppliers to develop more environmentally benign products. The size and purchasing power of the Army provides an opportunity to influence the marketplace. For example, when the Army purchases recycled paper for stationery and reports, it creates a demand for recycled paper. Returning these recycling revenues to the generating activity provides a market incentive to recycle.

Harnessing market forces also includes working with the private sector and sharing innovations, technologies, and ideas to preserve and enhance the environment.





# RESOURCING AND IMPLEMENTING THE STRATEGY

The *U.S. Army Environmental Strategy Into the 21<sup>st</sup> Century* serves as the road map for all activities at Army installations and civil works facilities that affect the environment. The strategy also serves as the framework for evaluating the environmental program's priorities and performance. Existing environmental activities will be realigned to support the strategy.

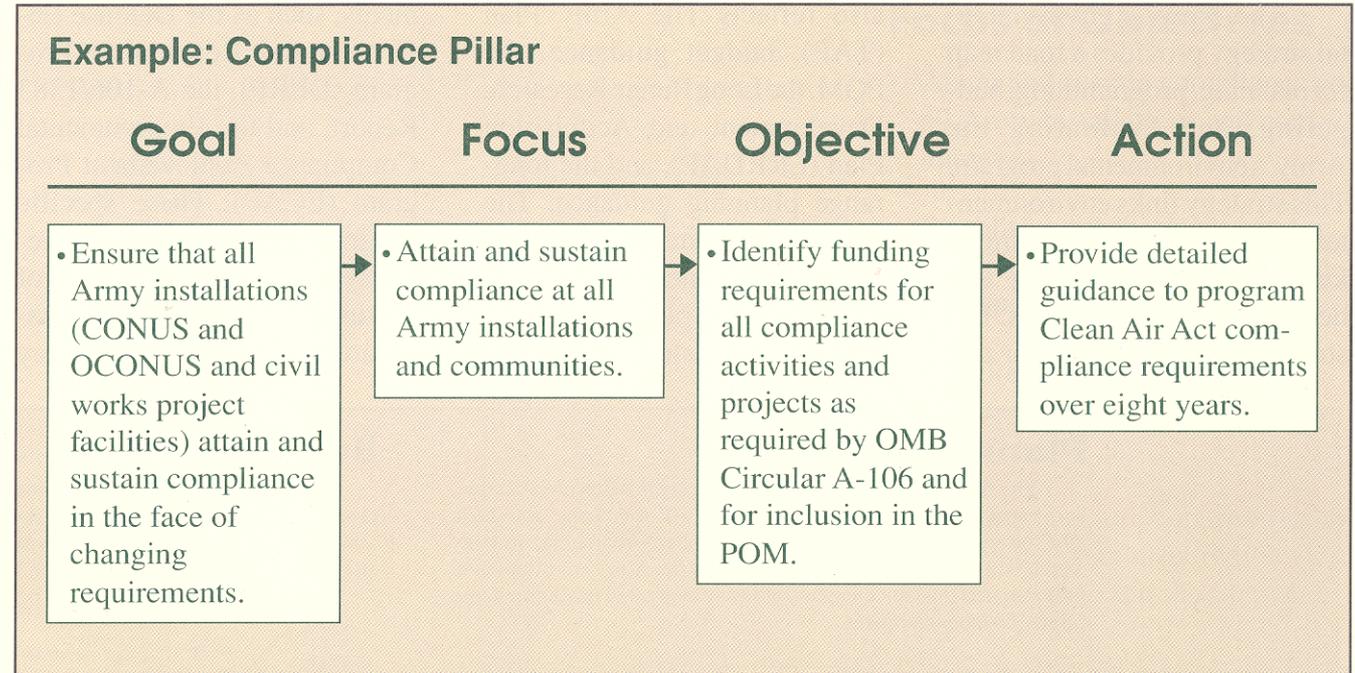
To ensure that this strategy is effective, progress toward meeting goals and objectives will be monitored. A strategy is more than a far-reaching vision, goals, and objectives. To make it happen, specific tasks, actions, and policies must be developed. This includes identifying the responsible parties and partnerships, estimating costs, and establishing a commitment to make resources available. The implementing mechanism for this strategy is the Eight-Year Action Plan.

# EIGHT-YEAR ACTION PLAN REQUIREMENT

The strategy's Eight-Year Action Plan implements the environmental strategy. For each goal and objective, the action plan defines the appropriate parties and partnerships, needed projects and activities, resources, and timeframe. As this example shows, the action plan tracks a particular pillar goal and objective through specific actions. The action plan will include actions for all goals and objectives in all four pillars and recommended actions for the foundation block policy objectives.

The plan integrates ongoing and new environmental activities in the context of the Army environmental strategy. The plan covers an eight-year period which corresponds to the two-year funded program in the budget and the six-year programming requirements in the Program Objective Memorandum (POM). The action plan is developed as a separate document and is updated annually.

This plan is the basis for monitoring progress in imple-



menting the strategy and for identifying additional strategic environmental issues. Because of the size and complexity of the budgetary requirements to meet the strategy's objectives at military installations, the plan is integrated into the Army budget cycle.

