

**Appendix K**  
**Arizona BLM Resource Advisory Council**  
**Guidelines for Off-Highway Vehicle (OHV) Recreation Management**  
**February 24, 2007**

The Arizona Resource Advisory Council (RAC) was established to provide counsel and advice to the Bureau of Land Management (BLM) concerning planning and management of the public lands administered by the BLM in Arizona. During the 1995 – 1997 timeframe, the Arizona RAC assisted the BLM staff in developing standards for rangeland health and guidelines for grazing administration. These standards and guidelines were approved by the Secretary of the Interior in April, 1997. The RAC fully recognizes that the standards for rangeland health are affected by all uses of public lands, not just livestock grazing.

One of those uses, Off-Highway Vehicle (OHV) recreation, has become increasingly more popular and prevalent on public lands. This has placed OHV recreation in the forefront of management issues facing the Arizona BLM. In the 2005 RAC Annual Work Plan, the RAC set forth an action item to develop proposed Arizona BLM OHV guidelines.

In 2007, the RAC recommended guidelines for OHV recreation management. These guidelines are linked to the Arizona BLM rangeland health standards, incorporate goals of the BLM National OHV Strategy, and consider OHV “best practices” identified in BLM’s approach to this issue in other western states. The RAC guidelines were considered during preparation of the Middle Gila Canyons Transportation and Travel Management Plan, and will be considered during implementation of the various planned actions.

### **Introduction**

Off-Highway Vehicle (OHV) recreation, as well as commercial use, has become increasingly more popular and prevalent on public lands. Arizona’s population growth has placed ever greater demands on outdoor recreation opportunities, and BLM managed public lands are frequently the premier outdoor destination for both urban and rural recreational users. The range of OHV users includes not only the dirt bike, all-terrain vehicle (ATV), and four wheel drive jeep riders, but also recreationists such as hikers, hunters, and birders who use OHVs such as sport utility vehicles (SUVs) and pickup trucks to access their favorite hiking, hunting, or bird-watching destination. Thus, OHV recreation spans virtually all recreational uses of the public lands. Recognizing the growing significance of OHV use, the Bureau of Land Management, Washington, DC office, published the National Strategy for Motorized Off-Highway Vehicle Use on Public Lands, dated January, 2001. The National Strategy emphasizes that the BLM should be proactive in seeking motorized OHV management solutions that conserve natural resources while providing for appropriate motorized recreation opportunities. Soon after publication of the 2001 Strategy, BLM realized that it must manage all modes of travel. Public land users travel by a variety of modes: motorized, mechanized, animal, pedestrian and over water and snow. However, the most critical travel management priority currently facing the Arizona BLM is OHV recreation. Thus, this set of guidelines will deal primarily with OHV recreational use and actions necessary to assure rangeland health, as well as broader, more strategic OHV recreation management implementation strategies.

These guidelines were developed in a collaborative process with the Arizona Resource Advisory Council (RAC) similar to the process that resulted in the Standards for Rangeland Health and Guidelines for Grazing Administration (USDI 1997) (copy included at the Appendix to these OHV Guidelines).

The OHV guidelines are presented in two sections. The first section addresses OHV guidelines that directly relate to the Arizona BLM rangeland health standards. Each standard is listed along with its associated OHV guidelines. As a comparison, see Appendix which defines the Grazing Guidelines, developed in 1997. These OHV guidelines deal primarily with on-the-ground actions necessary to assure that OHV use and travel activities are managed in a manner to assure achievement of the rangeland health standards, or that significant progress is

being made toward attainment. Inherent in the application of these guidelines is the need to conduct monitoring and evaluation of their effectiveness. Through adaptive management, new or modified guidelines may be required to enable attainment of the rangeland health standards. Specific application of the rangeland health standards and OHV guidelines will be governed by the Resource Management Plan.

The second section addresses a broader and more strategic set of OHV recreation management implementation strategies that are largely derived from the BLM National OHV Strategy (USDI 2001) and consider OHV “best practices” adopted by other western states. These strategies identify successful practices for managing OHV recreation, including user education and outreach, land use planning considerations, OHV partnerships, route maintenance, law enforcement and monitoring, and visitor services information.

These guidelines and implementation strategies are intended to provide an initial toolbox for management of OHV recreation on Arizona BLM public lands. Recognizing the dynamic nature of OHV recreation, this document may be modified or augmented in the future as dictated by lessons learned from field offices’ implementation.

