



Impacts and Mitigation

The Environmental Impact Statement for Activities Associated with Future Programs at U.S. Army Dugway Proving Ground (EIS) assessed environmental impacts of current and reasonably foreseeable future mission activities. Findings on potential environmental and socioeconomic consequences that could result from implementing U.S. Army Dugway Proving Ground's (Dugway's) Proposed Action and measures to mitigate these consequences are provided below.

Geology and Soils - Impacts such as erosion and compaction to soil physical quality from activities under the Proposed Action would be long-term and significant. The weak structure of the soil and the arid climate make the Dugway area a fragile environment requiring substantial time for restoration.

Geology and Soils Mitigation and Monitoring Measures

- ◆ Continue implementation of the Dugway Integrated Training Area Management (ITAM) program
- ◆ When possible, limit tracked vehicles and prohibit cross-country use
- ◆ Vary intensity of training and testing seasonally to reduce the impact on vegetation and to avoid high fire conditions
- ◆ When possible, use only existing roads, or if new roads need to be created, place in areas that would minimize impacts to vegetation
- ◆ When feasible, construct new buildings and roads in current built-up areas
- ◆ Continue to monitor established photopoints in impact areas for seasonal and yearly comparison of habitat
- ◆ Focus ground training in areas with existing high ground disturbance; other areas used should follow compensation guidelines within the Maneuver Training Area Management Plan (MTAMP) and the Integrated Natural Resource Management Plan (INRMP)
- ◆ Rotate use of training areas to allow for a 4-7 year rest period
- ◆ Implement the management plan being prepared for the Paladin Weapons System
- ◆ Manage all fires in accordance with the Dugway Fire Management Plan
- ◆ Complete greenstrip firebreaks established by ITAM and test with new and better fire resistant and site adapted species
- ◆ Obtain financial compensation from training missions for fire management or revegetation according to the MTAMP and the INRMP
- ◆ Continue the Installation Restoration Program (IRP) to address contaminated soils
- ◆ Implement investigation of testing and training ranges in use when they become inactive
- ◆ Include appropriate monitoring for semi-volatile organic compounds in soil
- ◆ Restrict future development/use of mineral resources at Granite Peak
- ◆ Continue enforcing restrictions in the vicinity of the Devil's Postpile from use by ground troops

Water Resources - Regardless of mitigation, there would be a small chemical and physical impact on surface water quality. This impact is not expected to degrade the water quality with respect to human health or wildlife or with respect to operational requirements of wastewater treatment facilities.

Water Resources Mitigation and Monitoring Measures

- ◆ Implement best management practices, such as installing metering devices at lagoons and periodically calibrate and maintain them; properly abandon all nonessential, inactive water supply and test wells
- ◆ Use silt fences and berms during construction projects to minimize surface water runoff and soil erosion
- ◆ Enforce restrictions regarding bivouacking and ground training near springs
- ◆ Continue use of wildlife guzzlers that Dugway has established in the area near the springs in the Cedar Mountains
- ◆ Conduct periodic water quality monitoring of the springs in the Cedar Mountains
- ◆ Conduct periodic water quality monitoring at the springs near the playa, including monitoring support at Fish Springs National Wildlife Refuge, and at select locations within the playa
- ◆ Continue groundwater monitoring programs already established at English Village
- ◆ Continue ongoing studies (not associated with this EIS) about the nature and extent of potential groundwater contamination at identified areas within Dugway
- ◆ For a new drinking water system at Carr, update the Drinking Water Source Protection Plan and monitor and test the pump

Traffic and Transportation - The projected transportation impacts simply reflect changes in the use of existing facilities, including relatively infrequent and temporary demands on transportation networks, and systems designed to be flexible and dynamic. No mitigation or monitoring measures are required.

Visual Resources - With the Proposed Action, the panoramic, scenic, open and expansive nature of Dugway's setting would be retained. Impacts to visual resources that cannot be avoided are a necessary result of carrying out Dugway's mission. As a mitigation effort, the EIS suggests use of the Installation Design Guide within the SDP to consider visual resources in construction and maintenance of Dugway facilities and landscaping.

Noise - While there could be a few new noise sources and an increase in artillery firing and detonation, the primary sources of noise in and around Dugway would continue to be the air testing and training activities. These air training and testing activities are conducted and controlled by the Air Force, and are therefore not a part of Dugway's Proposed Action for the Future Program EIS.

