

Additional Tables

From Chapter One:

Table 1-1. Identified Scoping Issues Addressed in the Formulation of Alternatives

Resource Category	Issue	Applicable to Agua Fria National Monument	Applicable to Bradshaw-Harquahala Planning Area
Soil, Air, and Water Resources	Conduct hydrological studies of watershed.	X	X
	Restrict access to surface water from miners.	X	X
	Restrict access to surface water from OHV users.	X	X
Biological Resources	Preserve habitat for bird and wildlife viewing.	X	X
	Reintroduce native fish species to aquatic systems in the area.	X	X
Riparian Resources	Protect the instream flow of the Agua Fria River.	X	X
	Restrict access by livestock.	X	X
Cultural Resources	Prevent grazing in areas having significant cultural resources.	X	X
	Allow only limited access to existing sites, such as through guided tours.	X	X
Visual Resources	Preserve and keep land untouched.	X	X
	Preserve natural beauty.	X	X
Recreation	Allow for recreation use.	X	X
	Establish educational programs for all users of public lands.	X	X
	Restrict shooting.	X	X
	Better maintain trails and encourage users to stay on trails.	X	X
	Build visitor center.	X	
	Develop multiple use areas.		X
Transportation	Create environmentally sensitive transportation system.	X	X
	Close and rehabilitate all vehicle routes that threaten cultural and biological resources.	X	X
	Designate primitive areas and motorized areas.	X	X
	Maintain public access.	X	X
	Limit access to discourage extensive use.	X	

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	Allow public access for non-motorized modes only.	X	X
Off-Highway Vehicles (OHV)	Limit OHV use.	X	X
	Maintain and allow OHV use on existing trails.	X	X
	Develop more OHV trails.	X	
Rangeland Management/Grazing	Limit grazing.	X	X
	Continue leases for grazing.	X	X
Mineral Resources	Reduce and limit mining.	X	
	Continue existing mining leases.		X
	Expand mining.		X
Fire Management	Return natural fire regime to mesa tops.	X	X
	Return natural fire cycles.	X	X
Special Area Designations	Inventory wilderness.	X	X
ACECs	Designate Agua Fria River as an area of critical environmental concern (ACEC).	X	
Lands and Realty	Remove land from the disposal list.		X
	Manage lands to preserve cultural and biological resources.	X	X
	Stop urban sprawl and prohibit new development.		X
	Restrict development to prevent groundwater depletion.		X

Table 1-2. Identified Management Concerns Addressed in the Formulation of Alternatives

Resource Category	Management Concern	Applicable to Agua Fria National Monument	Applicable to Bradshaw-Harquahala Planning Area
Soil, Air, and Water Resources	Identify and recover, where practical, “limited” waters.	X	X
	Identify and implement restoration where needed for Category I watersheds in the planning area.	X	X
	Address activities affecting air quality standards.	X	X
	Ensure availability of water resources; inventory and quantify water resources.	X	X
	Identify surface and groundwater resources, including instream flows, and determine the flows needed to preserve the wild and scenic river segments in their free-flowing condition.	X	
Biological Resources	Assess and minimize impacts that current and future land uses could have on sensitive wildlife habitat areas by fragmentation, land ownership patterns, increased visitor use, and the dewatering of streams and springs on public lands.	X	X
	Maintain existing functional wildlife habitat improvements and adequate water distribution for wildlife populations.	X	X
	Improve plant or wildlife diversity, with human intervention if needed, to increase biological diversity.	X	X
	Assess and manage for invasive plant and wildlife species.	X	X
Cultural Resources	Determine factors that will guide how specific sites, or categories of sites, are allocated to use categories (scientific, traditional, public, and experimental uses).	X	X
	Identify significant cultural resources and protect them from looting, vandalism, natural deterioration, and damage from vehicle traffic and other land uses.	X	X
	Determine how to best provide opportunities in the area for public visitation, education, and commercial tours, while protecting cultural resources.	X	X
	Address exclusion and protection of cultural resources in Recreation and Public Purpose Act leases.		X
	Address measures to protect sites, landmarks, or use areas that have sacred or other traditional importance to tribes.	X	X
	Determine how to protect and allow for proper research or educational uses of significant paleontological resources.	X	X

