

INTEGRATED TRAINING AREA MANAGEMENT
ITAM Learning Module
Army Conservation

Lesson #1: Conservation Foundations



The Expedition Route of Lewis & Clark – 1803



Captain Meriwether Lewis's first view of the Rocky Mountains

Conservation History and the U.S. Army

The U.S. Army has a proud natural resources heritage and tradition of conservation that reaches back to the 19th century when the Army was used to explore and map the far reaches of the nation. In 1803, Captain Meriwether Lewis and Captain William Clark were commissioned by President Thomas Jefferson to explore the western boundaries of the recently acquired Louisiana Purchase to seek a Northwest Passage, leading them eventually to the Pacific Ocean. Accompanied by scientists and woodsmen they were instructed to “enter observations about the exact latitude and longitude, climate, geography, Indians, minerals, animals and plants....,” along their route. These responsibilities continued throughout the 19th century with other Army officers, accompanied by cadres of civilian scientists, who explored and surveyed the western United States. The Army’s mission of protecting our nation’s natural resources continued with the establishment of the National Park System, when in the 1870’s and 1880’s Army cavalry troops were sent to Yosemite, Yellowstone and other National Parks to protect these national treasures from poaching, slaughtering and vandalism. In August of 1886 Troop M of the U.S. Cavalry rode into Yellowstone Park and remained there until 1916 when the National Park Service was created.

These conservation activities by the Army in the 19th century preceded the advent of a formal natural and cultural resources program, which today, exists at all Army installations across the United States and at its overseas installations. The formalization of a conservation program took hold at the beginning of World War II when millions of acres of land were acquired by the military to house, train and prepare troops for combat in overseas theaters of war.

These acquisitions provided the land for many installations that are still in the inventory today. Large expanses of land were allocated in the Mojave Desert of California and Nevada for the Armored Warfare Center (the precursor to the National Training Center), where General George S. Patton, Jr. trained his forces in armored maneuvers prior to action in Northern Africa during World War II. Similar large-scale maneuvers occurred in Louisiana and were referred to as the Louisiana Maneuvers.



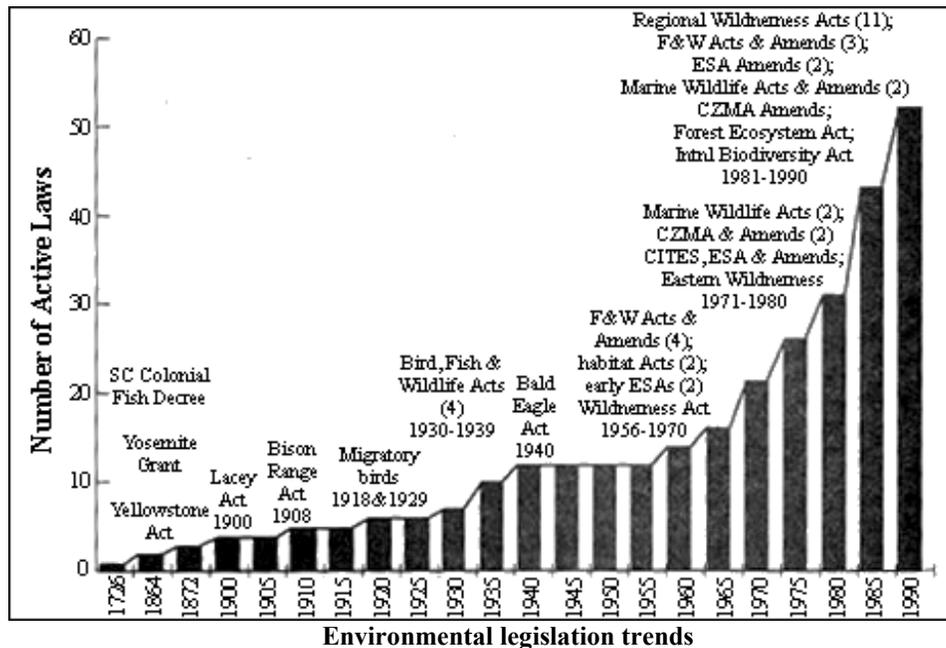
General George S. Patton, Jr.

