

# BOWIE MOUNTAIN

## LANDS WITH WILDERNESS CHARACTERISTICS

*PUBLIC LANDS NEIGHBORING FORT BOWIE NATIONAL HISTORIC SITE  
IN THE NORTHERN CHIRICAHUA MOUNTAINS, ARIZONA*



A proposal report to the Bureau of Land Management,  
Safford Field Office, Arizona



ARIZONA WILDERNESS COALITION

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PREFACE: This Proposal was developed according to BLM Manual 6310

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*General Overview*

Instruction Memorandum 2011-154 and Manuals 6310 and 6320 set out the BLM's approach to protecting wilderness characteristics on the public lands. This guidance acknowledges that wilderness is a resource that is part of BLM's multiple use mission, requires the BLM to keep a current inventory of wilderness characteristics, and directs the agency to consider protection of these values in land use planning decisions.<sup>1</sup>

In March 2012, the Bureau of Land Management issued updated manuals for inventorying and managing Lands with Wilderness Characteristics on public lands (hereafter often referred to as LWC's). These manuals provide the agency with direction for implementing its legal obligations to inventory and consider management of Lands with Wilderness Characteristics, including the Federal Land Policy and Management Act's provision that BLM "preserve and protect certain public lands in their natural condition" (43 U.S.C. § 1701(a)(8)). **Manual 6310** (Conducting Wilderness Characteristics Inventory on BLM Lands) guides the BLM on how to meet its obligations to inventory for and identify lands with wilderness characteristics. **Manual 6320** (Considering Lands with Wilderness Characteristics in the BLM Land Use Planning Process) guides the BLM on the options available to address lands with wilderness characteristics in land use planning once they have been identified in the required inventory, such as putting management prescriptions in place to protect wilderness characteristics. The purpose of this report is to provide the BLM with recommendations for designation of Lands with Wilderness Characteristics in the Safford Resource Area of southeastern Arizona, based on new, accurate, and up-to-date information according to **Manual 6310**.<sup>2</sup>

*What does Manual 6310 require for the identification of LWC's?*

Minimum standards for LWC proposals are described in Manual 6310 in section .06.B.1. There are three things required in a citizens' wilderness proposal in order to meet the minimum standard for BLM to consider it in an inventory and to consider it as new information:

- Detailed map with specific boundaries;
- Detailed narrative of the wilderness characteristics; and
- Photographic documentation.

Once there is new information that meets these standards, then "as soon as practicable, the BLM shall evaluate the information," including field checking as needed and comparing with existing data to see if previous conclusions remain valid. Further, BLM will document its rationale and make it available to the public. (.06.B.2). This proposal report provides the three necessary criteria listed above.

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<sup>1</sup>Memorandum 2011-154 is available online at:  
[http://www.blm.gov/wo/st/en/info/regulations/Instruction\\_Memos\\_and\\_Bulletins/national\\_instruction/2011/IM\\_2011-154.html](http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2011/IM_2011-154.html)

<sup>2</sup> Manual 6310 is available online at :  
[http://www.blm.gov/pgdata/etc/medialib/blm/wo/Information\\_Resources\\_Management/policy/blm\\_manual.Par.38337.File.dat/6310.pdf](http://www.blm.gov/pgdata/etc/medialib/blm/wo/Information_Resources_Management/policy/blm_manual.Par.38337.File.dat/6310.pdf)

*What does Manual 6310 require for an area to be identified as an LWC?*

Requirements for determining lands have wilderness characteristics are found in section .06.C.2 of Manual 6310. Lands with Wilderness Characteristics must possess the following traits:

• **Size**

Sufficient roadless area to satisfy size requirements (5,000 acres, of sufficient size to make management practicable or “any roadless island of the public lands”; or contiguous with Wilderness, Wilderness Study Areas, USFWS areas Proposed for Wilderness, Forest Service WSAs or areas of Recommended Wilderness, National Park Service areas Recommended or Proposed for Designation).

• **Naturalness**

Affected primarily by the forces of nature – The criteria is “apparent naturalness” which depends on whether an area looks natural to “the average visitor who is not familiar with the biological composition of natural ecosystems versus human affected ecosystems.” This is an important distinction between ecological integrity and apparent naturalness.

Human impacts – Human impacts must be documented and some are acceptable so long as they are “substantially unnoticeable”; Examples include trails, bridges, fire rings, minor radio repeater sites, air quality monitoring devices, fencing, spring developments, and stock ponds.

Outside human impacts – impacts outside the area are generally not considered, but major outside impacts should be noted and evaluated for direct effects on the entire area (the manual explicitly cautions BLM to “avoid an overly strict approach”).

• **Outstanding opportunities for either solitude or primitive and unconfined recreation**

The area does not have to possess both opportunities for solitude and primitive and unconfined recreation, nor does the area need to have outstanding opportunities on every acre; BLM cannot compare lands in question with other parcels; BLM cannot use any type of rating system or scale.

• **Supplemental values**

Ecological, geological, scientific, scenic, educational or historical features should be documented where they exist, although they are not required traits.

*What does Manual 6310 require for the identification of the boundaries of an LWC?*

Boundaries should be based on wilderness inventory roads and naturalness rather than opportunities for solitude or primitive and unconfined recreation. For inventorying wilderness characteristics, BLM will use the “road” definition from FLPMA’s legislative history; the term “road” and “wilderness inventory road” are interchangeable in this guidance. The AWC survey team took a very literal, maintenance-driven approach to road/way determination.

• “Wilderness inventory roads” are routes which have been: (1) *improved and maintained* (when needed), (2) *by mechanical means* (but not solely by the passage of vehicles), (3) *to insure relatively regular and continuous use*.

• “Primitive routes” or “ways” are transportation linear features located within areas that have been identified as having wilderness characteristics and not meeting the wilderness inventory road definition.

• Lands between individual human impacts should not be automatically excluded from the area; no setbacks or buffers allowed; boundaries should be drawn to exclude developed rights-of-way; “undeveloped rights-of-way and similar possessory interests (e.g., as mineral leases) are not treated as impacts to wilderness characteristics because these rights may never be developed”; areas can have wilderness characteristics even though every acre within the area may not meet all the criteria.



METHODS: The research approach to developing this citizens' proposal

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The information presented in this report was developed systematically to ensure a comprehensive and accurate description of the proposed LWC that fulfills the citizens' proposal requirements of Manual 6310. Our intent has been to effectively combine the analytical power of technology with the equally important elements of qualitative observation, to produce a suite of products that can be used to facilitate the protection of a variety of lands with wilderness characteristics across the Safford Resource Area, meeting the conservation objectives of Arizona Wilderness Coalition *and* the legal obligation for the BLM to *"preserve and protect certain public lands in their natural condition"*.

**STEP 1: GIS ROADLESS ANALYSIS**

The initial exercise in our inventory was to complete a geospatial analysis of the study area to identify potential roadless areas using a combination of Qgis, ESRI ArcGis, and Google Earth Pro. The BLM's Route Inventory dataset was queried for keywords that indicated that a route may be maintained, such as "gravel-surfaced", "2WD use", "Recent grading", and numerous other terms. Several rounds of this process were verified over color aerial imagery to assess the quality of the output. During this step, some errors in the dataset were corrected, such as incomplete line features or very inaccurate digitization. Additionally, we performed a visual assessment of aerial imagery for roads that appeared obviously maintained, and added an attribute column to mark these features as such. We also acquired railroad data, US Census Lidar data for Primary & Secondary Roads, Interstate highway data, and county-maintained roads data from Cochise County. In addition, we digitized natural gas pipeline corridors, telephone and power lines, and the proposed route for the SunZia transmission line. Each feature type was buffered by distances ranging from 10 feet for dirt roads, to 50 feet for interstates and powerlines, and the results were dissolved and unioned to develop one master feature dataset that represented probable wilderness inventory roads and rights-of-way corridors. These data were then used to clip BLM's Surface Management dataset into contiguous blocks of BLM land. Areas less than 5,000 acres were then deleted (unless contiguous to wilderness, WSA, or Proposed Wilderness), and the resultant output was a dataset of 52 units of BLM lands that were probable roadless areas.

**STEP 2: FIELD INVENTORY PRIORITIZATION**

Prior to visiting any sites on the ground, we assessed each initial roadless area polygon to determine where our resources would be most effectively deployed. Our objectives were to maximize field inventory efforts on the areas that we estimated would possess the most outstanding wilderness values, while also covering a broad geographic sample of the study area. Our determinations were informed by EIS documents, past wilderness inventory reports by BLM and AWC, research by The Nature Conservancy and the Sky Island Alliance, and geospatial data we acquired from BLM, US Forest Service, academic institutions, and the Arizona Game and Fish Department, including the Heritage Database. It is important to make clear that the units we decided not to inventory probably possess wilderness characteristics, but given available resources, we could not visit every unit. In addition to the units we are proposing as LWC's, we are also providing recommendations for areas we have identified as "Potential LWC's". Those units should still be inventoried for wilderness characteristics.

### **STEP 3: FIELD PLANNING**

Trips to the field were strategic, focused efforts. For each unit, we developed a list of field inventory points that we endeavored to visit either by foot or vehicle. By using the BLM Route Inventory Dataset, the BLM Range Improvements dataset, the USGS Springs dataset, the Arizona Land Resources Information System Mines dataset, and USGS Topographic Maps, we identified potential impacts to naturalness *and* areas of potential supplemental value. These datasets were exhaustively examined on Google Earth to validate feature locations. Additionally, other inventory features were identified on the aerial imagery. Once the field inventory points were identified, they were loaded into MotionX GPS HD for iPad. Also, we loaded high-resolution color aerial imagery for our target units and the surrounding area, to assist in navigation, identification of landscape features, and location of hard to detect features. Finally, standard logistical planning steps were completed to ensure that our team would enjoy safe and efficient days in the field.

### **STEP 4: FIELD INVENTORY**

From January to March, 2016, our team dedicated more than 800 hours to inventorying lands with wilderness characteristics. Our objectives were: 1) to refine unit boundaries to confirmed wilderness inventory roads and impacts to naturalness; 2) to identify and document primitive routes, ways, and trails; 3) locate and document minor impacts to naturalness that are permitted within LWC's; 4) identify and document opportunities for solitude and primitive recreation; and 5) discover and document supplemental values where they exist. The primary tool for documentation was GeoJot+ for iPhone, a data collection app that allows the user to develop drop-down data tables that are attached to geotagged .jpeg digital photographs. In making determinations whether a route was a road versus a way, we returned to the legislative definition of a road (discussed earlier), closely assessed the history of maintenance, and considered the purpose (or lack thereof) of the route, the level of use, its connectivity, and other aspects. We are confident that upon verification, our determinations meet the intent of Manual 6310.

### **STEP 5: FINAL ASSESSMENT, MAPPING, AND DATA COMPILATION**

After a field trip, data were loaded into GeoJot + Core for PC, where edits were made where necessary, and final determinations for unit boundaries were made. A range of products were developed from this application: 1) the photopoint data in Section 5 of this report, complete with tables and geotags; 2) .kml files for Google Earth to visualize the photopoints across the landscape; and 3) a .kml file of scenic panoramas of the units, showcasing the immense beauty and wildness of our final unit proposals. It is the intent of AWC to share these interactive products with BLM to facilitate in the review of our proposals and to support our best efforts to put forth fair proposals in full transparency. Finally, edits were made to unit polygons in GIS, supplemental information was further explored, maps were developed, and the components of this report were produced. Arizona Wilderness Coalition is proud to share with the BLM this citizens' proposal report and accompanying GIS data, the product of an intensive and science-based conservation process that furthers our collective goal to *"preserve and protect certain public lands in their natural condition"*.

**Section 1:**

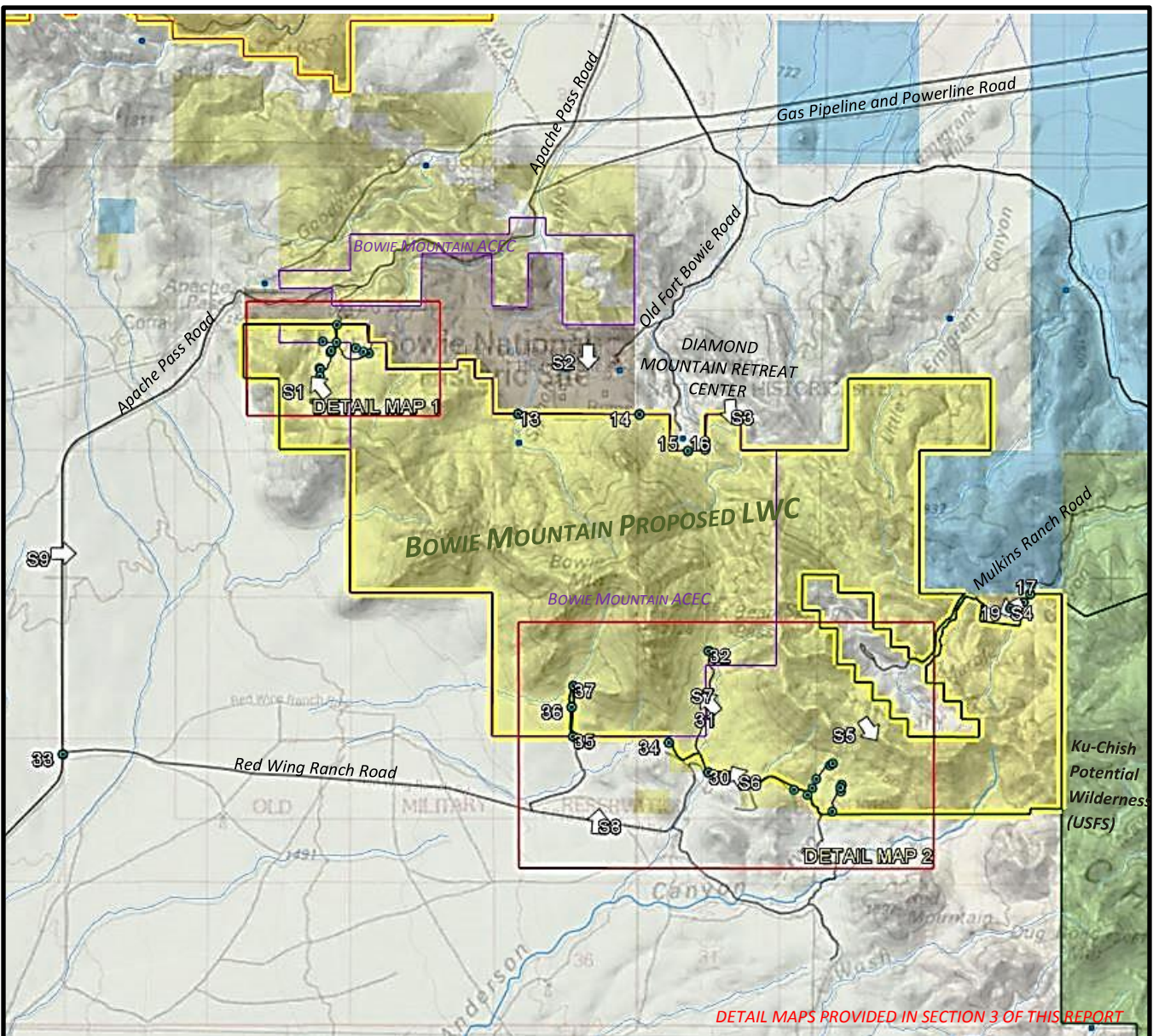
**Overview of the Proposed  
Lands with Wilderness Characteristics**