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	Manage portions of the monument that include Perry Mesa Archaeological District in coordination with Tonto National Forest.	X	
Visual Resources	Evaluate VRM impacts from existing roads, transmission lines, and other structures within the planning area.	X	X
	Complete (or revise) the scenic quality assessment.	X	X
Visual Resources	Develop a strategy to address increasing uses of dispersed camping.	X	X
	Address impacts of wildcat dumping and littering.	X	X
	Designate utility corridors in accordance with the Proclamation	X	
Wild Horses and Burros	Maintain a viable population of burros at the appropriate management level (AML), minimizing impacts to wilderness and wildlife habitat and providing increased recreational opportunities.		X
Recreation	In management plans, balance the consumptive uses of visitors with BLM's requirements to protect resources within the planning area.	X	X
	Consider public opinion and the Proclamation when determining the level of services that will be provided within the monument (e.g. restroom facilities, types of routes, parking areas).	X	
	Determine and address points of administrative and public access.	X	X
	Determine current and future recreational activities (including commercial activities) and associated impacts.	X	X
Off-Highway Vehicles (OHVs)	Address the impacts from increased motorized access to high-value areas with sensitive resources defined in the Proclamation.	X	
	OHV use on public lands has provided for greater motorized access into areas that formerly supported more solitary uses.	X	X
	Address conflict that may exist between motorized and non-motorized users.	X	X
	Determine which roads will remain open, limited, or closed.	X	X
	Evaluate if alternative BLM managed and would better support OHV, or if OHV routes should be "interpretive."	X	
	Establish educational and volunteer opportunities public land users.	X	

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	Determine what zones that will support specific types of use from setting and natural and social attributes.	X	
Transportation Network	Coordinate with public entities to assure continued access and to further determine access issues and concerns.	X	X
	Maintain public access and multiple uses where appropriate.	X	X
	Provide for an environmentally sensitive transportation system.	X	X
Transportation Network	Address the needs of disabled individuals.	X	X
	Increased access may result in recreation sprawl, affect visitor experiences, threaten cultural and biological resources, and degrade values set forth by the Proclamation.	X	X
Rangeland Management	Invasive wildlife species may be harming native wildlife in some areas.	X	X
Invasive Species	Implement efforts to eradicate invasive wildlife species where warranted in cooperation with the Arizona Game and Fish Department (AGFD).		X
	Identify, map, and treat noxious weeds.	X	X
Grazing	Retire grazing from allotments in wilderness areas where there is voluntary opportunity or if BLM acquires the allotment.		X
	Redesignation of public land to other uses may require size and shape adjustments to current grazing allotments.	X	X
	Evaluate currently scheduled range improvements and determine if these will accomplish land management goals.	X	X
	Reevaluate perennial and ephemeral grazing classifications.		X
	Grazing allotments may affect natural or cultural objects.	X	
	Determine if any lessees do not consistently use allotments.	X	
	Determine if unused or abandoned allotments can be retired.	X	
Riparian Habitat	Evaluate impacts from OHV use and improper livestock grazing.	X	X
	Areas may have grazing restrictions established to facilitate proper functioning condition or other vegetation goals.	X	
	Determine current water rights and water needs to maintain existing riparian corridor, both above and	X	

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	below ground.		
	Determine the level of instream flow needed to maintain corridors, and evaluate current instream flow.	X	
Rangeland Management Riparian Habitat (Cont'd)	Maintain surface and subsurface flows in the Agua Fria River, and its tributaries to support riparian and wildlife resources.	X	
	Determine amount of surface and subsurface flows needed to maintain habitat.	X	
Mineral Resources	Develop abandoned mine management policies.	X	X
	Determine what lands have mineral potential, and clarify responsibilities for split-estate lands.		X
	Determine post-mining land uses.	X	X
Fire Management	Assess land use patterns to determine areas where natural fire cycles can be allowed to return.	X	
	Evaluate fuel treatments to reduce threat of catastrophic wildfires and determine proper treatments for local environments.	X	
	Evaluate the current fire plan, and incorporate portions in the RMPs.		X
	Establish guidelines for prescribed burning.	X	
	Evaluate possible impacts on special areas where, in the event of a wildfire, restoration and rehabilitation have a reasonable chance for success and potential resource damage justifies the attempt.	X	
	Balance proposed fuel treatments with authorized activities, the Proclamation, laws, and regulations.	X	X
	Determine special fire management considerations needed for the national monument and the vicinity.		X
	Evaluate constraints for fire activities.	X	
Wilderness Characteristics	Determine if certain public lands have wilderness character.	X	X
	Manage lands with primitive recreation values to preserve those values.	X	X
ACECs	ACEC designations may be warranted to protect sensitive areas or resources, or to address safety hazards.	X	X
	Determine if ACEC designations are suitable, considering criteria outlined in the Proclamation.	X	
	Management prescriptions may require modification to ensure consistency with the Proclamation.	X	
Wild and Scenic Rivers	Assess unique characteristics of the Hassayampa River.		X
	Ensure that the Agua Fria River is managed to preserve its wild and scenic eligibility and associated resources.	X	