Prior to 1937 the Department of Defense controlled less than 3 million acres of land. By the end of World War II in 1945, it controlled over 25 million acres of land – roughly the same acreage it oversees today. This increased land ownership remained after World War II and brought with it a responsibility to manage the natural resources associated with them.

Under the direction of the U.S. Army Corps of Engineers, land management partnerships were first formed with other state and federal agencies and land management plans were promulgated. The active recruitment and staffing of professional agronomists, foresters and entomologists began in the 1950's, providing the foundation for professional conservation staffs that exist at Army installations today. In the 1960's, public policies advocating "multiple use" on federal lands began to shape Army land management programs. The passage of the Sikes Act (discussed further in this lesson and Lesson 4) in 1960 provided the legal basis for wildlife conservation and recreation on Army lands, and formalized the development of cooperative plans with the U.S. Fish and Wildlife Service and state agencies.

The nation's emerging environmental movement reached a milestone in 1969 with the passage of the National Environmental Policy Act (NEPA). This major legislative act was quickly followed by a host of other environmental laws and statutes mandating increased attention to and management of natural resources, to include those on federal lands. As illustrated by the graph

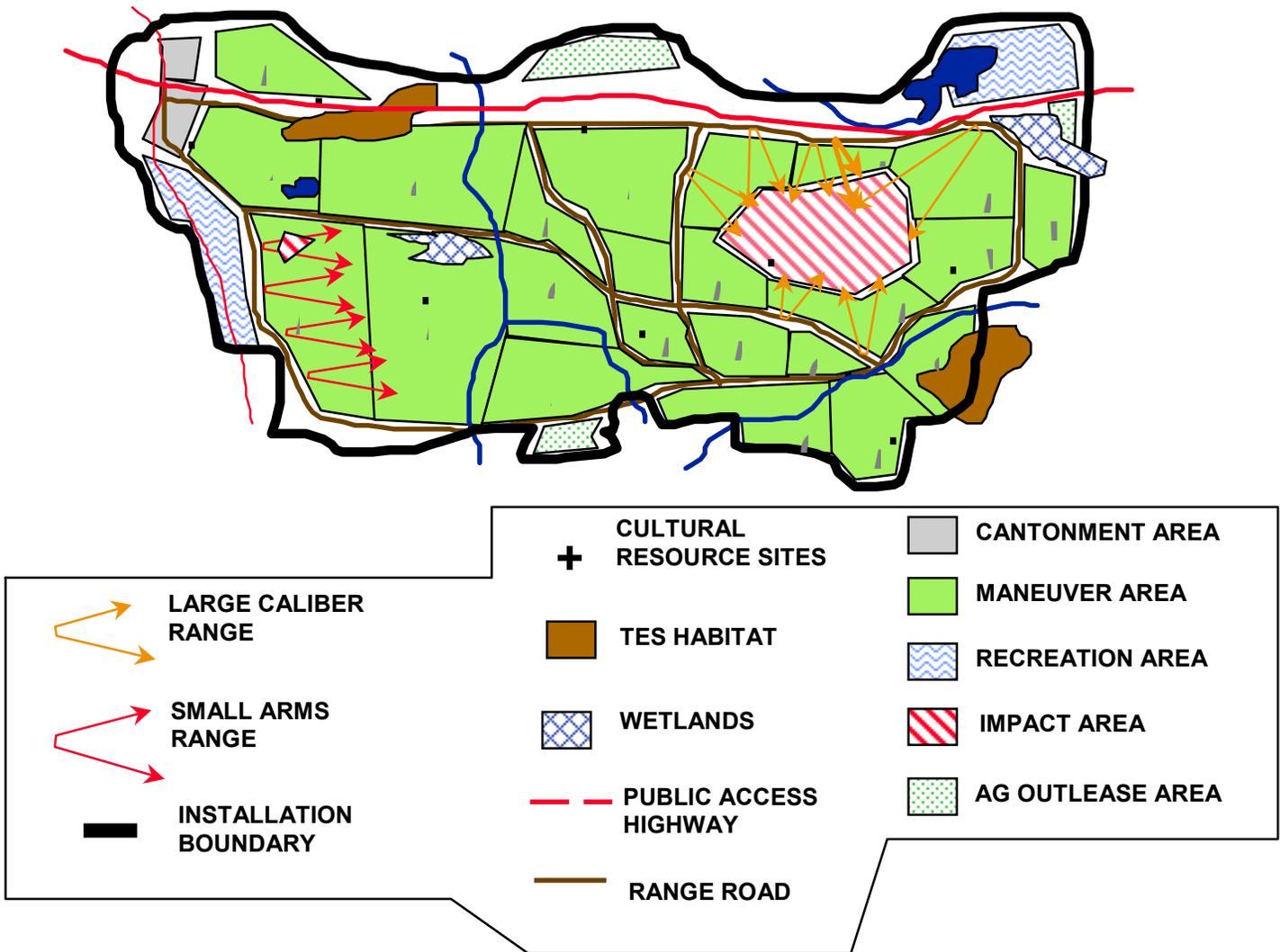
below, environmental legislation has increased exponentially in the last several decades since the passage of NEPA.



