

# RESULTS OF SCOPING

## INTRODUCTION

Public comments received during the scoping period address a variety of resources and resource uses, as well as management considerations. Each comment letter was reviewed and individual comments within each letter were analyzed and separated into issue categories. Public comments and management concerns were separated into approximately 22 different issues, some of which were further separated into sub-issues in those instances when the volume and type of public comment within one general issue warranted separate discussion. For example, OHV use is a sub-issue under Transportation Planning and Access.

A number of public comments regarding how in general the area should be managed without reference to a particular resource or other issue were received. For example, numerous comments expressed a preference that the area be managed as it is currently with no changes. These comments were not placed within any issue category, unless the comment addressed a particular resource. A “No Action Alternative” will be addressed as part of the EIS.

Each of the 22 issues identified below in Table 1 will be carried forward and considered further in the development of alternatives. The 22 issues identified during scoping are discussed in this section, which is organized as follows:

- Issue Summary – A general summary of this issue as reflected in public comment.
- BLM Management Concerns – These concerns may not have been identified by the public during scoping, but will be considered as issues to be addressed through the RMP/EIS. Decisions which have been evaluated and determined valid will be carried forward.
- Agency and Tribal Concerns – Comments provided by tribes and other agencies specific to the particular issue.
- Planning Criteria – Planning criteria relevant to this issue to be used in the development of the RMP/EIS.
- Issues Addressed Administratively – This sub-section only appears when public comments were received concerning this issue category. These issues will not be addressed in the RMP/EIS process as the issue is either addressed through current management and/or is currently being addressed by the YFO independent of this planning effort.
- Issues Not Within BLM Jurisdiction – This sub-section only appears when public comments were received concerning this issue category. These issues will not be addressed in the RMP/EIS process as the issue is either beyond the scope of the current plans or outside the authority of BLM.

Table 1, starting on the next page, provides an index of public comments by issue category that will be addressed through the RMP/EIS process. Table 1 is intended to provide an easy reference to the comments that will be addressed through the RMP/EIS process, by issue category. Individual comments are not repeated in the issue discussions to follow, which contain instead a

**TABLE 1  
SUMMARY OF PUBLIC COMMENTS BY ISSUE CATEGORY**

Issue No.	Issue	Sub-Issue (if applicable)	Public Issue/Comment	Total Received
1	Riparian Areas, Floodplains, and Wetlands		<ul style="list-style-type: none"> <li>▪ Management should provide more emphasis on protection of riparian and wetland habitat.</li> <li>▪ Limit motorized uses to areas that avoid riparian areas.</li> <li>▪ The lower Colorado River corridor provides valuable wetland and riparian habitat.</li> </ul>	4
2	Soil, Water, and Air Quality		<ul style="list-style-type: none"> <li>▪ OHV use causes erosion.</li> <li>▪ Protect water resources from overuse.</li> <li>▪ Include standards by which uses will be modified to prevent damage to soils, range, wildlife, and watersheds during drought.</li> <li>▪ Examine water availability/use in all watersheds to determine how much water is going to various uses and how much is left intact. Determine this prior to decisions for specific actions to ensure enough water is available for wildlife.</li> <li>▪ Address how water resources will be protected and enhanced. Specify best management practices.</li> <li>▪ Consider closing roads to mitigate effects of disruption to natural sheet flow of water, which changes vegetation and results in impacts to forage for Sonoran pronghorn.</li> </ul>	9
3	Vegetation Management		<ul style="list-style-type: none"> <li>▪ OHV use causes the spread of exotic plants and disrupts forage and native vegetation.</li> <li>▪ Do not allow application of herbicides or other toxicants, which would cause ecological harm. Instead, address root causes of land disturbances and noxious weeds (i.e., grazing).</li> <li>▪ Consider closing roads to mitigate effects of disruption to natural sheet flow of water, which changes vegetation and results in impacts to forage for Sonoran pronghorn.</li> <li>▪ Manage for more revegetation and controlled burns to control non-native species.</li> <li>▪ Use more controlled burns with revegetation of cottonwood and willow.</li> <li>▪ Area is important for native seed/plant resources and seed banking.</li> <li>▪ Determine desired future conditions for vegetation.</li> <li>▪ All land uses should limit growth of invasive plants.</li> <li>▪ Address how grazing impacts problem of invasive, nonnative vegetation.</li> <li>▪ Address problems droughts bring to vegetation management and establish protocols for livestock reduction during drought, including best management practices.</li> <li>▪ Consider rehabilitation after prescribed or wild fire, including special seed mix needs and noxious weed management.</li> <li>▪ Consumptive uses should be phased out.</li> <li>▪ Timber harvest/lumbering, developing natural resources is an important use of the land.</li> <li>▪ Maintaining species sustainability is BLM's responsibility regardless of district planning boundaries.</li> </ul>	25

NOTE: Where comments apply to more than one issue category, the comment is repeated in the appropriate categories.

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**SUMMARY OF PUBLIC COMMENTS BY ISSUE CATEGORY**

Issue No.	Issue	Sub-Issue (if applicable)	Public Issue/Comment	Total Received
4	Fish and Wildlife		<ul style="list-style-type: none"> <li>▪ OHV use harasses wildlife and causes habitat fragmentation.</li> <li>▪ Birds and animals thrive near agriculture, which provides food and water in a harsh desert environment.</li> <li>▪ Add planning criteria that recognizes importance of predators in native ecosystems.</li> <li>▪ Adopt strict policies against predator control and do not allow other agencies to lethally control predators.</li> <li>▪ Do not allow application of rodenticides or insecticides, as rodents play important roles and some wildlife depend on invertebrates for prey.</li> <li>▪ Preserve wildlife by building and maintaining water areas instead of closing access.</li> <li>▪ Continue efforts to enhance wildlife habitat.</li> <li>▪ Do not fence water holes, should be available to all animals including burros.</li> <li>▪ There should be no new guzzlers.</li> <li>▪ Address fragmentation of habitats from proposed development.</li> <li>▪ Address impacts to ground nesting birds from grazing.</li> <li>▪ Address impacts to birds and other wildlife from proposed wind towers.</li> <li>▪ Provide for wildlife corridors between YFO and Phoenix Field Office lands including Saddle Mountain, Woolsey Peak Wilderness, and Eagletails.</li> <li>▪ Scott's Lead Well off BLM 249 is often empty, and there are no other catchments for wildlife in the area.</li> <li>▪ Manage for maximum conservation and protection, and long-range goals to protect for future generations.</li> <li>▪ <u>Maintaining species sustainability is BLM's responsibility regardless of district planning boundaries.</u></li> </ul>	77
5	Threatened, Endangered, and Special Status Species		<ul style="list-style-type: none"> <li>▪ The Sonoran pronghorn is being impacted by the proliferation of motorized routes.</li> <li>▪ There needs to be better protection for the flat-tailed horned lizard.</li> <li>▪ Consider Sonoran pronghorn for ACEC designation as it is threatened by livestock grazing, road construction, OHV use.</li> <li>▪ Designate Sonoran desert tortoise for ACEC as it is harmed by livestock grazing, OHV, other habitat destruction.</li> <li>▪ Analyze effects of roads on Sonoran pronghorn habitat.</li> <li>▪ Area maintains populations of desert bighorn sheep and other diminishing species, and the Eagletail Mountains WA is critical to the survivability of bighorns in other areas.</li> <li>▪ Address how future land uses will be managed so they don't contribute to the need for Federal listing.</li> </ul>	36

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<b>Issue No.</b>	<b>Issue</b>	<b>Sub-Issue (if applicable)</b>	<b>Public Issue/Comment</b>	<b>Total Received</b>
6	Cultural and Paleontological Resources and Native American Issues		<ul style="list-style-type: none"> <li>▪ Concern with the protection of the Blythe Giant Intaglios and other geoglyphs along the Colorado River.</li> <li>▪ Sears Point needs to be protected, potentially by fencing.</li> <li>▪ OHV use causes destruction to cultural sites.</li> <li>▪ Values historic evidence of man's ancient and modern use in the area including intaglios, homestead sites, Patton's army sites, old mines, historic trails.</li> <li>▪ Management should record and protect cultural sites by signing, employee visits, volunteer/site steward monitoring, potentially fencing.</li> <li>▪ Management should protect cultural sites but still allow public access to them.</li> <li>▪ BLM should provide to the public a map of cultural resources in approved areas and keep it updated.</li> <li>▪ Area has a special history for Native Americans.</li> <li>▪ A stewardship program to help preserve cultural sites, potentially including fencing and limiting access.</li> </ul>	33
7	Fire Management		<ul style="list-style-type: none"> <li>▪ Roads created by OHV use increase risk of wildfire.</li> <li>▪ Manage for more revegetation and controlled burns to control non-native species.</li> <li>▪ Use more controlled burns with revegetation of cottonwood and willow.</li> <li>▪ Determine when and why prescribed burns will occur including a consideration for habitat, rehabilitation after prescribed or wild fire, special seed mix needs, and noxious weed management.</li> <li>▪ If fire is used, limit livestock use for two years.</li> </ul>	5
8	Hazardous Materials and Solid Waste		<ul style="list-style-type: none"> <li>▪ Concerned about illegal dumping.</li> </ul>	4
9	Recreation	General	<ul style="list-style-type: none"> <li>▪ BLM should continue to allocate areas for camping (with and without RVs).</li> <li>▪ Keep LTVAs open.</li> <li>▪ Visitors enjoy viewing wildlife and hunting birds drawn by agriculture production.</li> <li>▪ Horseback riding and ATV use should not be in the same category because ATVs cause more damage.</li> <li>▪ Horse activities should not be limited to roads and washes. Should be allowed to ride on existing trails.</li> <li>▪ Squaw Lake boat parking area needs to be enlarged to provide an overflow area for parking and provisions for larger boats and travelers.</li> <li>▪ BLM-approved vendors who provide water, dumping, and RV repairs, etc. should have another way of advertising besides posting on a small, crowded message board.</li> <li>▪ Provide recreational and cultural opportunities at least cost.</li> <li>▪ Manage for multiple use.</li> <li>▪ Keep an area of the dunes for hiking only.</li> <li>▪ Clean up Hippy Hole and then turn it into a recreational campground.</li> </ul>	116

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<b>Issue No.</b>	<b>Issue</b>	<b>Sub-Issue (if applicable)</b>	<b>Public Issue/Comment</b>	<b>Total Received</b>
9 cont.	Recreation (cont.)	Education	<ul style="list-style-type: none"> <li>▪ Visitors should be educated about Native American culture, which would help prevent damage to cultural sites.</li> <li>▪ Public should be aware of public ownership of archaeological resources and what they are.</li> <li>▪ Provide educational opportunities so visitors can learn how to preserve and enjoy the land.</li> <li>▪ Staff with knowledgeable rangers who can teach people about the natural environment.</li> <li>▪ Land should be available for university to research native plants and cultural plants for treatment of diabetes.</li> </ul>	15
10	Visual Resources		<ul style="list-style-type: none"> <li>▪ Desire to maintain open spaces.</li> </ul>	35
11	Land Tenure and Use Authorizations	General	<ul style="list-style-type: none"> <li>▪ Do not want to lose usage for more development in such places as Wellton Hills #1 and #2 and Coyote Wash.</li> <li>▪ There should be no more disposals or exchanges.</li> <li>▪ Exchanges to benefit management should be explored. High wildlife values should be considered in exchanges.</li> <li>▪ Identify how the public will be involved in land transfers.</li> <li>▪ Disposals should be limited because they result in less protection to flora/fauna. They should only be considered for opportunities to consolidate Federal lands or other land ownership patterns that facilitate management for flora/fauna.</li> <li>▪ Do not dispose or exchange lands that have Sonoran pronghorn or desert tortoise habitat.</li> <li>▪ Values land because they own a home and live on it.</li> <li>▪ Supports land exchange for Harvey's Fishing Hole.</li> <li>▪ Loss of agricultural leases can have a negative impact on local agricultural economy.</li> <li>▪ Agriculture on public land produces revenue for American people and reduces expenditure for other uses.</li> <li>▪ Agriculture is the best, most productive, and most judicious use of the land.</li> <li>▪ Agriculture is consistent with stated mission of BLM to sustain health, diversity, and productivity of public lands.</li> <li>▪ Agriculture meets FLPMA requirements that public lands be managed in a manner that recognizes nation's need for food and fiber from public lands.</li> <li>▪ Agriculture acts as a deterrent to illegal entry. If taken out of production it would revert to underbrush and salt cedars, complicating Border Patrol efforts to secure the area.</li> <li>▪ Limit future growth by maintaining natural surroundings and limiting development.</li> <li>▪ If public is denied use of land, then they aren't "public lands," they are really government-owned lands owned contrary to constitutional edict.</li> <li>▪ Land provides industrial expansion opportunities for landlocked towns.</li> </ul>	53
11 cont.	Land Tenure and Use Authorizations cont.	General cont.	<ul style="list-style-type: none"> <li>▪ Would like BLM land within Quartzsite town limits opened to development by the town.</li> <li>▪ Provide long-term leases to entities along the river like the Native Americans have been doing.</li> <li>▪ Some access is blocked by private holdings.</li> </ul>	53

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		ROW Corridors	<ul style="list-style-type: none"> <li>▪ Identify future utility corridors. There should be no amendments for future corridors.</li> <li>▪ Existing corridors should be used instead of new ones.</li> </ul>	1
12	Mineral Resources		<ul style="list-style-type: none"> <li>▪ Mining is an important use for economic benefit.</li> <li>▪ Should be active oversight/control of mining.</li> <li>▪ Include alternatives with no new oil/gas leasing or only leasing than ensures resource health.</li> <li>▪ Include development of energy minerals and related issues, including the identification of future proposed mineral leasing areas and areas not suited.</li> <li>▪ Timber harvest/lumbering, developing natural resources is an important use of the land.</li> <li>▪ Consumptive uses should be phased out.</li> <li>▪ Need restoration of mining and toxins (pond areas).</li> <li>▪ Increase public allotment of gravel from 250 to 500 pounds.</li> </ul>	21
13	Travel Management	General	<ul style="list-style-type: none"> <li>▪ How will BLM address route designations for areas with wilderness characteristics, ACECs, and other areas with special resources?</li> <li>▪ Opposed to further closure of public land through road closure or wilderness designation.</li> <li>▪ Due to access closures, it has become difficult for individuals to enjoy public lands.</li> <li>▪ Access should not be changed or further limited and roads, trails, and washes should remain open to vehicles.</li> <li>▪ Reopen historic routes and roads, which have been closed, to old mines or ranches.</li> <li>▪ There should be no new roads.</li> <li>▪ Need route designation to manage routes created by illegal immigrants and lack of designation.</li> <li>▪ There is no point in preserving area if people can't access it to enjoy it.</li> <li>▪ Open access to all areas designated as wilderness or monument.</li> <li>▪ Reopen inland route between Sears and Independence Points.</li> <li>▪ Reopen river route between Sears Point-Independence Point-Howard Well-Aztec I-8 interchange.</li> <li>▪ In Red Cloud Mine area, reopen road between Black Rock-Red Cloud Wash and Arasta Wash.</li> <li>▪ In California, reopen roads between Ogilby Road and State Hwy. 78 to the river. The recreational benefit of these roads was not assessed prior to their closure.</li> <li>▪ Plan routes for different modes of recreation (i.e., so trail bikes don't conflict with cars).</li> <li>▪ YFO should adopt a "closed unless posted open" OHV policy effective immediately and remaining during RMP revision.</li> </ul>	153

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<b>Issue No.</b>	<b>Issue</b>	<b>Sub-Issue (if applicable)</b>	<b>Public Issue/Comment</b>	<b>Total Received</b>
13	Travel Management	OHV	<ul style="list-style-type: none"> <li>▪ Use of OHV is the best and sometimes only way to enjoy remote areas, especially for older or disabled people.</li> <li>▪ Limit four-wheel-drive vehicles and ATVs to only certain roads and washes and the sand dunes because they damage the roads.</li> <li>▪ Complete OHV route designation process and have a mix of areas closed to OHV use and limited to designated roads and trails.</li> <li>▪ Identify OHV management policies and required signing and enforcement.</li> <li>▪ Due to sensitive ecosystems and soils, should be no open OHV areas within planning unit.</li> <li>▪ Limit OHV use as it impacts quiet, causes spread of exotic plants, erosion, wildlife harassment/ fragmentation, destruction of cultural sites, disruption of foraging and native vegetation, increase in risk of wildfire, impacts to Sonoran pronghorn and desert tortoise habitat.</li> <li>▪ Concerned with OHV tracks along existing roads because their wheel width doesn't conform to ruts made by standard vehicles.</li> <li>▪ All areas with wilderness characteristics should be managed under "closed" OHV designation.</li> <li>▪ It isn't the OHVs that destroy the desert, it's only a small percentage of the users.</li> </ul>	61
14	Airspace		<ul style="list-style-type: none"> <li>▪ Need to develop at least one landing strip along the lower Colorado River for pilots to land in proximity to recreation uses. BLM could also attract developers for small airport.</li> <li>▪ YPG needs to be protected from air encroachment. Pilots fly illegally in YPG airspace and land on their property because there is no designated airstrip.</li> </ul>	3
15	Grazing Use		<ul style="list-style-type: none"> <li>▪ Grazing is an important use for economic benefit.</li> <li>▪ Because grazing has been administered by Phoenix Field Office, coordination with that office regarding any allotment changes is warranted.</li> <li>▪ Grazing impacts Sonoran pronghorn and Sonoran desert tortoise habitat.</li> <li>▪ Include full range of alternatives including no grazing, grazing at current use, and grazing reductions to ensure wildlife, watershed, vegetative, and soil health.</li> <li>▪ Eliminate domestic grazing.</li> <li>▪ Address impacts to ground nesting birds from grazing.</li> <li>▪ Address grazing allotment plans and residual forage standards, stocking rates, grazing intensity, duration, timing, class of livestock, strategies to reduce grazing, if necessary.</li> <li>▪ Establish protocols for livestock reduction during drought, including best management practices.</li> </ul>	19
15 cont.	Grazing Use cont.		<ul style="list-style-type: none"> <li>▪ Reference all pertinent guidelines in grazing plans.</li> <li>▪ Address how grazing impacts problem of invasive, non-native vegetation.</li> <li>▪ Because grazing has been administered by Phoenix Field Office, coordination with that office regarding any allotment changes is warranted.</li> </ul>	19