Meeting the objectives at civil works project sites is an integral part of the strategy. A

separate civil works action plan corresponding to the civil works budget cycle will be prepared.

# THE ARMY BUDGET CYCLE

The Army's environmental strategy provides a road map for planning, programming, budgeting, and evaluating the Army's environmental program. This strategy links environmental management to the Army's key planning, budgeting and decision-making processes. The strategy provides input for and

also reflects The Army Plan (TAP), budget guidance, the POM, the Long Range Research, Development and Acquisition Plan (LRRDAP), and the long-range planning guidance. The Army's environmental strategy also is coordinated with specific environmental planning and reporting programs and docu-

ments, such as the Defense Environmental Restoration Program (DERP), the A-106/1383 Report, and the Environmental Compliance Achievement Program (ECAP). These specific programs are periodically reviewed by the Assistant Chief of Engineers and the Deputy Assistant Secretary of the Army

for Environment, Safety and Occupational Health.

The strategy also will be a factor in formulating and executing the annual civil works program budget.

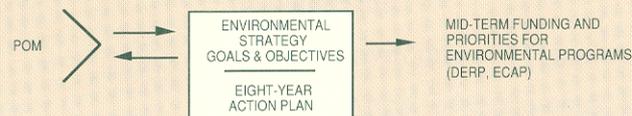
## Planning

The Army Plan (TAP) defines the Army mission and doctrine, and provides the philosophical framework for Army activities. TAP provides the structure for the Army environmental strategy which will then guide the development of the Army environmental program. All relevant elements of the strategy will be factored into future TAP development.



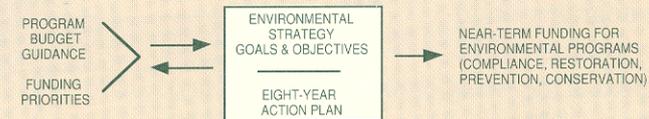
## Programming

The POM translates the Army planning decisions and Office of the Secretary of Defense (OSD) programming guidance into an allocation of forces, manpower, and funds for a six-year period. The environmental strategy goals and objectives and the mid-term part of the Eight-Year Action Plan will help to shape this allocation and define appropriate funding priorities for environmental activities.



## Budgeting

Budgeting for Army environmental programs will translate program budget guidance (PBG) and funding priorities into requests for appropriation of funds to accomplish the environmental strategy for the two budget years of the Eight-Year Action Plan.



## Execution and Review

Progress in executing the entire budget, including the environmental program, is reviewed on a quarterly basis. This review will ensure that the environmental strategy is implemented effectively and that new issues are identified for consideration in future planning and budgeting activities.

# STRATEGY MONITORING AND UPDATING

The Army's environmental strategy is a living document. The environmental vision is enduring and the pillar goals are stable. The objectives for each pillar goal will need to be modified periodically to reflect new environmental challenges, changes in environmental statutes or regulations, objective completion, or guidance from the Army's senior leadership or the Office of the Secretary of Defense (OSD). As a result, the strategy's objectives will be reviewed annually and modified as appropriate.

The Office of the Assistant Chief of Engineers (OACE) will monitor the military action plan execution to ensure that the strategy is implemented and the action plan is carried out effectively. The Assistant Chief of Engineers (ACE) will brief the Senior Executive Environmental Council (SEEC) on the progress of implementing the strategy and new challenges which require management em-

phasis from senior leadership. Military program and budget issues will be identified to the Program and Budget Committee (PBC), chaired by the Director of Program Analysis and Evaluation (DPAE) and the Director of Army Budget (DAB), and the Select Committee (SELCOM), chaired by the Under Secretary and Vice Chief of Staff of the Army.

Finally, to ensure direct oversight by the Army's senior leadership, the Assistant Secretary of the Army for Installations, Logistics and Environment (ASA, IL&E) and the Assistant Secretary of the Army for Civil Works (ASA, CW) will brief the Secretary and Chief of Staff of the Army at least annually on the progress of implementing the Army's environmental strategy. This process ensures continuing high-level dialogue and guidance in formulating and implementing the strategy. It also keeps the Army's senior leaders informed on how the Army is

progressing toward its vision of becoming a national leader in environmental stewardship.

# APPENDIX B

## The Army Environmental Program: A Solid Record of Accomplishments

The Army is proud of its environmental program and its record of accomplishments. This section includes a sampling of the Army's recent proactive environmental initiatives. The accomplishments are organized into the pillar categories with additional categories for environmental leadership and environmental awards.

### Leadership

- Since 1988 the Army has sponsored several Senior Environmental Leadership Conferences (SELCS) for senior personnel throughout the Army.
- In 1990 the Army established the Army Environmental Policy Institute to provide long-range strategic planning for future environmental requirements.
- The Senior Executive Environmental Council (SEEC) was chartered in 1991 in response to a SELC recommendation. The SEEC reviews the progress of the Army's environmental programs.
- In 1991, the Army was selected to manage the National Defense Center for Environmental Excellence.