## **I. Arizona Standards for Rangeland Health and Guidelines for Management of OHV Use**

### **A. Standard 1: Upland Sites**

Upland soils exhibit infiltration, permeability, and erosion rates that are appropriate to soil type, climate and landform (ecological site).

#### ***Criteria for meeting Standard 1:***

Soil conditions support proper functioning of hydrologic, energy, and nutrient cycles. Many factors interact to maintain stable soils and healthy soil conditions, including appropriate amounts of vegetative cover, litter, and soil porosity and organic matter. Under proper functioning conditions, rates of soil loss and infiltration are consistent with the potential of the site.

Ground cover in the form of plants, litter or rock is present in pattern, kind, and amount sufficient to prevent accelerated erosion for the ecological site; or ground cover is increasing as determined by monitoring over an established period of time.

Signs of accelerated erosion are minimal or diminishing for the ecological site as determined by monitoring over an established period of time.

As indicated by such factors as:

- Ground Cover
- litter
- live vegetation, amount and type (e.g., grass, shrubs, trees, etc.)
- rock
- Signs of erosion
- flow pattern
- gullies
- rills
- plant pedestaling

Exceptions and exemptions (where applicable):

- none

## **OHV Guidelines:**

**1-1. Route Design and Location.** Locate and manage OHV travel use to conserve soil functionality, vegetative cover, and watershed health. Consider the following factors when designing and locating roads, primitive roads, and trails (hereafter referred to as routes) or when approving/designating existing routes for inclusion in a transportation plan:

- Ç **Grade:** Routes should be designed to cross any slopes rather than go straight up or down the fall line. Grade should not exceed 50% of the cross slope of the area being crossed to avoid channeling water. To the extent practicable, route grade should change frequently enough to diminish or dissipate the erosive energy of overland water flow.
- Ç **Water Control:** Water control structures should be incorporated into the route grade. Construct or reconstruct routes with rolling dips, undulating route design or route grade breaks.
- Ç **Location:** Main route networks should disperse users away from environmentally sensitive or heavily used areas. Locate routes on stable soils and avoid areas with highly erosive soils. Avoid route proliferation by designing routes with adequate mileage distance, suitable access to desired destinations, and diversity of experiences. Use signs and barriers to delineate approved routes.
- Ç **Curves and Switchbacks:** Turns and curves can be used as a design feature to reduce sight distances, increase difficulty and therefore control speed. When multiple turns are necessary to gain elevation in steep country, use climbing turns rather than switchbacks if possible. Climbing turns have a longer radius, are preferentially used to maintain route integrity and soil stability, and provide for a more useable and enjoyable turn.
- Ç **Vegetation and Clearing:** The type of clearing on a route can also be used to maintain route integrity, control speed or increase the level of difficulty on a route. To protect against erosion and to maintain natural conditions, leave trees and woody vegetation in place where possible. Narrow routes provide a better rider experience and minimize loss of soil cover and vegetation.

**1-2. Route Maintenance.** Regular maintenance, condition assessment, and monitoring are key to controlling erosion and protecting desired soil conditions. Erosion problems such as head-cuts should be addressed early on and may require route re-construction or rehabilitation.

**1-3. Route Stabilization and Hardening.** Use stabilization materials to repair and improve tread integrity.

**1-4. Re-vegetation (or Reclamation).** Where land use plan/implementation decisions dictate closure of non-system routes, re-vegetate closed routes using natural materials. Some routes may be suitable for natural reclamation (e.g. already reclaiming routes), therefore no re-vegetation would be required. Employ vertical mulching to the visual horizon, where appropriate.

## **B. Standard 2: Riparian-Wetland Sites**

Riparian-wetland areas are in properly functioning condition.

### ***Criteria for meeting Standard 2:***

Stream channel morphology and functions are appropriate for proper functioning condition for existing climate, landform, and channel reach characteristics. Riparian-wetland areas are functioning properly when adequate vegetation, land form, or large woody debris is present to dissipate stream energy associated with high water flows.

Riparian-wetland functioning condition assessments are based on examination of hydrologic, vegetative, soil and erosion-deposition factors. BLM has developed a standard checklist to address these factors and make functional assessments. Riparian-wetland areas are functioning properly as indicated by the results of the application of the appropriate checklist.