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Issue No.	Issue	Sub-Issue (if applicable)	Public Issue/Comment	Total Received
16	Lands with Wilderness Characteristics		<ul style="list-style-type: none"> <li>▪ In identifying wilderness characteristics, consider how protecting or managing for these characteristics will help previously impacted areas be restored to natural condition.</li> <li>▪ Identify lands with wilderness character and protect them with special administrative designation and management and through a framework of multiple use conservation areas to preserve them.</li> <li>▪ Preserving wilderness characteristics is best economic choice as it is less costly than development, maintenance, restoration, law enforcement of OHV, or restoration.</li> <li>▪ Arizona Wilderness Coalition will be submitting proposals for lands containing wilderness characteristics for inclusion in EIS.</li> <li>▪ Use definition of wilderness as outlined in Wilderness Act of 1964 for inventorying areas for wilderness characteristics.</li> <li>▪ All areas with wilderness characteristics should be managed under “closed” OHV designation.</li> <li>▪ Consider following areas for wilderness characteristics: BLM lands adjacent to Kofa NWR wilderness areas, Columbus Peak, Cortez Peak, all areas adjacent to existing YFO wilderness areas.</li> <li>▪ Do not degrade wilderness characteristics in course of implementing any management action through the RMP without first analyzing possibility that they exist.</li> <li>▪ Managing for wilderness characteristics creates new wilderness without congressional approval and in violation of congressional intent.</li> <li>▪ Management of wilderness study areas should ensure protection of their wilderness values from destructive activities such as oil/gas development, logging, OHV, mining, etc.</li> <li>▪ How will BLM work with the conservation community on implementing a monitoring and restoration plan?</li> </ul>	71

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Issue No.	Issue	Sub-Issue (if applicable)	Public Issue/Comment	Total Received
17	Special Designations		<ul style="list-style-type: none"> <li>▪ How will BLM address route designations for areas with wilderness characteristics, ACECs, and other areas with special resources?</li> <li>▪ Find all potential wilderness areas and designate accordingly.</li> <li>▪ Protect lands with wilderness character with special administrative designation and management and through a framework of multiple use conservation areas to preserve them.</li> <li>▪ Include assessment of additional ACECs in planning criteria to provide protection for sensitive plants/wildlife, including assessment of all State/Federally listed species for ACEC designation.</li> <li>▪ Consider Sonoran pronghorn for ACEC designation as it is threatened by livestock grazing, road construction, OHV use.</li> <li>▪ Designate Sonoran desert tortoise for ACEC as it is harmed by livestock grazing, OHV, other habitat destruction.</li> <li>▪ Designation as wilderness would encourage a broader public attitude towards stewardship, usage, and interaction with land.</li> <li>▪ Designating wilderness areas will only benefit the few who are fit enough to hike into remote areas.</li> <li>▪ Norton's April 2003 settlement was unlawful and FLPMA gives BLM the authority to create wilderness study areas.</li> <li>▪ Protection of wilderness quality lands can help fill mandates of FLPMA and provides a better balance of multiple uses as only 2.6 percent of BLM land is currently protected as wilderness.</li> <li>▪ Consider supplemental values such as Sonoran pronghorn habitat, cultural sites, threatened and endangered species, unique plant assemblages, prehistoric/historic travel corridors, water resources, potential scientific sites, education, and scenic beauty.</li> <li>▪ Designate the river corridor as a natural resource area, wildlife habitat, ACEC, etc. rather than general use/recreation area.</li> <li>▪ Do not need further wilderness designation as there are numerous other wilderness areas available for people to visit.</li> <li>▪ Open access to all areas designated as wilderness or monument.</li> <li>▪ Should be no wilderness management prescriptions outside of designated wilderness.</li> <li>▪ Protect current ACECs from land uses that conflict with their values (oil/gas, grazing, OHV).</li> </ul>	65
18	Environmental Justice		<ul style="list-style-type: none"> <li>▪ No comments were received for this issue.</li> </ul>	0

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19	Socioeconomics		<ul style="list-style-type: none"> <li>▪ Without protecting local wilderness, local residents in the region could lose the income provided by ecotourism to the area.</li> <li>▪ Loss of agricultural leases can have a negative impact on local agricultural economy.</li> <li>▪ Agriculture on public land produces revenue for American people and reduces expenditure for other uses.</li> <li>▪ Analysis should include consideration of economic benefits to local and regional economy through wildlife-related recreation and ecosystems services.</li> <li>▪ Analysis should consider economic drain of livestock grazing on Federal agency and taxpayer money including cost of damage caused by non-native organisms introduced by grazing or oil/gas development.</li> <li>▪ Preserving wilderness characteristics is best economic choice as it is less costly than development, maintenance, restoration, law enforcement of OHV or restoration.</li> <li>▪ User fees only hurt the poor, people shouldn't have to pay to use their own land.</li> <li>▪ Develop plan in coordination with AGFD to acknowledge economic value of wildlife species to local economies.</li> </ul>	12
20	Law Enforcement (including Public Safety)		<ul style="list-style-type: none"> <li>▪ Need more prosecution and fining of violators, such as for illegal dumping.</li> <li>▪ There should be more employees or rangers to stop illegal dumping, vandalism, and illegal entry. Additional rangers especially needed during the crowded months of January and February.</li> <li>▪ Use other people to police dump stations and trash so the rangers can do their jobs.</li> <li>▪ Provide list of rules on camping and ATV riding regionally in gas stations, restaurants, grocery stores, etc. to keep people on trails and make rules more accessible.</li> <li>▪ Use "do not litter" campaigns to help prevent illegal dumping.</li> <li>▪ Will BLM work with other law enforcement agencies to address border issues?</li> </ul>	29
21	Border Issues and Undocumented Immigrants		<ul style="list-style-type: none"> <li>▪ Migration across the border has created challenges to the protection of natural resources.</li> <li>▪ Will other agencies be mandated to consult with BLM and USFWS on environmental impacts as a result of their actions on the border?</li> <li>▪ Immigrants are causing undesignated travel routes.</li> <li>▪ Agriculture acts as a deterrent to illegal entry. If taken out of production, it would revert to underbrush and salt cedars and complicate Border Patrol efforts to secure the area.</li> </ul>	29
22	Wild Horses and Burros		<ul style="list-style-type: none"> <li>▪ Management should include an emphasis on wild horse/burro control.</li> <li>▪ Water holes should be available to burros.</li> <li>▪ Remove all wild horses and burros.</li> </ul>	3

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summary of overall comments. The “total received” column in Table 1 indicates how many times within public comment a particular issue was raised. This number does not correlate directly with either the total number of scoping responses or the total number of unique comments within those responses, as each comment often contained several different issues. For example, one comment stated “limit OHV use as it impacts the quiet of the desert and causes introduction and spread of exotic plants, erosion, wildlife harassment, and destruction of cultural sites.” This single comment contained five different issues including transportation planning and access (OHV sub-issue), vegetation management, soils, fish and wildlife, and cultural resources. A full listing of all comments and responses received during the scoping period can be found in the comment summary table in Appendix B of the scoping report.

## **ISSUE 1: RIPARIAN AREAS, FLOODPLAINS, AND WETLANDS**

### **1.1 PUBLIC ISSUE SUMMARY**

Few public comments were received on this issue. Those that were received pertained to the protection of riparian and wetlands in general and from motorized uses. Importance was also placed on the wetland and riparian habitat along the lower Colorado River corridor.

### **1.2 BLM MANAGEMENT CONCERNS**

- Control invasive species in riparian zones and wetlands;
- Manage water quality and contaminants;
- Manage for wildlife habitat for neotropical migratory birds; and
- Implement recovery plans in rivers and riparian areas while managing fuels, fires, and exotics.

### **1.3 AGENCY AND TRIBAL CONCERNS**

- Tribe indicated an interest in continuation of cottonwood and willow pole planting habitat improvement projects.

### **1.4 PLANNING CRITERIA**

Riparian areas, floodplains, and wetlands will be managed to protect, maintain, or improve existing functions to benefit water storage, groundwater recharge, water quality, and fish and wildlife values in appropriate locations within fiscal constraints. All management practices will be designed in accordance with the CWA, EO 11988 (Floodplain Management), EO 11990 (Protection of Wetlands), Colorado River Floodway Protection Act, and Arizona's Standards for Rangeland Health and Guidelines for Grazing Administration. Proposed decisions will be measured against the Arizona Standard for Rangeland Health for riparian areas, floodplains, wetlands and priority wildlife management areas that provide for biodiversity and protection and restoration of native species. Additional criteria are the LCR MSCP, priority wildlife habitat

management areas, existing activity plans, and the current Lower Colorado River Fire Management Plan.

## **1.5 ISSUES ADDRESSED ADMINISTRATIVELY**

- Tribes want to continue being involved in cottonwood and willow pole planting habitat improvement projects.

## **ISSUE 2: SOIL, WATER, AND AIR QUALITY**

### **2.1 PUBLIC ISSUE SUMMARY**

Public issues focused on the protection and availability of water resources. Overuse of water was mentioned, as was allocation of water to various uses and adequacy of water supply for wildlife. Concern over the impact of drought to soil and water resources was mentioned, as was the contribution of roads and OHV use to erosion problems.

### **2.2 BLM MANAGEMENT CONCERNS**

- Consider the effect of public uses on air quality, particularly the use of dirt roads with regard to PM<sub>10</sub> non-attainment areas.

### **2.3 AGENCY AND TRIBAL CONCERNS**

No agency or tribal concerns were mentioned for this issue category.

### **2.4 PLANNING CRITERIA**

#### **2.4.1 SOIL**

Soils will be managed to protect long-term productivity. BMPs will be incorporated into other programs to minimize soil erosion and compaction resulting from management actions.

#### **2.4.2 WATER QUALITY**

Section 319 of the CWA obligates Federal agencies to be consistent with State Nonpoint Source Management Program Plans and relevant water quality standards. Section 313 requires compliance with State Water Quality Standards. BLM will coordinate with the ADEQ regarding their TMDL program and other relevant water quality programs. BLM will incorporate applicable BMPs or other conservation measures for specific programs and activities into the RMP. Water quality will be maintained or improved in accordance with State and Federal standards.

### **2.4.3 AIR QUALITY**

Maintain and enhance air quality and visibility in a manner consistent with the CAA. Under the Clean Air Act, BLM administered lands were given a Class II air quality classification unless reclassified by the State. Wilderness Areas must be classified as Class I or Class II. This classification allows moderate deterioration associated with moderate, well-controlled industrial and population growth. Proposed decisions within the influence zone of the planning project that may affect non-attainment areas, including the Maricopa and Yuma counties PM<sub>10</sub> non-attainment areas, will be assessed for conformance with air quality standards.

## **ISSUE 3: VEGETATION MANAGEMENT**

### **3.1 PUBLIC ISSUE SUMMARY**

Many of the concerns expressed by public comment focused on the spread of exotic and non-native plants from a variety of land uses including OHV use, roads, and grazing. Comments also stated that the area is valuable for seed banking and resources. Other concerns focused on the application of herbicides, and various impacts from grazing, drought, and fire management.

### **3.2 BLM MANAGEMENT CONCERNS**

- Establish guidelines for project level work to be completed in accordance with the Arizona Native Plant Law.
- Determine if vegetative products within the two to five inches of precipitation zone are suitable for public use or sale (e.g., firewood, cactus skeletons, native wood/plants).
- Determine if there should be campfire restrictions for the protection of native vegetation.
- Determine decision criteria for revegetation and availability of irrigation water for revegetation.
- Continue to identify, map, and treat invasive species, including noxious weeds, as a management priority within the planning area.

### **3.3 AGENCY AND TRIBAL CONCERNS**

- Continue giant salvinia removal along the Colorado River.

### **3.4 PLANNING CRITERIA**

Vegetation will be managed to achieve desired plant communities (considering the ecological site potential) that provide for biodiversity; protection and restoration of native species; and non-consumptive uses including plant protection (fuel collection), visual quality, and watershed protection. FLPMA requires that public lands be managed under the principles of multiple use and sustained yield. The desired plant communities will provide critical wildlife habitat, as well as forage for livestock and wildlife. Plant maintenance, watershed protection and stability, and wildlife habitat needs will be provided for. Forage will be allocated to support wildlife at population levels determined through consultation with the AGFD. Forage on suitable rangeland

will be allocated for domestic livestock grazing based on Arizona's Standards for Rangeland Health and Guidelines for Grazing Administration and may include provisions for hazardous fuels reduction and habitat restoration.

There are several treatment methods and Standard Operating Procedures that would be used in a vegetation treatment program. BLM policies and guidance for public land treatments would be followed in implementing all treatment methods. Many guidelines are provided in manual Section 1740, BLM Arizona's Standards for Rangeland Health and Guidelines for Grazing Administration, Programmatic documents such as BLM's *Final Environmental Impact Statement, Vegetation Treatment on BLM Lands in Thirteen Western States* (May 1991), and other general and specific program policy, procedures, and standards pertinent to implementation of renewable resource improvements.

### **3.5 ISSUES ADDRESSED ADMINISTRATIVELY**

- Add planning criterion that requires all alternatives be biologically and ecologically sustainable and meets the needs of native plants/wildlife.

## **ISSUE 4: FISH AND WILDLIFE**

### **4.1 PUBLIC ISSUE SUMMARY**

Fish and wildlife issues included impacts and habitat fragmentation from OHV use and development. Impacts to wildlife, specifically ground nesting birds and forage, from grazing was also mentioned. Several comments were received regarding water catchments, including the desire that these be managed by BLM, concern that there are not enough catchments, and concern that some catchments are sometimes empty and others are fenced, making them unavailable for use by all wildlife. A few comments emphasized the benefit of agriculture to wildlife for food resources, and one comment expressed concern over policies to control predators and rodents. There were also requests to provide wildlife corridors between this planning area and adjacent areas.

### **4.2 BLM MANAGEMENT CONCERNS**

- Identify what indicators or limits of acceptable change will be used to determine when wildlife populations are being impacted to an unacceptable degree.
- Integrate habitat management with other resource programs to minimize impacts on wildlife species and their habitats while still providing for other uses on the public lands.
- Evaluate the use of wildlife water catchments.
- Determine what types of management actions are appropriate in priority and general wildlife habitats.
- Identify appropriate mitigation measures for impacts to priority wildlife habitats.
- Incorporate State and BLM strategic plans for fish and wildlife into the RMP.
- Assess potential need and proper location for artificial fish habitat.

- Protect backwater habitat.
- Promote native fish habitat populations.
- Assess the need to limit or close public access to promote spawning or critical fish habitat.
- Address BMPs for aquatic non-native invasive species removal within fish habitat.

### **4.3 AGENCY AND TRIBAL CONCERNS**

- Continue managing for wildlife values.
- There should be more proactive wildlife management.
- AGFD would like to develop, review, and coordinate on RMP with BLM.
- Activities of the AGFD to maintain and enhance wildlife resources and related recreation should be considered necessary, authorized, and administrative activities in any land use allocation.
- AGFD supports a balanced approach in management to provide both conservation and recreational use opportunities.

### **4.4 PLANNING CRITERIA**

Fish and wildlife habitat will be managed to maintain and/or improve the existing habitats including priority wildlife habitat. Management actions should minimize the extent of disturbance to fish and wildlife habitat. Vegetation management practices would be considered to achieve desired future conditions. In addition, management actions will incorporate existing BLM national strategic plans, such as Fish and Wildlife 2000 and others.

### **4.5 ISSUES ADDRESSED ADMINISTRATIVELY**

- Add planning criterion that requires all alternatives be biologically and ecologically sustainable and meets the needs of native plants/wildlife.
- Management should include close coordination with USFWS, CDFG, and AGFD.
- Ensure the RMP includes recognition of the LCR MSCP and BLM is a member of that planning process.
- BLM should manage the land and AGFD should manage the wildlife, including hunting.
- Cooperative habitat improvements projects should continue between BLM and AGFD.

### **4.6 ISSUES NOT WITHIN BLM JURISDICTION**

- BLM should take over management of the water catchments.

## **ISSUE 5: THREATENED, ENDANGERED, AND SPECIAL STATUS SPECIES**

### **5.1 PUBLIC ISSUE SUMMARY**

Comments received for this issue focused on the Sonoran pronghorn, Sonoran desert tortoise, desert bighorn sheep, and FTHL. Impacts from OHV use, roads, and grazing was mentioned. It was requested that the Sonoran pronghorn and desert tortoise habitat be designated as an ACEC. General comments stated that the area should be managed to prevent future Federal listings of species and include rigorous monitoring of sensitive species.

