

DECAM Watershed Management

The Directorate of Environmental Compliance and Management, Resource Sustainment Branch, is responsible for managing and maintaining the soil, vegetation, and water resources on 373,302 acres of forest and rangeland at Fort Carson and the Piñon Canyon Maneuver Site (PCMS). This is not an easy task since the Army extensively utilizes both areas for training of mechanized units, involving a large number of wheeled and tracked vehicles (e.g., tanks, armored personnel carriers). Substantial ground disturbance, often resulting from the military activities, can easily upset the delicate natural balance between soil and plant communities in these semi-arid environments.

To accomplish its mission, the Watershed Management program utilizes in-house personnel, private contractors, military engineer units, and other agency personnel. Key program areas and activities include:

- Soil erosion/sediment control
- Native species revegetation
- Noxious weed control
- Wetland monitoring
- Meteorological monitoring
- Hydrological monitoring
- Maneuver damage assessment
- Training area deferment
- Range management

Partnerships in Watershed Management

Numerous agreements and cooperative efforts have been developed to facilitate the Watershed Management Program, such as:

Active

- Agreement with the Natural Resources Conservation Service and El Paso County to implement a Conservation Plan and conduct resource inventories.
- Agreement with the U.S. Geological Survey to evaluate surface water quality, quantity, and conduct meteorological monitoring.
- Agreement with the U.S. Forest Service to assist in fighting regional wildfires.
- Agreement with the Purgatorie River Soil Conservation District to implement a Conservation Plan and conduct resource inventories on Piñon Canyon Maneuver Site.
- Agreement with the U.S. Fish and Wildlife Service and Fountain Creek Watershed Taskforce to conduct regional watershed management.
- Agreement with the U.S. Department of Agriculture and Texas A&M University to develop the biological control component of the noxious weed control program.
- Agreement with Colorado State University to study noxious weed biological control agents.

- Cooperative research effort with the Joint National Test Facility, Schriever AFB, CO to study the ability to assess soil moisture from satellite imagery.

Inactive

- Agreement with the Agricultural Research Service Southwest Watershed Research Center to develop an erosion and sedimentation-monitoring program.
- Cooperative effort with Cold Regions Research Laboratory (CRREL) and the Agricultural Research Service, Logan, UT to conduct plant material trials for revegetation activities.
- Cooperative research effort with the Agricultural Research Service and Natural Resources Conservation Service to study possible revisions to national rangeland health assessment concepts and methodologies.
- Cooperative research effort with the Army Research Organization and the Massachusetts Institute of Technology to study the gullying process.
- Cooperative research effort with the University of Wyoming to study and locate selenium rich soils.

Program Achievements and Ongoing Activities

In cooperation with the U.S. Geological Survey, erosion rates on Fort Carson and the Piñon Canyon Maneuver Site watersheds are being assessed. Information from this monitoring is being used to support an Erosion Assessment and Sediment Transport Program being conducted by the Agricultural Research Service to study large scale sedimentation rates and soil transport mechanisms. Researchers from The University of Wyoming have also cooperated with the Range Management Program to study selenium sources, uptake, and transport at Fort Carson. Information from this study will aid in incorporating selenium remediation into land reclamation projects.

The Range Management program developed a Training Lands Deferment Program to provide for the rest and rehabilitation of training areas that have been significantly impacted by training use. Deferred areas off-limits to vehicular traffic and bivouacking - are normally rested for 3 years during which time they may undergo range improvements such as seeding or erosion control. Currently 1,440 acres of training lands are in the Deferment Program, and since its inception in 1988 over, 16,440 acres have been protected.

As Federal facilities, the Federal Noxious Weed Act, Colorado Weed Management Act, mandates Fort Carson and the Piñon Canyon Maneuver Site and County weed regulations to control listed noxious weed species (see Noxious Weed Program). Significant noxious weeds on Fort Carson include Canada thistle, musk thistle, spotted knapweed, and diffuse knapweed. The most problematic weed species on the Piñon Canyon Maneuver Site is Russian knapweed. Installation-wide inventories for noxious weeds have been conducted on Fort Carson, and an Integrated Weed Management Plan is being developed to direct future control efforts using biological, chemical, cultural, and mechanical methods. Presently, biological control investigations are underway on Fort Carson, in conjunction with Texas A&M University, to assess the effectiveness of various insects released for controlling field bindweed, Canada and musk thistle, and diffuse and spotted knapweed.

Recent investigations have also begun to assess the effectiveness of using herbicides (Arsenal) to control tamarisk.

Watershed Management and the Army Mission

In part, the Army's mission at Fort Carson and the Piñon Canyon Maneuver Site is to "train combat-ready forces assigned to the Mountain Post." The Watershed Management Program makes significant contributions toward accomplishing this mission by engaging in activities, which protect and maintain the land resources that are integral to the Army training. This program also provides opportunities to fulfill training requirements for military engineering units at Fort Carson and for visiting reserve engineering units in the form of constructing and repairing physical erosion control structures. As environmental stewards, the Army, and specifically DECAM, is keenly aware of the need for proper land management for fish, wildlife, and recreational uses as well.