These federal mandates, along with other external forces and internal organizational changes, have placed increased responsibilities and emphasis on the Army’s Conservation program. Some of the major environmental laws affecting Army conservation policy and implementation will be discussed further in this lesson.

Army Installations and Conservation Responsibilities

Today, the U.S. Army manages over 12 million acres of land on its installations. These lands are primarily dedicated to training and testing missions for the various Army commands and units. However, they also include the cantonment areas on each installation that provide the infrastructure to support housing/billeting for soldiers and their families, motor pools for vehicle maintenance and repair, recreational activities and other community support activities. These functions make the installation virtually a small city, requiring the full range of public support functions found in any metropolitan area. The complexity and spectrum of the conservation program’s functions on a typical Army installation boundaries is illustrated below:



A typical Army installation showing conservation and training features

A large portion of the Army’s 12 million acres are owned exclusively by the Army while some lands, to include over one million acres in Alaska and 600,000 acres at Fort Bliss, Texas, are “withdrawn lands” from other federal agency land holdings. These withdrawals require Congressional approval, and are usually in effect for periods of 15-25 years. Within the United States, the Army’s training and testing lands are geographically dispersed and represent an ecologically diverse resource. Smaller installations may consist of contiguous lands ranging from 25,000 to 50,000 acres, while larger parcels may exceed one million acres.

Using Bailey’s Ecoregion Classification System (an ecological classification developed by the U.S. Forest Service - http://www.fs.fed.us/land/ecosysgmt/ecoreg1_home.html), the ecological diversity of Army lands becomes readily apparent. The map below shows the location of 47 key Army installations within the boundaries of Bailey’s fifty Province-level ecological units in the United States. Although the map does not show all Army installations in the inventory, it provides a useful representation of the geographical distribution and landscape diversity of Army installations.



Map of Bailey's Ecoregions (Province level) with locations of 47 key Army installations
(Larger version of this map is found at the end of this document.)

While private and commercial development and encroachment have increased near and around Army installations over the last several decades, the land within installation boundaries has remained relatively undeveloped – making many of these areas a refuge for threatened and endangered species. Today, Army lands contain hundreds of proposed, candidate, sensitive, state and federally listed threatened and endangered species (flora and fauna) that require careful and integrated management approaches.

Examples of protected wildlife include: the Desert Tortoise (Fort Irwin, California); the Texas Horned Lizard (Forts Riley and Carson); the Red-Cockaded Woodpecker (Fort Bragg, NC, Fort Benning, GA and Fort Polk, LA); the Golden-cheeked Warbler and Black-capped Vireo (Fort Hood, Texas); the Sage Grouse (Yakima Training Center, WA); the Bald Eagle (Fort Lewis, WA); the Western Hognose Snake (Fort Riley); the Greenback Cutthroat Trout (Fort Carson); and the Karner Blue Butterfly (Fort McCoy, WI). Examples of protected plant species found on Army installations include the Western Prairie Fringed Orchid (Fort Riley, KS); Chapman's Rhododendron (Camp Blanding, FL) and *Tetramolopium arenarium* (Pohakuloa Training Area, HI).