### **5.2 BLM MANAGEMENT CONCERNS**

- Identify the types of projects that are appropriate within special status species habitat.
- Identify the types of mitigation that should be considered for special status species protection.
- Determine if designation of potential, suitable, and occupied Southwestern willow flycatcher habitat is necessary to protect species.
- Implement and incorporate recovery plans and conservation agreements and their goals, objectives, and actions, as applicable, into the RMP.
- Implement recovery and conservation plans for special status species through management practices.
- Actions, allocations, special designations, and prescriptions will be utilized as needed to protect designated threatened and endangered species critical habitat.
- Consider impacts to razorback sucker critical habitat.
- Explore reintroduction of Gila topminnow, desert pupfish, razorback sucker, and bonytail chub.

### **5.3 AGENCY AND TRIBAL CONCERNS**

- Continue threatened and endangered species management.

### **5.4 PLANNING CRITERIA**

Laws, regulations, policies, and guidelines followed for special status species management will include, but are not limited to, Arizona Standards for Rangeland Health and Guidelines for Grazing Administration, BLM Manual 6840, Desert Bighorn Sheep Range Wide Plan and Sonoran Desert Tortoise Range Wide Plan, ESA, EO 13112, FLPMA, NEPA, Public Rangelands Improvements Act, Sikes Act, and the TGA.

Management actions authorized, funded or implemented by BLM will be done so as not to jeopardize the continued existence of federally listed threatened or endangered plant or animal species or result in the destruction or adverse modification of critical habitat. Candidate species, species proposed for Federal listing, and BLM and State sensitive species will be given the same consideration as listed species. The intent is to recover listed species and maintain healthy

populations of all other species and therefore avoid the need for further listing of any species as threatened or endangered.

In addition, BLM adheres to BLM's Manual 6840, which outlines the conservation management procedures of threatened and endangered species and the habitat on which they depend; ensures that all actions that BLM authorizes, funds, or implements comply with the ESA; requires cooperation with the USFWS in the planning and recovery of threatened and endangered species; states the BLM policy for managing special status candidate species. BLM also will follow terms and conditions implemented by Biological Opinions and Conservation Agreements when making special status species management decisions.

## **5.5 ISSUES ADDRESSED ADMINISTRATIVELY**

- Add planning criterion that requires all alternatives to meet ESA and other protection statutes and include rigorous monitoring of sensitive species.
- Will other agencies be mandated to consult with BLM and USFWS on environmental impacts as a result of their actions on the border?

## **ISSUE 6: CULTURAL AND PALEONTOLOGICAL RESOURCES, AND NATIVE AMERICAN CONCERNS**

### **6.1 PUBLIC ISSUE SUMMARY**

The cultural value, importance, and interest of the area were frequently mentioned in public comments. Cultural features specifically mentioned include the intaglios, geoglyphs, old homestead sites, old mines, Patton's army sites, Sears Point, and historic trails. These features were discussed in the context of general importance as well as being interesting recreation destinations. Many comments mentioned protection of cultural features, but some comments suggested measures such as fencing cultural sites while others expressed a desire for protection without closing public access. OHV use was specifically mentioned as impacting cultural sites. Volunteers and site stewards were also suggested as protection measures.

### **6.2 BLM MANAGEMENT CONCERNS**

- Establish measures needed to protect cultural resources from vandalism, OHV damage, other uses, and natural deterioration.
- Identify trade/exchange lands that BLM will attempt to acquire in order to protect significant cultural resources.
- Identify and evaluate areas containing or likely to contain vertebrate or noteworthy occurrences of invertebrate or plant fossils.
- Determine sensitivity of paleontological resources prior to authorizing surface disturbing activities.

- Develop management recommendations to promote the scientific, educational, and recreational uses of fossils.
- Identify and mitigate threats to paleontological resources, as appropriate.
- Establish link between former RMP and current RMP for proper name to reference Sears Point/Gila River Cultural ACEC.
- Determine how to effectively manage increasing cultural heritage tourism while protecting cultural resources.
- Consider decisions that will protect areas with traditional cultural significance to Native American Tribes.

### **6.3 AGENCY AND TRIBAL CONCERNS**

- Establish a host site at Sears Point (Gila River Cultural ACEC) for cultural resource protection.
- Continue protection of historic and cultural sites.

### **6.4 PLANNING CRITERIA**

Cultural and paleontological resources will be managed to maintain or enhance significant scientific, educational, and recreational values. Cultural sites that meet NRHP criteria will be protected and nominated for inclusion on the Register.

## **ISSUE 7: FIRE MANAGEMENT**

### **7.1 PUBLIC ISSUE SUMMARY**

There were few public comments received regarding this issue. Comments focused primarily on how and where prescriptive burns would be used, and how the area would be revegetated including special seed mixes and noxious weed control. Concern was expressed that roads increase the risk of wildfire and that livestock should not be allowed in a burn area for two years following a fire.

### **7.2 BLM MANAGEMENT CONCERNS**

Management concerns will be identified during the Management Situation Analysis phase.

### **7.3 AGENCY AND TRIBAL CONCERNS**

- Several agencies indicated an interest in future projects related to hazardous fuel reduction and wildfire suppression.
- Support continuation of programs for hazardous fuel reduction, wildfire suppression and prevention, and removal of salt cedar.

## **7.4 PLANNING CRITERIA**

Fire management prescriptions will be consistent with the Federal Wildland Fire Policy, National Fire Plan, and the Arizona Statewide Land Use Plan Amendment for Fire, Fuels, and Air Quality Management. Fire suppression will be accomplished with the least amount of surface disturbance and to protect significant cultural or paleontological values. Public lands and resources affected by fire will be rehabilitated in accordance with the multiple use objectives identified for the affected area, subject to BLM policies and available funding.

## **ISSUE 8: HAZARDOUS MATERIALS AND SOLID WASTE**

### **8.1 PUBLIC ISSUE SUMMARY**

Public comments received on this issue related to trash and RV septic waste. One issue involved RVs unloading their septic tanks on the land. Other comments were received regarding the need to clean up and better maintain the confluence and problems with illegal dumping. All of these issues can be addressed through current management.

### **8.2 BLM MANAGEMENT CONCERNS**

- Consider risk to visitors and general public from unlocated unexploded ordnances on public lands administered by YFO.
- Work with adjacent military installations to consider what management actions are needed to protect public safety.
- Identify and consider safety issues at historic mine sites, which are often popular visitor destinations.
- Consider appropriate management of sites and areas that pose a threat to public health and safety, whether man-made or natural.
- Address abandoned mine lands and emptying of septic tanks on BLM land.

### **8.3 AGENCY AND TRIBAL CONCERNS**

- Control illegal dumping and hazardous materials.

### **8.4 PLANNING CRITERIA**

Management actions will consider BMPs, which protect the public to the greatest extent through existing policies. Laws, regulations, policies, and guidelines followed for hazardous materials will include, but not be limited to FLPMA, NEPA, and the Resources Conservation and Recovery Act of 1986 (RCRA).

The plan will develop a framework to address hazardous sites and activities, incorporating requirements to meet the CAA, CWA, and other environmental laws and regulations, as well as consider other potential hazards.

The YFO will seek out developing a MOU with MCAS–Yuma and YPG to address safe disposal of any UXO discovered on public lands.

## **8.5 ISSUES ADDRESSED ADMINISTRATIVELY**

- RVs dump their tanks on the land creating a biohazard and fly infestation.
- There is a problem with illegal dumping at 29E where the old dairy was.
- The confluence needs to be cleaned up and maintained in a safe fashion.

## **ISSUE 9: RECREATION**

### **9.1 PUBLIC ISSUE SUMMARY**

Due to the nature of the questions provided by BLM on the comment card and comment form, many people relayed what they felt the most important recreation activities were on BLM land. These recreation uses include hunting, OHV and other motorized use, camping, rock hunting/collecting, fishing, photography, hiking, wildlife viewing, scientific research (geologic research, in particular, was mentioned), shooting, and many other uses. Comments were received indicating the need to maintain a multiple use management approach.

Other recreation comments were received regarding the need to maintain camping areas, including the LTVAs. Several comments were received on horse riding trails and the belief that horse riders should not be limited in the trails they can ride, a preference both for and against shooting in the area, and requests for trails designated for certain uses. Squaw Lake boat ramp and Hippy Hole were specifically mentioned for improvements or additional amenities. Comments also stated that there should be no fees for the use of public land.

Education was also mentioned in comments. People felt that access to the area and its wildlife and habitat provided important educational opportunities for themselves and future generations. Comments also emphasized the importance of educating visitors about the area to encourage stewardship and appreciation of the land. Several comments were received about the scientific research and learning opportunities offered by the area, particularly for seed resources and geology.

### **9.2 BLM MANAGEMENT CONCERNS**

- Identify and allocate sites to scientific, recreational, educational, and traditional uses.
- Identify sites for development of interpretive uses.
- Evaluate the recreational potential at Gilmore’s and Walters camps.
- Review new special recreation permits and concession leases and vendor permits for feasibility and consistency with existing land use plans.

- BLM management plan will consider establishing designated routes for a wide variety of recreational use (e.g., hiking, biking, equestrian, and OHV).
- Determine if there should be campfire restrictions.
- Identify methods for joint management and funding for recreational resources and maintenance of existing programs.
- Shortfalls in funding may jeopardize ability to develop and manage new and existing recreation resources.
- Examine management opportunities utilizing BLM recreational strategy.
- Examine ways to minimize potential conflicts between motorized and non-motorized recreational users.
- Consider management of commercial recreational uses, special recreation permits, and other organized events.

### **9.3 AGENCY AND TRIBAL CONCERNS**

- Concerns were expressed regarding changes in recreational sites location and status with regard to State Highway access and improvement and proximity to national wildlife refuges.

### **9.4 PLANNING CRITERIA**

Laws, regulations, policies, and guidelines followed for recreation management will include, but not be limited to, FLPMA, ADA, Land and Water Conservation Fund, 43 CFR 8300, BLM Recreation Management regulations, 43 CFR 2930, BLM Special Recreation Permits regulations, BLM Manual 8300 – Recreation Management, and the Arizona Standards for Rangeland Health and Guidelines for Grazing Administration.

The RMP/EIS will set forth a framework for managing recreational and commercial activities in order to maintain existing natural landscapes and to provide for the enjoyment and safety of the visiting public. The lifestyles of area residents, including activities of grazing, hunting, and motorized use and recreation, will be considered in the plan.

Existing designated recreation sites would be carried forward and evaluated for additional facilities. Other public lands would also be evaluated for their suitability for recreational development.

### **9.5 ISSUES ADDRESSED ADMINISTRATIVELY**

- Permits for horse rides should be issued at least two weeks before a ride instead of at the last minute.
- There should be no fees for use of public land.

### **9.6 ISSUES NOT WITHIN BLM JURISDICTION**

- Minimize use by gun enthusiasts.
- Hunters disrupt quiet of area.

- Lands should remain open to all legal shooting in Arizona including use of legally owned Class III weapons.

## **ISSUE 10: VISUAL RESOURCES**

### **10.1 PUBLIC ISSUE SUMMARY**

Comments regarding visual resources specifically were very limited. However, numerous comments expressed an appreciation and value for the open spaces and scenery of the area, and the desire that the open spaces and beauty of the area be maintained for the enjoyment of both current and future generations.

### **10.2 BLM MANAGEMENT CONCERNS**

- VRM classification needs to be re-evaluated for the entire field office with emphasis on special designation areas.

### **10.3 AGENCY AND TRIBAL CONCERNS**

- Consider closing areas to camping near NWR to reduce visual impact.

### **10.4 PLANNING CRITERIA**

VRM classification will be conducted to address the public's concerns about open space and natural vistas. Some areas may be subject to special measures to protect resources or reduce conflicts among uses.

## **ISSUE 11: LAND TENURE AND USE AUTHORIZATIONS**

### **11.1 PUBLIC ISSUE SUMMARY**

Numerous comments were received regarding land tenure and use authorizations and generally covered one of three categories: (1) general policy regarding disposal or exchange, (2) support for disposal, exchange, or lease of specific areas, and (3) agricultural use. Many comments expressed concern over further disposals or exchanges, requesting no further or only limited disposals or exchanges. Some comments stated that wildlife and habitat be considered during potential land exchanges. Specific areas mentioned for disposal/exchange or lease include Harvey's Fishing Hole, Martinez Lake, area along the Colorado River, and BLM land within Quartzsite town limits. Several comments were received supporting agricultural use in the area for a variety of reasons and expressing concern over potential termination of agricultural leases.

One response discussed utility corridors and expressed a need for future utility corridors to be identified in the plan, but that there should be no amendments for future corridors. The comment also stated that existing corridors should be used instead of new ones.

## **11.2 BLM MANAGEMENT CONCERNS**

- Determine if existing and proposed corridors are consistent with the WUG Corridor Study.
- Determine if the YFO corridors align/coordinate with adjacent BLM field office corridors, and if corridors do not align, develop mitigation recommendations.
- Identify BLM's role in educating the public about major ROW Corridors.
- Determine presence or absence of Desert Land Entries in YFO, including Indian allotments.
- Assess lands for disposal, acquisition, and/or exchange to benefit or promote threatened and endangered species and/or cultural resources.
- Evaluate appropriate locations for R&PP leases based on community and local needs.
- Identify need for establishing additional communications sites.
- Review all land classification/withdrawals within YFO.
- Identify any and all trespass on public lands for management action. Determine how trespass will be addressed.
- Coordinate with minerals assessment to ensure any and all split estate issues are resolved.

## **11.3 AGENCY AND TRIBAL CONCERNS**

- Review all agricultural lease stipulations in order to consider selection of crop types for law enforcement and public safety.
- Review requests for potential expansion of existing military installations. Evaluate in-holdings within YPG and BMGR.
- Evaluate all land tenure adjustments, including those adjacent to wildlife refuges and military installations.
- Consider land use authorizations to support future military training exercises.
- Evaluate compatibility and location of proposed wind farms with military air traffic.
- Consider needs for military communications sites.
- Concerns were expressed regarding Gila River Confluence ownership and coordination with multiple agencies.

## **11.4 PLANNING CRITERIA**

### **11.4.1 REALTY/LAND TENURE**

Conditions will be identified that warrant the removal or withdrawal of certain public lands from multiple use, such as for public safety or protection of special uses and resources. Withdrawals designate public lands for a particular project, purpose or use. Normally, the land is closed to entry under all or some of the public land laws including the mining law. Criteria for identifying lands available or not available for land entry, including under the Desert Land Entry Act, will be developed. There will be no net loss of lands or interests in lands along the Colorado River. YFO will follow recommendations of Communication Site Management Plans, National Wind EIS, and BLM Instructional Memoranda.

### **A. Land Use Authorizations**

Public lands will generally be available for concessions, leases, and ROWs including but not limited to transportation and ROW Corridors, subject to NEPA evaluation, except where specifically prohibited by law or regulation or in areas specifically identified for avoidance or exclusion to protect significant resource values. Land use authorizations are to avoid areas of special management areas and designations such as priority wildlife habitat, special status species management areas, ACECs, Wilderness, and cultural areas.

### **B. Renewable Energy Sites**

New renewable energy sites, including wind, biomass, and solar energy, will be considered based on established criteria, procedures, and policy, in association with industry demand and resource protection objectives. New locations for renewable energy sites will also consider environmental quality, economic efficiency, security, safety, and good engineering and technological practices. Decisions will consider preferred locations and exclusion areas to protect significant resource values.

## **11.5 ISSUES ADDRESSED ADMINISTRATIVELY**

- Pratt agricultural lease is valuable part of hybrid seed program and is one of few locations in Southwest that can produce Tropical Cauliflower.

## **11.6 ISSUES NOT WITHIN BLM JURISDICTION**

- More land should be opened along Martinez Lake for boat ramps, long-term home leases, camping, and concessionaires.

## **ISSUE 12: MINERAL RESOURCES**

### **12.1 PUBLIC ISSUE SUMMARY**

Comments received on this issue either supported or opposed mining and resource development. Issues included statements that mining and development of natural resources are economically important. Others comments stated that there should be more oversight of mining, some alternatives should include no new oil/gas leases, there needs to be restoration of mining and related toxins, and all consumptive uses should be phased out.

### **12.2 BLM MANAGEMENT CONCERNS**

- Determine mineral potential and evaluate areas to consider for mineral withdrawal.
- Determine if currently withdrawn areas should be opened to mineral entry.
- Identify areas of low, medium, and high potential for oil and gas development.
- Determine areas that should be closed to oil and gas leasing due to resource compatibility and sensitivity.
- Develop reasonable foreseeable development scenario for oil, gas, mineral material sales, and mining law as needed to support community infrastructure and growth.

- Follow directives within the Energy, Policy and Conservation Act (2000).
- Evaluate socioeconomic impacts of sand and gravel material sales and statewide need for sand and gravel material sales within YFO. Promote competitive sand and gravel award process.
- BLM will utilize other management methods to avoid surface management.
- Coordinate with minerals assessment to ensure any and all split estate issues are resolved. Ensure that sub-surface jurisdictional issues surrounding split estate parcels are addressed.
- Formulate management strategy for trespass violations.
- Mining claim use and occupancy authorizations should be considered as directed by 43 CFR 3715.
- Determine policy for management of split estate lands, particularly where BLM manages the surface but the sub-surface is in non-Federal ownership.
- Consider general requirements for protecting resource values of the public lands, including stipulations and construction and/or operating standards to apply to surface disturbing activities.