*The Bowie Mountain Proposed LWC contains a number of attractive peaks which provide outstanding opportunities for hiking, camping, scrambling, and technical rock climbing. Helen's Dome is shown at "A", Bowie Mountains' summit at "B", and the towers of the southeast face of Bowie Mountain at "C". Some of Arizona's most important grasslands surround the mountains. A vegetative survey of Fort Bowie National Historic Site identified more than 80 species of grass on an area just a fraction the size of the Proposed LWC.*





Unit Introduction: Overview map showing unit location & labeled boundaries



|                         |                   |                    |  |                       |                          |                     |              |                                |                         |
|-------------------------|-------------------|--------------------|--|-----------------------|--------------------------|---------------------|--------------|--------------------------------|-------------------------|
| Bur. of Land Management | PROPOSED LWC Unit | POTENTIAL LWC Unit | Area of Critical Environmental Concern | Designated Wilderness | Coronado National Forest | AZ State Trust Land | Private Land | Fort Bowie Nat'l Historic Site | Detail Maps (Section 3) |
|-------------------------|-------------------|--------------------|--|-----------------------|--------------------------|---------------------|--------------|--------------------------------|-------------------------|

The Bowie Mountain Proposed LWC (6,830 acres) is located in the northern Chiricahua Mountains between the Coronado National Forest and Fort Bowie National Historic Site, approximately 13 miles south of the town of Bowie, and 25 miles east of the town of Willcox. The unit is situated at a low pass in the mountain range – Apache Pass – and as such it has been an important point in American history, with prehistoric Indians, Chiricahua Apache, US Military, miners and settlers, and now Buddhist retreat-goers and lovers of nature passing by this iconic mountain and leaving their indelible marks. Bowie Mountain is undeniably a remarkable scenic point. It is the backdrop to those pondering history at Fort Bowie, and its dramatic vertical relief supports a vast diversity of plants and animals. Rolling grasslands rise to meet evergreen woodlands, and steep cliffs soar above the vast Sulphur Springs Valley. The terrain, vegetation and location make it extremely important as a wildlife movement corridor, as this area is the surest link between the Sky Island ranges of the Sierra Madre to Arizona’s Central Highlands region and the Colorado Plateau beyond. Scenery, ecology, history and recreational opportunity come together at Bowie Mountain.

- S4 Scenic Photos shown in report text
- Photo Data Points
- Wilderness Inventory Roads
- Primitive Routes or Vehicle Ways
- Trails or Reclaimed Ways
- Creeks, Canyons and Washes
- Springs

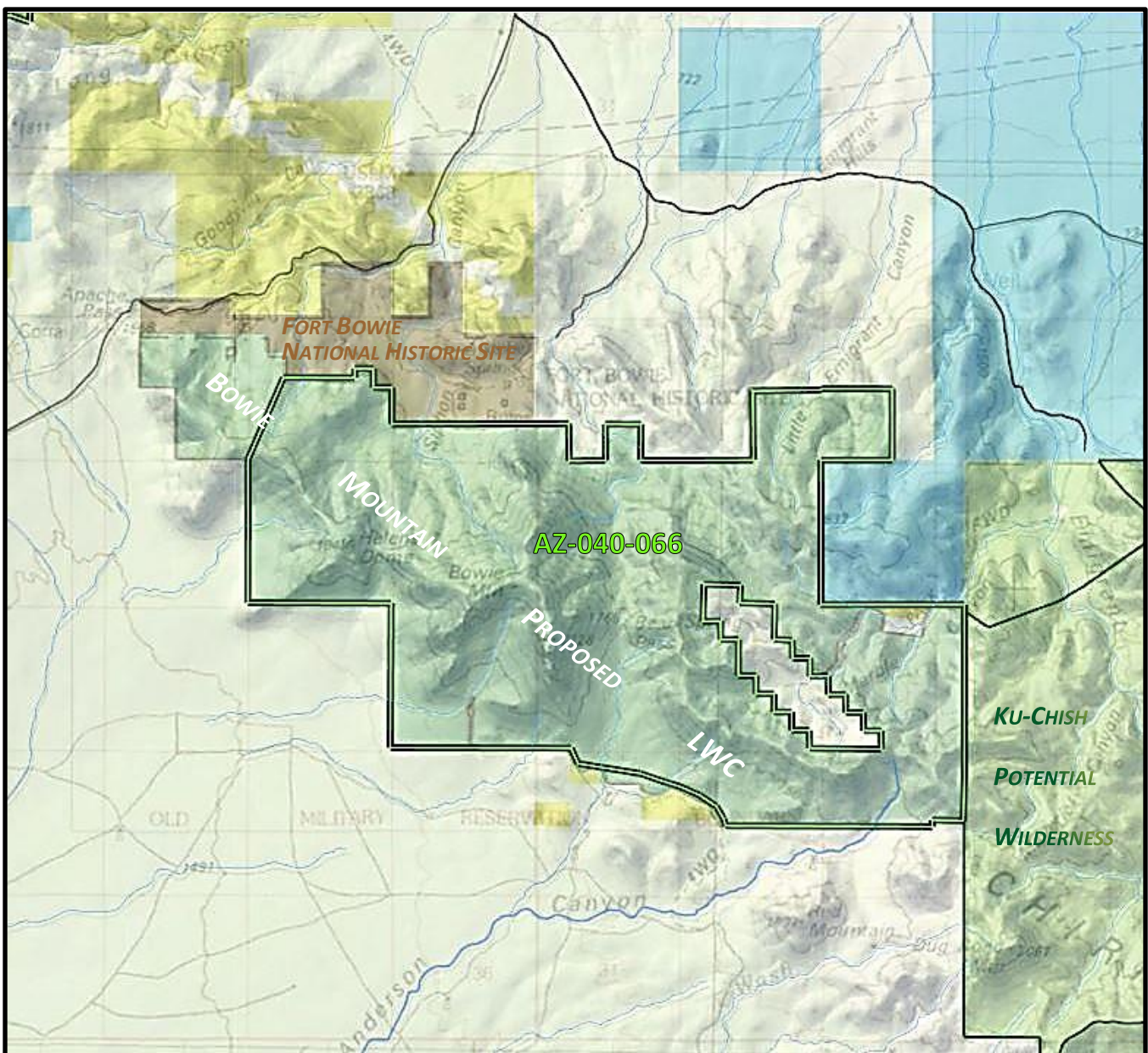


Map of Proposed LWC, showing photo data points, vehicle routes, and unit boundaries. Background map USGS topographic. Data: Google Earth, Bing, BLM, USGS, US Census, AZDOT, TWS, Field Survey. Projection: WGS 84 – UTM Zone 12N Produced for Arizona Wilderness Coalition by Joe Trudeau, Hassayampa Forestry & Ecological. April 2016. [www.az-eco.com](http://www.az-eco.com).





Previous Wilderness Inventories: Map & discussion of former WSA's or inventory units



|                         |                 |                     |              |                       |                    |                   |            |                           |                       |
|-------------------------|-----------------|---------------------|--------------|-----------------------|--------------------|-------------------|------------|---------------------------|-----------------------|
| Bur. of Land Management | National Forest | AZ State Trust Land | Private Land | National Park Service | Indian Reservation | Proposed LWC Unit | Former WSA | USFS Potential Wilderness | Designated Wilderness |
|-------------------------|-----------------|---------------------|--------------|-----------------------|--------------------|-------------------|------------|---------------------------|-----------------------|

The Bowie Mountain Proposed LWC was inventoried for wilderness characteristics in 1979 in a joint effort between the BLM and the Coronado National Forest during the Roadless Area Review and Evaluation II process. From that “accelerated inventory” the agencies determined that BLM inventory unit AZ-040-066 (6,555 acres; shown above in green highlighted line) would be proposed as a Wilderness Study Area. The unit was contiguous with approximately 30,000 wilderness-study acres in the adjoining Coronado National Forest, a unit then-called North End Chiricahuas. In 1987, the two units were proposed by Arizona Wilderness Coalition as a block of 37,156 acres of contiguous wilderness quality lands. Ultimately the BLM did not recommend Wilderness designation for Bowie Mountain because of difficult management problems, and the WSA was released in 1990. The Coronado National Forest, however, has determined that a large portion of the Chiricahua Inventoried Roadless Area is suitable for Wilderness Designation, currently recommended as the 26,266 acre Ku-Chish Potential Wilderness, and featuring the striking peak called Cochise Head. Together, the two units provide remarkable scenic values with outstanding solitude and primitive recreation.

Data: Google Earth, Bing, BLM, USGS, US Census, AZDOT, TWS, Field Survey. Projection: WGS 84 – UTM Zone 12N  
 Produced for Arizona Wilderness Coalition by Joe Trudeau, Hassayampa Forestry & Ecological. April 2016. [www.az-eco.com](http://www.az-eco.com).

**Section 2:**  
**Documentation of**  
**Wilderness Characteristics**

*The southeastern face of Bowie Mountain provides outstanding opportunities for difficult climbing and hiking on high-quality granite slabs and vertical walls. Bowie Mountain and the broader landscape of the northern Chiricahua Mountains offer striking scenery for photography as well. The contrasts between grasslands, savannas, rocky peaks, and sky is visually stunning, and provides important habitat for large predators, such as black bear, puma, and jaguar, that is absent in the privately owned valleys below.*

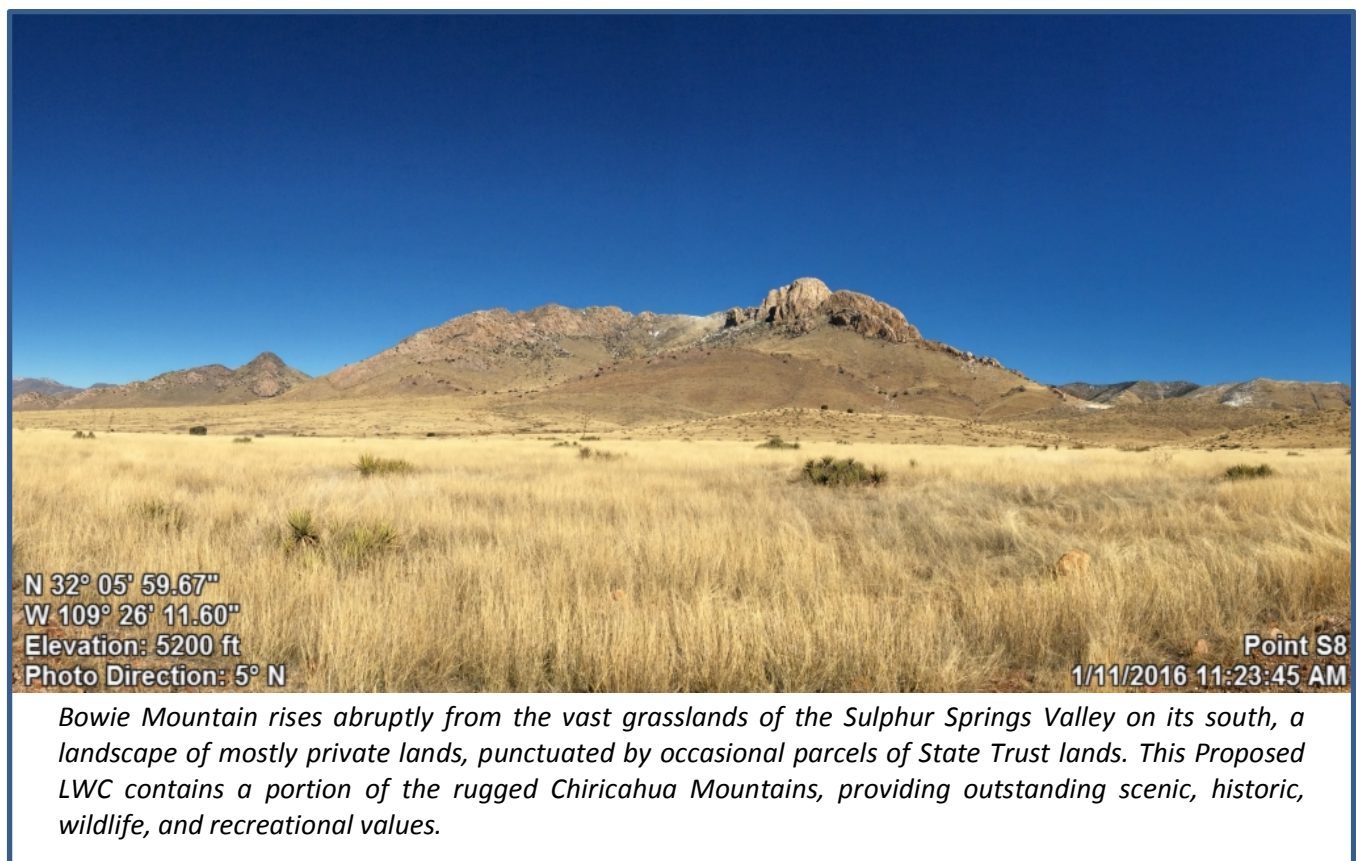




## Size Criteria

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At 6,830 acres of BLM land, the Bowie Mountain Proposed LWC meets the minimum size criteria for roadless lands set forth in BLM Manual 6310. One parcel of private land, totaling approximately 320 acres, is contained within the unit. Landowner access is provided for by way of a cherrystemmed road (Mulkins Ranch Road). The land is actively being mined by Klump Ranches (based on signage), and currently fewer than 10 acres have been impacted by those activities.



## Naturalness

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The proposed LWC is affected primarily by the forces of nature and appears natural to the average visitor. The works of humans are largely located outside of the unit or along cherrystemmed roads. Within the LWC, impacts can be considered substantially unnoticeable to the average visitor. Relatively minor human impacts exist inside the unit and include vehicle ways, old abandoned mining, and a few ranch-related objects.