### Compliance

- Since 1973, the Army has maintained the Computer-Aided Environmental Legislative Data System (CELDS) to provide Army planners and environmental officers rapid access to environmental legislation. This system provides federal and state environmental regulation abstracts. Through these abstracts, CELDS provides quick access to current information on activities that may affect the environment, as well as data for environmental impact analysis and quality management. The data system is continuously updated as regulations change to ensure comprehensive and timely coverage of environmental regulations.
- The Army developed and recently implemented the Defense Environmental Electronic Bulletin Board System (DEEBBS). This system is an advanced electronic bulletin board that is expected to dramatically

improve the timeliness and effectiveness of distributing DoD policy decisions and guidance to the field.

- The Army Environmental Compliance Achievement Program (ECAP) was developed to focus the necessary attention on compliance expenditures. Prior to FY91, environmental compliance costs were not separately identified or tracked; now ECAP provides this information. This permitted funding decisions to reflect environmental requirements and to target resources on the highest priority compliance projects.
- An environmental compliance assessment program has been implemented Armywide. The Environmental Compliance Assessment System (ECAS) is used on military installations and the Environmental Review Guide for Operations (ERGO) is used on civil works projects. The assessments, conducted on a continuous cycle, identify corrective actions necessary for facilities to be in full compliance with all environmental laws and regulations. This provides a proactive approach to compliance and provides managers with an accurate picture of compliance levels and needs throughout the Army.
- In FY92, the Army allocated more than \$2 billion to the environmental program, including nearly \$600 million to meet installation compliance.
- The Army developed an umbrella automation program called Army Automated Environmental Management Information System (AAEMIS). AAEMIS gives the Army the ability to report progress on environmental correction plans, compliance, and other federal and state regulatory guidelines. This expertise provided the basis for DoD to designate the Army as the executive agent leading the development of the Defense Environmental Corporate Information Management (DECIM) System.

### Restoration

- The Army continues aggressive actions to clean up contaminated sites at installations. During FY91, close to \$332 million was spent for environmental restoration at Army installations, with cleanup completed at 135 sites. The Army plans to spend more than \$440 million in FY92 for environmental restoration.

# APPENDIX B

## The Army Environmental Program: A Solid Record of Accomplishments

The Army is proud of its environmental program and its record of accomplishments. This section includes a sampling of the Army's recent proactive environmental initiatives. The accomplishments are organized into the pillar categories with additional categories for environmental leadership and environmental awards.

### Leadership

- Since 1988 the Army has sponsored several Senior Environmental Leadership Conferences (SELCS) for senior personnel throughout the Army.
- In 1990 the Army established the Army Environmental Policy Institute to provide long-range strategic planning for future environmental requirements.
- The Senior Executive Environmental Council (SEEC) was chartered in 1991 in response to a SELC recommendation. The SEEC reviews the progress of the Army's environmental programs.
- In 1991, the Army was selected to manage the National Defense Center for Environmental Excellence.

### Compliance

- Since 1973, the Army has maintained the Computer-Aided Environmental Legislative Data System (CELDS) to provide Army planners and environmental officers rapid access to environmental legislation. This system provides federal and state environmental regulation abstracts. Through these abstracts, CELDS provides quick access to current information on activities that may affect the environment, as well as data for environmental impact analysis and quality management. The data system is continuously updated as regulations change to ensure comprehensive and timely coverage of environmental regulations.
- The Army developed and recently implemented the Defense Environmental Electronic Bulletin Board System (DEEBBS). This system is an advanced electronic bulletin board that is expected to dramatically

improve the timeliness and effectiveness of distributing DoD policy decisions and guidance to the field.

- The Army Environmental Compliance Achievement Program (ECAP) was developed to focus the necessary attention on compliance expenditures. Prior to FY91, environmental compliance costs were not separately identified or tracked; now ECAP provides this information. This permitted funding decisions to reflect environmental requirements and to target resources on the highest priority compliance projects.
- An environmental compliance assessment program has been implemented Armywide. The Environmental Compliance Assessment System (ECAS) is used on military installations and the Environmental Review Guide for Operations (ERGO) is used on civil works projects. The assessments, conducted on a continuous cycle, identify corrective actions necessary for facilities to be in full compliance with all environmental laws and regulations. This provides a proactive approach to compliance and provides managers with an accurate picture of compliance levels and needs throughout the Army.
- In FY92, the Army allocated more than \$2 billion to the environmental program, including nearly \$600 million to meet installation compliance.
- The Army developed an umbrella automation program called Army Automated Environmental Management Information System (AAEMIS). AAEMIS gives the Army the ability to report progress on environmental correction plans, compliance, and other federal and state regulatory guidelines. This expertise provided the basis for DoD to designate the Army as the executive agent leading the development of the Defense Environmental Corporate Information Management (DECIM) System.