The Desert Tortoise



The Red-Cockaded Woodpecker

Examples of Endangered Species on Army lands

These realities have resulted in new challenges to the Army's conservation program. Since the 1990's Department of Defense directives have prescribed integrated management of the natural and cultural resources found on military installations and ecosystem management principles. Two of the major directives include:

- DoD Ecosystem Management Policy Directive, Deputy Under Secretary of Defense (Environmental Security), 1994: requires military installations to use ecosystem management to:
 - restore and maintain ecological associations that are of local and regional importance and compatible with existing geophysical components
 - restore and maintain biological diversity
 - restore and maintain ecological processes, structures, and functions
 - adapt to changing conditions
 - manage for viable populations
 - maintain ecologically appropriate perspectives of time and space

- DoD Instruction 4715.3, Environmental Conservation Program, 1996: requires military installations to:
 - incorporate ecosystem management principles in management plans
 - inventory and manage biologically or geographically significant or sensitive natural resources or species, and promote biodiversity
 - review DoD lands for their suitability for commercial forestry and agricultural outlease purposes
 - use best management practices to minimize nonpoint sources of water pollution
 - manage DoD lands with the goal of no net loss of wetlands
 - make recovery efforts and management of threatened and endangered species consistent with legal mandates
 - use prescribed burning to preserve health and safety, protect facilities, and facilitate the health and maintenance of natural systems

The goals of ecosystem management and biodiversity conservation on military lands, as expressed in the Department of Defense guidelines previously mentioned, are closely interrelated. An important component of meeting these goals is the development of partnerships and regional initiatives with other DoD agencies, other federal agencies, non-profit conservation groups, and adjoining land owners. Some examples of these types of partnerships, including Army participation, which have directly benefited ecosystem sustainability include the Mojave Desert Initiative (Fort Irwin, CA), the North Carolina Sand Hills Initiative (Fort Bragg, NC), and the Chesapeake Bay Initiative (Aberdeen Proving Ground, MD).



Environmental Laws Related to Conservation

As mentioned previously in this Lesson there are a number of federally mandated environmental laws and statutes that have shaped the evolution of the Army's conservation program since the 1970's. A brief summary of some of the major legislation is provided below. These laws and statutes have been incorporated into Army regulations and policies, as will be further discussed in Lessons 3 and 4 of this Learning Module.

Major laws pertaining to natural resources include:

- **Title 16, United States Code (USC), Section 670, "Conservation on Military Installations (Sikes Act – Public Law 86-797), 1960**
 - Mandated wildlife conservation and public access for recreation on military land
 - Authorized collection of fees for these uses
 - Developed cooperative plans between the military and the U.S. Fish and Wildlife Service, and state fish and game agencies

- **FY 98 Sikes Act Reauthorization (amendments – Public Law 105-85), 1997** – requires the Secretary of Defense to carry out a program to provide for the conservation and rehabilitation of natural resources on military installations, to include:
 - Preparation and execution of Integrated Natural Resources Management Plans (INRMP) at all DoD installations by the year 2001
 - Planning Level Surveys to characterize the topography, wetlands, surface waters, soils, flora, vegetation and fauna on military lands

- Coordination of plans with the U.S. Fish & Wildlife Service and related state agencies
 - Law enforcement authority for conservation matters to installation commanders
 - Staffing of conservation professionals and excludes certain conservation functions from Commercial Activities (A-76) studies
- **National Environmental Policy Act (NEPA) (Public Law 91-190), 1969:** NEPA is the nation’s charter for protecting the environment. The law requires all federal agencies to evaluate the environmental impacts of their actions, and integrate such evaluations into their decision-making process. Federal agencies, to include the Army, are required to integrate public participation from all affected or interested parties into the decision-making process to ensure that the effects on the environments are considered equally with the economic, technological, and other factors associated with the project. There are two primary sections in the law:
 - **Section 101:** Provides the Congressional declaration and prescribes six broad environmental goals for the nation:
 - (1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations
 - (2) assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings
 - (3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences
 - (4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment that supports diversity and variety of individual choice
 - (5) achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life’s amenities, and
 - (6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.
 - **Section 102:** prescribes requirements for implementing consideration of environmental impacts in decision-making, to include the use of a “systematic, interdisciplinary approach, which will ensure the integrated use of the natural and social sciences and the environmental design arts in planning and in decision-making that may have an impact on man’s environment.” This Section also requires the full documentation and reporting of possible environmental consequences in what is commonly referred to as the Environmental Assessment (EA) and the Environmental Impact Statement (EIS). EA’s and EIS’s have been completed for numerous Army related activities on installations over the last three decades. The complete text of the NEPA statute is located in Army Regulation (AR) 200-2 (Environmental Effects of Army Actions).