The checklist for riparian areas is in Technical Reference 1737-9 "Process for Assessing Proper Functioning Condition." The checklist for wetlands is in Technical Reference 1737-11 "Process for Assessing Proper Functioning Condition for Lentic Riparian-Wetland Areas."

As indicated by such factors as:

- Gradient
- Width/depth ratio
- Channel roughness and sinuosity of stream channel
- Bank stabilization
- Reduced erosion
- Captured sediment
- Ground-water recharge
- Dissipation of energy by vegetation

Exceptions and exemptions (where applicable):

- Dirt tanks, wells, and other water facilities constructed or placed at a location for the purpose of providing water for livestock and/or wildlife and which have not been determined through local planning efforts to provide for riparian or wetland habitat are exempt.
- Water impoundments permitted for construction, mining, or other similar activities are exempt.

#### **OHV Guidelines:**

**2-1. Route Design and Location.** Routes should be located, or relocated, to avoid/minimally impact sensitive areas such as riparian and wetland areas. Avoid placement of routes longitudinally along riparian-wetland areas. Perpendicular crossings are acceptable as long as the size or frequency of crossings does not significantly affect proper functioning condition or where effect can be mitigated, e.g. with hardening or bridging the crossing to reduce sediment delivery.

**2-2. Route Maintenance.** Regular maintenance, condition assessment, and monitoring are key to controlling erosion and protecting stream bank stabilization. Erosion problems such as head-cuts should be addressed early on and may require route re-construction or rehabilitation.

**2-3. Route Stabilization and Hardening.** Use stabilization materials to repair and improve tread integrity.

**2-4. Re-vegetation (or Reclamation).** Where land use plan decisions dictate closure of non-system (i.e. non-designated) routes, re-vegetate closed routes using natural materials in order to retard erosion and stabilize soils. Employ vertical mulching to the visual horizon, where appropriate.

**2-5. OHV Facilities (e.g., staging areas and campgrounds).** New facilities should be located away from riparian-wetland areas if they conflict with achieving or maintaining riparian-wetland function. Existing facilities must be used in a way that does not adversely impact riparian-wetland functions or are relocated/modified when incompatible with proper riparian-wetland functions. Ensure that facilities are not located in a flood zone.

#### **C. Standard 3: Desired Resource Conditions**

Productive and diverse upland and riparian-wetland plant communities of native species exist and are maintained.

##### ***Criteria for meeting Standard 3:***

Upland and riparian-wetland plant communities meet desired plant community objectives. Plant community objectives are determined with consideration for all multiple uses. Objectives also address native species, and the requirements of the Taylor Grazing Act, Federal Land Policy and Management Act, Endangered Species Act, Clean Water Act, and appropriate laws, regulations, and policies.

Desired plant community objectives will be developed to assure that soil conditions and ecosystem function described in Standards 1 and 2 are met. They detail a site-specific plant community, which when obtained, will assure rangeland health, State water quality standards, and habitat for endangered, threatened, and sensitive species. Thus, desired plant community objectives will be used as an indicator of ecosystem function and rangeland health.

As indicated by such factors as:

- Composition
- Structure
- Distribution

Exceptions and exemptions (where applicable):

- Ecological sites or stream reaches on which a change in existing vegetation is physically, biologically, or economically impractical.

**OHV Guidelines:**

**3-1.** As appropriate, manage OHV travel use by type, season, intensity, distribution, and/or duration to minimize the impact on plant and animal habitats, especially those containing threatened, endangered or candidate species. If seasonal closures become appropriate to minimize adverse OHV travel impacts on public lands resources, designate alternative routes to preserve public access where possible. Provide clear and timely information to the public when closures, seasonal use, and other regulations or limits are placed on OHV travel on public lands.

**3-2. Protect wildlife and/or habitat by:**

- Preserving connectivity and minimizing fragmentation during design or approval of transportation systems.
- Using kiosks, signs, maps, and barriers to delineate approved routes and to educate users about sensitive areas.
- Managing OHV travel activities to minimize interference with critical wildlife stages such as nesting, reproduction, or seasonal concentration areas/ wildlife waters.
- Avoiding creation of artificial attractions such as the intentional and un-intentional feeding of wild animals or improper disposal of garbage.

**3-3.** Avoid or minimize the establishment and/or spread of noxious or other weeds from intensive recreation, including the use of riding and pack animals, hiking, motorized, or other mechanized vehicles.