### Restoration

- The Army continues aggressive actions to clean up contaminated sites at installations. During FY91, close to \$332 million was spent for environmental restoration at Army installations, with cleanup completed at 135 sites. The Army plans to spend more than \$440 million in FY92 for environmental restoration.

# APPENDIX B

## The Army Environmental Program: A Solid Record of Accomplishments

The Army is proud of its environmental program and its record of accomplishments. This section includes a sampling of the Army's recent proactive environmental initiatives. The accomplishments are organized into the pillar categories with additional categories for environmental leadership and environmental awards.

### Leadership

- Since 1988 the Army has sponsored several Senior Environmental Leadership Conferences (SELCS) for senior personnel throughout the Army.
- In 1990 the Army established the Army Environmental Policy Institute to provide long-range strategic planning for future environmental requirements.
- The Senior Executive Environmental Council (SEEC) was chartered in 1991 in response to a SELC recommendation. The SEEC reviews the progress of the Army's environmental programs.
- In 1991, the Army was selected to manage the National Defense Center for Environmental Excellence.

### Compliance

- Since 1973, the Army has maintained the Computer-Aided Environmental Legislative Data System (CELDS) to provide Army planners and environmental officers rapid access to environmental legislation. This system provides federal and state environmental regulation abstracts. Through these abstracts, CELDS provides quick access to current information on activities that may affect the environment, as well as data for environmental impact analysis and quality management. The data system is continuously updated as regulations change to ensure comprehensive and timely coverage of environmental regulations.
- The Army developed and recently implemented the Defense Environmental Electronic Bulletin Board System (DEEBBS). This system is an advanced electronic bulletin board that is expected to dramatically

improve the timeliness and effectiveness of distributing DoD policy decisions and guidance to the field.

- The Army Environmental Compliance Achievement Program (ECAP) was developed to focus the necessary attention on compliance expenditures. Prior to FY91, environmental compliance costs were not separately identified or tracked; now ECAP provides this information. This permitted funding decisions to reflect environmental requirements and to target resources on the highest priority compliance projects.
- An environmental compliance assessment program has been implemented Armywide. The Environmental Compliance Assessment System (ECAS) is used on military installations and the Environmental Review Guide for Operations (ERGO) is used on civil works projects. The assessments, conducted on a continuous cycle, identify corrective actions necessary for facilities to be in full compliance with all environmental laws and regulations. This provides a proactive approach to compliance and provides managers with an accurate picture of compliance levels and needs throughout the Army.
- In FY92, the Army allocated more than \$2 billion to the environmental program, including nearly \$600 million to meet installation compliance.
- The Army developed an umbrella automation program called Army Automated Environmental Management Information System (AAEMIS). AAEMIS gives the Army the ability to report progress on environmental correction plans, compliance, and other federal and state regulatory guidelines. This expertise provided the basis for DoD to designate the Army as the executive agent leading the development of the Defense Environmental Corporate Information Management (DECIM) System.

### Restoration

- The Army continues aggressive actions to clean up contaminated sites at installations. During FY91, close to \$332 million was spent for environmental restoration at Army installations, with cleanup completed at 135 sites. The Army plans to spend more than \$440 million in FY92 for environmental restoration.

- A Federal Facilities Agreement (FFA) calls for 13 IRAs at the Rocky Mountain Arsenal to contain contamination sources, reduce the extent of contaminant migration, and decrease the cost of the final remediation. All IRAs have been initiated, with many completed. Recharge trenches have been installed and other short-term improvements have been made. Two new intercept and treatment systems have been completed. Engineering design for a new intercept and treatment system located off post has also been completed. Approximately 10.5 million gallons of liquid and 500,000 yards of contaminated soil were removed with the liquids placed in tanks and ponds, and the solid placed in a waste pile. The Decision Document for destruction of the 10.5 million gallons of liquids has been finalized. In FY91, a contract was awarded to clean up and dismantle the Hydrazene Blending and Storage Facility, close more than 350 abandoned wells, close old and deteriorated sections of the sanitary sewer, and remove or assess "other contamination source" IRAs. Completed actions included intercepting and treating contaminated ground water, constructing a slurry wall around and capping disposal trenches, extracting soil vapor, and monitoring complex disposal trenches.

- An Installation Assessment Study (IAS) identified 58 sources of contamination, including groundwater contamination by explosive compounds, at the Cornhusker Army Ammunition Plant. A contaminated plume affecting more than 500 private wells was detected three and one-half miles off-post. An RI/FS and a public health evaluation report were submitted to regulators in 1986. Remedial design/recovery action (RD/RA) activities consisting of an alternate water supply and contaminant source remediation were recommended. In 1986, the municipal water system was extended, and a dewatering system was completed to control the high water table. In addition, remediation was initiated on contaminated soil at 58 cesspools and leaching pits to destroy all explosive compounds. Incineration operations began in 1987 and ended in 1988. Approximately 40,000 tons of soil were incinerated. The incinerated soil was landfilled on site in accordance with procedures agreed to by the Army and the state of Nebraska.