### **12.3 AGENCY AND TRIBAL CONCERNS**

- Evaluate mineral material sales, which support State Highway improvement projects. Mineral resources provide important benefits to society and the economy. Ensure adequate mineral assessment and economic evaluation.

### **12.4 PLANNING CRITERIA**

Minerals management will be consistent with the General Mining Law of 1872 (as amended), FLPMA, Mining and Minerals Policy Act, National Materials and Minerals Policy, Research and Development Act, and current BLM mineral resources policy. Lands open to salable, leasable, and locatable minerals will be identified in the plan. Areas within the planning area may also be subject to constraints to surface use.

## **ISSUE 13: TRAVEL MANAGEMENT**

### **13.1 PUBLIC ISSUE SUMMARY**

Many public comments were received regarding travel management. A frequently stated issue was access with many users preferring no further restrictions through road closures or Wilderness designation. Another issue was the request for currently closed roads to be reopened. Other issues include a desire for route designation to manage routes created by lack of designation and illegal immigrants, the belief that public land should be publicly accessible, and the hope that current access will remain for future generations to enjoy the land. Other comments requested that there be no new roads established.

Issues with OHV use include damage to natural resources, wildlife, cultural resources, and existing roads; lack of designation; lack of signing and enforcement; and the need to limit OHV

to certain or designated areas. OHV supporters feel that OHV is the only way to enjoy remote areas, especially for older or disabled users.

## **13.2 BLM MANAGEMENT CONCERNS**

- A route signing policy needs to be established.
- Determine management actions needed for new routes, including but not limited to use specifications, signing, vegetation management, and routine maintenance.
- Determine if YFO designated routes align and coordinate with adjacent BLM field offices and other adjacent jurisdictions.
- Identify BLM's role in educating the public about and managing designated route systems.
- Determine what level of maintenance should be provided on roads to maintain access and to protect both public safety and natural and cultural resources.
- Address access, easements, or ROWs across private lands in order to secure access to public lands.
- Consider providing additional motorized access for those who are unable to walk long distances.
- Consider how types of vehicle uses, including competitive events, races, and challenge courses should be managed.

## **13.3 AGENCY AND TRIBAL CONCERNS**

- Coordinate proposed location of recreational hiking trails on or around Telegraph Pass.
- Consider proper placement of OHV designated routes near national wildlife refuges.
- Resolve illegal use and entry of OHV from BLM routes to national wildlife refuge.
- AGFD recognizes need to assess travel routes in key areas due to impacts to wildlife by OHV use and habitat fragmentation by roadways.
- AGFD wants to be involved during route planning/designating process to identify important areas for fish and wildlife resources and ensure appropriate access for wildlife-related recreation.
- Incorporate transportation needs into planning process.
- Would like to see land remain open to public use without extensive restrictions.

## **13.4 PLANNING CRITERIA**

BLM will manage motorized and other access on the public lands in accordance with existing law, EOs, regulation, and policy. Road and trail access guidance will be incorporated into every RMP to ensure public and resource needs are met. The YFO will designate OHV use areas as open, closed, or limited use. A network of roads and trails will be designated for all limited areas. BLM will utilize the route evaluation tree as adopted by the Arizona State Office. This process will require an interdisciplinary approach as it affects several key resources. BLM will strive to coordinate route designations with surrounding jurisdictions and neighboring field offices.

## **13.5 ISSUES NOT WITHIN BLM JURISDICTION**

- In KOFA, reopen Slumgullion Pass and road from Queen Canyon to Willbanks Road.
- Remove or unlock gate between Imperial and Cibola NWR.

## **ISSUE 14: AIRSPACE**

### **14.1 PUBLIC ISSUE SUMMARY**

Airspace issues included the need for a landing strip along the lower Colorado River for private pilot access to recreational uses, the concern for illegal plane landing on the YPG, and the need to close the dirt road northeast of Martinez Lake because it is being used as a landing strip and is unsafe for such use.

### **14.2 BLM MANAGEMENT CONCERNS**

- Consider appropriate management of resources and uses relative to overflights, as commercial and private overflights are a growing use of public lands.

### **14.3 AGENCY AND TRIBAL CONCERNS**

- Want continuous access to military training routes (airspace).

### **14.4 PLANNING CRITERIA**

The 1990 Arizona Desert Wilderness Act, which established the existing Wilderness Areas in the YFO, provided that these Wilderness designations were not to interfere with the continuing use of existing military training areas, modification of those military training areas, or the development of new low-level routes needed to support military training missions.

## **14.5 ISSUES NOT WITHIN BLM JURISDICTION**

- Dirt road northeast of Martinez Lake is used as landing strip and should be closed due to safety concerns (not maintained, too close to Cibola Range, no security, obstructions in violation of Federal Aviation Administration rules).
- YPG needs to be protected from air encroachment. Pilots fly illegally in YPG airspace and land on their property because there is no designated airstrip.

## **ISSUE 15: GRAZING USE**

### **15.1 PUBLIC ISSUE SUMMARY**

Grazing issues raised included the statements that grazing provides an important economic benefit, and the need to coordinate grazing allotments with BLM Phoenix Field Office. Other

comments were received on the impacts of grazing to Sonoran pronghorn, desert tortoise, watershed, vegetation, invasive vegetation, soil, and during drought. It was requested that grazing allotment plans be very specific in terms of standards, stocking rates, and other standards including strategies to reduce grazing if necessary.

## **15.2 BLM MANAGEMENT CONCERNS**

- Evaluate whether and where certain lands are available for grazing.
- Consider closing ephemeral allotments that have not been grazed in 10-15 years.
- Unauthorized grazing use is a problem.
- Evaluate existing and potential range improvements, including maintenance, to determine if they are compatible with land management goals.
- Re-evaluate the grazing classification for perennial and ephemeral (i.e., seasonal) allotments.
- Consider the application of the ephemeral rule to grazing on public lands.

## **15.3 AGENCY AND TRIBAL CONCERNS**

- Open range areas and cattle guards are within close proximity to State Highways.
- Grazing allotments are located near national wildlife refuges. Trespass livestock is a concern.

## **15.4 PLANNING CRITERIA**

BLM will manage grazing through existing laws, regulations, and policies including the Arizona Standards for Rangeland Health and Guidelines for Grazing Administration. BLM will provide for livestock management in an environmentally sensitive manner consistent with resource management objectives, including achieving desired plant communities, and land use conditions. Proposed decisions will determine if allotments are available or unavailable to grazing in accordance with the TGA and, if available, in what manner. Decisions will include a strategy for ensuring that proper grazing practices are followed while preserving habitats for sensitive plant and wildlife species. Appropriate BMPs will be followed to protect rangeland resources and, where necessary, to mitigate any conflicts with other uses and values. Administrative actions to assure compliance with existing permit/lease requirements, to modify permits and leases, to monitor and supervise grazing use, and to remedy unauthorized grazing use will continue.

# **ISSUE 16: LANDS WITH WILDERNESS CHARACTERISTICS**

## **16.1 PUBLIC ISSUE SUMMARY**

The identification of lands with wilderness characteristics was a frequently mentioned issue. Some commenters want lands with wilderness characteristics identified and protected and closed to OHV use. Specifically mentioned areas for identification include BLM lands adjacent to Kofa NWR Wilderness Areas, Columbus Peak, Cortez Peak, and all areas adjacent to existing YFO Wilderness Areas. Another public issue was the opposition to managing for wilderness

characteristics, and the statement that managing for wilderness characteristics essentially creates new Wilderness in violation of congressional intent.

## **16.2 BLM MANAGEMENT CONCERNS**

- Consider wilderness characteristics when making land and resource allocations.

## **16.3 AGENCY AND TRIBAL CONCERNS**

No agency or tribal concerns were identified for this issue.

## **16.4 PLANNING CRITERIA**

Consistent with BLM policy, the Secretary of the Interior letter to Senator Robert Bennett (dated April 11, 2003), and the settlement in the case of Utah v. Norton (dated April 14, 2003), BLM has the authority to discuss and incorporate wilderness values into the land use plan, in accordance with the public process incorporated in all land use planning efforts. Thus, BLM is committed to listening to public input through the land use planning process and, where appropriate, managing specified areas of land for wilderness values. However, BLM has no authority to establish new wilderness study areas or to report such areas to Congress. BLM can protect areas in their natural state using a wide range of land use tools other than the wilderness study area designation process. The BLM will review, through this planning process, lands within the planning area that may possess remote or primitive characteristics.

## **16.5 ISSUES NOT WITHIN BLM JURISDICTION**

- Norton's April 2003 settlement was unlawful and FLPMA gives BLM the authority to create wilderness study areas.

# **ISSUE 17: SPECIAL DESIGNATIONS**

(including existing Wilderness Areas, NRTs, NHTs, Back Country Byways, and ACECs)

## **17.1 PUBLIC ISSUE SUMMARY**

Issues focused on the need to identify and protect new and existing special areas in general and from activities including oil/gas development, logging, mining, OHV, grazing, and road construction. ACEC designation was requested for Sonoran pronghorn and desert tortoise habitat. It was also requested that the river corridor be designated as a natural resource area rather than general use.

Comments were also received in opposition to Special Designations stating these designations benefit only those few who are fit enough to hike into them to enjoy them, there should be no further designations as there are numerous other Wilderness Areas available in the area, and all currently designated areas should be opened for access.

## **17.2 BLM MANAGEMENT CONCERNS**

- Identify partners for NRTs and NHTs.
- Evaluate potential for designating additional NRTs, NHTs, State recreation trails, and Back Country Byways.

## **17.3 AGENCY AND TRIBAL CONCERNS**

- Concern that additional restrictive management or allocations will hinder AGFD ability to propose/implement wildlife management activities.
- The RMP must be clear when describing management allocations.
- AGFD supports designating key habitats as long as future conditions acknowledge wildlife as a management priority and prescriptions allow for both wildlife management and reasonable public access.
- Prefer to not have additional closures or withdrawals on public lands.

## **17.4 PLANNING CRITERIA**

### **17.4.1 WILDERNESS AREAS**

Wilderness Areas are designated by Congress and are managed according to the *Wilderness Act of 1964*, the *Arizona Desert Wilderness Act of 1990*, regulations for Wilderness management at 43 CFR 6300, BLM Manuals 8560 and 8561, BLM Handbook H-8560-1, interim operations plans currently in effect for range, wildlife, and fire management in Wilderness, and Wilderness Management Plans. The land use plan will not address reducing or eliminating existing Wilderness Areas, changing existing Wilderness boundaries, proposing new Wilderness Areas, or allowing motor vehicle or other use of mechanical transportation in any Wilderness Area not already authorized.

### **17.4.2 AREAS OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)**

ACECs will be designated where special management attention is required to protect historical, cultural, or scenic values, natural resources or processes, or human life and safety. Management requirements for ACECs will be identified in the plan. YFO is looking at selecting areas to consider for new designation (i.e., Dripping Springs and Colorado River Limitrophe), as well as expanding the existing Sears Point. ACECs should not be used as a substitute for Wilderness designation when an area otherwise meets the criteria for Wilderness.

## **ISSUE 18: ENVIRONMENTAL JUSTICE**

### **18.1 PUBLIC ISSUE SUMMARY**

There were no comments received regarding environmental justice.

## **18.2 BLM MANAGEMENT CONCERNS**

Management concerns will be identified during the Management Situation Analysis phase.

## **18.3 AGENCY AND TRIBAL CONCERNS**

No agency or tribal concerns were identified for this issue.

## **18.4 PLANNING CRITERIA**

The lifestyles of area residents will be considered in the plans for low income and minority populations.

# **ISSUE 19: SOCIOECONOMICS**

## **19.1 PUBLIC ISSUE SUMMARY**

Many of the comments regarding socioeconomics focused on the issue of potential income or loss of income from various uses. This includes income from agricultural leases to the local agricultural economy and BLM (through lease) and economic benefits of ecotourism and the potential income loss if Wilderness is not protected. Other issues included the economic drain of grazing and the economic benefit of managing for wilderness characteristics rather than the more costly development, maintenance, restoration, and law enforcement required by OHV use. One comment pertained to the inability of some lower-income users to pay user fees, and that user fees impact the lower income users more than other users.

## **19.2 BLM MANAGEMENT CONCERNS**

Management concerns will be identified during the Management Situation Analysis phase.

## **19.3 AGENCY AND TRIBAL CONCERNS**

- Identify socioeconomic conditions for the local community related to the adjacent Imperial Sand Dunes.

## **19.4 PLANNING CRITERIA**

Management actions will be evaluated for socioeconomic impacts by using the “Economic Profile System” and other tools such as IMPLAN.

## **19.5 ISSUES ADDRESSED ADMINISTRATIVELY**

- Area should be managed through a central office with local representatives. People of La Paz County have no way to communicate with BLM individual in person.

## **ISSUE 20: LAW ENFORCEMENT (INCLUDING PUBLIC SAFETY)**

### **20.1 PUBLIC ISSUE SUMMARY**

Law enforcement issues primarily focused on the need for more staff to better monitor the area, including dumping and trash stations, and stronger prosecution and fining of violators for activities such as illegal dumping, vandalism, illegal entry, and hunters taking game over the legal limit.

### **20.2 BLM MANAGEMENT CONCERNS**

- Determine which uses are incompatible due to public safety issues. Target shooting, for example, is a legitimate public lands use but may place nonparticipants at risk, particularly in areas of heavy use.
- Consider the increasing concern regarding undocumented immigrant traffic and smuggling activities on the public lands relative to public and employee safety.
- Determine what level of maintenance should be provided on roads to maintain access and to protect both public safety and natural and cultural resources.
- Consider the effects of hazardous sites, including those created by illegal dumping, on public health and safety.
- Consider outreach programs that provide visitor information including public safety, resource protection, and appropriate uses.
- When developing resource management objectives, consider the need of an enforcement aspect, including developing appropriate penalties.
- Determine what level of maintenance should be provided on roads to maintain access and to protect both public safety and natural and cultural resources.

### **20.3 AGENCY CONCERNS**

- Address illegal dumping on public lands through proper coordination with local law enforcement.

### **20.4 PLANNING CRITERIA**

There are no resource-specific planning criteria identified for law enforcement.

### **20.5 ISSUES ADDRESSED ADMINISTRATIVELY**

- The confluence needs to be cleaned up and maintained in a safe fashion.

### **20.6 ISSUES NOT WITHIN BLM JURISDICTION**

- Some private land holders allow hunters to kill over their quota, hunters should be checked on.

## **ISSUE 21: BORDER ISSUES AND UNDOCUMENTED IMMIGRANTS**

### **21.1 PUBLIC ISSUE SUMMARY**

There were a few comments received regarding border issues. Some issues focused on the impact of illegal immigration to natural resources and the creation of undesignated travel routes. Coordination between BLM and other agencies to address all environmental impacts of border control was also an issue. One comment stated that agricultural use aids in border control, allowing easier security of the area that would revert to underbrush, if not under agricultural production.

### **21.2 BLM MANAGEMENT CONCERNS**

Identify land use plan decisions that need to be made regarding International Boundary issues and law enforcement.

Collaborate with other agencies to address the impacts on resources caused by undocumented immigrants and drug smugglers.

Develop strategies to encourage undocumented immigrants to remain on existing roads, to not litter, and to protect and respect natural resources.

- Undocumented immigrants and drug smugglers often drive vehicles off roads, leave behind trash, and burn campfires. This has resulted in management concerns including resource damage (to soils, vegetation, wildlife habitat, cultural resources, etc.), unsanitary human waste disposal, costly clean-up of trash, and the potential for wildfire.
- Safety is another significant management concern. Undocumented immigrants are frequently ill-prepared for the harsh environmental and climatic conditions they encounter, particularly in the summer. This can result in the need for search and rescue operations. Recently, the illegal activities also have resulted in an increased concern for employee and visitor safety as drug smugglers and guides (also known as coyotes) leading the undocumented immigrants have been carrying and sometimes using lethal weapons.

### **21.3 AGENCY AND TRIBAL CONCERNS**

- Distribution and species of vegetation to promote visibility of undocumented immigrants.
- International Border issues related to local law enforcement coordination.

### **21.4 PLANNING CRITERIA**

There are no resource specific planning criteria identified for border issues and undocumented immigrants.

## **ISSUE 22: WILD HORSES AND BURROS**

### **22.1 PUBLIC ISSUE SUMMARY**

Few comments were received on this issue. Some stated that all wild horses and burros should be removed, while others emphasized more control of these animals. One comment stated that water holes for wildlife should also be available to burros.

### **22.2 BLM MANAGEMENT CONCERNS**

- Complete or incorporate Imperial-Trigo Cooperative Management Plan.
- Manage for appropriate levels of utilization of key species.
- Review herd management designations east of State Highway 95.

### **22.3 AGENCY AND TRIBAL CONCERNS**

- There are wild horses and burros located on the national wildlife refuges.

### **22.4 PLANNING CRITERIA**

Management of horses and burros would follow the Wild Free-Roaming Horse and Burro Act (1971), as amended by FLPMA (1976) and Public Rangelands Improvement Act (1978). Horses and burros within California would be managed in accordance with the Northern and Eastern Colorado Desert Coordinated Management Plan (2002). Management of wild horses and burros within the Cibola-Trigo HMA would be in accordance with the Herd Management Area Plan (HMAP) (1980). The HMAP would be revised to include multi-agency monitoring protocol, utilization levels, and HMA boundary as agreed to by Imperial-Trigo Planning Team. The NWRs are not within the HMA, however, wild horse and burro use is allowed at minimal levels. Monitoring data will be used to determine AML<sub>2S</sub> and guide removals to ensure that limits set by the Arizona Standards for Rangeland Health and Guidelines for Grazing Administration are maintained.

