Tumacacori Potential Wilderness Area Evaluation [PW-05-03-D2-001]

Area Overview

Size and Location: The Tumacacori Potential Wilderness Area (PWA) encompasses 37,330 acres. This area is located in the Tumacacori and Atacosa Mountains, which are part of the Nogales Ranger District of the Coronado National Forest in southeastern Arizona (see Map 4 at the end of this document). The Tumacacori PWA is overlapped by 30,305 acres of the Tumacacori Inventoried Roadless Area, comprising 81 percent of the PWA.

Vicinity, Surroundings and Access: The Tumacacori Potential Wilderness Area is approximately 50 miles southeast of Tucson, Arizona. The Tumacacori PWA is centrally located within the mountain range and encompasses an area from Sardina and Tumacacori Peaks at the northern end to Ruby Road at the southern end and from the El Paso Natural Gas Line on the eastern side to Arivaca Lake on its western side. The PWA is adjacent to the Pajarita Wilderness Area, Arivaca Lake and Peña Blanca Lake. Both Pena Blanca and Arivaca Lakes are managed by the Arizona Game and Fish Department.

Interstate 19 (I-19) connects the Tucson metropolitan area to the City of Nogales and the incorporated community of Sahuarita. The unincorporated communities of Green Valley, Arivaca Junction-Amado, Tubac, Tumacacori-Carmen and Rio Rico, Arizona and Sonora, Mexico are within close proximity to the eastern side of the Tumacacori Mountains and the PWA.

State Highway 289 provides access from I-19 across private and National Forest System lands into the Tumacacori Ecosystem Management Area to Peña Blanca Lake and Ruby Road (NFS Road 39). Ruby Road is a major arterial and primary access road into and through the ecosystem management area and connects State Highway 289 to Arivaca Road (a Pima County road). The portion of Ruby Road outside the proclaimed Forest boundary is maintained by Pima and Santa Cruz Counties. Arivaca Road connects to State Highway 286 to the west and to I-19.

The primary motorized access route into the Tumacacori Ecosystem Management Area at the northern and northwestern end and into the PWA is Sardina Canyon Road. Sardina Canyon Road provides access for high-clearance four-wheel-drive vehicles and is also called Red Springs Road (NFS Road 684). Sardina Canyon Road provides access to the National Forest from both I-19 at the Chaves Interchange and Arivaca Road through Pima County's Sopori Ranch. Red Springs Road also provides motorized vehicular access to Sardina Well Road (NFS Road 4138). Sardina Well Road provides access for high-clearance four-wheel-drive vehicles into Lobo Canyon at the PWA and to NFS Road 4874. NFS Road 4874, a high-clearance four-wheel-drive road, provides access to within ½ mile of the PWA.

Bear Grass Road (NFS Road 4128) provides motorized access from South Arivaca Ranch Road (a Pima County Maintained Road) into the western side of the ecosystem management area and the PWA to East Fork Road (NFS Road 4133). East Fork Road provides motorized access to Apache Peak Road (NFS Road 4134) and to within a quarter mile of the PWA. NFS Road 4134 provides motorized access into the PWA.

Apache Well Road (NFS Road 4857) provides motorized access from Bear Grass Road into the National Forest on the western side of the PWA to Apache Peak Road. Jalisco Canyon Road (NFS Road 4143) provides motorized access from Bear Grass Road into the National Forest to the western side of the PWA. There is no documented right-of-way (written title) for the portions of Apache Well Road and Jalisco

Canyon Road across State Trust and private lands from Bear Grass Road to the proclaimed national forest boundary.

The primary access points to the southern end of the PWA are from Ruby Road (NFS Road 39) and State Highway 286. Ruby Peak Road (NFS Road 4178) provides motorized access from Ruby Road to the southern side the PWA. Corral Nuevo Road (NFS Road 4186) provides motorized access from Ruby Road to the Apache Pass Dam that is within half a mile of the PWA and to Oak Tank Road (NFS Road 4187). Oak Tank Road provides motorized access within a quarter mile of the PWA and to Red Rock Tank (NFS Road 4114). Red Rock Tank provides motorized access to within a quarter mile of the PWA.