### Prevention

- In 1992 the Army began using a multidisciplinary team of experts working with individual Program Executive Officers and Program Managers to reduce cross-media environmental effects of acquisitions.
- The Army Materiel Command recently formed the Acquisition Pollution Prevention Support Office to bring hazardous waste minimization to Army weapon system development and acquisition.

- By the end of FY90, preliminary assessments for Formerly Used Defense Sites (FUDS) were initiated at more than 3,500 of the 7,000 eligible sites and completed at about 1,200 sites.

As part of its participation in the Chesapeake Bay Initiative, the Army established projects to extract and treat contaminated ground water, remove underground storage tanks, remediate soil, create and restore mudflats, wetlands, and wildlife habitat, and prevent erosion. Demolition and training grounds have been recontoured and revegetated.

- The U.S. Army has taken aggressive action to evaluate sites and implement remedial actions through its Installation Restoration Program (IRP). The number of sites included in the Army IRP increased from 10,459 in FY90 to 10,578 in FY91. The IRP activities have been completed and no further remedial actions are planned at 5,054 sites, or almost one-half of the Army sites in the program. The Army's major accomplishments in FY91 included significant progress in its remedial investigation/feasibility study (RI/FS) work and remedial activities. During FY91, the number of sites where RI/FS work was completed increased from 301 to 355. Additional funding allocated to the Army was invested primarily in implementing remedial alternatives agreed to in Records of Decision (RODs). By the end of FY91, Preliminary Assessment (PA) work had been completed at all but 11 Army IRP sites. Site Inspection (SI) work has been completed at 4,330 sites, or 78 percent of the sites where it is known to be required. In FY91, Interagency Agreements (IAGs) were signed covering seven Army National Priorities List (NPL) installations, making all 30 Army NPL installations covered by IAGs. RI/FS activities are underway or completed at all Army NPL facilities, and removal actions and intermediate remedial actions (IRA) have occurred at all but one Army NPL facility.

- At the Louisiana Army Ammunition Plant, the RI/FS began in 1985 with a follow-on RI completed in 1987. The investigations indicated that no off-post migration had occurred. On-post wells, however, were contaminated with explosives, including TNT, RDX, and HMX. The follow-on RI included installing four wells off the installation's southern boundary in 1988. Incineration- or explosives-contaminated soil and treatment of contaminated surface water began in 1987. By March 1990, 102,000 tons of soil had been incinerated and 50 million gallons of pinkwater treated. Closure activities and revegetation of the site were completed in 1990. A 1989 analysis indicated that the explosive-contaminated groundwater had migrated off the southern boundary. Consequently, two six-month groundwater monitoring programs were completed between 1989 and 1991; no contamination was found. Monitoring of these 16 drinking water wells will continue.

## Conservation

- In August 1991 the Army signed a Tidewater Interagency Pollution Prevention Program (TIPPP) Memorandum of Understanding (MOU) to establish a policy of cooperation in the Chesapeake Bay region. The Army joined with the Navy, Air Force, NASA, and EPA on this MOU to formalize service and agency roles and responsibilities, and establish a framework for implementing pollution prevention projects and initiatives at TIPPP facilities. The TIPPP is a component of EPA's Model Community Pollution Prevention Program (MCPFP), and originated as part of the EPA/DoD Chesapeake Bay Agreement signed in April 1990. The TIPPP develops innovative pollution prevention technologies and facilitates technology transfer among the services and agencies.
- An innovative idea for recovering heat lost from boiler plants was demonstrated at the Louisiana Army Ammunition Plant. The teflon-covered heat exchangers will have a payback in 5.2 years. This process saved the plant \$13,300 in FY88 and has potential for wide application to military and civilian boiler plants.
- On 26 November 1991 the Assistant Secretary of the Army for Installations, Logistics and Environment signed a memorandum announcing the Secretary of the Army Hazardous Waste Minimization Incentive Awards Program. This program recognizes, with monetary rewards, installations and individuals who make significant contributions to reducing the hazardous waste generation rates. First prize at the installation level can equal \$250,000. Both military and civilian individuals can receive up to \$10,000. The awards program became effective in FY92 and is applicable to all worldwide Army activities.
- Effective recycling programs at Army installations can produce sizable annual savings or income. For example, Fort Benning received more than \$1.2 million and Fort Hood received more than \$750,000 in FY91. After deducting operating costs, the remaining funds can be used for environmental, safety, and morale support projects. Contributions have been used for child care facilities, hazardous substance storage areas, sports facilities and equipment, and satellite TV systems. The Army as a whole received more than \$12.7 million in FY91 from recyclable material processed through the Defense Reutilization and Marketing Service.
- The Army assists the nation in reducing its pollution and environmental degradation by providing environmental education to the millions of people visiting the Army's 460 water resource projects nationwide. The Army also sponsors a proactive program to instill the environmental ethic in school children.
- One of the most beautiful and historically significant endangered species, the bald eagle, has been reported on 23 Army installations. Aberdeen Proving Ground, Maryland, boasts one of the largest single populations of bald eagles in the eastern United States.