NEPA governs all federal land management activities, to include those in the Army. The Army must conduct environmental reviews and document all activities and their potential effects on the installation, prior to implementing a specific action. Issues of concern related to impacts on natural and cultural resources include, but are not limited to: endangered species, wildlife,

riparian zones, flood plains, wetlands, archeological and historical sites, off-road vehicle use, sedimentation, erosion, timber harvesting and non-point source pollution.

An important component of the NEPA process is public involvement by citizens and parties within potentially affected areas, and identifiable interest groups of local or national scope. This public involvement is essential during all phases of the EIS process from Notice of Intent, through scoping, to the public interaction phase. In the latter, all affected and interested parties are invited to make comment on issues and concerns.

- **Endangered Species Act (Public Law 93-205), 16 U.S. Code 1531, 1973 (Web Site: <http://www4.law.cornell.edu/uscode/16/ch35.html#PC35>):** this Act protects fish, wildlife, and plants that have been determined to be threatened or endangered by the Secretary of the Interior or Secretary of Commerce. This highly publicized act was preceded by the Endangered Species Preservation Act of 1966 and the Endangered Species Conservation Act of 1969. The goals of the 1973 Act are to:
 - Identify those species needing protection
 - Provide the means to protect and recover the identified species until they are no longer threatened or endangered
 - Prevent harm to listed species

These goals and the provisions of the Act place five primary requirements upon the Army:

- 1) To conserve listed species: conservation programs must be implemented, using all methods and procedures that are necessary to bring any listed species to the point where the protections afforded by the Act are no longer necessary. Under the ESA, the Army has the responsibility to undertake proactive measurements to increase, as well as to avoid, actions likely to jeopardize listed species.
- 2) To avoid jeopardizing listed species: the Army must ensure that any of their mission activities will not likely jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat important to those species.
- 3) To consult and confer: the Army should cooperate through informal consultation with other agencies regarding enforcement of the Act and must establish formal consultation with the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS) whenever it anticipates actions that may affect, beneficially or adversely, a listed species or critical habitat.
- 4) To conduct biological assessments: the Army must conduct biological assessments for major construction or other activities having similar impacts on listed species or their habitats.
- 5) To avoid the “taking” of listed fish and wildlife species, or the removal and destruction of listed plant species: The taking of any listed species – defined as “any means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect” – is unlawful.

Significant civil and criminal penalties may be levied against any responsible person who violates the provisions of the ESA.

- **Clean Water Act (CWA), 1972 ; Federal Water Pollution Control Act, 1972:** this Act regulates the discharge of dredged and fill material into natural waters (e.g., streams, rivers, lakes, inland waterways, reservoirs, etc.) of the United States.

Section 404 of the Act authorizes the Army Corps of Engineers to issue or deny permits (referred to as Section 404 permits) for the discharge of dredged or fill material into receiving waters. The permit process requires formal application, review by the Corps for adverse impacts, and a formal permit issuance process. The Act may be enforced by the issuance of a Notice of Violation (NOV) for failure to obtain a permit or comply with it once it is issued. The Act, in concert with a variety of associated legislation, serves a primary role in defining and protecting wetlands in the United States.