Ranching activities do not substantially affect the naturalness of the proposed LWC unit. There are few ranching and range improvements in the area, which were mostly excluded from the unit. Quillian Well (point 3) has been excluded from the LWC at the end of a short cherrystem. This well is the most substantial ranch impact, and because it is a relatively minor impact that is located outside of the unit, it does not affect the naturalness inside the LWC. The only other ranching impacts are spring

developments, which are on the list of human-made features that may be considered substantially unnoticeable in BLM Manual 6310.

The few vehicle ways that exist in the LWC unit are not substantially noticeable. If closed, they would quickly disappear within the abundant grasses that dominate this unit. Of the vehicle ways in the proposed LWC, all receive very low levels of vehicular use (see points 5, 6, 8, 13, 20, 24 & 32). Some ways have been reclaimed (see points 10, 14, 21 & 26), one has turned into a trail (at point 15), and one has been closed by mechanical ripping (at point 16). There are three cherrystems excluded from the LWC unit, and none penetrate deeply into the core of the unit. The route to Quillian Well is less than ¼ mile, the route from the south to a water tank at point 37 is only ⅓ mile, and the route to the marble quarry is just over ½ mile. The photopoints included in this report document the fact that the vehicle ways found within the proposed LWC do not substantially detract from the naturalness of the area.



*Snowfall decorates the foothills at Willow Gulch in the northwestern part of the Bowie Mountain Proposed LWC. No human impacts are visible, despite this photo covering the area which includes Quillian Well, an old vehicle way, and some old mine tailings. The Dos Cabezas Mountains rise in the distance, across the privately-owned HYL Ranch. Apache Pass Road, a power line, and a natural gas pipeline all cross this frame outside of the Proposed LWC, and none of these outside impacts are negative impacts to naturalness or visitor experience within the unit.*

While this region has a history of mining, the proposed LWC is dominated by the forces of nature, not man. The Apache Pass group of old mines, which once produced silver, lead, copper and gold, is located in the northwestern part of the LWC unit, uphill of Quillian Well. It is our determination that these abandoned mines do not substantially detract from the naturalness of the unit because they have had decades to naturally rehabilitate, and the old scars are increasingly becoming revegetated. Point 7 is an example of this; the old mine disturbance can barely be distinguished from the



surrounding natural hillside. Additionally, the old mine diggings in this area are situated below hillcrests and ridgelines, and they are very small impacts (see points 11 & 12), limiting their visual impacts from afar. Some of the past mining impacts actually add historic value, such as the ruins of a rock cabin at point 4, and ultimately many are not visible to the casual visitor. There are some old exploratory drill sites located in the southeastern portion of the proposed LWC unit that are even less noticeable. Points 22, 23, 27, 28 and 31 document the minor visual impact of these sites, which were first thought to be camp sites or ant hills. Designation of this LWC would help old mine disturbances continue to recover, and prevent future potential mining from negatively affecting the naturalness and wilderness character of the amazing landscape encompassed by the proposed LWC. Most mining disturbances are located outside of the Bowie Mountain Proposed LWC, and do not impact naturalness inside the unit. There is a private inholding of land that has active marble quarrying in the eastern end of the proposed LWC. This private parcel is located at the end of a short cherrystem, and is excluded from the LWC. Scenic photo S4 (below) was taken looking directly toward this mine, and demonstrates that the LWC has sufficient topographic screening to prevent visitors from seeing or hearing this mining operation, which is tucked into Marble Canyon. Furthermore, this mine is located in an east-facing basin in upper Marble Canyon; the opposite direction from the majority of the unit, making the mine virtually undetectable from much of the rest of the LWC. Another mine that has been closed and is in the process of being reclaimed by a reclamation crew is located to the south of the unit. The reclamation includes, but is not limited to, removing all structures and metal debris, grading all slopes down to 30 degrees or lower, flattening berms, and removing other leftover junk. Because this mine is located outside of the proposed LWC, has been closed, and is in the process of being rehabilitated, it does not substantially detract from the naturalness within the unit. All in all, the mines found in the vicinity, but located outside of the proposed LWC do not impact apparent naturalness of the unit itself.



## ***Solitude & Recreation***

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The land contained by the Bowie Mountain Proposed LWC is unequivocally natural and remarkably scenic. Our scenic photographs illustrate that this area is dominated by the forces of nature, and human impacts within the unit are few and minor. These impacts from the works of man pale in comparison to the natural beauty of this landscape. This stunning portion of the northern Chiricahua Mountains provides outstanding opportunities for solitude and primitive and unconfined recreation. Some activities that the BLM has identified as primitive recreation in the Safford area include hunting, horseback riding, hiking, backpacking, camping, rock scrambling and climbing, sightseeing, photography, and environmental study (BLM, 1987). Bowie Mountain provides for all of these activities.

The Bowie Mountain Proposed LWC offers outstanding primitive recreation opportunities. For short day hikes, Helens Dome is a good option. Day visitors may also hike from Fort Bowie to Helens Dome or a small unnamed mountain just to the south, gaining great views from which to contemplate the history of the National Historic Site. For those looking for a longer day trek, Bowie Mountain is an awesome destination. Backpackers can create a loop through this section of the Chiricahua Mountains with a number of springs to collect water from along the way. Horseback riders can choose from numerous potential day routes, such as a ride around picturesque Bowie Mountain and over Bear Spring Pass. For rock climbers, the high-quality granite cliffs on the southeastern side of Bowie Mountain offer a range of climbing routes from beginner to expert. These cliffs provide not only outstanding climbing potential, but exceptional scenery as well. With so many great options, recreationists are surely to find an activity to fit their backcountry needs in this spectacular LWC unit.



*A close-up view of the rugged granite knobs and cliffs located on the southeast face of Bowie Mountain. Climbers looking for a challenge will be rewarded with incredible views on exposed summits.*



The unique location of this LWC provides outstanding prospects for nature study and photography. Being situated in the Sky Islands – the transition zone between the Sierra Madre and Rocky Mountains, and the Chihuahuan and Sonoran Deserts – this unit contains an incredible diversity of plants and animals. Bird watchers can enjoy observing a wide variety of bird species in this sky island known for its bird diversity. With elevations ranging from roughly 5,000 to 7,000 feet, this area contains a variety of habitats and aspects. The unit contains high-elevation grasslands, shrubby savannas, oak woodlands, pinyon-juniper woodlands, sheer cliffs and ephemeral streams. The proposed LWC contains absolutely outstanding opportunities for viewing and studying unique botanical, zoological, as well as geologic features. Outstanding hunting opportunities exist in the Bowie Mountain Proposed LWC. With very few vehicle ways within the unit, hunters looking for non-motorized experiences in a wilderness setting will find exactly that in this LWC. Species of economic and recreational importance include the band tailed pigeon, black bear, Gambel’s quail, javelina, scaled quail, Mearn’s quail, mountain lion, mule deer, white-tailed deer, and white winged dove ([www.habimap.org](http://www.habimap.org)). There are a variety of rich ecosystems contained by the proposed LWC offering outstanding hunting opportunities.

For those looking for seclusion, the proposed LWC offers many places to be completely alone in a wild location. Bear Gulch is a remote area with the heavily-wooded surrounding mountains providing topographic and vegetative screening. Other wooded drainages and small canyons within the unit provide outstanding solitude among juniper, oak, walnut, hackberry, mesquite, and four different species of pinyon pine. Bowie Mountain has a scenic summit that is most likely rarely visited. Visitors of the Fort Bowie Historic Site need only walk a short distance into the LWC to find privacy within the beautiful Chiricahua Mountains. The core of the proposed LWC completely lacks vehicle ways, and provides an excellent reprieve from sights and sounds of the bustling world in an isolated setting with a variety of options for experiencing unparalleled solitude.



## **Supplemental Values**

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The proposed LWC has supplemental values that enhance the wilderness experience & deserve protection. BLM Manual 6310 defines supplemental values as features of “*ecological, geological, or other features of scientific, educational, scenic, or historical value*” (section .06.C.2.d). Throughout this report, we have shown the scenic value of the area in photographs and through description. A review of the photopoints in Section 4 of this report will also provide evidence of the units’ incredible scenery. Below, we provide a summary of additional supplemental values present in the proposed LWC.

### **The proposed LWC contains an Area of Critical Environmental Concern**

Source: Safford District Resource Management Plan: Final EIS. Published in 1991 by the BLM, Safford Field Office, Arizona  
Find it at: [http://www.blm.gov/az/st/en/info/nepa/environmental\\_library/arizona\\_resource\\_management.html](http://www.blm.gov/az/st/en/info/nepa/environmental_library/arizona_resource_management.html)

Approximately two-thirds of the proposed LWC are encompassed by the Bowie Mountain ACEC, a 4,290 acre area recognized for peregrine falcon habitat, historic heliograph sites, and outstanding scenery – being the scenic backdrop to Fort Bowie. Appendix 1 provides the detailed Evaluation report completed by BLM for the Safford RMP. Management for preservation of wilderness characteristics would achieve enhanced protection of these vital resources.

### **The proposed LWC contains archaeological & historical sites of cultural importance**

Source: “Fort Bowie National Historic Site: Cultural Landscape”, by The Learning Center of the Southwest.  
Find it at: [www.southwestlearning.org/node/1520](http://www.southwestlearning.org/node/1520)

Bowie Mountain has a remarkable place in history. It has served as a home to Paleoindian hunter-gatherers and the Chiricahua Apache; it was an important landmark for Spanish explorers; and its contributions to American Military and settlement history is well preserved at Fort Bowie National Historic Site. “*The entire area has historical connections to the fort*” (BLM, 1991: p. 444). This stunning mountain has been the backdrop to the terrible wars between the United States and the Apache people, the Butterfield Stagecoach Route, the devastating waves of millions cattle during the early days of the open range, and now overlooks more than 10,000 visitors/year to Fort Bowie. Protection of this block of public land to maintain wilderness characteristics would ensure that future generations could learn about and experience first-hand the dynamic history of southern Arizona’s Sky Islands Region.

### **The proposed LWC provides habitat for multiple species of concern**

Source: Arizona Game and Fish Department Heritage Data Management System (HDMS) Online Environmental Review Tool  
Find it at: <https://azhgis2.esri.com/>

The State HDMS provides reports to the public for known occurrences of plant and animal species of concern per USGS topographic quadrangles. The proposed LWC falls on the Bowie Mountain North and South quadrangles. Some of the higher profile occurrences include the federally endangered lesser long-nosed bat, the federally threatened Chiricahua leopard frog, and the extremely rare Chiricahua rockflower and Lemmon’s lupine. A table listing all the species of concern found within this area is provided in Appendix 2. Enhanced protection of the proposed LWC would benefit these species directly or indirectly, regardless of whether they occur within or around the proposed LWC.



**The proposed LWC is essential habitat linkage for multiple rare and keystone wildlife**

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Source: “Models of Regional Habitat Quality and Connectivity for Pumas (*Puma concolor*) in the Southwestern United States”, by Brett G. Dickson, Gary W. Roemer, Brad H. McRae, Jill M. Rundall. Published in 2013 in *PLOS one*.  
Find it at: <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0081898>

Source: “Modeling connectivity of black bears in a desert sky island archipelago”, by Todd C. Atwood, Julie K. Young, Jon P. Beckmann, Stewart W. Breck, Jennifer Fike, Olin E. Rhodes Jr., and Kirby D. Bristow. Published in 2011 in *Biological Conservation* 144.  
Find it at: [https://www.azgfd.com/Portallimages/files/wildlife/research/Reports/Atwood,T\\_C%20etal\\_%202011\\_Modeling%20connectivity%20of%20black%20bears%20in%20a%20desert%20sky%20island%20archipelago.pdf](https://www.azgfd.com/Portallimages/files/wildlife/research/Reports/Atwood,T_C%20etal_%202011_Modeling%20connectivity%20of%20black%20bears%20in%20a%20desert%20sky%20island%20archipelago.pdf)

Source: “A Spatial Model of Potential Jaguar Habitat in Arizona”, by James R. Hatten, Annalaura Averill-Murray, William E. Van Pelt. Published in 2005 in *The Journal of Wildlife Management*, Vol. 69, No. 3.  
Find it at: <http://www.jstor.org/stable/3803341>

Source: “Identifying Corridors among Large Protected Areas in the United States”, by RT Belote, MS Dietz, BH McRae, DM Theobald, ML McClure, GH Irwin, et al. Published in 2016 in *PLoS ONE* 11(4).  
Find it at: <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0154223>

The northern Chiricahua Mountains, including Bowie Mountain and Dos Cabezas Mountains, are considered the most important link for wildlife moving north and south between the southern Rocky Mountains and the Sierra Madre of Mexico. These vast, intact tracts of public lands feature the ideal combination of terrain, vegetation, and water sources to provide the best viable corridor for long-distance dispersal for multiple species, most notably the large predators that serve as keystone components of ecosystem function. A study of Puma habitat connectivity (Dickson et al., 2013) clearly identified the northern Chiricahua’s and Dos Cabezas Mountains as a very high-value area of connectivity for the large cat, and the results of that study apply to multiple other large wildlife, especially jaguar, ocelot, bobcat, and black bear. Atwood et al. (2011) determined that the same area is considered an “optimal” linkage corridor between the Chiricahua and Pinaleno wildland blocks for the movement of black bear, stressing that *“if connectivity can be maintained, there is greater likelihood of the long term persistence of species such as black bears, mountain lions, and jaguars along the US–Mexico border”* (Atwood et al., 2011: p 2861). Hatten et al. (2005) determined that the northern Chiricahua’s provide the best possible habitat link for the federally endangered jaguar to continue its movement north into its former range which once extended to the Grand Canyon. Beier et al. (2008) modeled habitat linkage for 18 focal species in the Sky Islands region, and their extensive study shows that Bowie Mountain provides an essential public lands link for badger, pronghorn, black bear, bobcat, jaguar, javelina, Mexican gray wolf, mountain lion, and mule deer to travel between the main block of the Chiricahua Mountains to the Galiuro Mountains to the north. These studies support what has been known by regional wildlands advocates for years, that the northern Chiricahua’s may in fact be the best possible habitat linkage area in the entire sky islands region for iconic large wildlife. Belote et al (2016) substantiated these studies in a meta-analysis that determined that this area provides “low cost” priority linkage between core protected areas for all species, based on an analysis of wildness and human modification. A broad public interest in this has been supported by the Sky Island Alliance, The Wildlands Project, The Wilderness Society, and AWC for years (Mike Quigley, personal communication, March 2, 2016). Management for protection of wilderness characteristics in the Bowie Mountain Proposed LWC has internationally important and far-reaching consequences for the protection of biodiversity far beyond the limits of the proposed area.