- To fulfill the Army's complex land use planning and land management requirements, the Army needs to store, combine, analyze, and display multiple map elements. The U.S. Construction Engineering Research Laboratory (USACERL) developed the Geographic Resources Analysis Support System (GRASS) that allows Army environmental and land managers to analyze, store, update, model, and display data quickly and easily. Analysis and display operations can be performed for an entire geographic region, or for any user-defined area within this region. Currently, more than 100 Army installations, civil works projects, the National Park Service, and the Soil Conservation Service are implementing GRASS.
- Integrated Training Area Management (ITAM) is a six-component system for optimizing training area resources for conservation and mission support. Army training lands have historically been stressed by the repeated use of heavy tactical vehicles. In some areas, training lands were becoming unusable due to land damage. Previous land management activities were inadequate because there was not a comprehensive system for making the best use of resources while providing a realistic training environment. ITAM implementation is proceeding rapidly among Army Major Commands and Marine Corps installations throughout the world. During FY90, the Land Condition Trends Analysis (LCTA), the ITAM component that offers standard land inventory and monitoring procedures, was upgraded to include an endangered species and a wetlands inventory.

- The majority of Army installations and civil works facilities offer their residents and the public the opportunity to participate in recreational programs including hunting, fishing, boating, as well as tours of wildlife refuges and historic buildings.
- In 1990 the Army entered into a Memorandum of Understanding to establish the National Watchable Wildlife Program. The Army is working with 11 other federal, state, and private conservation organizations to develop a national network of wildlife observation sites on Army land to observe animals in their native habitats. The program will also include educational aids to help school children, naturalists, and the general public observe and learn about American wildlife.

- The Army has moved beyond compliance to stewardship through their involvement in The Chesapeake Bay Initiative. Following an EPA study on the Bay area, the federal government, Maryland, Virginia, Pennsylvania and the District of Columbia signed the first Chesapeake Bay Agreement in 1983. This agreement set four goals: improve water quality and living resources, accommodate environmentally sound growth, increase public input, and increase cooperation.
- Sixty-three Army installations are home to at least one federally listed threatened or endangered species. These species are afforded special protection as required by the Federal Endangered Species Act. In FY91 the Army spent more than \$4.5 million to protect these species.
- Through the Water Resources Development Act of 1986, Section 1135 program, existing water development structures and operations are being modified to restore the quality of the environment. For example, part of the Savannah Harbor project has been modified under this program to allow about 4,000 acres to revert to fresh water marsh.
- While meeting its mission to maintain navigation channels, Corps civil works projects produce significant amounts of dredged material. The Army has found many beneficial uses for this material, including restoring and nourishing beaches, creating wetlands and wildlife habitat, and capping industrial landfills. In a partnership with the National Marine Fisheries Service, the Army has constructed islands and a seagrass habitat from the dredged material. One dredge material island serves as a home to nesting bald eagles.
- The North American Waterfowl Management Plan Cooperative Agreement with the U.S. Fish and Wildlife Service is part of an international effort to restore declining waterfowl populations. Army water resources projects make important contributions to this effort.
- Under the Upper Mississippi River System Environmental Management Program, the Army, in concert with other federal agencies and six states, has completed six projects, has six projects under construction, and has 45 others in various stages of planning and design for improving fish and wildlife habitat.
- Army military installations have more than 10,000 historic buildings and more than 100,000 archaeological sites assembled in more than 80 separate historic districts listed on the National Register of Historic Places. These sites include prehistoric human remains at Fort Bliss, Texas; the oldest continuously used military installation in the country at West Point; 18th century houses of national significance at Fort Eustis; War of 1812 and Civil War structures at Fort Monroe; and forts representing the period of settlement of the American West, such as Fort Sam Houston, Texas and Fort Leavenworth, Kansas. Preservation is also a significant element of civil works projects. This includes, for example, preservation of the iron clad ship Georgia in Savannah Harbor and the restoration of the Knights Ferry Bridge at the New Melones project.
- The Army is playing a special lead role in the Department of Defense's Legacy Resource Management Program. The Army has assumed the lead in developing many special task areas for the program, particularly by utilizing USACERL and the U.S. Army Corps of Engineers Waterways Experiment Station expertise.
- Training area Tactical Concealment Islands (TCIs) and Tactical Concealment Corridors (TCCs) provide ways to avoid extensive vegetation damage from tactical training activities and troop maneuvers, as well as to preserve training realism. Trees and shrubs are planted in four areas: in areas where training or land management activities have stripped vegetation from the land; in open tracts of land where such planting would be useful to the training scenarios; in a wildlife habitat; or in areas not environmentally sensitive, to encourage training traffic away from more sensitive areas. The more realistic terrain provides an enhanced training experience and benefits the training mission. Environmental benefits are based on the criteria used for plant species selection and placement.
- Fort Wingate Army Depot developed an agreement for protecting archaeological sites associated with the Chaco culture during installation closure and disposal. The Army and the New Mexico State Historic Preservation Officer signed the final agreement on 16 July 1991.