Major laws pertaining to cultural resources management include:

- **National Historic Preservation Act (NHPA), Public Law 89-655, 16 U.S. Code 470, 1966:** encourages federal agencies to administer historic and prehistoric resources in a spirit of stewardship and harmony with the agencies' missions. The Act establishes the criteria to evaluate the significance of districts, sites, buildings, structures and objects for placement on the National Register of Historic Places. The Army, like all federal agencies, must develop a formal program to locate, identify, evaluate, and nominate historic properties found on installations. Furthermore, land managers must consider the effects of Army activities upon historic structures, and submit for review and comment to an Advisory Council, those actions that may have adverse impacts.
- **Archeological Resources Protection Act (ARPA), Public Law 96-95, 16 U.S. Code 470, 1979:** requires a formal permit process for investigation and excavation of archeological resources on federal lands. Criminal penalties may be levied for failure to obtain a permit or for violation of the provisions of a permit.
- **Native American Graves Protection and Repatriation Act (NAGPRA), Public Law 101-601, 25 U.S. Code 3001, 1990:** requires federal agencies to identify the proper ownership of cultural items, as defined by NAGPRA, that are on federal property or under federal control, and to ensure their rightful disposition. The Act mandates the summary, inventory, and repatriation of cultural items affiliated with federally-recognized Native American Indian tribes, Alaskan Native villages and corporations, and Native Hawaiian organizations.
- **American Indian Religious Freedom Act, Public Law 95-341, 16 U.S. Code 1996, 1978:** protects Native American religious practices and ensures access to sacred sites on federal lands. Army installation commanders must accommodate access to religious sites, to the extent practicable, and avoid adverse actions affecting the physical integrity of these sites.

The Army's Environmental Strategy

Over the past thirty years, since the passage of the National Environmental Policy Act in 1969, the Army has responded to the nation's environmental legislation and policy mandates through a variety of institutional initiatives to ensure compliance both with the letter and spirit of these laws. As a major federal landholder and mission-oriented institution, the Army has had to adapt and refocus to internalize environmental stewardship within the organization. This process has taken time and been marked by a number of situations in the 1980's and early 1990's where the Army failed to comply. These incidents resulted in penalties and fines being levied against installations and in some cases, resulted in the closure of important training and range facilities until the problems were remedied. These experiences resulted in the Army leadership taking a more proactive approach to environmental management and conservation of natural and cultural resources.

In the early 1990's the Army developed a formal structure and framework for its environmental programs. The *U.S. Army Environmental Strategy for the 21st Century* was published in 1992. Although the Army's *Environmental Strategy* did not specify detailed policies and methods for implementing them, it provided a cohesive framework for all Army activities that is still functioning today. The four functional areas identified in the Army's Environmental Strategy – Restoration, Compliance, Pollution Prevention and Conservation -- continue to define the programmatic implementation of the Army's environmental program. These four programmatic areas allocate the resources that allow the Army to accomplish its environmental goals on Army installations.

These goals are further amplified by the Army's translation of its environmental vision into a functioning ethic, that states the Army will:

“ Integrate environmental values into the Army mission in order to sustain readiness, improve the soldier's quality of life, strengthen community relationships and provide sound stewardship of resources.”
(Commander's Guide to Environmental Management, 1998)