Conduct an educational campaign to inform recreational users about the damage caused by noxious weeds and how their spread can be minimized.

Where appropriate, apply restrictions, e.g. don't permit surface disturbing activities.

**3-4.** Assign higher priority to route monitoring and law enforcement, especially during high-use times such as hunting seasons and holiday periods. Work to coordinate and improve enforcement to deter violations.

**3-5.** Manage OHV travel activities to conserve watershed and water quality. Manage recreational uses in coordination with other uses on public lands to meet or exceed applicable water quality standards. Control water quality impacts resulting from recreational use, such as erosion, bank degradation, human waste, trash, and other elements. Monitor non-point source pollution particularly in high use areas.

**3-6.** Manage OHV travel activities to preserve significant cultural, historical, archaeological, traditional, and paleontological resources. Use information and interpretative services as major tools to protect cultural resources. As appropriate, improve public knowledge by locating kiosks, interpretive signs, and visitor information facilities at visitor contact points. Design OHV routes for placement at an adequate distance away from sensitive sites to reduce/eliminate potential damage.

## **II. OHV Recreation Management Implementation Strategies**

### **A. Coordination, Communications, and Collaboration.**

Successful management of OHV recreation relies on pro-active outreach and collaboration with OHV users. Field offices should form local coordinating groups comprised of OHV users and other interested parties to address OHV issues and develop collaborative solutions.

### **B. Education and Training.**

Expand and improve educational efforts to foster responsible-use ethics among OHV users. Use resources from national organizations, such as the National Off-Highway Vehicle Conservation Council, Tread Lightly, Inc., and Leave No Trace. The Bureau has signed National Memoranda of Understanding with Leave No Trace (2001) and Tread Lightly! (1998). BLM is committed to abiding by and instructing public land users to likewise abide by these land use ethics principles.

Disseminate information about regulations, penalties, consequences for irresponsible behavior, and impacts to resources from inappropriate use. Utilize high use areas and special events such as OHV dealer expositions to maximize the dissemination of responsible use education materials and concepts to the public and OHV dealers. Set up a booth and greet visitors at entry routes to popular OHV destinations to disseminate educational information and maps/brochures. Incorporate information about public land values and user ethics into the terms and conditions of permits and land use authorizations.

Provide OHV management and land use ethics education and training for managers, staff, partners, and volunteers.

### **C. Land Use Planning. (See USDI 2005: Appendix C, p. 17-8).**

Place a high priority on analysis of OHV travel issues, including user needs, trends, and resource impacts during the land use planning process. Collaborate with the public, including OHV users and other interest groups, when conducting and evaluating route inventories and developing the transportation system and OHV designations, i.e., open, closed, or limited per 43 Code of Federal Regulations 8342. In this regard, the Arizona BLM endorses the use of a systematic route evaluation process that is fully informed by systematic and comprehensive input from the public when preparing transportation plans.

Identify easements and acquisitions where appropriate and necessary to resolve lack of legal access to BLM lands.

Consider designating new OHV use areas, route systems, and camping areas (with adequate support facilities) where appropriate to focus OHV use away from sensitive areas, to disperse heavy OHV use concentrated in too small an area, to provide a diversity of experiences for different types of OHV users, and to meet current and future demands, especially in the urban interface areas. As stated in the National Strategy (USDI 2001: p. 18), where demand exists and land resources can accommodate OHV use, field offices should provide OHV recreation sites to be used for destination-type facilities.

Include in land use plans, social/economic effects of OHV recreational use, including special recreation events (USDI 2001: p.12-13).

Plan and locate OHV travel activities to minimize user conflicts and to segregate motorized from non-motorized recreational uses. For example, OHV travel activities should be located to avoid or minimize contact with non-motorized trail users such as birders, hikers, or equestrians who desire a quiet, natural environment to enjoy their

recreational pursuits. Also, establish appropriate speed limits on the designated transportation network to enable safe travel by all users.

#### **D. Partnerships and Volunteers.**

Leverage the use of volunteers through challenge cost-share projects. Seek OHV grant funding available through Arizona State Parks such as the Recreation Trails Program.

Develop partnerships with user groups to assist with route maintenance and monitoring through the Adopt-A-Trail program. Enhance opportunities for citizen involvement in OHV management issues by working directly with the public, local communities, user groups, and partnership organizations such as the National Off-Highway Vehicle Conservation Council. Consider use of prison crews to complete planned projects.