## Environmental Awards

- In 1988, Fort Carson and the 4th Infantry Division (Mechanized) became the first military organization to receive the National Wildlife Federation's prestigious National Conservation Achievement Award. The award is given annually to distinguished individuals or organizations which have made outstanding contributions toward conserving the nation's environment, wildlife, and natural resources. The Federation noted that "environmentalists, citizens, and military personnel agree that Fort Carson's natural resources are in better condition today than when the land was in private hands." The award recognizes the 4th Infantry Division's ability to train its soldiers in the art of armored warfare, yet maintain high standards in natural resource management.

- Fort Sill won the 1989 Secretary of Defense Natural Resources Conservation Award. This award has been presented annually since 1962 to recognize installations with excellent natural resources management programs. Through sound management practices, Fort Sill is able to rigorously pursue its artillery training mission while safeguarding a delicate prairie and mountain environment. The Fort Sill Integrated Natural Resources Plan incorporates installation land management, fish and wildlife management, integrated training area management, outdoor recreation, and forestry plans. The natural resource people work cooperatively with the trainers, all in the context of good command support.
- Fort Benning won the 1989 Secretary of the Army Environmental Quality Award. The award annually recognizes the installation which has conducted the most outstanding environmental protection and enhancement programs during the past two years. Specific highlights of Fort Benning's program include establishing a recycling program that goes beyond the typical paper and aluminum can recycling programs. The Fort Benning program generated more than \$600,000 in 1988, and more than \$1 million in 1989. The award also recognizes the post's ongoing compliance with the state of Georgia and U.S. EPA hazardous waste requirements. The installation has not received any NOVs in the past two years.
- Fort Belvoir, Virginia, won the 1990 Secretary of Defense Natural Resources Conservation Award. Lying adjacent to the Potomac River and within the Chesapeake Bay watershed, Fort Belvoir overcame significant erosion problems from previous training activities and fostered major improvements in post beautification, forestry, fish and wildlife conservation, recreation, and cultural resources management. Special achievements included creating 1,461 acres of wildlife refuges, developing a comprehensive natural resource planning system, creating a computerized, environmentally sensitive zone database for evaluating proposed facility sitings and establishing a highly successful recycling program.
- Yuma Proving Ground won the 1990 Secretary of the Army Environmental Quality Award for their environmental efforts. YPG winning activities included developing educational assistance programs to enhance community relations, having environmental programs represented in all installation planning committees, and conducting research and in-house studies to resolve challenges.
- In 1990, Fort Polk received the Good Land Use Award from the Louisiana Chapter of the Soil Conservation Society of America for their outstanding erosion control practices. The installation and the Soil Conservation

Service have developed a cooperative agreement to continue implementing innovative soil conservation projects.

- The Idaho Army National Guard (IDARNG) at Orchard Training Area (OTA), Idaho was the first National Guard base to win recognition in DoD's Conservation Award in 1990, claiming a \$20,000 prize. In 1989, OTA began a complete land management program under the ITAM program. So far, the program includes Land Condition Trend Analysis (LCTA) for managing natural resources, environmental awareness efforts, and revegetation. IDARNG's use of OTA is unique within DoD because the property belongs to the Bureau of Land Management (BLM). IDARNG trains there through an MOU. The training area supports guard units from the Pacific Northwest with a year-round heavy armor and tank school as well as a helicopter battalion. It is also the only military training area to be collocated with a national wildlife refuge. BLM is now studying the effects of military land uses on the natural environment at OTA as part of a \$5 million grant from Congress.
- In March 1992 the Maryland Chesapeake Bay Critical Area Commission gave three Aberdeen Proving Ground employees awards for their contributions to preserving the Chesapeake Bay. They were recognized for their efforts in wetlands management and preservation, fish and wildlife protection, and sediment and erosion control. The awards are a reflection of the overall installation's success, and the installation's efforts to protect the bay and contribute to national defense.

## Other Environmental Initiatives

- The Army is currently the lead agency on two of the seven regional Coastal America projects. The Coastal America program is a partnership between federal, state, and local agencies, and private interests to solve coastal environmental problems.
- The Army supports the EPA Superfund Program. The annual workload includes about \$300 million in reimbursable technical assistance, real estate services, remedial design, and remedial action at more than 100 hazardous waste sites nationwide. The Army also provides reimbursable environmental support to the Departments of Agriculture, Commerce, Energy, Justice, and Transportation.
- Under various authorities, including Section 404 of the Clean Water Act, the Army civil works program is responsible for regulating activities that affect the nation's water resources, including vital wetland resources. If a public agency, private group, or individual proposes to undertake a

regulated activity (such as dredging or filling), they must obtain a permit or other form of authorization from the Army. In most cases, permits are issued with conditions that describe additional actions that must be taken to protect the environment. In FY91, the Army authorized more than 90,000 activities in or affecting the waters of the United States.