**The proposed LWC contains *grasslands of ecoregional importance***

Source: “An assessment of the spatial extent and condition of grasslands in central and southern Arizona, southwestern New Mexico, and northern Mexico” by David F. Gori and Carolyn A.F. Enquist. Published in 2003 by The Nature Conservancy, Arizona Chapter.

Find it at: [http://azconservation.org/downloads/category/grassland\\_assessment](http://azconservation.org/downloads/category/grassland_assessment)

This study assessed and characterized native grasslands, historical vegetation changes, and prospects for grassland restoration – primarily using fire – for the Apache Highlands Ecoregion in Arizona, New Mexico, and northern Mexico. They found that native grasslands with a low (<10%) shrub cover represent only 15.4% of all current and former grasslands in the study area. The BLM manages 17.5% of all current and former grasslands in the United States portion of the ecoregion, where only 1.2% of the highest quality grasslands are protected from land cover conversion. Within the proposed LWC, The south-facing slopes of Bowie Mountain feature a mosaic of native and exotic grasslands with less than 10% shrub cover (condition class A & D). The protection of wilderness characteristics in the proposed LWC would contribute to the conservation of this important and diminishing ecological and cultural resource.

**The proposed LWC falls within a *priority Conservation Area as determined by The Nature Conservancy***

Source: “An ecological analysis of conservation priorities in the Apache Highlands Ecoregion” by R.M. Marshall, D. Turner, A. Gondor, D. Gori, C. Enquist, G. Luna, R. Paredes Aguilar, S. Andersen, S. Schwartz, C. Watts, E. Lopez, and P. Comer. Published in 2004 by the The Nature Conservancy of Arizona, Instituto del Medio Ambiente y el Desarrollo Sustentable del estado de Sonora, agency and institutional partners.

Find it at: <http://azconservation.org/projects/ecoregions>

This study identified conservation focus areas for the Apache Highlands Ecoregion, which includes 30 million acres of central and southeastern Arizona, southwestern New Mexico, and north-central Mexico; bounded to the north by the Mogollon Rim, the west by the Mohave and Sonoran Deserts, the east by the Chihuahuan Desert, and to the south by the Sierra Madre Occidental. This was a collaborative, multi-disciplinary process which analyzed at-risk species and habitats, threats to ecosystem health, and effective solutions to maintain biodiversity and ecosystem resiliency. TNC completed the ecoregional assessment using advanced GIS and statistical computing tools to identify a network of conservation areas, across land ownership, where the most imperiled, keystone, or endemic ecosystems, species, and habitats could be protected with the least effort. The proposed LWC is within the Chiricahua Mountains Conservation Area, which encompasses 265,633 acres in southern Arizona. The protection of wilderness characteristics in the proposed LWC would contribute to the broader objectives of protecting the full range of native wildlife and ecosystems in the Apache Highlands Ecoregion. The table showing the target criteria from this analysis is provided in Appendix 3.

**The proposed LWC features *exceptional biodiversity & species richness***

Source: “Vascular plant and vertebrate inventory of Fort Bowie National Historic Site” By Brian F. Powell, Cecilia A. Schmidt, and William L. Halvorson. Open-File Report 2005-1167, Published in 2007 U.S. Geological Survey, Southwest Biological Science Center, Sonoran Desert Research Station, University of Arizona, Tucson, AZ.

Find it at: [https://science.nature.nps.gov/im/units/sodn/assets/docs/Inventories/Bio\\_Inv\\_FOBO.pdf](https://science.nature.nps.gov/im/units/sodn/assets/docs/Inventories/Bio_Inv_FOBO.pdf)

Source: “Arizona’s Important Bird Areas”, by The Audubon Society.

Find it at: <http://aziba.org/>

The Chiricahua Mountains are globally important for biodiversity conservation, especially birds, as it is here that Rocky Mountain, Sierra Madrean, Chihuahuan, Sonoran, and Great Basin avifauna all overlap. More than 375 species of bird have been documented here, and because of that the Audubon Society has designated the entire range within the LWC's neighboring Coronado National Forest as an Important Bird Area; a site that is important to bird conservation *world-wide*. The Chiricahua's are especially important for the Mexican spotted owl, where dozens of known nesting sites occur. The diversity goes beyond birds, though. Powell et al. (2007) compiled the results of all known inventories of vascular plants, mammals, reptiles, amphibians, and birds at the ~965 acre Fort Bowie National Historic Site. While the inventories did not specifically document species on the proposed LWC, the two units of land share 3.5 miles of contiguous boundary where existing vegetation types and habitats occur across the property line, suggesting that the species that occur at Fort Bowie have a very high likelihood of also occurring within the proposed LWC. The assembled results of years of intensive research and documentation (spanning 1976 to 2004) are very impressive, including 638 species of plants, 40 species of amphibians and reptiles, 189 species of birds, and 59 species of mammals. The authors estimate inventory efforts at the site to be 90% complete, and remarked that the site features "*extraordinary species richness*". Given that estimate, the total species list could exceed 1000 individual species plants and animals at a relatively small study area. It is likely that given the much larger area of the proposed LWC, combined with the 2,000 feet of elevation that Bowie Mountain rises above Fort Bowie, and the additional variety of vegetation types, that the proposed LWC would support an even greater variety of life than the small Historic Site.



*This view, from the east ridge of Bowie Mountain, is looking over the corner of undeveloped private ranchlands towards the Ku-Chish Potential Wilderness and Chiricahua National Monument in the heart of the Chiricahua Mountains, one of the most biologically significant ranges in the American Southwest.*

## ***Conclusion***

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The Arizona Wilderness Coalition recommends to the Bureau of Land Management that the proposed area should be managed for protection of wilderness characteristics according to the policies established in BLM Manuals 6310 and 6320. In this report, we have provided the requirements for a citizens' proposal, and documented that the proposed unit meets the criteria for size, naturalness, solitude, and primitive recreation. Furthermore, we have provided a summary of supplemental values that support the protection of the area for the purposes of conserving biodiversity, protecting and restoring watershed health, and for preserving the vibrant fabric of life that is cherished by the residents of Arizona and the scenic backdrop to our lives.

Bowie Mountain provides outstanding terrain and scenery for backpacking, rock climbing, scrambling, photography and nature study. Being contiguous to the Ku-Chish Potential Wilderness in the Coronado National Forest, it is part of a larger complex of wild, natural and outstanding public lands. During the writing of this report, we learned of a group of backpackers that had started at Apache Pass and hiked for nearly a week to Cochise Head, directly over the summit of Bowie Mountain. On their trip, they encountered nobody outside of their group, and remarked at the wild and challenging journey through the northern Chiricahua Mountains.

These hikers' experience was not a new one. Black bear, puma, eagles, Coues deer and perhaps jaguar have relied on the connectivity of habitat and unspoiled terrain that Bowie Mountain is part of. And certainly, their journey would have been experienced innumerable times in the days when the Chiricahua Apache called this place home. Because of the proposed LWC's remarkable place in history, as a witness to the story of the West, it is important that the unit be maintained as a natural, wild refuge for the vast array of wildlife that call it home, and the increasing number of people who are looking for escape from an urbanizing region.

The Bowie Mountain Proposed LWC would protect tremendous biological richness, a critical habitat corridor, and outstanding lands for exploration and discovery. Its importance has been recognized when designated an Area of Critical Environmental Concern, and The Nature Conservancy considers the area a priority for conserving biodiversity in the Apache Highlands Ecoregion. Managing for wilderness characteristics would bestow an honor on this part of the Chiricahua Mountains that has long been deserved.



Appendix 1: Area of Critical Environmental Concern Evaluation, Safford Resource Management Plan

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Bowie Mountain Scenic

1. Description of the Value, Resource, System or Hazard: Bowie Mountain was proposed as an Area of Critical Environmental Concern primarily for the scenic values in the natural setting that surrounds Ft. Bowie National Historic Site. Additional scenic values are found in the steep cliffs on the south side of Bowie Mountain. BLM currently has a protective buffer on 590 acres surrounding parts of the National Historic Site. In addition, historic heliograph stations can be found on Bowie Mountain and Helens Dome. The entire area has historical connections to the fort. This area has past use by peregrine falcons, both for nesting and migration, and the habitat may be reoccupied in the future. This area was identified as a potential Area of Critical Environmental Concern as a result of BLM inventories.

This area meets the relevance criterion in that it has significant historic features (heliograph stations) and significant scenic values (the natural setting around Ft. Bowie and the steep cliffs on the south side of Bowie Mountain).

This area meets the importance criterion because any surface-disturbing activity in the viewshed would adversely change the scenic qualities now found in the area. The maintenance of the natural setting was recognized in the San Simon Management Framework Plan through the establishment of a protective buffer around Ft. Bowie National Historic Site. The Area of Critical Environmental Concern proposal seeks to expand that protection to the entire viewshed, as well as to the highly scenic southern slopes of Bowie Mountain.

2. Relationship to Other Areas of Special Management: Much of the proposed Area of Critical Environmental Concern is within the Bowie Mountain Wilderness Study Area, an area not recommended for wilderness designation. In addition, 590 acres are currently within the protective buffer around Ft. Bowie National Historic Site.

3. Rationale for Designation: The lands in the Bowie Mountain area should be designated as an Area of Critical Environmental Concern of 4,190 acres because the special values identified above meet the relevance and importance criteria and need special management to protect these values. Both the public and the National Park Service have expressed concerns about retaining the natural setting around Ft. Bowie, thereby making this a highly sensitive area.

4. Special Management Prescription -Preferred Alternative

- withdraw 2,230 acres in the viewshed of Ft. Bowie National Historic Site from mineral entry. Require a mining plan of operations for all future mining entry in the remainder of the Area of Critical Environmental Concern.
- prohibit surface occupancy for mineral leasing activities in the viewshed.
- close the area to mineral material sales in the viewshed.
- designate the area limited to off-highway vehicle use. Limit vehicles to existing roads and trails.
- suppress wildfired to protect the scenic backdrop, and structures of the Ft. Bowie National Historic Site.
- acquire private inholdings, as they become available.
- prohibit woodcutting and gathering for home use. Gathering dead-and-down wood for campfires is permitted.
- manage the area as a Visual Resource Management Class I area to preserve the scenic backdrop of Ft. Bowie National Historic Site.
- designate as a right-of-way avoidance area.

5. Alternatives Considered: Alternative B involves the same acreage as the Preferred Alternative. The only difference in the management prescription is that the entire 4,190 acres would be withdrawn from mineral entry. In Alternative C the Area of Critical Environmental Concern would include only 2,562 acres and focus on the Ft. Bowie viewshed. The management prescription is the same as for the Preferred Alternative.

Bowie Mountain Proposed LWC

Appendix 2: Arizona Heritage Data Management System results for Bowie Mountain Proposed LWC