# **LAWS, REGULATIONS, AND EXECUTIVE ORDERS**

BLM must comply with the mandate and intent of the following Federal laws (and any applicable regulations) and EOs that apply to BLM-administered lands and resources in the planning area.

## **AIR**

### **Clean Air Act**

**42 U.S.C. 7401 et seq.**

The primary objective of the CAA is to establish Federal standards for various pollutants from both stationary and mobile sources and to provide for the regulation of polluting emissions via state implementation plans. In addition, the amendments are designed to prevent significant deterioration in certain areas where air quality exceeds national standards, and to provide for improved air quality in areas which do not meet Federal standards ("non-attainment" areas).

Federal facilities are required to comply with air quality standards to the same extent as nongovernmental entities. Part C of the 1977 amendments stipulates requirements to prevent significant deterioration of air quality and, in particular, to preserve air quality in national parks, national Wilderness Areas, national monuments and national seashores.

The amendments establish Class I, II and III areas, where emissions of particulate matter and sulfur dioxide are to be restricted. The restrictions are most severe in Class I areas and are progressively more lenient in Class II and III areas.

Mandatory Class I Federal lands include all national Wilderness Areas exceeding 500 acres. Federal land managers are charged with direct responsibility to protect the air quality and related values (including visibility) of Class I lands and to consider, in consultation with EPA, whether proposed facilities will have an adverse impact on these values.

## **NATIVE AMERICAN TRIBES**

### **American Indian Religious Freedom Act**

**42 U.S.C. 1996**

This act recognizes that freedom of religion for all people is an inherent right and that traditional American Indian religions are an indispensable and irreplaceable part of Indian life. Establishing Federal policy to protect and preserve the inherent right of religions freedom for Native Americans, this act requires Federal agencies evaluate their actions and policies to determine if

changes should be made to protect and preserve the religious cultural rights and practices of Native Americans. Such evaluations are made in consultation with native traditional religious leaders.

## **Consultation & Coordination with Indian Tribal Governments**

**EO 13175, November 6, 2000**

In formulating or implementing policies that have tribal implications, agencies shall respect Indian tribal self-government and sovereignty, honor tribal treaty and other rights, and strive to meet the responsibilities that arise from the unique legal relationship between the Federal Government and Indian tribal governments.

## **Indian Sacred Sites**

**EO 13007, May 24, 1996**

In managing Federal lands, agencies shall, to the extent practicable, permitted by law, and not inconsistent with agency functions, accommodate Indian religious practitioners' access to and ceremonial use of Indian sacred sites. Agencies are to avoid adversely affecting the physical integrity of these sites, maintaining the confidentiality of such sites, and informing tribes of any proposed actions that could restrict access to, ceremonial use of, or adversely affect the physical integrity of, sacred sites.

## **Native American Graves Protection & Repatriation Act**

**25 U.S.C. 3001-13**

This act establishes requirements for the treatment of Native American human remains and sacred or cultural objects found on Federal land.

In any case where such items can be associated with specific Tribes or groups of Tribes, the agency is required to provide notice of the item in question to the Tribe or Tribes. Upon request, each agency is required to return any such item to any lineal descendant or specific Tribe with whom such item is associated. There are various additional requirements imposed upon the Secretary.

## **ANTIQUITIES/ARCHAEOLOGY**

### **Antiquities Act**

**16 U.S.C. 431-433**

This act authorizes the President to designate as National Monuments objects or areas of historic or scientific interest on lands owned or controlled by the U.S. The act required that a permit be obtained for examination of ruins, excavation of archaeological sites and the gathering of objects of antiquity on lands under the jurisdiction of the Secretaries of Interior, Agriculture, and Army, and provided penalties for violations.

## **Archeological and Historic Preservation Act**

**16 U.S.C. 469-469c**

This law was enacted to carry out the policy established by the Historic Sites Act, directed Federal agencies to notify the Secretary of the Interior whenever they find a Federal or federally assisted, licensed or permitted project may cause loss or destruction of significant scientific, prehistoric or archaeological data. The act authorized use of appropriated, donated and/or transferred funds for the recovery, protection and preservation of such data.

## **Archaeological Resources Protection Act**

**16 U.S.C. 470aa - 470ll**

This act largely supplanted the resource protection provisions of the Antiquities Act for archaeological items. It established detailed requirements for issuance of permits for any excavation for or removal of archaeological resources from Federal or Indian lands. It also established civil and criminal penalties for the unauthorized excavation, removal, or damage of any such resources; for any trafficking in such resources removed from Federal or Indian land in violation of any provision of Federal law; and for interstate and foreign commerce in such resources acquired, transported or received in violation of any State or local law.

## **Historic Sites, Buildings and Antiquities Act**

**16 U.S.C. 461-462, 464-467**

This act declared it a national policy to preserve historic sites and objects of national significance. It provided procedures for designation, acquisition, administration and protection of such sites. Among other things, National Historic and Natural Landmarks are designated under authority of this act.

## **National Historic Preservation Act 16 U.S.C. 470 et seq.**

This act provided for preservation of significant historical features (buildings, objects and sites) through a grant-in-aid program to the states. It established a National Register of Historic Places (NRHP) and a program of matching grants under the existing National Trust for Historic Preservation. The act established an Advisory Council on Historic Preservation, which was made a permanent independent agency in 1976. Federal agencies are directed to take into account the effects of their actions on items or sites listed or eligible for listing in the National Register.

## **Preserve America**

**EO 13287, March 3, 2003**

Agencies shall provide leadership in preserving America's heritage by actively advancing the protection, enhancement, and contemporary use of the historic properties owned by the Federal government.

Each agency is to provide and maintain an assessment of the status of its inventory of historic properties and their ability to contribute to community economic development initiatives.

Where consistent with its mission and governing authorities, and where appropriate, agencies shall seek partnerships with State and local governments, Indian tribes, and the private sector to promote the unique cultural heritage of communities and of the nation and to realize the economic benefit that these properties can provide; and cooperate with communities to increase opportunities for public benefit from, and access to, federally owned historic properties.

## **Protection & Enhancement of Cultural Environment**

**EO 11593, May 13, 1971**

Federal agencies are to provide leadership in the preservation, restoration, and maintenance of the historic and cultural environment. Agencies are to locate and evaluate all Federal sites under their jurisdiction or control which may qualify for listing on the NRHP or sites that qualify. Agencies are to initiate procedures to maintain such federally owned sites. The Advisory Council on Historic Preservation must be allowed to comment on the alteration, demolition, sale, or transfer of property which is likely to meet the criteria for listing as determined in consultation with the State Historic Preservation Officer (SHPO).

## **ENVIRONMENT - GENERAL**

### **Environmental Quality Improvement Act**

**42 U.S.C. 4371 et seq.**

Ensures each Federal agency conducting or supporting public works activities affecting the environment implements policies established under existing law principally by establishing the Office of Environmental Quality to provide assistance to, and oversight of, Federal agencies.

### **Federal Land Policy and Management Act**

**43 U.S.C. 1701 et seq.**

The "Organic Act" for the BLM, this act provides for the inventory and planning of the public lands to ensure that these lands are managed in accordance with the intent of Congress under the principles of multiple use and sustained yield. The lands are to be managed in a manner that protects the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values that, where appropriate, will preserve

and protect certain public lands in their natural conditions, that will provide food and habitat for fish and wildlife and domestic animals, and that will provide for outdoor recreation and human occupancy and use by encouraging collaboration and public participation throughout the planning process.

In addition, the public lands must be managed in a manner that recognizes the Nation's need for domestic sources of minerals, food, timber, and fiber from the public lands. Many old laws were repealed but rights obtained under those laws are protected. New authority for the disposal of appropriate public lands through sale or exchange is provided. ROW granting procedures are provided for both the BLM and the Forest Service. The regulations contained in 43 CFR Part 1600 govern the BLM planning process.

## **National Environmental Policy Act 42 U.S.C. 4321 et seq.**

NEPA encourages productive and enjoyable harmony between man and his environment and promotes efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; enriches the understanding of the ecological systems and natural resources important to the Nation.

NEPA requires that for recommendations or reports on proposals for legislation and other major actions significantly affecting the quality of the human environment that Federal agencies through a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decision making which may have an impact on man's environment; include a detailed statement by the responsible official on: the environmental impact of the proposed action; any adverse environmental effects which cannot be avoided should the proposal be implemented; alternatives to the proposed action; the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity; and any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

## **Protection & Enhancement of Environmental Quality**

**EO 11514, March 5, 1970**

Federal agencies shall initiate measures needed to direct their policies, plans and programs so as to meet national environmental goals of protecting and enhancing the quality of the Nation's environment to sustain and enrich human life.

Agencies should monitor, evaluate, and control on a continuing basis their agencies' activities so as to protect and enhance the quality of the environment. Such activities shall include those directed to controlling pollution and enhancing the environment and those designed to accomplish other program objectives which may affect the quality of the environment.

Agencies shall ensure the fullest practicable provision of timely public information and understanding of Federal plans and programs with environmental impact in order to obtain the views of interested parties. This will include, whenever appropriate, provision for public

hearings, and shall provide the public with relevant information, including information on alternative courses of action.

**Federal Action to Address Environmental  
Justice in Minority Populations and  
Low-Income Populations**                      **EO 12898, February 11, 1994**

Agencies shall make achieving environmental justice part of its mission by identifying and addressing disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.

**FIRE**

**Timber Protection Act**    **16 U.S.C. 594**

This act authorizes the Secretary of the Interior to protect timber on lands under the Department's jurisdiction from fire, disease and insects

**FISH & WILDLIFE**

**Animal Damage Control Act**    **7 U.S.C. 426-426c**

This act, as amended, gives the Secretary of Agriculture broad authority for investigation, demonstrations and control of mammalian predators, rodents and birds.

**Bald Eagle Protection Act**    **16 U.S.C. 668-668d**

This law provides for the protection of the bald eagle (the national emblem) and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession and commerce of such birds.

**Conservation of Migratory Birds**    **EO 13186, January 10, 2001**

EO 13186 creates a more comprehensive strategy for the conservation of migratory birds by the Federal government. The order provides a specific framework for the Federal government's compliance with its treaty obligations to Canada, Mexico, Russia, and Japan. The order provides broad guidelines on conservation responsibilities and requires the development of more detailed guidance in MOU within two years of its implementation. The order will be coordinated and implemented by the USFWS. The MOU will outline how Federal agencies will promote conservation of migratory birds. The order will requires the support of various conservation planning efforts already in progress; incorporation of bird conservation considerations into

agency planning, including NEPA analyses; and reporting annually on the level of take of migratory birds.

## **Endangered Species Act**

**16 U.S.C. 1532 et seq.**

This act provides for the conservation of ecosystems upon which threatened and endangered species of fish, wildlife, and plants depend, both through Federal action and by encouraging the establishment of State programs. The act: authorizes the determination and listing of species as endangered and threatened; prohibits unauthorized taking, possession, sale, and transport of endangered species; provides authority to acquire land for the conservation of listed species, using land and water conservation funds; authorizes establishment of cooperative agreements and grants-in-aid to states that establish and maintain active and adequate programs for endangered and threatened wildlife and plants; authorizes the assessment of civil and criminal penalties for violating the act or regulations; and authorizes the payment of rewards to anyone furnishing information leading to arrest and conviction for any violation of the act or any regulation issued there under.

Section 7 of the ESA requires Federal agencies to insure that any action authorized, funded or carried out by them is not likely to jeopardize the continued existence of listed species or modify their critical habitat.

## **Exotic Organisms**

**EO 11987, May 24, 1977**

Agencies, to the extent permitted by law, are to: restrict the introduction of exotic species into the natural ecosystems on lands and waters owned or leased by the U.S.; encourage states, local governments, and private citizens to prevent the introduction of exotic species into natural ecosystems of the U.S.; restrict the importation and introduction of exotic species into any natural U.S. ecosystems as a result of activities they undertake, fund, or authorize; and restrict the use of Federal funds, programs, or authorities to export native species for introduction into ecosystems outside the U.S. where they do not occur naturally.

## **Migratory Bird Treaty Act of 1918, amended in 1936, 1960, 1968, 1969, 1974, 1978, 1986, and 1989**

The Migratory Bird Treaty Act implements treaties and conventions between the U.S., Canada, Japan, Mexico, and the former Soviet Union for the protection of migratory birds. Unless otherwise permitted by regulations, the act makes it unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. The act also make it unlawful to ship, transport or carry from one state, territory or district to another, or through a foreign country, any bird, part, nest or egg that was captured, killed, taken, shipped, transported or carried contrary to the laws from where it was obtained; and import from Canada any bird, part, nest or egg obtained contrary to the laws of the province from which it was obtained. The USDOJ has authority to arrest, with or without a warrant, a person violating the act.

## **Neotropical Migratory Bird Conservation Act**

**P.L. 106-247**

This act provides grants to countries in Latin America and the Caribbean, and the U.S. for the conservation of neotropical migratory birds that winter south of the border and summer in North America. The law encourages habitat protection, education, researching, monitoring, and capacity building to provide for the long-term protection of neotropical migratory birds.

## **Recreational Fisheries**

**EO 12962, June 7, 1995**

Agencies shall improve the quantity, function, sustainable productivity, and distribution of U.S. aquatic resources for increased recreational fishing opportunities by such activities as: developing and encouraging partnerships between governments and the private sector to advance aquatic resource conservation and enhance recreational fishing opportunities, identifying recreational fishing opportunities that are limited by water quality and habitat degradation and promoting restoration to support viable, healthy, and, where feasible, self-sustaining recreational fisheries, fostering sound aquatic conservation and restoration endeavors to benefit recreational fisheries, supporting outreach programs designed to stimulate angler participation in the conservation and restoration of aquatic systems, and implementing laws under their purview in a manner that will conserve, restore, and enhance aquatic systems that support recreational fisheries.

## **Sikes Act**

**16 U.S.C. 670**

The Sikes Act, as amended, (Public Law 86-797, approved September 15, 1960), provides for cooperation by the USDOJ and Defense with State agencies in planning, development and maintenance of fish and wildlife resources on military reservations throughout the U.S. An amendment enacted August 8, 1968, (P.L. 90-465, 82 Stat. 661) authorizes a program for development of outdoor recreation facilities. Public Law 93-452, signed October 18, 1974, (88 Stat. 1369) authorized conservation and rehabilitation programs on Atomic Energy Commission, Forest Service, and BLM lands. These programs are carried out in cooperation with the States by the Secretary of the Interior and on Forest Service lands by the Secretary of Agriculture.

# **FORESTS**

## **Forest Service Authorities**

Some of the laws governing the operations and activities of the Forest Service are:

- The National Forest Management Act of 1976, which extensively amended the Forest and Rangeland Renewable Resources Planning Act of 1974 (16 U.S.C. 1600 et seq.), and which constitutes the "organic act" for the Forest Service.

- The Multiple Use Sustained Yield Act of 1960 (16 U.S.C. 528 et seq.) established purposes for the Forest System, including outdoor recreation, range, timber, watershed and fish and wildlife.
- The Cooperative Forestry Assistance Act (16 U.S.C. 2100 et seq.), authorizes the Secretary of Agriculture to cooperate on forest management issues with non-Federal forest lands.

Various other laws and authorities for the Forest Service are codified at 16 U.S.C. sections 471 through 573.

## **Timber Protection Act** **16 U.S.C. 594**

This Act authorizes the Secretary of the Interior to protect timber on lands under the Department's jurisdiction from fire, disease, and insects

## **LAND**

### **Desert Land Act** **43 U.S.C. 321 et seq.**

This act allows entry of up to 320 acres of desert land where the entryman intends to reclaim the land for agricultural purposes within three years. Lands must be determined to be available and classified pursuant to 43 U.S.C. 315f before such an entry can be allowed.

### **Exchanges of Public Land for Non-Federal Land** **43 U.S.C. 1716**

Allows the exchange of Public Land, or interests therein, for non-Federal lands where it is determined (the Secretary finds) that the public interest will be well served by making the exchange. Values of the disposed and acquired lands must be equal in value.

### **Federal Land Exchange Facilitation Act** **43 U.S.C. 1716, August 20, 1988**

Basically amends the exchange provisions of FLPMA to streamline and facilitate land exchange procedures and to expedite exchanges.

### **Federal Land Transaction Facilitation Act** **PL 106-248, July 25, 2000**

Provides a more expeditious process for disposal and acquisition of land to facilitate a more effective configuration of land ownership patterns.

Funds from the sale of specified land is deposited in a special fund available to acquire land and to process additional land sales.

**Recreation and Public Purposes  
Act**

**43 U.S.C. 869 et seq.**

This act provides for the lease or disposal of public lands, and certain withdrawn or reserved lands, to State and local governments and qualified non-profit organizations to be used for recreational or public purposes. Prices that are charged for land use or acquisition are normally less than market value of the specific lands. The act allows for reversion of the lands under certain conditions.

**MINING & MINERAL LEASING**

**Federal Coal Leasing Amendments  
Act**

**30 U.S.C. 201**

This act made major changes in the way coal leases tracts are established, economic and environmental considerations, sale/leasing procedures, and penalties for violations.

**General Mining Law**

**30 U.S.C. 21 et seq.**

This authority sets forth rules and procedures for the exploration, location and patenting of lode, placer, and mill site mining claims. Claimants must file notice of the original claim with the BLM as well as annual notice of intention to hold, affidavit of assessment work or similar notice.