- The Army participates in the NATO Committee on the Challenges of Modern Society (CCMS). The CCMS was established in 1969 to explore ways to effectively use the experience and resources of the Western nations to improve the quality of life for all. Its aim is to attack practical problems being studied at the national level and to combine the expertise and technology available in member countries to arrive at valid conclusions and to make recommendations for action. The Army recently participated in studies related to environmental impacts of aircraft noise and methods to improve environmental awareness in the armed forces.
- The Army has entered into an active environmental data exchange with the Federal Republic of Germany. Under the agreement, both parties will regularly exchange experiences and ideas, and cooperate on selected problems concerning environmental protection in the area of defense. The pertinent efforts will be to examine harmful effects of military activities on the environment and to jointly find solutions to reduce and repair burdens on, and damage to, the environment.
- The Army Environmental Hygiene Agency (AEHA), well known for its expertise in conducting health risk assessments, has assessed potential health impacts of the oil fires in Kuwait on DoD personnel. The data collected during AEHA's eight-month sampling effort is probably the most comprehensive available in the world. It is likely to be used as a basis for major studies and analyses for years to come. In addition, AEHA recently sent assessment teams to Czechoslovakia to survey contamination at an air base formerly used by Soviet forces. The team provided recommendations on cleanup and possible conversion to civilian use.
- Conserving and managing fish, wildlife, wetlands, forests, and cultural resources is accomplished by using resource inventories, currently accepted management practices, and, in some instances, by outgranting Army lands to other conservation organizations. Most Army facilities have cooperative agreements for natural resources management with the U.S. Fish and Wildlife Service, the U.S. Soil Conservation Service, and state natural resource agencies.
- The Army's Wetlands Research Program is a multiyear, \$22 million research and development partnership effort to conserve, develop, and manage wetlands more effectively.
- Assistance and support are provided to environmental restoration efforts of other resource agencies. For example, the Army is continuing to work in partnership with the Department of the Interior and the state of Florida to restore the globally unique and significant ecosystem that stretches from the Kissimmee River to the Everglades.
- As of August 1992, Federal Facility Agreements (FFAs) had been signed at all 30 of the Army's National Priority List (NPL) sites. The Army is the first service to complete FFAs at all of its sites.

# ACRONYM GLOSSARY

AAEMIS	Army Automated Environmental Management Information System	ERGO	Environmental Review Guide for Operations
ACE	Assistant Chief of Engineers	FFA	Federal Facilities Agreement
AEHA	Army Environmental Hygiene Agency	FUDS	Formerly Used Defense Sites
ASA (IL&E)	Assistant Secretary of the Army for Installations, Logistics and Environment	FY	Fiscal Year
ASA (CW)	Assistant Secretary of the Army for Civil Works	GOCO	Government Owned, Contractor Operated
ASIP	Army Stationing Installation Plan	GRASS	Geographic Resources Analysis Support System
BLM	Bureau of Land Management	HBCUs	Historically Black Colleges and Universities
BRAC	Base Realignment and Closure	HQDA	Headquarters, Department of the Army
CCMS	Committee on the Challenges of Modern Society	HW	Hazardous Waste
CELDS	Computerized Environmental Legislative Data System	IAG	Interagency Agreement
CONUS	Continental United States	IAS	Installation Assessment Study
DA	Department of the Army	IRA	Intermediate Remedial Action
DAB	Director of the Army Budget	IRP	Installation Restoration Program
DECIM	Defense Environmental Corporate Information Management	ITAM	Integrated Training Area Management
DEEBBS	Defense Environmental Electronic Bulletin Board System	LCTA	Land Condition Trends Analysis
DERP	Defense Environmental Restoration Program	LRRDAP	Long Range Research, Development and Acquisition Plan
DoD	Department of Defense	MACOM	Major Command
DoI	Department of the Interior	MCPPP	Model Community Pollution Prevention Program
DPAE	Director of Program Analysis and Evaluation	MI	Minority Institution
ECAP	Environmental Compliance Achievement Program	MOU	Memorandum of Understanding
ECAS	Environmental Compliance Assessment System	NCO	Non-Commissioned Officer
EPA	Environmental Protection Agency	NEPA	National Environmental Policy Act
		NOV	Notice of Violation
		NPL	National Priorities List

OACE	Office of the Assistant Chief of Engineers
OCONUS	Outside Continental United States
OMB	Office of Management and Budget
OSD	Office of the Secretary of Defense
PA	Preliminary Assessment
PBC	Program and Budget Committee
PBG	Program Budget Guidance
PPBES	Planning, Programming, Budgeting, and Execution System
POM	Program Objective Memorandum
RD/RA	Remedial Design/Recovery Action
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
R&D	Research and Development
SADB	Small and Disadvantaged Business
SEEC	Senior Executive Environmental Council
SELC	Senior Environmental Leadership Conference
SELCOM	Select Committee
SI	Site Inspection
SW	Solid Waste
TAP	The Army Plan
TCC	Tactical Concealment Corridor
TCI	Tactical Concealment Island
TIPPP	Tidewater Interagency Pollution Prevention Program
USACERL	U.S. Army Construction Engineering Research Laboratory