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	Consider threats to the remarkable values of the Agua Fria River and determine ways to maintain and protect the river.	X	
Health and Safety <i>Hazardous Materials and Solid Waste</i>	Update management plans for the storage, use, and disposal of hazardous materials either directly by BLM or by lessees of BLM-managed lands.	X	X
	Determine possible hazardous materials used and or stored by BLM or by lessees of BLM-managed lands.	X	X
Health and Safety <i>Hazardous Materials and Solid Waste</i>	Determine if potential illegal hazardous waste sites exist and develop a strategy to improve these sites.	X	X
	List and rank risks at former mining sites, prospector pits, and ore processing sites.	X	X
	Identify, prioritize, and mitigate natural features that might threaten public health and safety.	X	X
Lands and Realty <i>Land Tenure Adjustment</i>	Assess the potential for acquiring and managing lands managed by the Arizona State Land Department (ASLD).		X
	Assess the availability of land for waste disposal facilities.		X
	Determine locations of rights-of-way that will be restricted or prohibited, to protect federal lands and resources.	X	X
	Develop criteria and determine if inholdings and suitable adjacent lands will be acquired from willing sellers.	X	
Utility and Transportation Corridors and Communication Sites	Evaluate routes for major roads and utilities. Determine which lands will be made available for transportation and utility corridors.		X
	Determine which, if any, lands will be made available for communication sites.	X	X
	Assess the placement of the Black Canyon utility corridor and address possibly relocating it. Determine avoidance areas and exclusion areas of rights-of-way corridors in the monument.	X	
	Expansion of the I-17 right-of-way may affect monument values.	X	

From Chapter Two:

Table 2-7. Desired Future Conditions and Land Use Allocations for Vegetation Communities in Arizona

Vegetation Community Type	Desired Future Conditions (DFC)	Land Use Allocation
Upland Sonoran Desert Scrub	DFCs are for an adequate cover and mix of natural plant species that have good vigor. For fire management and fire ecology, DFC are for fire to control or reduce the exotic annual weeds such as red brome and limit woody vegetation to nonhazardous levels.	2
Lower Sonoran Desert Scrub	DFCs are for an adequate cover and a mix of natural plant species that have good vigor. For fire management and fire ecology, DFC are for fire to control or reduce the exotic annual weeds such as red brome and to limit woody vegetation to nonhazardous levels.	2
Great Basin Pinyon-Juniper Woodland	DFCs are for annual weeds such as cheatgrass to be controlled; ladder fuels and downed woody debris to be limited or not present; and juniper and piñon pine tree densities and cover to occur at their historic range of variation.	1
Great Basin Desert Scrub	DFCs are for fire to naturally reduce annual weed densities and cover, limit, or reduce the invasion of juniper. Densities of shrubs, such as big sagebrush, are to be maintained within their historic range of variability.	1
Plains and Great Basin Grasslands	DFCs are for a predominance of perennial grass cover and a reduced cover of annual grasses. DFC are for fire to naturally inhibit the invasion of woody shrubs such as rabbitbrush, snakeweed, and big sagebrush.	1
Semi-desert Grassland	DFCs are for perennial grass to cover its historic range of variability and annual grass cover to be reduced. DFC are for fire to naturally inhibit the invasion of woody plants such as juniper, tarbush, whitethorn, and creosotebush.	1
Interior Chaparral	DFCs are for fire to naturally maintain shrub cover while reducing annual grass cover, control the invasion of wood plants such as juniper and piñon pine, and reduce the average age of chaparral stands through controlled fire or mechanical treatment.	1
Riparian	DFCs are for annual weed cover and density to be controlled and ladder fuels and downed woody debris to be limited or not present. Disturbances such as livestock grazing, mining, and OHV travel, which can potentially reduce natural vegetation cover and vigor, are managed to maintain adequate cover and mix of natural plant species.	2
Land Use Allocation 1:	Wildland Fire Use	Areas suitable for wildland fire use for resource management benefit.
Land Use Allocation 2:	Non-Wildland Fire Use	Areas not suitable for wildland fire use for resource management benefit.