On the eastern side of the PWA, Wise Mesa Road (NFS Road 4191) provides access for high-clearance four-wheel-drive vehicles from Camino Ramanote Road, a Santa Cruz County road in the Rio Rico Subdivision, and to Castle Tank Road (NFS Road 4193) and Lost Tank Road (NFS Road 4198). NFS Roads 4193 and 4198 provide access for high-clearance four-wheel-drive vehicles within a quarter mile of the PWA. Also providing access for high-clearance four-wheel-drive vehicles to within a quarter mile of the PWA are Pipeline Road (NFS Road 4151) and Fresno Road (NFS Road 4148). Rock Corral Road (NFS Road 4145) provides access for high-clearance four-wheel-drive vehicles to within a half mile of the eastern side of the PWA.

Atascosa Trail is the only nonmotorized NFS trail into the PWA. Atascosa Trail goes north from Ruby Road (NFS Road 39) to the Atascosa Lookout.

Although there appears to be adequate motorized road access to the Tumacacori PWA, permanent legal public access from the northern, eastern and western sides of the PWA are a concern. Many roads that provide physical access into the ecosystem management area and to the PWA from Arivaca Road and other roads that are currently open and used by public land users through the adjacent non-Federal land do not have legal right-of-ways. Therefore, because no legal right of public access exists for these roads, permanent legal public access to the National Forest System lands and the PWA will continue to be an issue.

Boundaries: The boundary of the PWA follows Chiminea Road (NFS Road 4131) and Ruby Peak Road (NFS Road 4178) on the southwestern side. The remainder of the boundary follows natural features, such as ridgelines and high points, in the Tumacacori Mountain Range.

Geography and Topography: The Tumacacori Potential Wilderness Area is characterized by a large irregular area encompassing the southern portion of the Tumacacori Range, the Atascosa Mountains, Bartolo Mountain and Ruby Peak. Covering an area of 37,330 acres, this PWA rises from a low point of 3,720 feet above sea level in Peck Canyon to a maximum elevation of 6,422 feet at Atascosa Peak.

Lying near the western edge of the Mexican Highlands Subprovince, the north-south-trending structural block that forms the Tumacacori, Atascosa and Pajarito Mountains is atypical of the Southern Basin and Range Province in southeastern Arizona, being only bounded by the Santa Cruz River Basin along its eastern flank. Its western flank is characterized by the partial development of several small basins separating it from uplifted areas in the Cerro Colorado Mountains, Las Guijas Mountains, San Luis Mountains and Cobre Ridge. The geological setting of the Tumacacori PWA is primarily characterized by a thick sequence of silica-rich volcanics (i.e., rhyolite) of middle Tertiary age which overlie more complexly deformed older Mesozoic volcanics, sediments and intrusive rocks exposed along its western boundary and several miles north of its northern boundary. Located south of the Tumacacori PWA, the Pajarito Mountains occur within a structurally controlled erosional window which exposes Mesozoic volcanics along the Arizona-Sonora border.

Appearance and Vegetation: Due to steep topography, the vegetation is largely unmodified pinyon, juniper and evergreen oak woodland and desert grassland communities, upper elevation reach the lower Madrean Pine-oak woodlands. Species include Madrean evergreen oaks such as Arizona white oak (*Quercus arizonica*), Emory oak (*Quercus emoryi*), silverleaf oak (*Q. hypoleucoides*), Mexican blue oak (*Quercus oblongifolia*), Sonoran scrub oak (*Q. turbinella*) and Toumey oak (*Quercus toumeyi*). Other tree species include border pinyon (*Pinus discolor*), Chihuahua pine (*Pinus leiophylla*), alligator (*Juniperus deppeana*) and redberry juniper (*J. coahuilensis*). Interior chaparral species [including manzanita spp. (*Arctostaphylos* spp.), mountain mahogany (*Cercocarpus montanus*), silktassel (*Garrya wrightii*), and sumacs (*Rhus* spp.) may be present but do not codominate. Rosette scrubs such as Agaves (*Agave* spp.), yuccas (*Yucca* spp.), sotol (*Dasylirion wheeleri*) and beargrass (*Nolina microcarpa*) as well as desert scrub species such as acacias (*Acacia* spp.), mimosa (*Mimosa* spp.) mesquite (*Prosopis* spp.) dominate to the lower elevation desert scrub component. Cactus species such as cholla (*Cylindropuntia* spp.), prickly pear (*Opuntia* spp.), hedgehogs (*Echinocereus* spp.), and barrel cactus (*Ferocactus* spp.) are also common component of this lower vegetative community. The ground cover is dominated by a very diverse community of mostly warm-season grasses such as threeawns (*Aristida* spp.), blue grama (*Bouteloua gracilis*), sideoats grama (*Bouteloua curtipendula*), Rothrock grama (*Bouteloua rothrockii*), Arizona cottontop (*Digitaria* californica), plains lovegrass (*Eragrostis intermedia*), curly-mesquite (*Hilaria belangeri*), green sprangletop (*Leptochloa dubia*), muhly grasses (*Muhlenbergia* spp.) and Texas bluestem (*Schizachyrium cirratum*). Overstory canopy is less than 20 percent in about 60 percent of the community. Riparian areas have a variety of upland and obligate riparian species, including Fremont cottonwood (*Populus fremontii*), velvet ash (*Fraxinus velutina*), Arizona sycamore (*Platanus wrightii*), Arizona walnut (*Juglans major*) and numerous willows (*Salix* spp.). Historically, woody species have been removed as a source of firewood where they are accessible. Many if not most of the woody species resprout after harvesting and remain on the landscape. This practice probably reduced the number of large hardwood trees and snags that would have historically occurred.