| Quad Name            | Scientific Name                    | Common Name                    | USES | USFS | BLM | GRANK | SRANK | SGCN | NPL |
|----------------------|------------------------------------|--------------------------------|------|------|-----|-------|-------|------|-----|
| BOWIE MOUNTAIN NORTH | Aspidoscelis exsanguis             | Chihuahuan Spotted Whiptail    |      |      |     | G5    | S2    | 1C   |     |
| BOWIE MOUNTAIN NORTH | Bat Colony                         |                                |      |      |     | GNR   | SU    |      |     |
| BOWIE MOUNTAIN NORTH | Bat Foraging Area                  | High Netting Concentration     |      |      |     | GNR   | SU    |      |     |
| BOWIE MOUNTAIN NORTH | Castilleja lanata                  | White-woolly Indian-paintbrush |      |      |     | G5    | S4    |      |     |
| BOWIE MOUNTAIN NORTH | Choeronycteris mexicana            | Mexican Long-tongued Bat       | SC   | S    | S   | G4    | S3    | 1C   |     |
| BOWIE MOUNTAIN NORTH | Draba standleyi                    | Standley Whitlow-grass         | SC   |      |     | G2G3  | S2S3  |      |     |
| BOWIE MOUNTAIN NORTH | Echinomastus intertextus           | White Fishhook Cactus          |      |      |     | G4G5  | S2    |      | SR  |
| BOWIE MOUNTAIN NORTH | Heterodon kennerlyi                | Mexican Hog-nosed Snake        |      |      |     | G4    | S3    |      |     |
| BOWIE MOUNTAIN NORTH | Hymenoxys ambigens var. floribunda | Apache Pass Rubberweed         |      |      |     | G3?T2 | S2    |      |     |
| BOWIE MOUNTAIN NORTH | Leptonycteris curasoae yerbabuena  | Lesser Long-nosed Bat          | LE   |      |     | G4    | S2S3  | 1A   |     |
| BOWIE MOUNTAIN NORTH | Lithobates chiricahuensis          | Chiricahua Leopard Frog        | LT   |      |     | G2G3  | S2    | 1A   |     |
| BOWIE MOUNTAIN NORTH | Mammillaria wrightii var. wilcoxii | Wilcox Fishhook Cactus         |      |      |     | G4T4  | S4    |      | SR  |
| BOWIE MOUNTAIN NORTH | Myotis californicus                | California Myotis              |      |      |     | G5    | S4    |      |     |
| BOWIE MOUNTAIN NORTH | Myotis ciliolabrum                 | Western Small-footed Myotis    | SC   |      |     | G5    | S3S4  |      |     |
| BOWIE MOUNTAIN NORTH | Myotis thysanodes                  | Fringed Myotis                 | SC   |      |     | G4    | S3S4  |      |     |
| BOWIE MOUNTAIN NORTH | Myotis velifer                     | Cave Myotis                    | SC   |      | S   | G5    | S3S4  | 1B   |     |
| BOWIE MOUNTAIN NORTH | Penstemon ramosus                  | Branching Penstemon            |      |      |     | G3G4Q | S1    |      |     |
| BOWIE MOUNTAIN NORTH | Phrynosoma cornutum                | Texas Horned Lizard            | SC   |      |     | G4G5  | S3S4  |      |     |
| BOWIE MOUNTAIN NORTH | Phrynosoma hernandesi              | Greater Short-horned Lizard    |      |      |     | G5    | S4    |      |     |
| BOWIE MOUNTAIN NORTH | Phrynosoma modestum                | Round-tailed Horned Lizard     |      |      |     | G5    | S3    |      |     |
| BOWIE MOUNTAIN NORTH | Reithrodontomys fulvescens         | Fulvous Harvest Mouse          |      |      |     | G5    | S4    | 1C   |     |
| BOWIE MOUNTAIN NORTH | Senticolis triaspis intermedia     | Northern Green Ratsnake        |      | S    |     | G5T4  | S3    | 1B   |     |
| BOWIE MOUNTAIN NORTH | Tantilla yaquia                    | Yaqui Black-headed Snake       |      | S    |     | G4    | S2    | 1B   |     |
| BOWIE MOUNTAIN NORTH | Verbena pinetorum                  | Chihuahua Vervain              |      |      |     | G2G4  | S1    |      |     |
| BOWIE MOUNTAIN SOUTH | Ammodramus savannarum ammolegus    | Arizona grasshopper sparrow    |      | S    | S   | G5TU  | S1S2  | 1B   |     |
| BOWIE MOUNTAIN SOUTH | Anaxyrus debilis insidiator        | Western Green Toad             |      |      |     | G5T5  | S3    |      |     |
| BOWIE MOUNTAIN SOUTH | Apacheria chiricahuensis           | Chiricahua Rock Flower         |      |      |     | G2    | S2    |      | SR  |
| BOWIE MOUNTAIN SOUTH | Astragalus cobrensis var. maguirei | Coppermine Milk-vetch          | SC   | S    |     | G4T2  | S1    |      | SR  |
| BOWIE MOUNTAIN SOUTH | Baiomys taylori                    | Northern Pygmy Mouse           |      | S    |     | G4G5  | S3    |      |     |
| BOWIE MOUNTAIN SOUTH | Carex chihuahuensis                | Chihuahuan Sedge               |      | S    |     | G3G4  | S2S3  |      |     |
| BOWIE MOUNTAIN SOUTH | Carex ultra                        | Arizona Giant Sedge            |      | S    | S   | G3?   | S2    |      |     |
| BOWIE MOUNTAIN SOUTH | Crotalus lepidus klauberi          | Banded Rock Rattlesnake        |      |      |     | G5T5  | S3    | 1A   |     |
| BOWIE MOUNTAIN SOUTH | Echinomastus intertextus           | White Fishhook Cactus          |      |      |     | G4G5  | S2    |      | SR  |
| BOWIE MOUNTAIN SOUTH | Escobaria orcuttii                 | Orcutt's Foxtail Cactus        |      |      |     | G3?   | S1    |      | SR  |
| BOWIE MOUNTAIN SOUTH | Gyalopion canum                    | Chihuahuan Hook-nosed Snake    |      |      |     | G5    | S3    |      |     |
| BOWIE MOUNTAIN SOUTH | Heterodon kennerlyi                | Mexican Hog-nosed Snake        |      |      |     | G4    | S3    |      |     |
| BOWIE MOUNTAIN SOUTH | Hymenoxys ambigens var. floribunda | Apache Pass Rubberweed         |      |      |     | G3?T2 | S2    |      |     |
| BOWIE MOUNTAIN SOUTH | Hypsiglena sp. nov.                | Hooded Nightsnake              |      |      |     | G4    | S4    | 1B   |     |
| BOWIE MOUNTAIN SOUTH | Lupinus lemmonii                   | Lemmon's Lupine                |      | S    |     | G1Q   | S1    |      |     |
| BOWIE MOUNTAIN SOUTH | Phrynosoma cornutum                | Texas Horned Lizard            | SC   |      |     | G4G5  | S3S4  |      |     |
| BOWIE MOUNTAIN SOUTH | Phrynosoma hernandesi              | Greater Short-horned Lizard    |      |      |     | G5    | S4    |      |     |
| BOWIE MOUNTAIN SOUTH | Sigmodon ochrognathus              | Yellow-nosed Cotton Rat        | SC   |      |     | G4G5  | S4    | 1C   |     |
| BOWIE MOUNTAIN SOUTH | Solanum heterodoxum                | Melonleaf Nightshade           |      |      |     | G4G5  | S4    |      |     |
| BOWIE MOUNTAIN SOUTH | Tantilla nigriceps                 | Plains Black-headed Snake      |      |      |     | G5    | S2    |      |     |
| BOWIE MOUNTAIN SOUTH | Terrapene ornata luteola           | Desert Box Turtle              |      |      | S   | G5T4  | S2S3  | 1A   |     |

Appendix 3: Chiricahua Mountains Conservation Area Table from Marshall et al., 2004: pages129-130

| Conservation Area 58 Chiricahua Mountains |   |  | Total Conservation Targets 62 |            |
|---|---|--|-------------------------------|------------|
| Site size (hectares): 107,500             |   | (acres): 265,633                                   |                               |            |
| Taxonomic Group                           | Scientific Name                             | Common Name  | Global Rank                   | ESA Status |
| Ecological System                         |   | Apachean Grassland and Savanna Condition Class A   | GU                            |            |
|   |   | Apachean Grassland and Savanna Condition Class A&D | GU                            |            |
|   |   | Apachean Grassland and Savanna Condition Class B   | GU                            |            |
|   |   | Apachean Grassland and Savanna Condition Class C   | GU                            |            |
|   |   | Apachean Grassland and Savanna Condition Class D   | GU                            |            |
|   |   | Apachean Shrubland                                 | GU                            |            |
|   |   | Chihuahuan Desert Scrub                            | GU                            |            |
|   |   | Cienega point                                      | GU                            |            |
|   |   | Interior Chaparral                                 | GU                            |            |
|   |   | Madrean Encinal                                    | GU                            |            |
|   |   | Madrean Oak-Pine Woodland                          | GU                            |            |
|   |   | Montane Mixed-Conifer Forest                       | GU                            |            |
|   |   | Montane Riparian Woodland and Shrubland            | GU                            |            |
|   |   | Pinyon-Juniper Woodland                            | GU                            |            |
|   |   | Plains leopard frog                                | G5                            |            |
|   |   | Plains leopard frog                                | G3                            | LT         |
|   | Amphibian                                   | <i>Rana blairi</i>                                 | Chiricahua leopard frog       | G3         |
| <i>Rana chiricahuensis</i>                |   | Chiricahua leopard frog                            | G3                            | LT         |
| <i>Accipiter gentilis</i>                 |   | Northern goshawk                                   | G5                            |            |
| <i>Buteo albonotatus</i>                  |   | Zone-tailed hawk                                   | G4                            |            |
| Bird                                      | <i>Callipepla squamata</i>                  | Scaled quail                                       | G5                            |            |
|   | <i>Coccyzus americanus occidentalis</i>     | Western yellow-billed cuckoo                       | G3                            | C          |
|   | <i>Falco peregrinus anatum</i>              | American peregrine falcon                          | G3                            |            |
|   | <i>Strix occidentalis lucida</i>            | Mexican spotted owl                                | G3                            | LT         |
|   | <i>Trogon elegans</i>                       | Elegant trogon                                     | G5                            |            |
|   | <i>Agostia chrysogaster</i>                 | Longfin dace                                       | G4                            |            |
|   | <i>Campostoma ornatum</i>                   | Mexican stoneroller                                | G3                            |            |
| Fish                                      | <i>Gila purpurea</i>                        | Yaqui chub   | G1                            | LE         |
|   | <i>Abedus herberti</i>                      | Giant water bug                                    | GU                            |            |
| Insect                                    | <i>Psephenus arizonensis</i>                | Arizona water penny beetle                         | G2                            |            |
|   | <i>Idionycteris phyllotis</i>               | Allen's big-eared bat                              | G3                            |            |
|   | <i>Leptonycteris curasoae</i>               | Lesser long-nosed bat                              | G3                            | LE         |
|   | <i>Myotis ciliolabrum</i>                   | Western small-footed myotis                        | G5                            |            |
|   | <i>Myotis thysanodes</i>                    | Fringed myotis                                     | G4                            |            |
|   | <i>Myotis velifer</i>                       | Cave myotis  | G5                            |            |
|   | <i>Myotis volans</i>                        | Long-legged myotis                                 | G5                            |            |
|   | <i>Nyctinomops macrotis</i>                 | Big free-tailed bat                                | G5                            |            |
|   | <i>Plecotus townsendii pallescens</i>       | Pale Townsend's big-eared bat                      | G4                            |            |
|   | <i>Sciurus nayaritensis chiricahuae</i>     | Chiricahua fox squirrel                            | G1                            |            |
| Mammal                                    | <i>Sorex arizonae</i>                       | Arizona shrew                                      | G3                            |            |
|   | <i>Ursus americanus</i>                     | Black bear   | G5                            |            |
|   | <i>Crotalus pricei</i>                      | Twin-spotted rattlesnake                           | G5                            |            |
|   | <i>Phrynosoma cornutum</i>                  | Texas horned lizard                                | G4                            |            |
| Reptile                                   | <i>Sceloporus slevini</i>                   | Bunch grass lizard                                 | G4                            |            |
|   | <i>Sceloporus virgatus</i>                  | Striped plateau lizard                             | G4                            |            |
|   | <i>Apacheria chiricahuensis</i>             | Chiricahua rock flower                             | G2                            |            |
| Vascular plant                            | <i>Arabis tricomuta</i>                     | Chiricahua rock cress                              | G1                            |            |
|   | <i>Astragalus cobrensis var maguirei</i>    | Coppermine milk-vetch                              | G2                            |            |
|   | <i>Carex ultra</i>                          | Arizona giant sedge                                | G3                            |            |
|   | <i>Draba standleyi</i>                      | Standley whitlow-grass                             | G2                            |            |
|   | <i>Erigeron arisollus</i>                   | Erigeron arisollus                                 | G2                            |            |
|   | <i>Erigeron kuschei</i>                     | Chiricahua fleabane                                | G1                            |            |
|   | <i>Gentianella wislizeni</i>                | Wislizeni gentian                                  | G2                            |            |
|   | <i>Hedeoma dentatum</i>                     | Mock pennyroyal                                    | G3                            |            |
|   | <i>Hexaletris warnockii</i>                 | Texas purple spike                                 | G2                            |            |
|   | <i>Lilium parryi</i>                        | Lemmon lily  | G3                            |            |
|   | <i>Lupinus lemmonii</i>                     | Lemmon's lupine                                    | G1                            |            |
|   | <i>Pentstemon cochiseensis</i>              | Chiricahua rock daisy                              | G1                            |            |
|   | <i>Polemonium pauciflorum ssp hinckleyi</i> | Hinckley's ladder                                  | G2                            |            |
|   | <i>Rumex orthoneurus</i>                    | Blumer's dock                                      | G3                            |            |
|   | <i>Samolus vagans</i>                       | Chiricahua mountain brookweed                      | G2                            |            |
|   | <i>Senecio huachucae</i>                    | Huachuca groundsel                                 | G2                            |            |
|   | <i>Senecio neomexicanus var toumeyii</i>    | Toumey groundsel                                   | G2                            |            |
|   | <i>Stellaria porsildii</i>                  | Porsild's starwort                                 | G1                            |            |

**Section 3:**

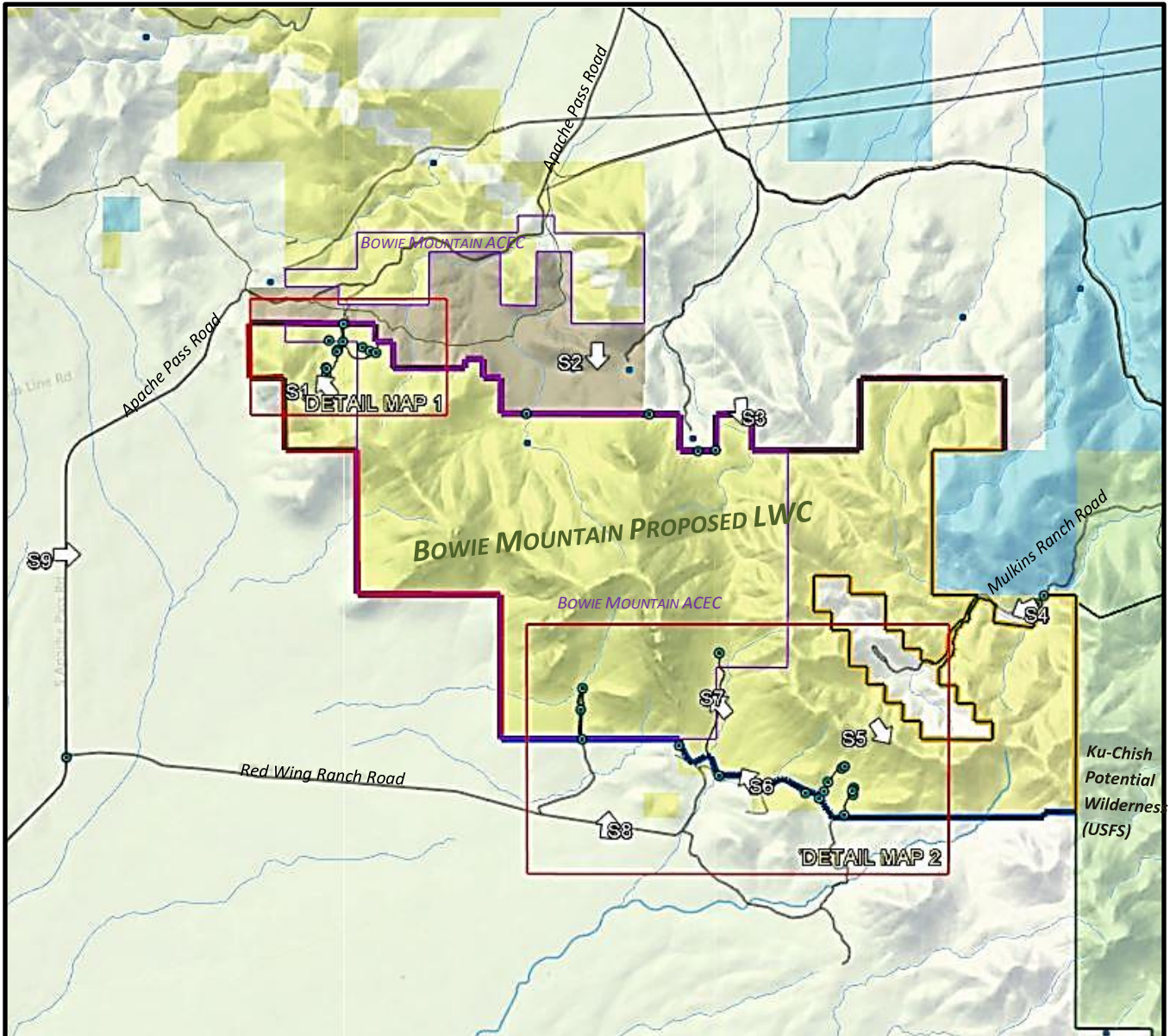
***Detailed Maps & Description of the  
Unit Boundary, Roads, Ways and Human Impacts***

*Fort Bowie National Historic Site (outside of LWC) sits at the foot slope of the stunning range of Bowie Mountain, Helens Dome, and other unnamed points in the northern Chiricahua Mountains showing in the distance. All the peaks shown here are within the proposed LWC. The natural beauty of this incredible scenery is worthy of the highest degree of protection.*












Overview Map with Boundary Segments & Detail Map Keys



|                         |                   |                |  |                       |                 |                     |              |                                |                    |
|-------------------------|-------------------|----------------|--|-----------------------|-----------------|---------------------|--------------|--------------------------------|--------------------|
| Bur. of Land Management | PROPOSED LWC Unit | Detail Map Key | Area of Critical Environmental Concern | Designated Wilderness | National Forest | AZ State Trust Land | Private Land | Fort Bowie Nat'l Historic Site | Indian Reservation |
|-------------------------|-------------------|----------------|--|-----------------------|-----------------|---------------------|--------------|--------------------------------|--------------------|

Unit boundary descriptions are organized by color-coded Boundary Segments. Detail Maps show photo points over 7.5' USGS topographic maps.