From Chapter Three:

Table 3-5. Population and Household Characteristics

	State	County		Human Resource Unit (HRU)				
	Arizona	Maricopa	Yavapai	Wickenbur	Prescott	Lake Pleasant	Phoenix	Buckeye
<u>Total Population</u>								
1990 Census	3,665,228	2,122,101	107,714	8,363	59,515	117,996	1,952,531	21,794
2000 Census	5,130,632	3,072,149	167,517	10,744	92,826	292,540	2,677,213	40,918
% Change	40	45	56	28	56	148	37	88
<u>Total Households</u>								
1990 Census	1,368,843	807,560	44,778	3,711	24,655	54,220	735,648	6,877
2000 Census	1,901,327	1,132,886	70,171	4,972	38,901	123,327	973,292	12,114
% Change	39	40	57	34	58	127	32	76
<p><i>Note:</i> HRUs represent distinct areas and do not necessarily coincide with jurisdictional boundaries. Source: U.S. Census Bureau and JKA.</p>								

Table 3-6. Comparison of Total Housing Units and Average Value of Homes

	State	County		Human Resource Unit				
	Arizona	Maricopa	Yavapai	Wickenburg	Prescott	Lake Pleasant	Phoenix	Buckeye
<u>Total Housing Units</u>								
1990 Census	1,659,430	952,041	54,805	5,067	59,515	67,391	864,337	9,015
2000 Census	2,189,189	1,250,231	81,730	6,414	92,826	142,337	1,068,075	13,536
<i>% Change</i>	32	31	49	27	56	111	24	50
1990 Avg. Val., Owned Home	\$80,100	\$102,650	\$101,911	\$88,711	\$104,881	\$102,131	\$101,553	\$75,185
2000 Avg. Val., Owned Home	\$121,300	\$166,098	\$170,962	\$151,261	\$168,944	\$197,433	\$158,426	\$143,723
<i>% Change</i>	51	62	68	71	61	93	56	91
<p><i>Note:</i> HRUs represent distinct areas and do not necessarily coincide with jurisdictional boundaries. Source: U.S. Census Bureau and JKA.</p>								

Table 3-12. Ethnic Population Characteristics

% of Total Population (by Race)	County		Human Resource Unit				
	Maricopa	Yavapai	Wickenburg	Prescott	Lake Pleasant	Phoenix	Buckeye
<u>White</u>							
1990 Census	85	96	95	96	92	85	72
2000 Census*	80	94	94	95	93	78	75
% Change	6	-2	1	1	1	9	3
<u>Black or African American</u>							
1990 Census	4	0	0	0	1	4	2
2000 Census*	4	0	0	0	2	4	4
% Change	0	0	0	0	100	0	100
<u>American Indian/Alaska Native</u>							
1990 Census	2	2	1	1	0	2	13
2000 Census*	2	2	1	1	0	2	8
% Change	0	0	0	0	0	0	-38
<u>Asian/Hawaiian/Pac. Island</u>							
1990 Census	2	1	1	0	0	2	1
2000 Census*	2	1	0	1	2	3	1
% Change in Asian Population	0	0	0	100	200	50	0
<u>Hispanic/Latino</u>							
1990 Census	16	6	8	6	10	17	22
2000 Census	25	10	11	8	9	27	26
% Change	56	67	38	33	-10	59	18
<i>Notes:</i> *Race counts exclude those who indicated that they are of two or more races. That is, 2000 race variables only include those who said they are of one race. HRUs represent distinct areas and do not necessarily coincide with jurisdictional boundaries. Source: U.S. Census Bureau and JKA.							

From Chapter Four:

Table 4-2. Population Growth and Emissions Generated by Land Disposal Parcels Inside Air Quality Nonattainment Areas.

Alternative	Emission Factors		Parcels Within Ozone Nonattainment Area			Parcels Within PM ₁₀ Nonattainment Area		
	NO _x ⁽¹⁾ (Tons/year per capita)	PM ₁₀ ⁽²⁾ (Tons/year per acre of developed land)	Land Disposal Acres	2025 Population	NO _x Emissions (tons/yr)	Land Disposal Acres	2025 Population	PM ₁₀ Emissions (tons/yr)
A	0.027	0.0487	980	3,390	92	1,060	4,060	51
B	0.027	0.0487	990	3,415	92	10,870	18,755	529
C (160 acre parcels)	0.027	0.0487	325	1,785	48	405	1,910	20
C (5000 acres or less)	0.027	0.0487	1,925	4,535	122	3,640	5,515	177
D	0.027	0.0487	0	0	0	0	0	0
E	0.027	0.0487	1,290	3,020	82	2,170	4,450	106
			Total Regional NO _x Emissions from All Existing Sources Within Ozone Nonattainment Area (Year 1999)		81,000 ⁽¹⁾	Total Regional PM ₁₀ Emissions from All Existing Sources Within PM ₁₀ Nonattainment Area (Year 2001)		79,500 ⁽³⁾
(1) Based on emission and population data from 1999 Periodic Ozone Emission Inventory (MAG, 2002)								
(2) Based on regional PM ₁₀ modeling data from MAG (Chiou personal communication)								
(3) Regional PM ₁₀ emission estimate from MAG, 2000.								