**Geothermal Steam Act**

**30 USC 1001 et seq.**

This act authorizes and governs the lease of geothermal steam and related resources on public lands

**Materials Sales Act**

**30 U.S.C. 601-604**

This act provides for the disposal of materials on public lands and requires the Secretary, under such rules and regulations as he may prescribe, may dispose of mineral materials (including but not limited to common varieties of the following: sand, stone, gravel, pumice, pumicite, cinders, and clay) and vegetative materials (including but not limited to yucca, manzanita, mesquite, cactus, and timber or other forest products) on public lands of the U.S. Such materials may be disposed of upon the payment of adequate compensation. The Secretary is authorized in his discretion to permit any Federal, State, or Territorial agency, unit or subdivision, including municipalities, or any association or corporation not organized for profit, to take and remove, without charge, materials and resources for use other than for commercial or industrial purposes or resale.

**Mineral Leasing Act** **30 U.S.C. 181 et seq.**

This act authorizes and governs leasing of public lands for development of deposits of coal, oil, gas and other hydrocarbons, sulphur, phosphate, potassium and sodium.

**Mineral Leasing Act for Acquired Lands** **30 U.S.C. 351 et seq.**

This act authorizes and governs mineral leasing on acquired lands.

**Mining & Mineral Policy Act** **30 U.S.C. 21a**

This act expressed the national policy to foster and encourage private enterprise in the development of economically sound and stable domestic mining, minerals, metal and mineral reclamation industries, the orderly and economic development of domestic mineral resources, reserves, and reclamation of metals and minerals to help assure satisfaction of industrial, security and environmental needs, mining, mineral, and metallurgical research, including the use and recycling of scrap to promote the wise and efficient use of our natural and reclaimable mineral resources, and the study and development of methods for the disposal, control, and reclamation of mineral waste products, and the reclamation of mined land, so as to lessen any adverse impact of mineral extraction and processing upon the physical environment that may result from mining or mineral activities.

**Stock Raising Homestead Act** **43 U.S.C. 291-299**

Patents issued under this authority reserved minerals to the U.S. as well as the right to prospect for, mine, and remove said minerals. Certain conditions exist to protect the patentee's improvements.

**Surface Mining Control & Reclamation Act** **30 U.S.C. 1201 et seq.**

This act establishes a program for the regulation of surface mining activities and the reclamation of coal-mined lands, under the administration of the Office of Surface Mining, Reclamation and Enforcement, in the USDOl.

The law sets forth minimum uniform requirements for all coal surface mining on Federal and State lands, including exploration activities and the surface effects of underground mining. Mine operators are required to minimize disturbances and adverse impact on fish, wildlife and related environmental values and achieve enhancement of such resources where practicable. Restoration of land and water resources is ranked as a priority in reclamation planning.

## **POLLUTION—GENERAL**

### **Comprehensive Environmental Response Compensation & Liability Act (Superfund)**

**42 U.S.C. 9601 et seq.**

The "Superfund" statute was enacted in 1980; major amendments were enacted in 1983 and in 1986. The 1980 statute authorized, through 1985, the collection of taxes on crude oil and petroleum products, certain chemicals, and hazardous wastes. It also established liability to the U.S. Government for damage to natural resources over which the U.S. has sovereign rights and requires the President to designate Federal officials to act as trustees for natural resources. Use of Superfund monies to conduct natural resource damage assessments was provided.

The 1983 amendments established a comprehensive system to react to releases of hazardous substances and to determine liability and compensation for those affected. The President is authorized to notify Federal and State natural resource trustees of potential damages to natural resources and to coordinate related assessments.

Amendments enacted in 1986 (known as the Superfund Amendment and Reauthorization Act, among others, 1) added effects on natural resources as a criterion for determining facilities to be placed on the National Priorities List, 2) mandated the designation of Federal officials to act as trustees for natural resources and to assess damages and injury to, as well as destruction of, or loss of, natural resources, 3) stipulated that Superfund monies may only be used for natural resource damage claims if all administrative and judicial remedies to recover costs from liable parties have been exhausted, 4) clarified that Federal facilities are subject to the same cleanup requirements and liability standards as non-governmental entities, and 5) eliminated the authorization for use of Superfund monies to conduct damage assessments.

### **Federal Environmental Pesticide Control Act**

**7 U.S.C. 136**

This act, in simple terms, provided for a program for controlling the sale, distribution, and application of pesticides through an administrative registration process and for classifying pesticides for "general" or "restricted" use. "Restricted" pesticides may only be applied by or under the direct supervision of a certified applicator

### **Federal Compliance with Pollution Control Standards**

**EO 12088**

To ensure Federal compliance with applicable pollution control standards, this EO provides as follows: 1) The head of each Executive agency is responsible for ensuring that all necessary actions are taken for the prevention, control, and abatement of environmental pollution with respect to Federal facilities and activities under the control of the agency, and 2) The head of each Executive agency is responsible for compliance with applicable pollution control standards.

Applicable pollution control standards means the same substantive, procedural, and other requirements that would apply to a private person.

## **Superfund Implementation**                      **EO 12580**

This EO delegates to various Federal officials the responsibilities vested in the President for implementing the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986. This EO and the National Contingency Plan (NCP) (the implementing regulations of CERCLA) are the basis of DOE's authority to implement CERCLA at DOE facilities. The EO delegates the authority and responsibility to DOE, while the NCP describes EPA's procedures for implementing the CERCLA program. DOE is required to carry out a number of key functions, including, providing representatives to the National Response Team, the interagency organization responsible for planning for and responding to CERCLA releases; acting as a natural resource trustee for land that DOE manages; performing natural resource damage assessments (NRDA); and assuming authority for response actions resulting from releases of hazardous substances on, over, or under land that DOE manages.

## **Federal Compliance with Right to Know Laws and Pollution Prevention Requirements**                      **EO 12856, August 3, 1993**

Requires agencies to comply with the provisions of the Pollution Prevention Act and to assure all necessary actions are taken to prevent pollution. The CEQ provided guidance on pollution prevention in the Federal Register of January 29, 1993.

## **Resource Conservation & Recovery Act**                      **42 U.S.C. 6901 et seq.**

This act regulates the treatment, transportation, storage, and disposal of solid and hazardous wastes. The Service is required to comply with standards for wastes generated at its facilities. The key provisions include:

- Identification and listing of hazardous waste and standards applicable to hazardous waste -- Requires reporting of hazardous waste, permitting for storage, transport, and disposal, and it includes provisions for oil recycling and Federal hazardous waste facilities inventories.
- Management for solid waste, including landfills.
- Applicability of Federal, State, and local laws to Federal agencies.
- Management, replacement, and monitoring of underground storage tanks.

**Toxic Substances Control Act**                      **15 U.S.C. 2601 et seq.**

This act authorized the EPA to obtain data from industry on health and environmental effects of chemical substances and mixtures. If unreasonable risk or injury may occur, EPA may regulate, limit or prohibit the manufacture, processing, commercial distribution, use and disposal of such chemicals and mixtures.

**Pollution Prevention Act**                      **42 U.S.C. 13101 et seq.**

This act encourages manufacturers to avoid the generation of pollution by modifying equipment and processes, redesigning products, substituting raw materials, and making improvements in management techniques, training and inventory control.

**Solid Waste Disposal Act**                      **42 U.S.C. 6901 et seq.**

Establishes a national policy that, wherever feasible, the generation of hazardous waste is to be reduced or eliminated as expeditiously as possible. Waste that is nevertheless generated should be treated, stored, or disposed of so as to minimize the present and future threat to human health and the environment. It directs the EPA to provide guidelines for the treatment, handling, and storage of such wastes.

**RANGELANDS**

**Federal Noxious Weed Act**                      **7 U.S.C. 2801 et seq.**

This act provides the Secretary of Agriculture authority to designate plants as noxious weeds by regulation, and prohibits the movement of all such weeds in interstate or foreign commerce except under permit. The Secretary also has authority to inspect, seize and destroy products, and to quarantine areas, if necessary to prevent the spread of such weeds. He is also authorized to cooperate with other Federal, State and local agencies, farmers associations and private individuals in measures to control, eradicate, or prevent or retard the spread of such weeds.

Each Federal land-managing agency is to designate an office or person adequately trained in managing undesirable plant species to develop and coordinate a program to control such plants on the agency's land.

## **Invasive Species**

**EO 13112, February 3, 1999**

The purpose is to prevent the introduction of invasive species and provide for their control, as well as to minimize the economic, ecological, and human health impacts that invasive species cause.

Agencies whose actions may affect the status of invasive species shall: (1) identify such actions, (2) use relevant programs and authorities to prevent, control, monitor, and research such species, and (3) not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the U.S. or elsewhere

## **Noxious Plant Control Act**

**43 U.S.C. 1241-43**

Authorizes agencies to allow, and pay for, State authorities to enter Federal land for the control/destruction of noxious plants.

## **Public Rangelands Improvement Act**

**43 U.S.C. 1901 et seq.**

This act was instituted to improve public rangeland conditions in the 16 contiguous western states on which there is, or is capable for, domestic livestock grazing. Rangeland quality is determined by soil quality, forage values, wildlife habitat, watershed and plant communities, the current state of vegetation in a site in relation to its potential, and the relative degree to which the kinds, proportions, and amounts of vegetation in a plant community resemble the desired plant community.

## **Taylor Grazing Act**

**43 U.S.C. 215 et seq.**

The TGA was the Federal government's first effort to regulate grazing on federal lands. Under the act grazing districts were established of vacant, unreserved, public domain lands which were chiefly valuable for grazing and raising forage crops. Grazing is regulated through leases or licenses for which a fee is paid. Regulations provide for the development of state Standards for Rangeland Health and Guideline for Grazing Management. Such standards and guidelines are approved through the BLM's planning and NEPA processes.

The TGA also eliminated settlement on the public domain and provided for the classification and disposal of public lands more valuable for uses other than grazing or the production of forage crops.

Residents and stock owners pay an annual fee to obtain a grazing permit that is used to manage livestock grazing in established districts. Grazing Administration Regulations (43 CFR 4100) provide for the development of State Standards for Rangeland Health and Guidelines for Grazing Management. The Standards and Guidelines are approved through BLM planning and NEPA processes.

## **Wild Free-Roaming Horse & Burro Act 16 U.S.C. 1331-1340**

This act provides for protection of wild, free-roaming horses and burros. It directs the BLM of the USDOJ and Forest Service to manage such animals on public lands under their jurisdiction.

## **RECREATION RIGHTS-OF-WAY**

With the passage of FLPMA in 1976, BLM was left with existing ROWs (“Pre-FLPMA” ROWs) and three basic authorities under which public lands may be used or dedicated to various types of ROWs.

### **Action to Expedite Energy Related Projects**

**EO 13212, May 18, 2001**

For energy-related projects, agencies shall expedite their review of permits or take other actions as necessary to accelerate the completion of such projects, while maintaining safety, public health, and environmental protections. The agencies shall take such actions to the extent permitted by law and regulation, and where appropriate.

### **Environmental Stewardship & Transportation Infrastructure Project Reviews**

**EO 13274, September 18, 2002**

Agencies shall take appropriate actions, to the extent consistent with applicable law and available resources, to promote environmental stewardship in the Nation's transportation system and expedite environmental reviews of high-priority transportation infrastructure projects.

For transportation infrastructure projects, agencies shall, in support of the Department of Transportation, formulate and implement administrative, policy, and procedural mechanisms that enable each agency required by law to conduct environmental reviews with respect to such projects to ensure completion of such reviews in a timely and environmentally responsible manner.

### **Energy Supply, Distribution, or Use EO 13211, May 18, 2001**

This order requires an impact and alternative analysis for any proposed rule that would have an adverse impact on energy supply, distribution, or use.

### **Federal Aid Highways**

**23 U.S.C. 317**

Where Federal Aid highways are involved, the Secretary of Transportation may appropriate Federal land for such highway projects. Applications or requests are usually filed by the State Department of Transportation through the local office of the FHWA. If BLM does not disapprove such a request within 120 days, the appropriation is automatic. When BLM issues a letter "consenting" to the appropriation reasonable terms and conditions may be included.

## **FLPMA ROWs**

**43 U.S.C. 1761 et seq.**

Title V of FLPMA gives the BLM authority to authorize most types of ROW use, other than oil & gas ROWs, on the public lands. The term of the ROW is determined by need and conditions; it may be indefinite but usually is around 30 years. ROWs may be renewed.

## **Off-Road Vehicles**

**EO 11644, February 8, 1972  
and EO 11989, May 24, 1977**

These orders require public land managers "to establish policies and procedures that will ensure that the use of off-highway vehicles on public lands will be controlled and directed to protect the resources of those lands, to promote the safety of all users of those lands, and to minimize conflicts among the various uses of those lands."

## **Oil and Gas Pipeline ROWs**

**30 U.S.C. 185**

The Mineral Leasing Act of 1920, as amended, contains provisions for the issuance of ROWs for the transportation of natural gas and oil or products derived there from. The term of the ROW is limited to 30 years but is renewable. Where an application involves land administered by two or more Federal agencies, the Secretary of the Interior has delegated the decision making to the BLM. Federal agencies are not eligible under this authority.

## **Pre-FLPMA ROWs Provision**

**43 U.S.C. 1701 Savings**

Various laws provided for ROWs ranging from ditches and canals through communications to railroads. Some are indefinite in term and will remain under the pre-FLPMA authority until abandoned. Others have definite terms and will come under current authorities if amended or renewed.

## **RIVERS AND STREAMS**

### **American Heritage Rivers**

**EO 13061, September 11, 1997**

This EO has three objectives: natural resource and environmental protection, economic revitalization, and historic and cultural preservation. Agencies, to the extent permitted by law and consistent with their missions and resources, shall coordinate Federal plans, functions, programs, and resources to preserve, protect, and restore rivers and their associated resources important to our history, culture, and natural heritage

### **Wild & Scenic Rivers Act**

**16 U.S.C. 1271 et seq.**

This act establishes a National Wild and Scenic Rivers System and prescribes the methods and standards through which additional rivers may be identified and added to the system.

## **TRAILS**

### **National Parks and Recreation Act of 1978**

**PL 95-625**

This act provides for increases in appropriations ceilings, development ceilings, land acquisition, and boundary changes in certain Federal park and recreation areas, and for other purposes. It provides for the establishment of new units of the national park system, numerous boundary changes, and authorization increases for existing units of the national park system, and designated portions of a number of existing national park system areas as Wilderness. It also established a new category in the National Trails System labeled "National Historic Trails" and would designate additional national scenic trails.

### **National Trails System Act**

**16 U.S.C. 1241-1249**

This act provides for establishment of NRTs, National Scenic Trails, and National Historic Trails NHTs.

NRTs may be established by the Secretaries of Interior or Agriculture on land wholly or partly within their jurisdiction, with the consent of the involved State(s), and other land managing agencies, if any. National Scenic Trails and NHTs may only be designated by an act of Congress.

## **WATER—GENERAL**

### **Arizona Revised Statutes**

### **A.R.S. Title 45 – Waters**

Title 45 of the Arizona Revised Statutes governs water use within the State. Arizona's water law is based on the doctrine of prior appropriation, but it is administered based on a bifurcated system where surface water is regulated separately from ground water. There are basically four categories of water supplies available in Arizona: Colorado River water, surface water other than Colorado River water, ground water, and effluent. Each water supply is managed in a different manner. Colorado River water is allocated through the Law of the River and Arizona's water banking program, surface water rights are based on "first in time, first in right," and groundwater rights vary depending on location.

### **Clean Water Act**

### **PL 95-217**

The CWA extensively amended the Federal Water Pollution Act. Of particular significance were the following provisions:

### **Colorado River Floodway Protection Act**

### **100 Stat. 1129**

This act established a Colorado River Floodway Area, within which are prohibited 1) all new Federal funding or financial assistance for any purpose (except for listed exceptions), 2) Federal flood insurance for new construction or substantial improvements begun six months after enactment on existing structures, and 3) the granting of new Federal leases (unless the Secretary determines the purpose is consistent with the act).

### **Colorado River Basin Project Act**    **43 U.S.C. 1501-1556**

This act provided a program for the comprehensive development of the water resources of the Colorado River Basin, and directed the Secretary of the Interior to develop, after consultation with affected states and appropriate Federal agencies, a regional water plan to serve as the framework under which projects in the Colorado River Basin may be coordinated and constructed.

### **Colorado River Basin Salinity Control Act**

### **43 USC 1571-1599**

This act authorized the construction of facilities necessary to meet the terms of the 1973 Salinity Agreement with Mexico.

## **Colorado River Storage Project Act 43 U.S.C. 620**

This act authorized the Secretary of the Interior to construct a variety of dams, power plants, reservoirs and related works. The act also authorized and directed the Secretary, in connection with the development of the Colorado River Storage Project and participating projects, to investigate, plan, construct and operate facilities to mitigate losses of, and improve conditions for, fish and wildlife and public recreational facilities. The act provided authority to acquire lands and to lease or convey lands and facilities to State and other agencies.