Noise Mitigation and Monitoring Measures

- ◆ Model and monitor noise for testing and training activities that could result in major noise impacts
- ◆ Update the Environmental Noise Management Plan to reflect the current status of Dugway missions, programs, activities, and facilities
- ◆ Notify the public in advance of Dugway activities that could result in major atypical noise events

Health and Safety - While the risks of injury, illness, or catastrophic event at Dugway is low, the risk cannot be totally eliminated through mitigation measures.

Health and Safety Mitigation and Monitoring Measures

- ◆ Assess the proposed use of any new agent or hazardous material
- ◆ Develop a standing operating procedure (SOP) to handle materials that have not been identified or characterized
- ◆ Follow existing controls and management plans to handle all materials currently approved for use at Dugway
- ◆ Continue worker safety programs and procedures
- ◆ Continue to enforce speed limits to minimize injury as a result of vehicular accidents
- ◆ Continue periodic evacuation exercises for various potential threats
- ◆ Expand Memorandum of Understanding with Tooele County to include the County in evacuation exercises
- ◆ Explore the potential need to obtain additional land around the White Sage Impact Area from BLM to act as a buffer for existing targets
- ◆ Manage all fires in accordance with the Dugway Fire Management Plan
- ◆ Obtain financial compensation from training missions for fire management according to the MTAMP and the INRMP

Materials and Wastes - All impacts associated with use of materials and generation of wastes at Dugway cannot be avoided, but impacts would continue to be mitigated by proper management planning, policies, and procedures, and by the existing comprehensive legal and regulatory framework.

Materials and Wastes Mitigation and Monitoring Measures

- ◆ Assess the proposed use of any new chemical or biological agent or hazardous material
- ◆ Develop an SOP to handle materials that have not been identified or characterized
- ◆ Assess new waste streams to determine proper procedures
- ◆ Follow existing controls and management plans to handle all wastes currently generated at Dugway
- ◆ Follow existing controls and management plans to handle all materials currently approved for use at Dugway

Air Resources - Continued mission activities at Dugway would result in continued air emissions. These emissions would be short-term in nature and continue to be managed within regulatory limits.

Air Resources Mitigation and Monitoring Measures

- ◆ Evaluate substitutes for military-specific materials that potentially impact air
- ◆ Investigate fugitive dust control methods for military training on unpaved roads and in training areas
- ◆ Manage all fires in accordance with the Dugway Fire Management Plan
- ◆ Prepare models of fugitive dust generated from training exercises to better understand its effects on ambient air quality values
- ◆ Obtain financial compensation from training missions for fire management according the MTAMP and the INRMP

Biological Resources - Direct impacts to vegetation would be long-term and vegetation would be slow to recover even with the proposed mitigation measures. Dugway operations would result in a short-term loss of wildlife habitat and cause displacement and direct mortality of wildlife.

Biological Resource Mitigation and Monitoring Measures

- ◆ Continue implementation of the Army ITAM Program
- ◆ Educate users of Dugway lands on protecting, preventing damage, and mitigating damage to natural resources
- ◆ When possible, limit tracked vehicle use and prohibit cross country use
- ◆ Vary intensity of training and testing seasonally to reduce the impact on vegetation and to avoid high fire conditions
- ◆ When possible, use only existing roads, or if new roads are needed, place them in areas that would minimize vegetation impacts
- ◆ When feasible, construct new buildings and roads in current built-up areas
- ◆ Obtain financial compensation from training missions for fire management or revegetation according to the MTAMP and the INRMP
- ◆ Rotate use of training areas to allow for a 4-7 year rest period
- ◆ Avoid training in shrub and juniper areas
- ◆ Establish more permanent vegetation plots in training areas to study changes in vegetation
- ◆ Continue to monitor established photopoints in impact areas for seasonal and yearly comparison of habitat
- ◆ Depending on need, maintain and use existing quarry sites, and permanently close others
- ◆ Focus ground training in areas with high existing ground disturbance; other areas used should follow compensation guidelines within the MTAMP and the INRMP
- ◆ Manage all fires in accordance with the Dugway Fire Management Plan
- ◆ Complete greenstrip firebreaks established by ITAM and test with new and better fire resistant and site adapted species
- ◆ Clean up spills immediately and monitor the site
- ◆ Minimize the spread of weeds through noxious and nuisance weed management
- ◆ As part of test planning and where appropriate, monitor dispersion clouds to validate models and monitor biological resources
- ◆ Minimize ground disturbance as specified in the INRMP
- ◆ Implement biomonitoring program at the landscape level
- ◆ Quantitatively assess vegetation using permanent sample plots
- ◆ Avoid using ordnance or testing near permanent surface water sources
- ◆ Limit use of fog oil on extremely windy days when large dust particles may be present
- ◆ Investigate fugitive dust control methods for military training on unpaved roads and in training areas
- ◆ Identify and protect important habitats to each species where possible
- ◆ Use temporary closures to avoid training and testing in areas of high wildlife population concentrations, nesting sites or wintering ranges
- ◆ Monitor patterns, trends, and health of wildlife species as needed on both a local scale and installation-wide scale
- ◆ Create a new vegetation map every 5 years to monitor vegetation changes
- ◆ Minimize vehicular-caused animal deaths by enforcing speed limits
- ◆ Report all injured or dead large animals immediately to the Dugway Directorate of Environmental Programs (DEP)
- ◆ Minimize disturbance areas from construction of new buildings and roads
- ◆ Enforce restrictions regarding bivouacking and ground training near springs and stable dunes
- ◆ Continue to protect Wig Mountain Cave and the abandoned mines on Granite Peak
- ◆ Protect Granite Peak and the winterfat-gray molly vegetation community