Example calculation (NO_x Emissions, Alternative A)

NO_x emission factor = 0.027 tpy/capita

Alternative A population increase = 6,100 persons

Annual NO_x emissions = (0.027 tpy/capita) x (6,100 persons) = 165 tons/yr of NO_x

Example calculation (PM₁₀ Emissions, Alternative A)

PM₁₀ emission factor = 0.0487 tpy/acre of developed land

Alternative A land disposal acreage = 1,355 acres converted to developed land

Annual NO_x emissions = (0.0487 tpy/acre) x (1,355 acres) = 66 tons/yr of PM₁₀

Table 4-4. Acres Closed to Mining by Alternative

Alternative A	
Closed to Saleable Minerals	167,720
Closed to Locatable Minerals	171,680
Closed to Leasable Minerals	171,680
Alternative B	
Closed to Saleable Minerals	224,400
Closed to Locatable Minerals	101,000
Closed to Leasable Minerals	101,000
Alternative C	
Closed to Saleable Minerals	330,940
Closed to Locatable Minerals	188,450
Closed to Leasable Minerals	188,190
Alternative D	
Closed to Saleable Minerals	452,000
Closed to Locatable Minerals	457,664
Closed to Leasable Minerals	464,734
Alternative E	
Closed to Saleable Minerals	167,720
Closed to Locatable Minerals	171,940
Closed to Leasable Minerals	171,680

Table 4-7 - Acres of Inventoried Mineral Potential that would be Closed by Alternative.

Alternative	Mineral Type	Mineral Potential	Federal Acres	Federal Acres Closed	% closed
A – No Action	Saleable	Volcanic and Intrusive Rock	278,890	32,750	11.7
		Marble	6,170	0	0.0
		Sand and Gravel	7,060	450	6.4
	Leasable	Geothermal	45,830	370	0.8
		Oil and Gas	790	6	0.8
		Salt Deposit	45,480	1,620	3.6
	Locatable	High Potential	94,100	3,170	3.4
		Moderate Potential	737,400	60,820	8.2
B	Saleable	Volcanic and Intrusive Rock	278,890	48,910	17.5
		Marble	6,170	6,090	98.7
		Sand and Gravel	7,060	350	5.0
	Leasable	Geothermal	45,830	360	0.8
		Oil and Gas	790	0	0.0
		Salt Deposit	45,480	1,670	3.7
	Locatable	High Potential	94,100	3,950	4.2
		Moderate Potential	737,400	120,430	16.3
C	Saleable	Volcanic and Intrusive Rock	278,890	65,220	23.4
		Marble	6,170	5,620	91.1
		Sand and Gravel	7,060	350	5.0
	Leasable	Geothermal	45,830	0	0.0
		Oil and Gas	790	0	0.0
		Salt Deposit	45,480	1,670	3.7
	Locatable	High Potential	94,100	12,920	13.7
		Moderate Potential	737,400	152,510	20.7
D	Saleable	Volcanic and Intrusive Rock	278,890	93,870	33.7
		Marble	6,170	5,620	91.1
		Sand and Gravel	7,060	450	6.4
	Leasable	Geothermal	45,830	2,030	4.4
		Oil and Gas	790	0	0.0
		Salt Deposit	45,480	14,410	31.7
	Locatable	High Potential	94,100	47,000	49.9
		Moderate Potential	737,400	314,990	42.7
E – Agency Proposed Alternative	Saleable	Volcanic and Intrusive Rock	278,890	48,250	17.3
		Marble	6,170	300	4.9
		Sand and Gravel	7,060	630	8.9

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	Leasable	Geothermal	45,830	370	0.8
		Oil and Gas	790	6	0.8
		Salt Deposit	45,480	1,690	3.7
	Locatable	High Potential	94,100	3,950	4.2
		Moderate Potential	737,400	112,070	15.2