#### **E. Route Maintenance.**

As stated in the National OHV Strategy USDI 2001, route design, maintenance, and restoration techniques need to be improved to enhance resource conditions and visitor experiences on public lands. Document deferred maintenance needs and seek partnerships with other agencies and user groups to address critical issues.

Document deferred maintenance budget requirements and identify resource impacts if not addressed. The Adopt-a-Trail program is one way to get maintenance done by volunteers and it also develops some rider “ownership” in the route. Volunteer workdays are an effective way to get larger projects done.

Partnerships with user groups and environmental organizations can provide volunteers to help reclaim and restore closed routes.

#### **F. Law Enforcement.**

Strengthen on-the-ground presence of law enforcement personnel to monitor compliance with OHV regulations and speed limits, particularly during high use periods. Where illegal equipment is suspected, check vehicles for compliance with federal and Arizona state regulations, such as presence of spark arresters and mufflers that comply with sound limits.

#### **G. Monitoring and Adaptive Management**

Use volunteers to patrol the designated transportation network to greet visitors and disseminate information in a positive, less threatening environment. Increase on-the-ground presence and encourage the use of volunteer trail patrols. Develop patrol standards and facilitate education of OHV user groups. Encourage organized OHV groups and responsible users to provide peer pressure to educate non-compliant users and help mitigate adverse resource impacts.

Monitoring forms the basis of “adaptive management”. Areas that experience heavy or illegal use will be closely monitored and given priority for law enforcement patrols. If irresponsible use is creating resource damage, then management is adapted to compensate. It is important to intervene and mitigate early before a growing pattern of illegal use is established. OHV travel routes may be restricted, relocated, or even closed to deal with adverse impacts. Use signs to explain closures for mitigation of resource damage. Install additional signs and/or barriers to steer use away from inappropriate areas. Generally, management actions should be taken sequentially in a gradual fashion ranging from minor/temporary to major/permanent restrictions until the problem is resolved or mitigated. There may be instances when proper function has degraded and immediate action is necessary to correct the problem.

Monitoring objectives should include, but not be limited to

- meeting land health standards (e.g. watershed conditions)
- condition assessment (e.g. erosion, washouts, vegetation)
- use (e.g. intensity, type, consistency with planned use)

## **H. Signs, Maps, and Brochures.**

Users are frequently confused about the appropriate use of their vehicles on public lands because of inadequate signs, maps, brochures, and other interpretive products. Field offices should disseminate visitor services information (i.e appropriate vehicle use) through kiosks, signs, maps, brochures, and other publications.

Provide travel information on websites with downloadable mapping capabilities for at-home trip planning.

Cooperate and coordinate with adjacent land managers so that there is seamless travel management transition among land jurisdictions.

## **I. Congressionally Designated Wilderness Areas.**

OHV routes that are located near or adjacent to designated wilderness areas may pose special challenges. Some wilderness areas are accessed by OHV routes that are legally cherry-stemmed and surrounded by wilderness. In some cases, OHV routes lay alongside the boundaries of wilderness areas. These routes may be part of an approved transportation plan; however, adequate signing of wilderness boundaries is critical to ensure users are aware of the legal limits of motorized travel.

If OHV use is in trespass of a wilderness boundary, early intervention with increased law enforcement, monitoring, and mitigation of resource damage will help prevent a potentially growing pattern of illegal trespass. Where there are dead-end OHV routes that lead only to a wilderness trailhead or campsite (example is the spur route to Brittlebush Trailhead at the boundary of the North Maricopa Mountains Wilderness), it may be appropriate to manage OHV use by type, e.g., exclude use by non-street legal dirt bikes, ATVs, and sand rails.

Collaboration with OHV users and the general public should be done before restrictions are imposed. Notification and education should also be conducted in an effort to reduce and avoid closures.

## **J. Noxious Weed Abatement.**

- Avoid or minimize route location in areas vulnerable to invasive species, particularly in riparian areas and washes that show such conditions.
- Require vehicle wash protocols for permitted events, where appropriate and practicable.
- Require vehicle wash protocols in areas vulnerable to invasive species where appropriate and practicable.

## References

USDI, Bureau of Land Management

1997 Arizona Standards for Rangeland Health and Guidelines for Grazing Administration.

2001 National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands.

2005 Handbook 1601-1, Land Use Planning Handbook.