Current Uses: Visitors use this PWA for a variety of recreational activities. The Atascosa Trail is used for hiking. Ruby Road (a popular sightseeing route) and one other road lie adjacent to the boundary, and several roads end at the boundary. Use along roads includes motorized touring and dispersed uses such as camping and hunting. As a result of this activity on adjacent roads, visitors often venture into the PWA. Five other existing roads within the PWA are currently in use, but have been recommended for decommissioning. Topography is rugged, so there is limited cross-country travel through the PWA. There are active grazing allotments within the Tumacacori Potential Wilderness Area, all of which have valid permitted uses. This PWA is within Fire Management 1 (FMU 1). Fire management units divide the landscape into smaller geographic areas to describe the differences in management strategies based on safety considerations, as well as physical, biological and social characteristics. FMU 1 indicates fire adapted vegetation communities. Current fire management includes a full range of responses, from aggressive initial attack to managing natural ignitions to achieve desired forest plan objectives when risk is within acceptable limits.

Capability

Naturalness

The ruggedness of the Tumacacori Potential Wilderness Area has allowed it to retain a semiprimitive setting. The area is habitat for Mexican spotted owl, northern gray hawk, Chiricahua leopard frogs, lesser long-nosed bat, jaguar and rare plants. The area of the Tumacacori Mountains does not have perennial rivers or streams and there are no know water quality issues. However, there has been mining activity in the past that may impact water quality, but no water samples have been tested. Some rivers and streams within the area have impoundments affecting their free-flowing character. Night skies have moderate light

pollution from the communities of Rio Rico and Nogales. One feature that detracts from the area's wilderness capability is the presence of nonnative plants scattered throughout, including Lehmann lovegrass, Boers lovegrass and natal grass.

Undeveloped

The Tumacacori Potential Wilderness Area also has had a long history of human use and settlement as evident in its historic and prehistoric sites and structures. The area has had several mining activities and there are obvious signs of this activity within the area. There are also signs of ongoing illegal activity, Border Patrol enforcement and infrastructure within the PWA, which collectively detract from the capability of the area.

Opportunities for Solitude or Primitive and Unconfined Recreation

A person could experience challenging recreation opportunities within this potential wilderness area, including hunting, hiking and backpacking. However, the opportunity to experience solitude and isolation while engaging in challenging recreation activity is minimal due to the sights and sounds from illegal activities along the border. Disturbances from solitude may subsequently occur in these areas from enforcement activities conducted by Border Patrol.

Special Features

The Tumacacori Potential Wilderness Area has unique rock formations and panoramic views that are important as a wilderness characteristic. The area is important to several Native American tribes and has several historic and prehistoric archeological sites that create opportunities for research and education. The area is habitat for numerous species, including Mexican spotted owl, jaguar, lesser long-nosed bat and Chiricahua leopard frog.

Manageability

The boundary of the Tumacacori Potential Wilderness Area excludes numerous Forest Service roads that surround the area. These roads are in close proximity to the PWA and are heavily used, but the terrain prevents vehicles from driving into the PWA. However, there is illegal all-terrain vehicle use within the PWA. The close proximity of this area to the international border with the Republic of Mexico creates many challenges. The combination of illegal activity and U.S. Border Patrol activities and infrastructure make it difficult to manage for wilderness characteristics. There are no additional boundary changes that would enhance the area's wilderness character.

The Tumacacori Potential Wilderness Area overall was rated as **medium** for Capability (for individual scores, see appendix E).