-  **Boundary Segment A: WESTERN BOUNDARY**
-  **Boundary Segment B: NORTHERN BOUNDARY (points 1 – 16)**
-  **Boundary Segment C: EASTERN BOUNDARY (points 17 – 19)**
-  **Boundary Segment D: SOUTHERN BOUNDARY (points 20 – 37)**

-  S4 Scenic Photos shown in report text
-  Photo Data Points
-  Wilderness Inventory Roads
-  Primitive Routes or Vehicle Ways
-  Trails or Reclaimed Ways
-  Creeks, Canyons and Washes
-  Springs



Map of Proposed LWC, showing boundary description segments and detail map keys. Background map OSM Shaded Relief. Data: Google Earth, Bing, BLM, USGS, US Census, AZDOT, TWS, Field Survey. Projection: WGS 84 – UTM Zone 12N Produced for Arizona Wilderness Coalition by Joe Trudeau, Hassayampa Forestry & Ecological. April 2016. [www.az-eco.com](http://www.az-eco.com).

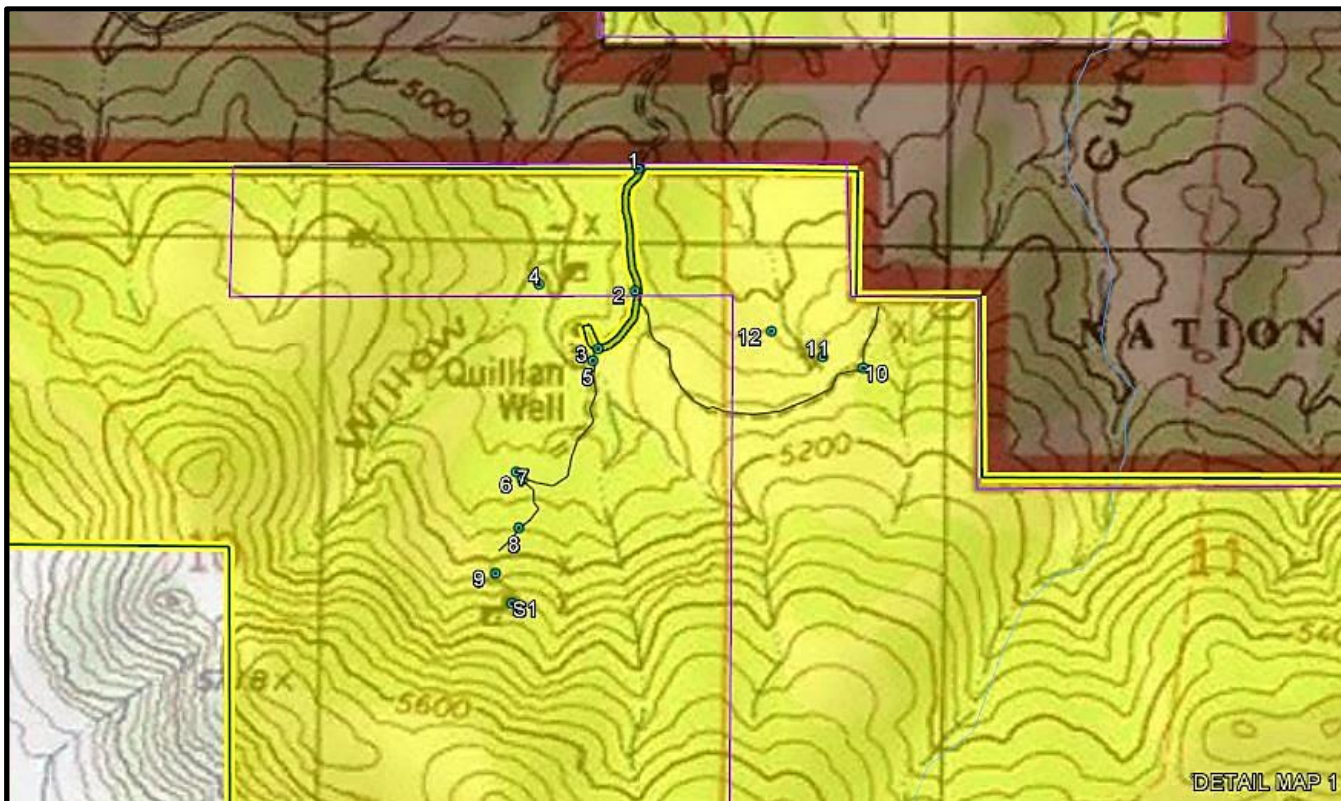
1 mile

3 miles



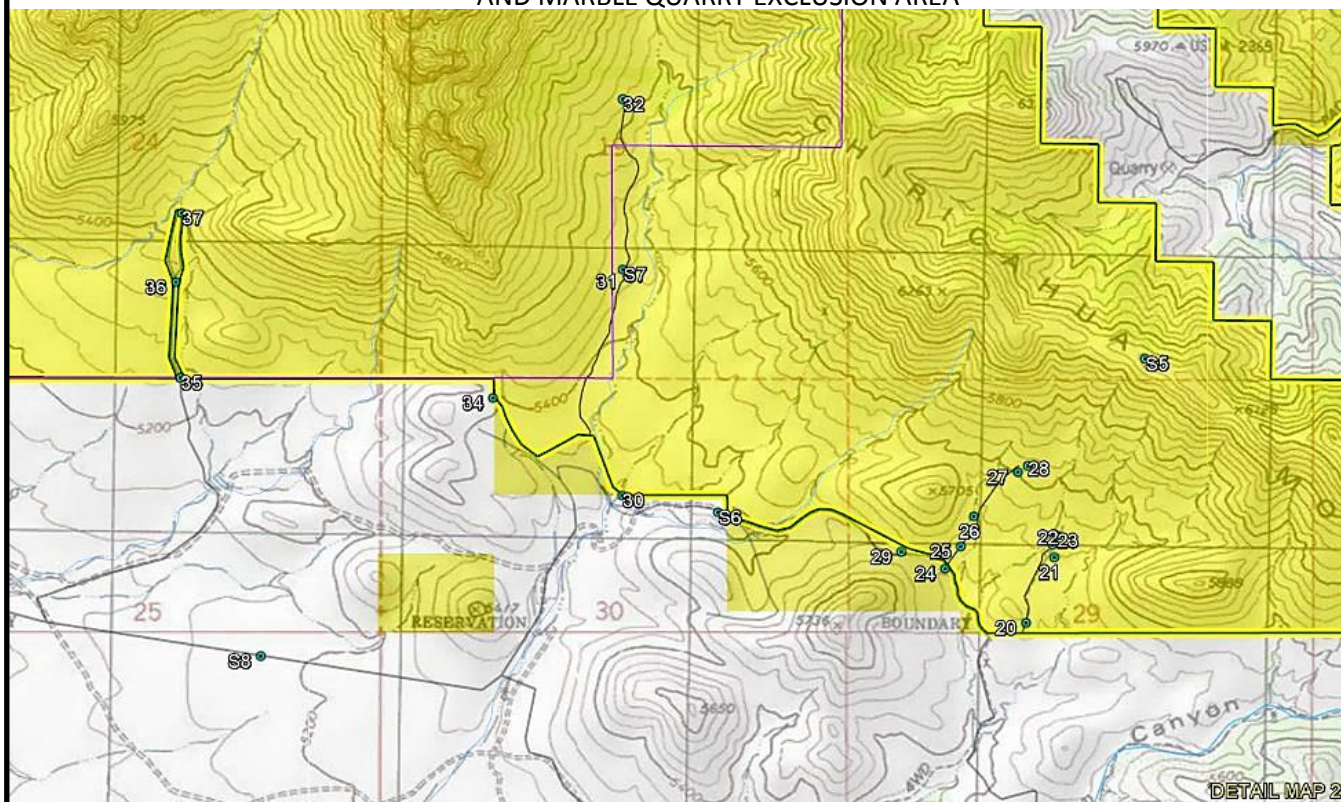


Detail Maps with Photopoint Locations



DETAIL MAP 1: QUILLIAN WELL AND APACHES GROUP MINES IN NORTHWESTERN UNIT CORNER

DETAIL MAP 2: SOUTHERN UNIT AREA SHOWING VEHICLE WAYS AND MARBLE QUARRY EXCLUSION AREA



*Narrative Description of the Proposed LWC Boundary & Vehicle Routes*

**Segment A: Western Boundary**

SEE OVERVIEW MAP

**General Description:** The entire western boundary follows the BLM property line with private land.

**Boundary Adjustments:** There are no boundary adjustments in this segment.

**Cherrystems:** There are no cherrystems in this segment.

**Ways:** No primitive routes enter the unit in this segment.

**Segment B: Northern Boundary**

SEE OVERVIEW MAP & DETAIL MAP 1

**General Description:** The BLM property line serves as the entire northern LWC unit boundary. The western half borders Fort Bowie National Historic Site, and the eastern half borders private land.

**Boundary Adjustments:** The only adjustment is for a cherrystemmed road.

**Cherrystems:** There is one cherrystemmed wilderness inventory road along the LWC northern unit boundary which accesses Quillian Well.

-Point 1 displays an image of the unlocked gate at the start of this cherrystem.

-Point 2 shows a junction of the cherrystem and a primitive route.

-Point 3 was taken looking at some ranching infrastructure (some functional) that has been excluded along with the cherrystem.

**Ways:**

-Point 5 shows the unmaintained/revegetating condition of this primitive route after the cherrystem ends.

-Point 6 depicts the same way as point 5 at a switchback. After point 6, the way becomes less traveled and rougher.

-Point 8 illustrates that the primitive route seen in points 5 & 6 becomes more revegetated with an uneven roadbed the farther it goes.

-Returning to Point 2, the primitive route on the left in this photo contains no evidence that it is being maintained, and it is revegetating. Point 10 depicts another image of this way at the point where it becomes reclaimed. As point 10 illustrates, at this point the way has revegetated and receives absolutely no use.

-Point 13 displays an image of a primitive route in a dry wash. This way contains no evidence that it was constructed and it is not being maintained. This primitive route is only one-fifth of a mile long and is most likely used to access a spring development.

-Point 14 was taken looking down an old way that has been reclaimed by nature. This old way has no apparent purpose and showed no evidence of vehicular use. As the photo documents, this primitive route has revegetated.

-Point 15 depicts an image of a foot-trail going into the proposed LWC unit.

-Point 16 documents an old way entering the unit. Stones were placed to block access to this old primitive route. There is no evidence that this way gets any use. This old way has no apparent purpose, is revegetating, and has been classified as 'reclaimed'.

**Associated Human Impacts:**

-Point 4 displays an image of an abandoned mine and an associated rock structure. As the photo illustrates, this site is naturalizing and would benefit from LWC protection as this is an interesting historical site. There is no longer an access route to this site.

-Point 7 was taken looking at the mines from a distance. As the photo illustrates, the mine impacts are relatively insignificant when viewed at a landscape scale. Furthermore, the impacted area surrounding the mines is revegetating and in the process of naturalizing. Point 9 pictures one of the mine entrances that has been closed off, and is substantially unnoticeable to the average visitor from most viewpoints because the relatively small shaft is tucked into the hillside.

-Points 11 & 12 were taken looking at more abandoned mine impacts. As these photos show, these impacts are quite small, revegetating, and substantially unnoticeable. The old route that was once used to directly access these old mine diggings was reclaimed by nature long ago.

**Segment C: Eastern Boundary**

[SEE OVERVIEW MAP](#)

**General Description:** The BLM property line with State Trust land and the Coronado National Forest serves as most of the eastern unit boundary. Mulkins Ranch Road (point 17) forms two short sections of the proposed LWC unit boundary, along with a short stretch of private land owned by Klump Ranches.

**Boundary Adjustments:** Point 18 pictures a short road, which is likely to be maintained because it accesses some new solar panels and a well. This road serves as a short section of the proposed unit boundary up to a dry wash at which point the wash becomes the boundary for a short distance until intercepting the private property line.

**Cherrystems:** There is one cherrystemmed route along the eastern LWC unit boundary that accesses private property which is being mined.

-Point 19 displays an image of the cherrystem (this photo was taken off BLM property where the road is closed and gated). The road and the wash below it are excluded. There are a number of human impacts in the wash.

**Ways:** There are no primitive routes that enter the Bowie Mountain Proposed LWC unit's eastern boundary.

**Associated Human Impacts:** Substantial human impacts within the area of the eastern unit boundary are concentrated on the private property, which of course is outside of the proposed LWC unit.



**General Description:** Most of the proposed southern unit boundary is comprised of the BLM property boundary with private land. A wilderness inventory road that was used for mining (point 29) is used as the boundary for a short distance. Another section of the southern boundary was delineated going around some mine impacts that spread off BLM property.

**Boundary Adjustments:** From point 30 to point 34, the proposed LWC boundary is drawn to exclude the mine to the south. Although most of this mine is not on BLM property, a little over 19 acres of the abandoned mine spills onto BLM property, and is not included in the LWC. This mine is actively being rehabilitated by a mine reclamation team.

**Cherrystems:** Point 35 was taken looking north up a wilderness inventory road that has been bladed within the past year or so. Points 36 & 37 also document portions of this cherrystem.

**Ways:**

-Point 20 shows a way that was not constructed, is obviously not being maintained, and receives very low use, primarily by Border Patrol.

-Point 21 was taken looking at an old primitive route that has been reclaimed by nature.