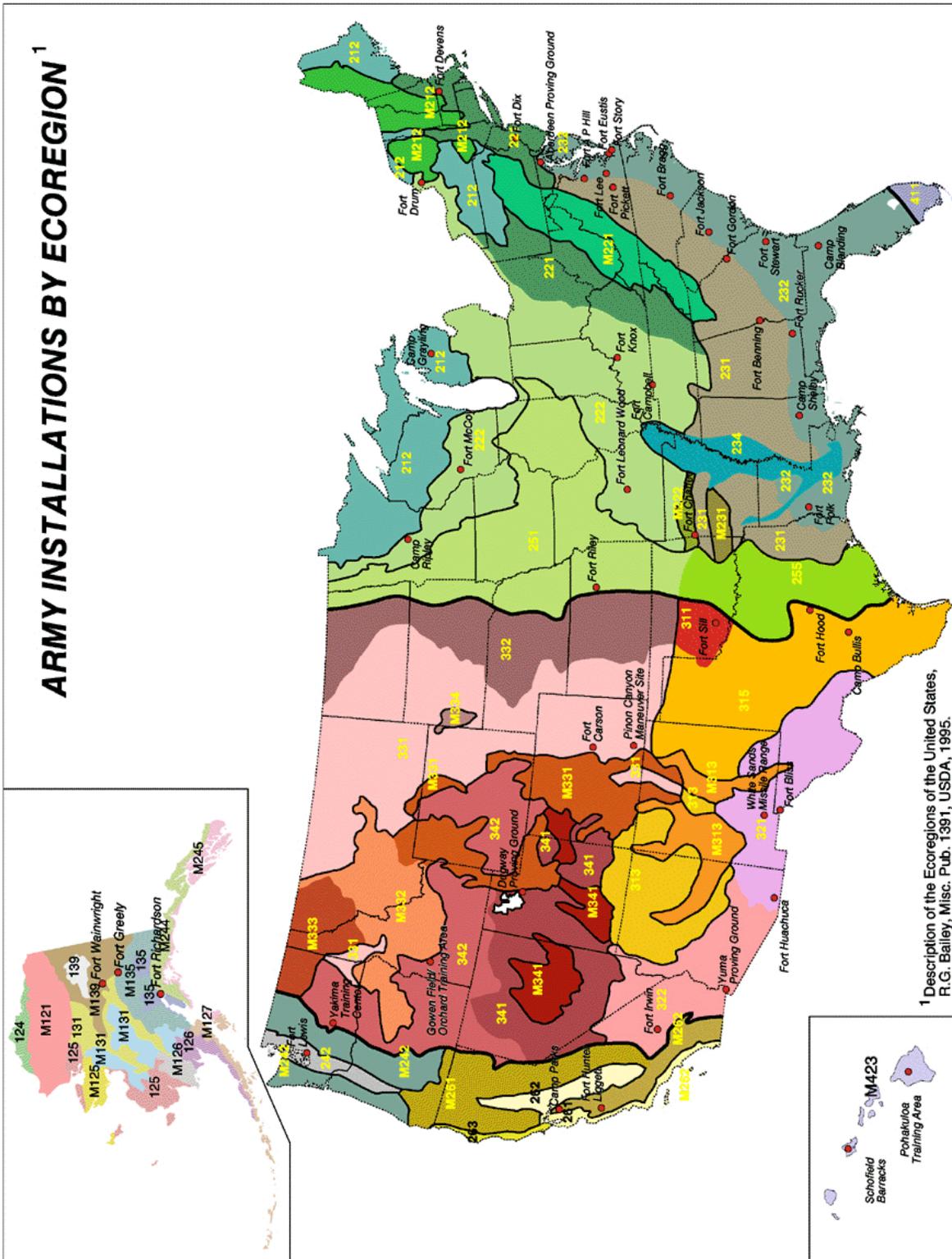
These same concepts are further amplified in other vision documents, such as *Installation Vision 2010*, published by the Assistant Chief of Staff for Installation Management (ACSIM), which integrates *Army Vision 2010* tenets into managing Army installations, to include training and testing lands. The five tenets in these vision documents are:

- Maintain readiness
- Provide power projection
- Maintain quality of life
- Sustain the environment
- Operate efficiently

In summary, stewardship and conservation refer to the wise use, improvement and protection of natural and cultural resources, both for support of the military mission and public benefit. This is a unique challenge to the Army, and its sister services because, unlike other federal land

management agencies, their primary mission is national defense, not land management. Many military training and testing activities are inherently destructive to the landscape. The impacts of these land uses often conflict with other land uses and objectives. Their effects, such as noise, air quality, non-point source pollution, and disturbance of habitat corridors, may be realized not only inside the installation boundaries, but may cross these artificial boundaries into adjoining communities and areas.

As will be discussed in Lesson 2, the Army installation staff includes a group of professional natural and cultural resource managers who provide the necessary expertise to advise the installation Commander. They ensure that Conservation goals are sustained to allow the installation's primary mission to test and train equipment and soldiers to be realized.



Map of Bailey's Ecoregions (Province level) with locations of 47 key Army installations