Availability

In the Tumacacori Potential Wilderness Area, most of the current recreational uses and tourism could continue if the area was designated as wilderness. There are eight threatened or endangered species that may be located in the PWA and may require habitat restoration and/or monitoring, which could impact the availability of the PWA. Watersheds within the area are properly functioning. There are numerous water impoundments and continued maintenance of the impoundments. There are ecosystem restoration activities currently planned for the area, which will include the use of chainsaws and all-terrain vehicles. The area is committed through permits for livestock grazing. This current authorization does not conflict with wilderness management or detract from wilderness qualities. There is no potential for timber extraction. There is little or no potential for extraction of locatable minerals. There are no cultural

resources that will be affected by wilderness management. The Tumacacori Potential Wilderness Area is entirely composed of National Forest System lands, as is the adjacent land. The closest private land is approximately a half mile from the PWA boundary and may impact the wilderness character of the area.

The Tumacacori Potential Wilderness Area overall was rated as **medium** for Availability (for individual scores, see appendix F).

Need

Wilderness and Nonwilderness Lands in the Vicinity

The Coronado National Forest has eight wilderness areas comprising 339,553 acres or 19 percent of the Forest. Nationally, wilderness comprises 19 percent of National Forest System lands and within the Southwestern Region only 13 percent of these NFS lands are wilderness. The Coronado National Forest currently equals the national average of National Forest System land as wilderness and exceeds the regional average.

The Forest Service evaluated comparable public lands within a 100-mile radius of the potential wilderness area, which is assumed to be approximately a day's drive. Within 100 miles of the Tumacacori Potential Wilderness Area there are 17 designated wilderness areas totaling about 813,000 acres (see Table 23).

There are significant opportunities for unconfined outdoor recreation experiences outside of the designated wilderness areas within 100 miles of the Coronado National Forest, including over 4.1 million acres of Federal lands. Nonwilderness lands that provide a wilderness-like setting include primitive and semiprimitive nonmotorized areas, inventoried roadless areas, wilderness study areas, BLM National Conservation Areas, and USFWS National Wildlife Refuges. The combined acres of nonwilderness lands in the vicinity are double the amount of designated wilderness within 100 miles of the Coronado National Forest. Therefore, all potential wilderness areas received a low need rating for this factor.

Table 23. Designated wilderness within 100 miles of the Tumacacori Potential Wilderness Area

Wilderness Area	Acres
Aravaipa Canyon Wilderness	19,700
Baboquivari Peak Wilderness	2,040
Chiricahua National Monument Wilderness	10,290
Chiricahua Wilderness	87,700
Coyote Mountains Wilderness	5,100
Dos Cabezas Mountains Wilderness	11,700
Galiuro Wilderness	76,317
Miller Peak Wilderness	20,228
Mount Wrightson Wilderness	25,260
Organ Pipe Cactus Wilderness	312,600
Pajarita Wilderness	7,553
Pusch Ridge Wilderness	56,933
Redfield Canyon Wilderness	6,600
Rincon Mountain Wilderness	38,590
Saguaro Wilderness	70,905
Santa Teresa Wilderness	26,780
Table Top Wilderness	34,400
TOTAL	812,696

Visitor Pressure

Increased demand for additional wilderness in both Arizona and New Mexico should be anticipated based on population growth during the period of 1990 to 2000, which exceeded the national growth rate. Assuming Arizona continues to grow at a rate greatly outpacing the national rate (predicted to be about 3 times the national rate), the number of visits to existing wilderness will continue to increase, and Arizona in particular could benefit from additional wilderness. Public demand increases with proximity to the Phoenix and Tucson population centers, which collectively represent 86 percent of the state's population. Substantial consideration should therefore be given to potential wilderness areas within 100 miles of those cities, in an effort to provide for the growing demand. Some additional public demand for wilderness in the Southwestern Region will occur from the influx of people moving to communities in the vicinity of the National Forests. In terms of geographic distribution of wilderness across all Federal lands, the Southwestern Region is underrepresented with 12 percent of Federal land in wilderness acres, as compared with 17 percent nationally. Desirability of the scenic mountainous settings available in the rural communities within and adjacent to national forests in the Southwestern Region will attract new residents and retirees, further contributing to a growth in wilderness visitation. All of the PWAs were rated high for this factor based on high current use on existing wilderness areas, surrounding population increases, and high demand for additional wilderness on the Coronado National Forest.