Socioeconomics - Significant socioeconomic impacts are not anticipated in connection with the Proposed Action. Dugway is well established in the economic, social, and political environment of Tooele County.

Socioeconomic Mitigation and Monitoring Measures

- ◆ Increase focus on essential community support functions and facilities at Dugway
- ◆ Increase focus on maintenance of existing housing facilities as noted in the Summary Development Plan (SDP) findings and recommendations
- ◆ Maintain close contacts with elected officials, public administrators, the media, and community leaders in Tooele County informing them of important events and activities as they relate to Dugway and its relationship with the regional community and economy

Environmental Justice - Environmental justice issues and impacts are projected to be nonsignificant, and the Proposed Action would be in compliance with Executive Order 12898.

Environmental Justice Mitigation and Monitoring Measures

- ◆ Encourage persons within minority and low-income populations and Native Americans to become involved in the EIS process
- ◆ DOD, Army, and Dugway are committed to fair and equitable treatment of all persons
- ◆ Consider locations of minority and low-income persons when locating new facilities and activities to ensure that these populations are not disproportionately affected

Land Use and Access - Dugway’s mission-related activities would continue to support the “dominant use” land management philosophy, which ensures that military-related land uses at Dugway have ultimate priority over all other land uses.

Land Use and Access Mitigation and Monitoring Measures

- ◆ Coordinate with Bureau of Land Management (BLM) on land use issues such as Dugway ground training impacts and regional land use issues
- ◆ Continue coordination efforts with the BLM regarding the effects of Dugway ground training, fire management, and the spread of invasive plants such as cheatgrass
- ◆ Continue implementation of the Army ITAM Program
- ◆ Adopt and protect the natural areas and special features on Dugway land identified by the Nature Conservancy
- ◆ Implement a range management program for the rehabilitation of the desert environment in and around Dugway
- ◆ Continue coordination efforts with the U.S. Fish and Wildlife Service on Fish Springs National Wildlife Refuge issues and impacts
- ◆ Consider topography, soils, drainage, water, vegetation, cultural resource location, access, utilities, and noise in all decisions regarding construction of new buildings and facilities

Cultural Resources - The residual impact of Dugway’s future activities would be the potential physical loss of some cultural resources.

Cultural Resource Mitigation and Monitoring Measures

- ◆ Require notification of DEP regarding discovery of any observable paleontologic resource prior to construction work in the area
- ◆ Comply with the guidelines and procedures in the Integrated Cultural Resources Management Plan (ICRMP) and associated standard operating procedures to reduce potential for significant impacts
- ◆ Once sites are identified, they would be protected through the ICRMP and Federal legislation
- ◆ Continue use of the priority system in determining cultural resource site locations to reduce potential for damage or loss of resources
- ◆ Continue consultation with Native American tribes on potential cultural resources site locations
- ◆ Make all employees, contractors, tenant personnel, and other persons with access to Dugway land aware of ICRMP and associated standard operating procedures protecting cultural resources