## **Federal Water Pollution Control Act 33 U.S.C. 1251 et seq.**

The original 1948 statute, the Water Pollution Control Act, authorized the Surgeon General of the Public Health Service, in cooperation with other Federal, State and local entities, to prepare comprehensive programs for eliminating or reducing the pollution of interstate waters and tributaries and improving the sanitary condition of surface and underground waters. During the development of such plans, due regard was to be given to improvements necessary to conserve waters for public water supplies, propagation of fish and aquatic life, recreational purposes, and agricultural and industrial uses. The original statute also authorized the Federal Works Administrator to assist states, municipalities, and interstate agencies in constructing treatment plants to prevent discharges of inadequately treated sewage and other wastes into interstate waters or tributaries.

Since 1948, the original statute has been amended extensively either to authorize additional water quality programs, standards and procedures to govern allowable discharges, funding for construction grants or general program funding. Amendments in other years provided for continued authority to conduct program activities or administrative changes to related activities.

- Development of a "Best Management Practices" Program as part of the State area wide planning program
- Authority for the USACE to issue general permits on a state, regional, or national basis for any category of activities which are similar in nature, will cause only minimal environmental effects when performed separately, and will have only minimal cumulative adverse impact on the environment
- Exemption of various activities from the dredge and fill prohibition including normal farming, silviculture, and ranching activities (33 USC 1344(f))
- Procedures for State assumption of the regulatory program.

The CWA requires the EPA to establish water quality standards for specified contaminants in surface waters and forbids the discharge of pollutants from a point source into navigable waters without a National Pollutant Discharge Elimination System permit. National Pollutant Discharge Elimination System permits are issued by EPA or the appropriate State if it has assumed responsibility. Section 404 of the CWA establishes a Federal program to regulate the discharge of dredged and fill material into waters of the U.S. Section 404 permits are issued by the USACE.

## **Flood Control Act**

**16 U.S.C. 460d et seq.**

This act, as amended and supplemented by other flood control acts and river and harbor acts, authorizes various USACE water development projects. This statute expressed Congressional intent to limit the authorization and construction of navigation, flood control, and other water projects to those having significant benefits for navigation and which could be operated consistent with other river uses. The authority to construct, operate and maintain public park and recreational facilities in reservoir areas was also provided.

## **Floodplain Management**

**EO 11988, May 24, 1977**

The purpose of this EO is to prevent agencies from contributing to the "adverse impacts associated with the occupancy and modification of floodplains" and the "direct or indirect support of floodplain development."

In the course of fulfilling their respective authorities, agencies "shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains."

Before proposing, conducting, supporting or allowing an action in a floodplain, each agency is to determine if planned activities will affect the floodplain and evaluate the potential effects of the intended actions on its functions. Agencies shall avoid siting development in a floodplain "to avoid adverse effects and incompatible development in the floodplains,"

## **Oil Pollution Act**

**33 U.S.C. 2701 et seq.**

This act established new requirements and extensively amended the Federal Water Pollution Control Act to provide enhanced capabilities for oil spill response and natural resource damage assessment

Among other provisions are that Federal trustees shall assess natural resource damages for natural resources under their trusteeship. Federal trustees may, upon request from a State or Indian tribe, assess damages to natural resources for them as well. Trustees shall develop and implement a plan for the restoration, rehabilitation, replacement, or acquisition of the equivalent of natural resources under their trusteeship.

## **Protection of Wetlands**

**EO 11990, May 24, 1977**

Similar to Floodplain Management, agencies are directed to consider alternatives to avoid adverse effects and incompatible developments in areas of wetlands. New construction is to be avoided if possible.

## **Safe Drinking Water Act**

**42 U.S.C. 300h**

This act establishes a program to monitor and increase the safety of all commercially and publicly supplied drinking water. This act was amended in 1986 to require the EPA to establish Maximum Contaminant Levels, Maximum Contaminant Level Goals, and Best Available Technology treatment techniques for organic, inorganic, radioactive, and microbial contaminants, and turbidity. In 1996, current Federal Maximum Contaminant Level Goals and Best Available Technology treatment techniques in public drinking water supplies were set.

## **Water Quality Act**

**PL 100-4**

This act provided the most recent series of amendments to the Federal Water Pollution Act. Provisions included:

- Requirement that states develop strategies for toxics cleanup in waters where the application of "Best Available Technology" discharge standards is not sufficient to meet State water quality standards and support public health,
- Increase in the penalties for violations of Section 404 permits, and
- Requirement that EPA study and monitor the water quality effects attributable to the impoundment of water by dams.

## **Water Resources Planning Act**

**42 U.S.C. 1962a - 1962(a)(4)(e)**

This act established a Water Resources Council to be composed of Cabinet representatives, including the Secretary of the Interior. It also established River Basin Commissions and stipulated their duties and authorities.

The Council was empowered to maintain a continuing assessment of the adequacy of water supplies in each region of the U.S. In addition, the Council was mandated to establish principles and standards for Federal participants in the preparation of river basin plans and in evaluating Federal water projects. Upon receipt of a river basin plan, the Council was required to review the plan with respect to agricultural, urban, energy, industrial, recreational and fish and wildlife needs.

## **Water Rights**

**43 U.S.C. 666**

This act waives the sovereign immunity of the U.S. where there is a suit designed to establish the rights to a river or other source of water, or the administration of such rights, and the U.S. appears to own or be in the process of acquiring rights to any such water. (The effect is to permit State courts to adjudicate Federal water rights claims under State law.)

## **WILDERNESS**

### **Arizona Desert Wilderness**

**P.L. 101-628**

This act added 38 BLM administered areas and four USFWS administered areas in Arizona to the National Wilderness Preservation System and increased the size of an existing BLM Wilderness. Additional provisions of the act included the retention of two BLM areas in wilderness study status and the designation of a National Conservation Area. The YFO administers four Wilderness Areas (Eagletail Mountains, Muggins Mountain, New Water Mountains, and Trigo Mountains) designated by this act.

### **The California Desert Protection Act**

**P.L. 103-433**

This act designated lands in the BLM California Desert District as Wilderness, established Death Valley and Joshua Tree National Parks, and established the Mojave National Preserve. The YFO administers portions of four Wilderness Areas (Big Maria Mountains, Little Picacho, Palo Verde Mountains, and Riverside Mountains) designated by this act in coordination with two California Desert District Field Offices.

### **Wilderness Act**

**16 U.S.C. 1131 et seq.**

This act established a National Wilderness System of areas to be designated by Congress. It directed the Secretary of the Interior, within 10 years, to review every roadless area of 5,000 or more acres and every roadless island (regardless of size) within NWR and NPS and to recommend to the President the suitability of each such area or island for inclusion in the National Wilderness Preservation System, with final decisions made by Congress. The Secretary of Agriculture was directed to study and recommend suitable areas in the National Forest System.

The act provides criteria for determining suitability and establishes restrictions on activities that can be undertaken on a designated area. Criteria set by Congress within this act states that Wilderness Areas have the following characteristics: (1) Generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and confined types of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological or other features of scientific, educational, scenic or historical value. The Wilderness Act also set the accepted uses of designated Wilderness Areas and what uses are prohibited. The act sets special provisions for an agency's continuing management of existing or grandfathered rights such as mining and grazing and other agency mission related activities.

## **OTHER**

### **Base Closure & Realignment Act      Title II of P.L. 100-526**

The act establishes a preference for the sale of land made surplus as a result of base closures or reductions, with the funds to be utilized for the costs of the closures, or for transfer of the land to a local redevelopment authority. It does not require such sales, however, nor does it repeal the provisions of law permitting the no- or reduced-cost transfer of such land to Federal agencies or the states for conservation purposes.

### **Cave Resources Protection Act      16 U.S.C. 4301 et seq.**

This act established requirements for the management and protection of caves and their resources on Federal lands, including allowing the land managing agencies to withhold the location of caves from the public, and requiring permits for any removal or collecting activities in caves on Federal lands.

### **Federal Advisory Committee Act      P.L. 92-463**

The Federal Advisory Committee Act (or FACA) is a U.S. federal law (P.L. 92-463, October 6, 1972), which governs the behavior of advisory committees. In particular it restricts the formation of such committees to only those which are deemed essential, limits their powers to provision of advice to officers and agencies in the executive branch of the Federal government, and limits the length of term during which any such committee may operate. Further, the Federal Advisory Committee Act was an attempt by congress to curtail the rampant "locker-room discussion" that had become prevalent in administrative decisions. The Federal Advisory Committee Act declared that all administrative procedures and hearings were to be public knowledge. Also see "sunshine clause" and "Administrative Procedure Act Section 553."

### **Federal Power Act      16 U.S.C. 791-828c**

Established what is now the Federal Energy Regulatory Commission. Studies water related power development possibilities. Licenses and oversees the development of water power project on Federal and non-Federal land. On Federal land coordinates with agencies and, for some agencies they may dictate conditions to be included in licenses.

The Federal Energy Regulatory Commission also regulates interstate electric transmission lines and interstate oil and gas pipelines. Issues "certificates of public convenience" for these interstate facilities.

## **Federalism**

## **EO 13132, August 4, 1999**

In formulating and implementing policies that have federalism implications, agencies shall be guided by the following principles:

- Federalism is rooted in the belief that issues that are not national in scope or significance are most appropriately addressed by the level of government closest to the people.
- The people of the states created the national government and delegated to it enumerated governmental powers. All other sovereign powers, save those expressly prohibited the states by the Constitution, are reserved to the states or to the people.
- The Framers recognized that the states possess unique authorities, qualities, and abilities to meet the needs of the people and should function as laboratories of democracy.
- The nature of our constitutional system encourages a healthy diversity in the public policies adopted by the people of the several states according to their own conditions, needs, and desires. One-size-fits-all approaches to public policy problems can inhibit the creation of effective solutions to those problems.
- Policies of the national government should recognize the responsibility of--and should encourage opportunities for--individuals, families, neighborhoods, local governments, and private associations to achieve their personal, social, and economic objectives through cooperative effort.
- The national government should be deferential to the states when taking action that affects the policymaking discretion of the states and should act only with the greatest caution where State or local governments have identified uncertainties regarding the constitutional or statutory authority of the national government.

## **Freedom of Information Act**

## **P.L. 85-619**

The Freedom of Information Act is the implementation of freedom of information legislation in the U.S. The act explicitly applies only to Federal government agencies. These agencies are under several mandates to comply with public solicitation of information. Along with making public and accessible all bureaucratic and technical procedures for applying for documents from that agency, agencies are also subject to penalties for hindering the process of a petition for information. However, there are nine exemptions, ranging from a withholding “specifically authorized under criteria established by an EO to be kept secret in the interest of national defense or foreign policy” and “trade secrets” to “clearly unwarranted invasion of personal privacy.” In all cases, the President has unlimited power in declaring something off-limits or necessarily classified in the concern of national safety.

## **Land and Water Conservation Fund**

## **16 USC 4601 - 4601-11**

This fund is derived from various types of revenue (primarily Outer Continental Shelf oil monies) and appropriations from the fund may be used for 1) matching grants to states for outdoor recreation projects and 2) land acquisition for various Federal agencies.

## **Intergovernmental Review of Federal Programs**

**EO 12372**

In order to foster an intergovernmental partnership and a strengthened federalism by relying on State and local processes, the provisions of EO 12372, July 14, 1982, provides that: 1) Federal agencies shall provide opportunities for consultation by elected officials of those State and local governments that would provide the non-Federal funds for, or that would be directly affected by, proposed Federal financial assistance or direct Federal development, and 2) To the extent the states, in consultation with local general purpose governments, and local special purpose governments they consider appropriate, develop their own processes or refine existing processes for State and local elected officials to review and coordinate proposed Federal financial assistance and direct Federal development.

## **Privacy Act of 1974**

**P.L. 93-579**

The Privacy Act states in part, that no agency shall disclose any record which is contained in a system of records by any means of communication to any person, or to another agency, except pursuant to a written request by, or with the prior written consent of, the individual to whom the record pertains. However, there are specific exceptions for the record allowing the use of personal records. These exceptions are as follows: (1) For statistical purposes by the Census Bureau and the Bureau of Labor Statistics, (2) For routine uses within a U.S. government agency, (3) For archival purposes "as a record which has sufficient historical or other value to warrant its continued preservation by the U.S. Government," (4) For law enforcement purposes, (5) For Congressional investigations, and (6) Other administrative purposes. The Privacy Act mandates that each U.S. Government agency have in place an administrative and physical security system to prevent the unauthorized release of personal records.

## **Regulatory Impact Analysis**

**EO 12866, September 30, 1993**

Requires agencies to analyze the economic impact of proposed rules.

## **Takings**

**EO 12630, March 15, 1988**

The Fifth Amendment of the U.S. Constitution provides that private property shall not be taken for public use without just compensation. Government historically has used the formal exercise of the power of eminent domain, which provides orderly processes for paying just compensation, to acquire private property for public use. Recent Supreme Court decisions, however, in reaffirming the fundamental protection of private property rights provided by the Fifth Amendment and in assessing the nature of governmental actions that have an impact on constitutionally protected property rights, have also reaffirmed that governmental actions that do not formally invoke the condemnation power, including regulations, may result in a taking for which just compensation is required.

Agencies shall evaluate carefully the effect of their actions on constitutionally protected property rights to prevent unnecessary takings and should account in decision-making for those takings that are necessitated by statutory mandate.

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# AREAS OF CRITICAL ENVIRONMENTAL CONCERN EVALUATION REPORTS

To be designated as an ACEC, an area must meet the relevance and importance criteria listed in BLM Manual 1613 (1988) and require special management to protect and prevent irreparable damage to relevant and important resource values. In this evaluation report, YFO staff answered specific evaluation questions listed in the manual for relevance and importance. Seven areas were evaluated as part of the land use planning process. Two of the areas were previously designated ACECs in the 1987 Yuma District RMP. Five areas are evaluated as new proposals.

As required under BLM Manual 1613.33E, the rationale for proposing or not proposing an area for ACEC designation in the Proposed Plan is discussed for each proposal. YFO staff determined that four of the proposals do not require special management attention because standard or routine management prescriptions are sufficient to protect the resources or values from risks or threats of damage/degradation. The management prescriptions that would be used to manage these areas can be found throughout Chapter 2 of this document.

**Table 1**  
**Areas of Critical Environmental Concern Proposals Evaluated**

Name	Acres Evaluated	Acreage Proposed as ACEC under Proposed Plan	Values of Concern
Big Marias	4,500 / 9,200*	4,500	Cultural resources, riparian habitat.
Dripping Springs	9,800 / 11,700*	11,700	Perennial spring, desert bighorn sheep, cultural resources.
Gila River Terraces and Trails	140,400	28,500**	Cultural resources, historic and prehistoric trails along Gila River, riparian habitat.
Limitrophe	4,500	0	Riparian habitat, migratory birds, cultural resources, border issues.
Palomas Plains	429,900	0	Unfragmented wildlife habitat, desert bighorn sheep, mule deer.
Sears Point (Gila River Cultural Area)	3,700 / 28,500*	28,500	Cultural resources, historic and prehistoric trails, migratory birds, riparian habitat.
Walters Camp	3,500	0	Cultural resources, migratory birds.

\* Acreage for ACEC proposal varies by alternative.

\*\* Expanded Sears Point ACEC is within the Gila River Terraces and Trails evaluation area.

ACEC = Area of Critical Environmental Concern; CMA = Coordinated Management Area; SCRMA = Special Cultural Resources Management Area; WHA = Wildlife Habitat Management Area

## **1.1 BIG MARIAS ACEC**

### **1.1.1 RELEVANCE**

#### **A. A Significant Historic, Cultural, or Scenic Value**

The Big Marias ACEC contains the single greatest concentration of geoglyphs in North America. The density of intaglio features in this ACEC is extremely rare and presents unique management challenges for cultural resource protection and opportunities for scientific research. The ground figures within the ACEC are known to be of tremendous importance to several Native American tribes. The Blythe Intaglios, one of the most well-known intaglio sites in the country, is a public use site that is located inside this ACEC. This prominent intaglio site was listed on the NRHP on August 22, 1975.

#### **B. A Fish and Wildlife Resource**

Desert bighorn sheep are known to inhabit the Big Maria Mountains within this ACEC. The Big Marias ACEC also contains habitat for the rosy boa snake, a special status species.

#### **C. A Natural Process or System**

Not applicable.

#### **D. Natural Hazards**

Not applicable.

### **1.1.2 IMPORTANCE**

#### **A. Has More Than Locally Significant Qualities Which Give It Special Worth, Consequence, Meaning, Distinctiveness, or Cause for Concern, Especially Compared to Any Similar Resource**

The intaglio features found in this ACEC are of international significance. Similar ground figure techniques exist in Peru, Chile, England, and Australia. These delicate designs in the desert pavement, which can only be found in this region of the U.S., provide important insights into early lifeways along the lower Colorado River landscape. Two sensitive plant species that are known to occur within the ACEC, Alverson's foxtail cactus and barrel cactus, also make this area more than locally significant.

**B. Has Qualities or Circumstances That Make It Fragile, Sensitive, Rare, Irreplaceable, Exemplary, Unique, Endangered, Threatened, or Vulnerable to Adverse Change**

Intaglio designs are created on sensitive desert pavement surfaces by removing the darker surface gravels to reveal the lighter gravels and soils underneath. Consequently these features are extremely fragile and vulnerable to damage. Tracks caused by vehicle tires are currently the largest threat to the desert pavement designs. Other human uses of the area and natural processes, such as weathering of the ground surface, threaten the preservation of these features.

**C. Has Been Recognized as Warranting Protection in Order to Satisfy National Priority Concerns or to Carry Out the Mandates of FLPMA**

The potential for impacts to the ACEC's cultural resource values make this area a priority concern for management attention. Protection of this area's relevant and important features would carry out the FLPMA mandate to protect the quality of the planning area's scientific, ecological, environmental, and archeological values.