-Points 24 & 25 show a way that was once used to access a mine (points 27 & 28), which has since been abandoned and reclaimed. Point 26 pictures the point at which the way no longer receives vehicular use, has revegetated, and is classified as 'reclaimed' because of naturally caused reclamation.

-Point 32 displays another image of an unmaintained way. This primitive route has vegetation growing in the median for its entire length, and shows no signs of maintenance. Furthermore, as point 33 documents, the only way to access this primitive route (Red Wing Ranch Road) is closed to public access by a gate.

**Associated Human Impacts:**

-Points 22, 23 & 31 display images of what are most likely old exploratory drill holes. These small round circles that are devoid of vegetation can be found across the landscape in this area. Although they appear to be quite obvious from aerial imagery, these sites are substantially unnoticeable when viewed from the ground level (see points 22, 23 & 31). The edges of these sites are starting to fill in with vegetation. Given time, these impacts will completely revegetate.

-Points 27 & 28 document the condition of a reclaimed mine site. The site was reshaped and has since revegetated. As the photographs document, this impact is substantially unnoticeable to the average visitor.

Section 4: Photopoint Data

| Attributes    |                                   |
|---------------|-----------------------------------|
| Point         | 1                                 |
| Unit name     | Bowie Mountain                    |
| Route name    | Quillian Well Route               |
| Construction  | Probably only bladed once         |
| Use           | 4-WD trucks                       |
| Purpose       | Designated mine/well access route |
| Maintenance   | Likely if needed                  |
| Determination | Road                              |
| Feature       | Cherrystem                        |
| Feature notes | None                              |
| Other notes   | None                              |

**Point 001**

GoMap data ©2016 Imagery ©2016 DigitalGlobe, USDA Farm Service Agency

N 32° 09' 00.87"  
W 109° 28' 04.00"  
Photo Direction: 198° SSW  
5062 ft  
1/9/2016

| Attributes    |  |
|---------------|--|
| Point         | 2  |
| Unit name     | Bowie Mountain   |
| Route name    | Well/mine access   |
| Construction  | Probably only bladed once  |
| Use           | 4-WD trucks  |
| Purpose       | Well/Water tanks   |
| Maintenance   | Likely if needed   |
| Determination | Road   |
| Feature       | Junction of Routes/Ways  |
| Feature notes | Junction of Quillian Well access and mine access   |
| Other notes   | Well access (right route) is maintained while old mine access (left) is becoming revegetated |

**Point 002**

GoMap data ©2016 Imagery ©2016 DigitalGlobe, USDA Farm Service Agency

N 32° 08' 54.51"  
W 109° 28' 04.22"  
Photo Direction: 170° S  
5070 ft  
1/9/2016

| Attributes    |  |
|---------------|--|
| Point         | 3  |
| Unit name     | Bowie Mountain   |
| Route name    | N/A  |
| Construction  | N/A  |
| Use           | N/A  |
| Purpose       | Well/Water tanks   |
| Maintenance   | Likely if needed   |
| Determination | N/A  |
| Feature       | Windmill   |
| Feature notes | Solar panels and new covered heavy plastic tank, old tank rusted and broken piping, water also pumped to full water bucket |
| Other notes   | Cherrystem   |

**Point 003**

GoMap data ©2016 Imagery ©2016 DigitalGlobe, USDA Farm Service Agency

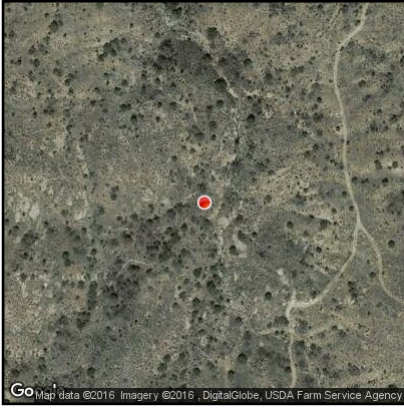

N 32° 08' 51.49"  
W 109° 28' 06.48"  
Photo Direction: 327° NNW  
5076 ft  
1/9/2016



Bowie Mountain Proposed LWC

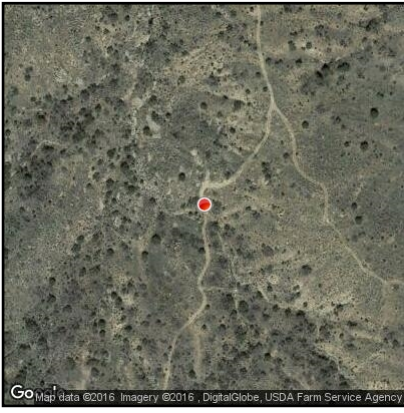

| Attributes    |  |
|---------------|--|
| Point         | 4  |
| Unit name     | Bowie Mountain   |
| Route name    | N/A  |
| Construction  | N/A  |
| Use           | N/A  |
| Purpose       | N/A  |
| Maintenance   | N/A  |
| Determination | N/A  |
| Feature       | Abandoned/falling down rock structure                  |
| Feature notes | Equipment appears to be out of order and abandoned     |
| Other notes   | In photo, you can see the old mines in the background. |

**Point 004**



| Attributes    |   |
|---------------|---|
| Point         | 5                                       |
| Unit name     | Bowie Mountain                          |
| Route name    | Not Named                               |
| Construction  | Probably only bladed once               |
| Use           | 4-WD trucks                             |
| Purpose       | Old Mine access                         |
| Maintenance   | None                                    |
| Determination | Way                                     |
| Feature       | Typical Condition of Route/Way          |
| Feature notes | Some revegetation                       |
| Other notes   | Kept open solely by passage of vehicles |

**Point 005**

| Attributes    |  |
|---------------|--|
| Point         | 6  |
| Unit name     | Bowie Mountain   |
| Route name    | Not Named  |
| Construction  | Probably only bladed once  |
| Use           | 4-WD trucks  |
| Purpose       | Old mine access  |
| Maintenance   | None   |
| Determination | Way  |
| Feature       | Junction of Routes/Ways  |
| Feature notes | Right leg of primitive route accesses lower mine; clearly less travelled and rougher |
| Other notes   | None   |

**Point 006**








Bowie Mountain Proposed LWC

| Attributes    |   |
|---------------|---|
| Unit name     | Bowie Mountain  |
| Route name    | Not named   |
| Construction  | Probably only bladed once   |
| Use           | None  |
| Purpose       | Abandoned mine access   |
| Feature       | Abandoned mines   |
| Determination | Way   |
| Feature notes | Mines on hillside are revegetating and naturalizing, and do not substantially affect naturalness. |
| Status        | Open- unsigned  |
| Other notes   | Naturalizing mine impacts   |

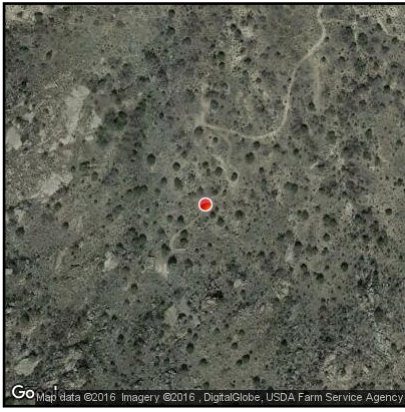

**Point 007**

N 32° 08' 45.07"  
 W 109° 28' 11.52"  
 Photo Direction: 180° S  
 5089 ft

| Attributes    |                           |
|---------------|---------------------------|
| Point         | 8                         |
| Unit name     | Bowie Mountain            |
| Route name    | Not Named                 |
| Construction  | Probably only bladed once |
| Use           | 4-WD trucks               |
| Purpose       | Old Mine Access           |
| Maintenance   | None                      |
| Determination | Way                       |
| Feature       | Old Mine                  |
| Feature notes | Worst section of route    |
| Other notes   | Revegetation              |



**Point 008**

N 32° 08' 42.16"  
 W 109° 28' 11.36"  
 Photo Direction: 214° SW  
 5200 ft  
 1/9/2016

| Attributes    |                                       |
|---------------|---------------------------------------|
| Point         | 9                                     |
| Unit name     | Bowie Mountain                        |
| Route name    | N/A                                   |
| Construction  | Probably only bladed once             |
| Use           | n/a                                   |
| Purpose       | Abandoned Mine                        |
| Maintenance   | None                                  |
| Determination | Way                                   |
| Feature       | Old Mine                              |
| Feature notes | Relatively small impact of mine shaft |
| Other notes   |                                       |

**Point 009**

N 32° 08' 39.70"  
 W 109° 28' 12.79"  
 Photo Direction: 143° SE  
 5213 ft  
 1/9/2016



Bowie Mountain Proposed LWC

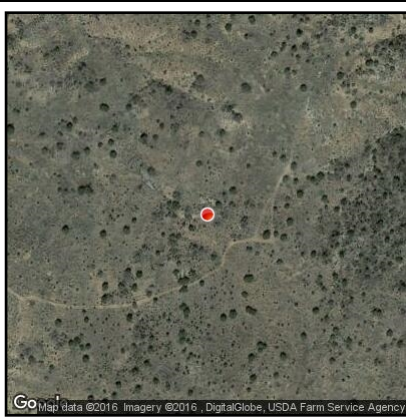
| Attributes    |                                       |
|---------------|---------------------------------------|
| Point         | 10                                    |
| Unit name     | Bowie Mountain                        |
| Route name    | Not named                             |
| Construction  | Probably only bladed once             |
| Use           | none                                  |
| Purpose       | None apparent                         |
| Maintenance   | None                                  |
| Determination | Reclaimed                             |
| Feature       | Typical Condition of Route/Way        |
| Feature notes | Feature minimally affects naturalness |
| Other notes   | None                                  |

Point 010



| Attributes    |  |
|---------------|--|
| Point         | 11   |
| Unit name     | Bowie Mountain                             |
| Route name    | N/A  |
| Construction  | N/A  |
| Use           | N/A  |
| Purpose       | Abandoned Mine                             |
| Maintenance   | None                                       |
| Determination | N/A  |
| Feature       | Old mine is revegetating                   |
| Feature notes | Feature minimally affects naturalness      |
| Other notes   | Old mine- cannot be seen from access route |

Point 011



| Attributes    |                                   |
|---------------|-----------------------------------|
| Point         | 12                                |
| Unit name     | Bowie Mountain                    |
| Route name    | N/A                               |
| Construction  | N/A                               |
| Use           | N/A                               |
| Purpose       | Abandoned Mine                    |
| Maintenance   | None                              |
| Determination | Reclaimed                         |
| Feature       | Revegetated mine impacts          |
| Feature notes | Old mine impacts are naturalizing |
| Other notes   | None                              |

Point 012

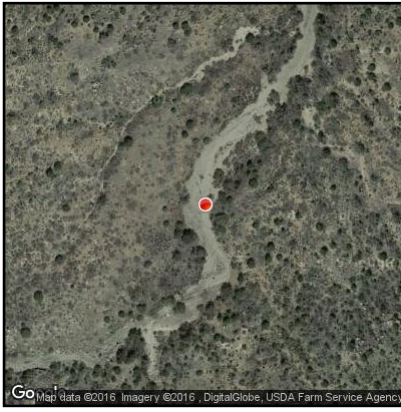





Bowie Mountain Proposed LWC

| Attributes    |  |
|---------------|--|
| Point         | 13   |
| Unit name     | Bowie Mountain   |
| Route name    | Not Named  |
| Construction  | No evidence  |
| Use           | 4-WD trucks  |
| Purpose       | Water line/possible well   |
| Maintenance   | None   |
| Determination | Way  |
| Feature       | Low use  |
| Feature notes | N/A  |
| Other notes   | Tracks do not pass through gate, black piping goes a little further and is buried in wash, possible well |

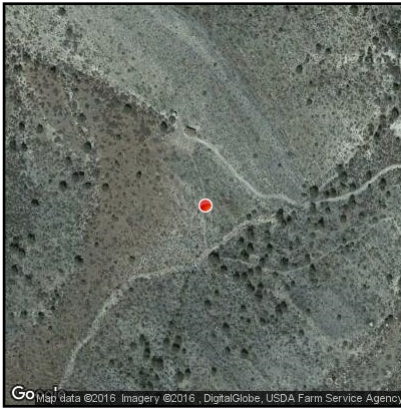

**Point 013**

N 32° 08' 28.40"  
W 109° 26' 45.97"  
Photo Direction: 178° S  
4906 ft  
1/9/2016

| Attributes    |                       |
|---------------|-----------------------|
| Point         | 14                    |
| Unit name     | Bowie Mountain        |
| Route name    | Not Named             |
| Construction  | Bladed & Cut and Fill |
| Use           | None                  |
| Purpose       | No apparent purpose   |
| Maintenance   | None                  |
| Determination | Reclaimed             |
| Feature       | Revegetated           |
| Feature notes |                       |
| Other notes   | None                  |

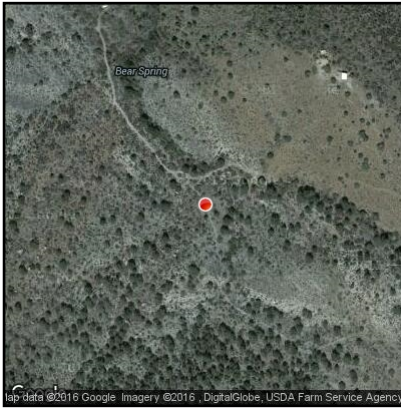

**Point 014**

N 32° 08' 28.24"  
W 109° 25' 53.62"  
Photo Direction: 180° S  
5128 ft  
1/10/2016

| Attributes    |   |
|---------------|---|
| Point         | 15  |
| Unit name     | Bowie Mountain  |
| Route name    | Not Named   |
| Construction  | No evidence   |
| Use           | Foot use  |
| Purpose       | Recreation  |
| Maintenance   | None  |
| Determination | Trail   |
| Feature       | Revegetated   |
| Feature notes | Feature minimally affects naturalness                           |
| Other notes   | Was once a road, now appears to be lightly used trail/foot path |

**Point 015**

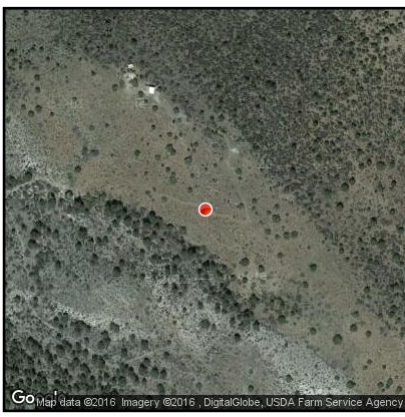

N 32° 08' 14.94"  
W 109° 25' 32.79"  
Photo Direction: 170° S  
5094 ft  
1/10/2016