Primitive Sanctuary for Plants and Wildlife

As part of the forest plan revision process, the Coronado National Forest has developed a list of species that warrant consideration in the population viability evaluation. This species list includes 255 threatened, endangered, sensitive, and highly vulnerable species (G1-G2 or T1-T2) that are known to occur on the Coronado National Forest. Appendix I shows the total number of these species that are known to occur in each potential wilderness area, provided the Forest Service has adequate information on habitat

distribution. Although none of these species require a primitive environment to survive, all listed species would benefit from reduced disturbance. The combined number of threatened, endangered, sensitive, and highly vulnerable species on this PWA rates in the medium range (30-60 species) for this factor.

Capacity of Established Wilderness Areas

There are eight existing wilderness areas and three wilderness study areas (WSA) on the Coronado National Forest. The wilderness areas and WSAs range in size from 7,400 acres to 87,700 acres. Accessibility by motor vehicles ranges from easily accessible to remote, hard-to-access wilderness. Trail systems within wilderness areas range from extensive trail systems to very minimal systems. Visitor use is considered high in the wilderness areas adjacent to the Tucson metropolitan area, including the Pusch Ridge and Mount Wrightson Wildernesses. Encounters with other wilderness visitors in both areas are high. For these two areas there are limited management opportunities to accommodate additional use. The Coronado National Forest also has wilderness areas that are remote, difficult to access, and where visitor use is considered low. Here, additional demand could be accommodated without management changes.

Wilderness Areas with Similar Landform and Vegetation

Consideration was given to how the landform and ecological condition of the Tumacacori Potential Wilderness Area might be broadly similar to existing wilderness areas within the National Wilderness Preservation System. All designated wilderness areas in Arizona and New Mexico were compared using ecological sections and vegetation communities.

The Tumacacori Potential Wilderness Area is in the Basin and Range Section of the Chihuahuan Semi-Desert Province (Section 321A, McNab and Avers 1994). The Basin and Range Section encompasses 24,270 square miles, of which 749 square miles (approximately 3 percent) occur in 20 designated wilderness areas.

The Tumacacori Potential Wilderness Area includes 4 of the 16 underrepresented vegetation communities in the Southwestern Region of the Forest Service (see Table 24). Of these four vegetation communities, the Tumacacori PWA would contribute an additional 0.3 percent to wilderness in Madrean Encinal Woodland and 0.1 percent in Interior Chaparral. The vegetation communities in this PWA consist of 50.50 percent regionally underrepresented vegetation types, therefore the PWA rates in the medium range (50-90 percent) for this factor.

Table 24. Southwestern Region underrepresented vegetation communities found in the Tumacacori Potential Wilderness Area (PWA)

Underrepresented Vegetation Communities	Acres within Tumacacori PWA	Percent of Tumacacori PWA	Percent Addition of Tumacacori PWA to Wilderness
Interior Chaparral	331	1.0	0.1
Madrean Encinal Woodland	16,484	48.4	0.3
Madrean Pine Oak Woodland	245	0.7	0.0
Riparian Areas	130	0.4	0.0
Grand Total	**17,190**	**50.5%**	**0.4%**

The Tumacacori Potential Wilderness Area overall was rated as **low** for Need (for individual scores, see appendix G).

Public Input

Public involvement and input is an essential component of the potential wilderness evaluation process. Beginning in March 2010, six open-house events were held in geographic locations across the Forest's service area to present the draft revised forest plan and plan-related documents to the public. The initial evaluation of the Tumacacori Potential Wilderness Area was shared to elucidate public input on the need for new wilderness areas. Approximately 200 individuals attended, representing 54 groups and organizations. Each open house was structured to provide flexibility to attendees, in that they did not need to commit a specific or large block of time to participate. However, many people stayed for two hours or more, engaging in discussions with the resource specialists and other participants.

Initial public feedback on the Tumacacori PWA encouraged consideration of the area for wilderness designation, primarily supported by the proponents of Congressman Raul Grijalva's proposed legislation for the Tumacacori Highlands Wilderness. Those supporting a wilderness recommendation argued that the area should be rated higher for wilderness capability. Wilderness proponents also encouraged designation to provide additional refugia for endangered and threatened wildlife in the area, as well as an expansion of the initially drawn boundary. Opposing public input regarding the Tumacacori PWA requested a less stringent wildlife assessment and a lowered need for wilderness in the Tumacacori Mountains. The updated version of the Tumacacori Potential Wilderness Evaluation Report will be shared with the public for feedback in the summer of 2013, in conjunction with the 90-day public comment period for the revised forest plan. Additional public feedback will be considered and incorporated into the reports, as appropriate.