Bowie Mountain Proposed LWC

| Attributes    |                       |
|---------------|-----------------------|
| Point         | 16                    |
| Unit name     | Bowie Mountain        |
| Route name    | Not Named             |
| Construction  | Bladed & Cut and Fill |
| Use           | None                  |
| Purpose       | No apparent purpose   |
| Maintenance   | None                  |
| Determination | Closed                |
| Feature       | Revegetating          |
| Feature notes | None                  |
| Other notes   | No public access      |



**Point 016**

N 32° 08' 15.24"  
 W 109° 25' 25.37"  
 Photo Direction: 125° SE  
 5133 ft  
 1/10/2016

| Attributes    |                                |
|---------------|--------------------------------|
| Point         | 17                             |
| Unit name     | Bowie Mountain                 |
| Route name    | Mulkins Ranch Rd               |
| Construction  | Bladed & Cut and Fill          |
| Use           | 2-WD Passenger vehicle         |
| Purpose       | Active mining access           |
| Maintenance   | Very recent blade - past year  |
| Determination | Road                           |
| Feature       | Typical Condition of Route/Way |
| Feature notes | None                           |
| Other notes   | Unit Boundary                  |

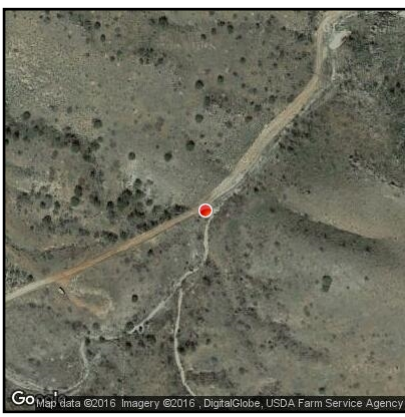

**Point 017**

N 32° 07' 22.67"  
 W 109° 23' 05.30"  
 Photo Direction: 200° SSW  
 5100 ft  
 1/9/2016

| Attributes    |                                |
|---------------|--------------------------------|
| Point         | 18                             |
| Unit name     | Bowie Mountain                 |
| Route name    | Not Named                      |
| Construction  | Probably only bladed once      |
| Use           | 4-WD trucks                    |
| Purpose       | Well/Water tanks               |
| Maintenance   | Likely if needed               |
| Determination | Road                           |
| Feature       | Typical Condition of Route/Way |
| Feature notes | None                           |
| Other notes   | New solar panels and well      |

**Point 018**

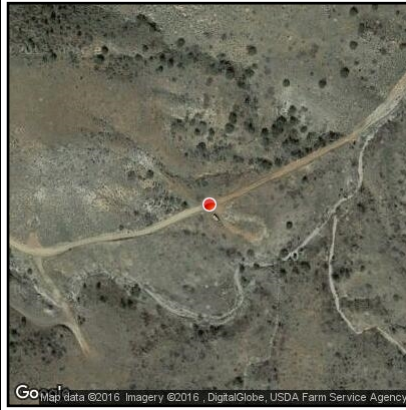
N 32° 07' 19.71"  
 W 109° 23' 08.13"  
 Photo Direction: 189° S  
 5174 ft  
 1/9/2016



Bowie Mountain Proposed LWC

| Attributes    |                               |
|---------------|-------------------------------|
| Point         | 19                            |
| Unit name     | Bowie Mountain                |
| Route name    | Mulkins Ranch Rd              |
| Construction  | Bladed & Cut and Fill         |
| Use           | 2-WD Passenger vehicle        |
| Purpose       | Active mining access          |
| Maintenance   | Very recent blade - past year |
| Determination | Road                          |
| Feature       | Closure point                 |
| Feature notes | Locked, no trespassing signs  |
| Other notes   | None                          |

Point 019



| Attributes    |                                |
|---------------|--------------------------------|
| Point         | 20                             |
| Unit name     | Bowie Mountain                 |
| Route name    | Not Named                      |
| Construction  | No evidence                    |
| Use           | 4-WD trucks                    |
| Purpose       | Unknown                        |
| Maintenance   | None                           |
| Determination | Way                            |
| Feature       | Typical Condition of Route/Way |
| Feature notes | None                           |
| Other notes   | None                           |

Point 020



| Attributes    |                     |
|---------------|---------------------|
| Point         | 21                  |
| Unit name     | Bowie Mountain      |
| Route name    | Not Named           |
| Construction  | No evidence         |
| Use           | None                |
| Purpose       | No apparent purpose |
| Maintenance   | None                |
| Determination | Reclaimed           |
| Feature       | Revegetated         |
| Feature notes | None                |
| Other notes   | None                |

Point 021







Bowie Mountain Proposed LWC



| Attributes    |   |
|---------------|---|
| Point         | 22  |
| Unit name     | Bowie Mountain                                |
| Route name    | N/A   |
| Construction  | N/A   |
| Use           | N/A   |
| Purpose       | N/A   |
| Maintenance   | N/A   |
| Determination | N/A   |
| Feature       | Old potential drill site                      |
| Feature notes | Substantially unnoticeable to average visitor |
| Other notes   | None  |

**Point 022**



| Attributes    |   |
|---------------|---|
| Point         | 23  |
| Unit name     | Bowie Mountain                                |
| Route name    | N/A   |
| Construction  | N/A   |
| Use           | N/A   |
| Purpose       | N/A   |
| Maintenance   | N/A   |
| Determination | N/A   |
| Feature       | Old potential drill site                      |
| Feature notes | Substantially unnoticeable to average visitor |
| Other notes   | None  |

**Point 023**

| Attributes    |                                |
|---------------|--------------------------------|
| Point         | 24                             |
| Unit name     | Bowie Mountain                 |
| Route name    | Not Named                      |
| Construction  | Probably only bladed once      |
| Use           | 4-WD trucks                    |
| Purpose       | Old mine access                |
| Maintenance   | None                           |
| Determination | Way                            |
| Feature       | Typical Condition of Route/Way |
| Feature notes | None                           |
| Other notes   | Low use                        |

**Point 024**



Bowie Mountain Proposed LWC

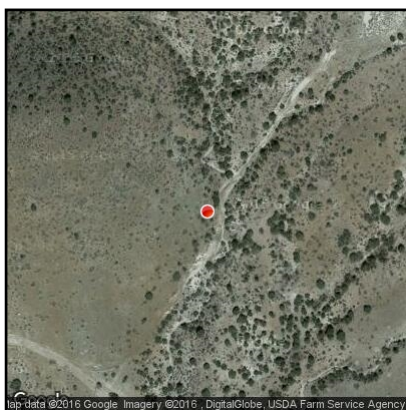
| Attributes    |                       |
|---------------|-----------------------|
| Point         | 25                    |
| Unit name     | Bowie Mountain        |
| Route name    | Not Named             |
| Construction  | Bladed & Cut and Fill |
| Use           | 4-WD trucks           |
| Aban          | Abandoned mine access |
| Maintenance   | None                  |
| Determination | Way                   |
| Feature       | Revegetating          |
| Feature notes | Low use               |
| Other notes   | None                  |

Point 025



| Attributes    |                                |
|---------------|--------------------------------|
| Point         | 26                             |
| Unit name     | Bowie Mountain                 |
| Route name    | Not Named                      |
| Construction  | Probably only bladed once      |
| Use           | None                           |
| Purpose       | Old mine access                |
| Maintenance   | None                           |
| Determination | Reclaimed                      |
| Feature       | Typical Condition of Route/Way |
| Feature notes | Worst section of route         |
| Other notes   | None                           |

Point 026



| Attributes    |                                  |
|---------------|----------------------------------|
| Point         | 27                               |
| Unit name     | Bowie Mountain                   |
| Route name    | N/A                              |
| Construction  | N/A                              |
| Use           | N/A                              |
| Purpose       | N/A                              |
| Maintenance   | N/A                              |
| Determination | N/A                              |
| Feature       | Reshaped and reclaimed mine site |
| Feature notes | Revegetating skree field         |
| Other notes   | None                             |

Point 027





Bowie Mountain Proposed LWC

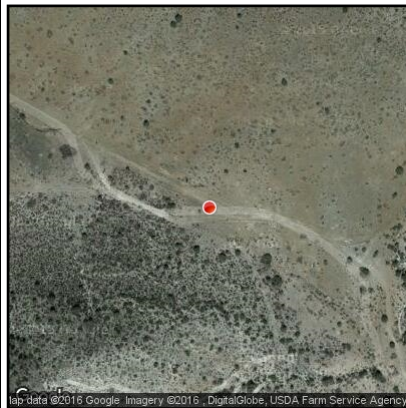
| Attributes    |                                  |
|---------------|----------------------------------|
| Point         | 28                               |
| Unit name     | Bowie Mountain                   |
| Route name    | N/A                              |
| Construction  | N/A                              |
| Use           | N/A                              |
| Purpose       | N/A                              |
| Maintenance   | N/A                              |
| Determination | N/A                              |
| Feature       | Reshaped and reclaimed mine site |
| Feature notes | Revegetating skree field         |
| Other notes   | None                             |

Point 028



| Attributes    |                                      |
|---------------|--------------------------------------|
| Point         | 29                                   |
| Unit name     | Bowie Mountain                       |
| Route name    | Not Named                            |
| Construction  | Bladed & Cut and Fill                |
| Use           | 4-WD trucks                          |
| Purpose       | Mining                               |
| Maintenance   | Semi-recent evidence - 1-3 years ago |
| Determination | Road                                 |
| Feature       | Typical Condition of Route/Way       |
| Feature notes | None                                 |
| Other notes   | None                                 |

Point 029



| Attributes    |   |
|---------------|---|
| Point         | 31  |
| Unit name     | Bowie Mountain                                |
| Route name    | N/A   |
| Construction  | N/A   |
| Use           | N/A   |
| Purpose       | N/A   |
| Maintenance   | N/A   |
| Determination | N/A   |
| Feature       | Old potential drill site                      |
| Feature notes | Substantially unnoticeable to average visitor |
| Other notes   | None  |

Point 031







Bowie Mountain Proposed LWC

| Attributes    |  |
|---------------|--|
| Point         | 32   |
| Unit name     | Bowie Mountain   |
| Route name    | Bear Springs Rd  |
| Construction  | Probably only bladed once  |
| Use           | 4-WD trucks  |
| Purpose       | Unknown, dead ends   |
| Maintenance   | None   |
| Determination | Way  |
| Feature       | Typical Condition of Route/Way   |
| Feature notes | Best section of route  |
| Other notes   | This way is not accessible because the road to access it (Red Wing Ranch Road) is closed. See point 33 |


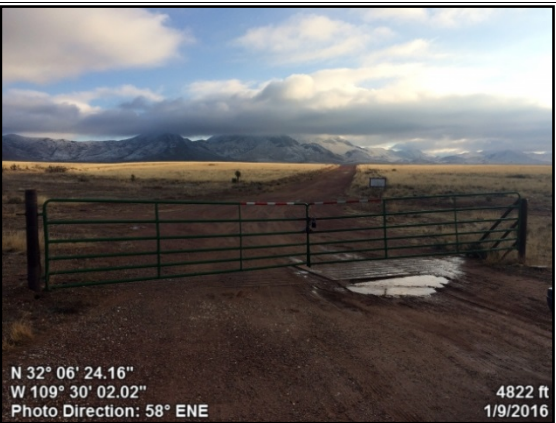
**Point 032**

N 32° 07' 01.94"  
 W 109° 25' 23.81"  
 Photo Direction: 170° S  
 5655 ft  
 1/10/2016

| Attributes    |                               |
|---------------|-------------------------------|
| Point         | 33                            |
| Unit name     | Bowie Mountain                |
| Route name    | Red Wing Ranch Rd             |
| Construction  | Bladed & Cut and Fill         |
| Use           | 2-WD Passenger vehicle        |
| Purpose       | Private land access           |
| Maintenance   | Very recent blade - past year |
| Determination | Road                          |
| Feature       | Closure point                 |
| Feature notes | None                          |
| Other notes   | Road is closed by gate        |



**Point 033**

N 32° 06' 24.16"  
 W 109° 30' 02.02"  
 Photo Direction: 58° ENE  
 4822 ft  
 1/9/2016

| Attributes    |                                |
|---------------|--------------------------------|
| Point         | 35                             |
| Unit name     | Bowie Mountain                 |
| Route name    | Not Named                      |
| Construction  | Bladed                         |
| Use           | 4-WD trucks                    |
| Purpose       | Well/Water tanks               |
| Maintenance   | Very recent blade - past year  |
| Determination | Road                           |
| Feature       | Typical Condition of Route/Way |
| Feature notes | Best section of route          |
| Other notes   | Cherrystem                     |

**Point 035**

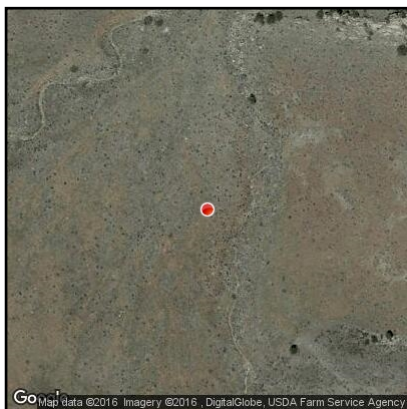



N 32° 06' 30.78"  
 W 109° 26' 22.23"  
 Photo Direction: 339° NNW  
 5245 ft  
 1/11/2016

Bowie Mountain Proposed LWC

| Attributes    |  |
|---------------|--|
| Point         | 36   |
| Unit name     | Bowie Mountain                             |
| Route name    | Not Named                                  |
| Construction  | Bladed                                     |
| Use           | 4-WD trucks                                |
| Purpose       | Well/Water tanks                           |
| Maintenance   | Very recent blade<br>- past year           |
| Determination | Road                                       |
| Feature       | Junction of<br>Routes/Ways                 |
| Feature notes | Portions of road<br>are recently<br>bladed |
| Other notes   | Cherrystem                                 |

Point 036



| Attributes    |  |
|---------------|--|
| Point         | 37   |
| Unit name     | Bowie Mountain                               |
| Route name    | Not Named                                    |
| Construction  | Bladed                                       |
| Use           | 4-WD trucks                                  |
| Purpose       | Well/Water tanks                             |
| Maintenance   | Very recent blade<br>- past year             |
| Determination | Road   |
| Feature       | Typical Condition<br>of Route/Way            |
| Feature notes | Large flattened<br>area near water<br>tanks. |
| Other notes   | Cherrystem                                   |

Point 037