**D. Has Qualities Which Warrant Highlighting in Order to Satisfy Public or Management Concerns About Safety and Public Welfare**

Not applicable.

**E. Poses a Significant Threat to Human Life and Safety or to Property**

Not applicable.

### **1.1.3 PROPOSED PLAN MANAGEMENT STRATEGY**

The resource values within the existing 4,500-acre Big Marias ACEC, originally designated in the 1987 Yuma District RMP, continue to warrant special management attention as an ACEC. The 4,700-acre expansion area evaluated under Alternative D does not require special management attention. In addition to standard or routine management prescriptions, under the Proposed Plan these 4,700 acres would be managed according to the Big Marias Terraces SCRMA and the Desert Mountains WHA allocations.

## **2.1 DRIPPING SPRINGS**

### **2.1.1 RELEVANCE**

#### **A. A Significant Historic, Cultural, or Scenic Value**

The proposed ACEC contains a combination of archaeological and historic features that are frequently visited by the public and that are eligible for listing on the NRHP. The indigenous features in the ACEC include a concentration of large petroglyph boulders that are an excellent example of the Patayan culture style. In addition, remains of historic habitation, such as a two-room stone cabin and several other smaller stone structures, add to the cultural resource values of the area. A mini oasis with rock outcroppings, sheer cliffs along the backdrop of the area, exposed bedrock, and significant cholla stands add to the scenic value of the proposed ACEC. A waterfall with seasonal flows is located within a canyon adjacent to the spring. The area has had unusual displays of wildflowers after rains.

#### **B. A Fish and Wildlife Resource**

The proposed Dripping Springs ACEC contains a watering hole that is an important source of water for wildlife in the area. The area is crucial bighorn sheep habitat. The bighorn sheep herd in the area is used as a source of sheep transplants. The spring is a perennial water source and the only natural spring within the planning area and this water is crucial for wildlife in times of drought. The area surrounding the spring supports a dense cover of native plants that provide refuge and forage for wildlife. Plant species in the area include willow, jojoba, mesquite, paloverde, scrub oak, wolfberry, primrose, cholla, desert lavender, saguaro, and native grasses and forbs. The area also supports an abundant pollinator population.

#### **C. A Natural Process or System**

The proposed Dripping Springs ACEC contains the only perennial spring in the planning area. This area also contains a relic stand of scrub oak, skunk bush, and other plants found in the chaparral of Arizona. Similar occurrences are documented in other southwestern Arizona mountains, such as the nearby Kofa Mountains (Brown 1978). The waterfall located in a canyon adjacent to the spring fills tinajas and potholes after rains. Surface waters in the area consist of the spring (primary), waterfall, and natural catchments, which have continued to function as a hydrologic system during extended droughts. Water is crucial to wildlife populations in times of drought.

#### **D. Natural Hazards**

This proposed ACEC area is prone to flash flooding.

## 2.1.2 IMPORTANCE

### A. **Has More Than Locally Significant Qualities Which Give It Special Worth, Consequence, Meaning, Distinctiveness, or Cause for Concern, Especially Compared to Any Similar Resource**

The indigenous cultural features within the proposed ACEC tie into other Patayan sites throughout the region. The natural spring at the center of the ACEC is the only perennial spring in the planning area. The spring inside the proposed ACEC does not currently require human maintenance and should be protected because of the rarity of natural springs in the planning area. Any water in the desert is more than locally significant, due to the scarcity of water resources. The surface waters in the proposed ACEC sustain wildlife through long periods of drought. The area also provides connectivity to resources important to wildlife.

### B. **Has Qualities or Circumstances That Make It Fragile, Sensitive, Rare, Irreplaceable, Exemplary, Unique, Endangered, Threatened, or Vulnerable to Adverse Change**

The petroglyph panels in the proposed ACEC, the historic structure remains, and other cultural resource features are vulnerable to vandalism, looting, and impacts from other land uses. Human visitation during hot and/or dry periods may impact wildlife use of the area. Impacts of visitation during these periods may need to be monitored. The proposed ACEC's proximity to the intensive recreational uses in and around the Town of Quartzsite increases the likelihood of recreational damage occurring to the resources. OHV use through the area increases the potential of non-native invasive species unintentionally being spread into the proposed ACEC.

### C. **Has Been Recognized as Warranting Protection in Order to Satisfy National Priority Concerns or to Carry Out the Mandates of FLPMA**

The potential for impacts to the ACEC's natural and cultural resource values make this ACEC a BLM management priority. Protection of this area's relevant and important features would carry out the FLPMA mandate to protect the quality of the planning area's scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values.

### D. **Has Qualities Which Warrant Highlighting in Order to Satisfy Public or Management Concerns About Safety and Public Welfare**

Soil erosion through natural flooding and weathering of bedrock limit the type of access that can be sustained in the area. Erosion has caused portions of the existing road within the proposed ACEC to become unsafe and poses a risk to public welfare.

### E. **Poses a Significant Threat to Human Life and Safety or to Property**

Not applicable.

## **2.1.3 PROPOSED PLAN MANAGEMENT STRATEGY**

Under the Proposed Plan, 11,700 acres at Dripping Springs would be designated as an ACEC. This area warrants special management attention to manage the high amount of recreational use in the area while simultaneously protecting the area's relevant and important resource values.

## **3.1 GILA RIVER TERRACES AND TRAILS**

### **3.1.1 RELEVANCE**

#### **A. A Significant Historic, Cultural, or Scenic Value**

The proposed Gila River Terraces and Trails ACEC follows the course of the Gila River, which was a vital lifeline in the desert from Archaic times through the historic period. Indigenous cultural sites are scattered throughout the river valley, and together these sites along the Gila River create a significant landscape of traditional importance to Native American tribes. This proposed ACEC corridor is also known as an important historic travel route, with several important historic trails following the course of the Gila River, including the Anza Trail, Mormon Battalion Trail, Butterfield Overland Mail Route, and the Gila Trail. The proposed ACEC area includes the existing Sears Point (Gila River Cultural Area) ACEC with all of its relevant and important values. Scenic vistas are common throughout much of the proposed ACEC, particularly during rare high flow events of the Gila River.

#### **B. A Fish and Wildlife Resource**

A portion of the Fred J. Weiler Greenbelt (described in Chapter 3) is located within this ACEC. The Fred J. Weiler Greenbelt provides riparian habitat for marshbirds, waterfowl, raptors, and shorebirds, including Yuma clapper rail, and habitat for white-winged dove, mourning dove, and other game birds. The area provides outstanding recreational opportunities as a hunting destination.

#### **C. A Natural Process or System**

Desert pavement occurs on the terraces above the Gila River and provides runoff water to the surrounding wash and riparian habitats.

#### **D. Natural Hazards**

Not applicable.

### 3.1.2 IMPORTANCE

**A. Has More Than Locally Significant Qualities Which Give It Special Worth, Consequence, Meaning, Distinctiveness, or Cause for Concern, Especially Compared to Any Similar Resource**

The cultural resources on the terraces above the Gila River connect with a network of cultural sites further east, including Sears Point and Painted Rocks, and to the network of village sites along the Colorado River. The Anza Trail is distinctive for its connectivity between northern California and Mexico, and there is an international effort to manage this trail. The other historic trails that traverse the area are of special worth and warrant interpretation and special management. The Gila corridor is a popular regional hunting destination, attracting visitors during dove season. Cattail marsh provides important habitat for the endangered Yuma clapper rail.

**B. Has Qualities or Circumstances That Make It Fragile, Sensitive, Rare, Irreplaceable, Exemplary, Unique, Endangered, Threatened, or Vulnerable to Adverse Change**

Desert pavement within the proposed ACEC is fragile and subject to increased wind and water erosion when disturbed by mechanical means. Any increase in soil erosion would increase sediment deposits into the Gila River bed. The wildlife, cultural, and scenic values are threatened by increased development on land adjacent and within the proposed ACEC. The cultural resources on the desert pavement terraces are vulnerable to damage from OHV, other human-caused impacts, and natural deterioration.

**C. Has Been Recognized as Warranting Protection in Order to Satisfy National Priority Concerns or to Carry Out the Mandates of FLPMA**

Portions of the proposed ACEC were covered in the Anza Trail NPS Management Plan. Cultural resources found within the proposed ACEC are listed on or eligible to the NRHP. A portion of the Fred J. Weiler Greenbelt (described in Chapter 3) is also located within this proposed ACEC.

**D. Has Qualities Which Warrant Highlighting in Order to Satisfy Public or Management Concerns About Safety and Public Welfare**

Not applicable.

**E. Poses a Significant Threat to Human Life and Safety or to Property**

Not applicable.

### **3.1.3 PROPOSED PLAN MANAGEMENT STRATEGY**

This area was evaluated for ACEC designation because the adjacent Lower Sonoran Field Office evaluated a similar proposal for the Gila River corridor within their planning area. In the YFO, BLM has management authority on only 52,300 acres of the 140,400-acre corridor evaluated for ACEC designation under Alternative D. These 52,300 acres are not contiguous and would be better managed according to standard or routine management prescriptions. In addition, under the Proposed Plan portions of the BLM-administered lands within this area would be managed according to prescriptions for the Sears Point ACEC and Anza Trail designations, and the Laguna Mountains SCRMA, Ligurta Area SCRMA, Muggins Mountains Terraces SCRMA, North Gila Mountains SCRMA, Fred J. Weiler Greenbelt VHA, and Gila River Riparian WHA allocations.

## **4.1 LIMITROPHE**

### **4.1.1 RELEVANCE**

#### **A. A Significant Historic, Cultural, or Scenic Value**

The proposed Limitrophe ACEC is known to have traditional use values that are of importance to many Native American tribes. Native American traditional uses of the area include tribal education, gathering, hunting and fishing; collection of mesquite wood for funerary and construction purposes; collection of willow for basket materials; possibly collection of clay used for pottery making; and collection of river rocks. The area is internationally significant because indigenous peoples live on both sides of the border, in the U.S. and Mexico. It is a cultural landscape to practice traditional beliefs based on the river.

#### **B. A Fish and Wildlife Resource**

The proposed Limitrophe ACEC contains habitat for migratory neotropical songbird populations; migratory waterfowl, shorebirds, wading birds, burrowing owl, western yellow-billed cuckoo, and other wetland dependent species; and endangered species such as the SWFL and Yuma clapper rail. This area is an important migratory corridor, provides forage and cover for a variety of wildlife species, and provides a water source, which is crucial for wildlife during times of drought. The opportunities to enhance and restore cottonwood and willow communities would increase populations of birds and provide more birding opportunities. Loss of habitat in other areas is concentrating wildlife to the Limitrophe area.

#### **C. A Natural Process or System**

This portion of the lower Colorado River is one of the largest remaining contiguous tracts of native cottonwood-willow riparian vegetation, despite its interspersed with salt cedar. It contains a representative of every major tree type found in southern Arizona. Native trees are reestablishing in areas that have been cleared of salt cedar. Water table fluctuations as a result of releases from Morelos Dam and agriculture return flows are beneficial to native species.

Although the Gila and Colorado rivers stream flows are manipulated by man, the local area retains natural qualities due to surface water fluctuations and groundwater changes. Future water delivery and retention actions by Reclamation upstream could reduce the presence of surface water in the area.

#### **D. Natural Hazards**

Frequent fires reduce the presence of valuable native vegetation and promote the overgrowth of salt cedar in the Limitrophe area. These fires are usually caused by humans.

### **4.1.2 IMPORTANCE**

#### **A. Has More Than Locally Significant Qualities Which Give It Special Worth, Consequence, Meaning, Distinctiveness, or Cause for Concern, Especially Compared to Any Similar Resource**

The Limitrophe area is of international concern. The group Colorado River International Conservation Area was formed to promote the protection of the area. In addition, the Limitrophe area is of traditional value to several Native American tribes and groups. A large variety of wildlife habitats are found within the relatively small Limitrophe area.

#### **B. Has Qualities or Circumstances That Make It Fragile, Sensitive, Rare, Irreplaceable, Exemplary, Unique, Endangered, Threatened, or Vulnerable to Adverse Change**

The remnants of the riparian woodland gallery are threatened by: high fire occurrence; the lack of water due to river operations and local groundwater pumping to maintain the local water table at an appropriate level for agriculture; and drought. The Limitrophe area resources are vulnerable due to the lack of water in the hydrologic system and the unpredictability and/or infrequency of water flows. The Limitrophe is a critical area for Native American traditional practices, and traditional use of the Limitrophe is threatened, if natural and cultural resource values are impacted or degraded.

#### **C. Has Been Recognized as Warranting Protection in Order to Satisfy National Priority Concerns or to Carry Out the Mandates of FLPMA**

This area is important to satisfy BLM recreation priorities, and protection of this area is applicable to FLPMA mandates for natural resources, cultural resources, and recreation. Neotropical migratory birds and threatened and endangered species are national priorities to the USFWS. Wetlands in the area are regulated as waters of the U. S. by the USACOE. Recreation opportunities are severely limited due to public safety and access issues. The Cocopah Indian Tribe recognized this area as important on a national level and requested national recognition of the area as an International Wildlife Refuge from officials in Washington, D.C.

**D. Has Qualities Which Warrant Highlighting in Order to Satisfy Public or Management Concerns About Safety and Public Welfare**

Criminal activity in the Limitrophe area has an impact on all resources. There is a constant concern for public safety due to its location on the International Boundary. Criminal activity, diversionary fires, and litter associated with illegal border trafficking of humans and illegal items are a constant concern for law enforcement, government employees, residents, hunters, farmers and the recreating public present in the area. Resolutions to these safety issues need to be coordinated among many different agencies.

**E. Poses a Significant Threat to Human Life and Safety or to Property**

There are increasing concerns for public safety in the Limitrophe area; injuries and fatalities have occurred within the area. The area is a major trafficking route for illegal immigration. Border crossers build sand bag bridges underwater that can create a hazard to the public.

**4.1.3 PROPOSED PLAN MANAGEMENT STRATEGY**

Alternative D evaluates a proposal to designate 4,500 acres as the Limitrophe ACEC. Due to the complex issues and overlapping jurisdictions of the Limitrophe, no single agency has the authority or capacity to comprehensively manage the entire area. Under the Proposed Plan, standard and routine management prescriptions plus management prescriptions associated with the Limitrophe CMA would enable all interested stakeholders, including those in Mexico, to participate in the development of the first multi-jurisdictional MOU and management plan for the area. In addition, the area would be managed according to prescriptions for the Colorado River Riparian WHA allocation.

**5.1 PALOMAS PLAIN**

**5.1.1 RELEVANCE**

**A. A Significant Historic, Cultural, or Scenic Value**

The proposed Palomas Plain ACEC is located in a rugged Sonoran desert range of basalt and volcanics cut by two 800-foot-deep canyons and numerous small canyons around the Little Horn Mountains, which includes portions of the Ranegrass Plain, Palomas Plains, and Nottebusch Butte. The red, buff, and yellow canyons show a striking geologic color contrast. There are vast areas of relatively undisturbed desert pavement, which contrast with the surrounding mountains. There are known cultural resources in the area, which are likely eligible to the NRHP.

**B. A Fish and Wildlife Resource**

This proposed ACEC is an expansive unfragmented habitat in southwest Arizona where a large variety of wildlife, including bighorn sheep and mule deer, can be found.

**C. A Natural Process or System**

This proposed ACEC contains braided channel floodplains and mixed cacti-paloverde communities on rocky slopes and bajadas.

**D. Natural Hazards**

Not applicable.

**5.1.2 IMPORTANCE**

**A. Has More Than Locally Significant Qualities Which Give It Special Worth, Consequence, Meaning, Distinctiveness, or Cause for Concern, Especially Compared to Any Similar Resource**

The contiguous tract of unfragmented habitat supports big game populations that are regionally significant to the hunting community and the AGFD's management of these species. This area is a potential reintroduction area for the endangered Sonoran pronghorn. Portions of this area are Category II desert tortoise habitat.

**B. Has Qualities or Circumstances That Make It Fragile, Sensitive, Rare, Irreplaceable, Exemplary, Unique, Endangered, Threatened, or Vulnerable to Adverse Change**

The proximity of this proposed ACEC to YPG makes it vulnerable to a variety of disturbances. OHV and other disturbances to the desert pavement increase wind and water erosion from the area and degrade habitat quality. Increased development threatens fragmentation of what is currently contiguous habitat.

**C. Has Been Recognized as Warranting Protection in Order to Satisfy National Priority Concerns or to Carry Out the Mandates of FLPMA**

Protection of this area is applicable to FLPMA mandates for natural and cultural resources.

**D. Has Qualities Which Warrant Highlighting in Order to Satisfy Public or Management Concerns About Safety and Public Welfare**

Not applicable.

**E. Poses a Significant Threat to Human Life and Safety or to Property**

Not applicable.

**5.1.3 PROPOSED PLAN MANAGEMENT STRATEGY**

Alternative D evaluates a proposal to designate 429,900 acres as the Palomas Plain ACEC. It was determined that this area does not require special management attention. In addition to standard or routine management prescriptions, under the Proposed Plan the Palomas Plain would be managed according to prescriptions for the Palomas Plain WHA and Desert Mountains WHA allocations.

**6.1 SEARS POINT (GILA RIVER CULTURAL AREA ACEC)**

**6.1.1 RELEVANCE**

**A. A Significant Historic, Cultural, or Scenic Value**

The Sears Point ACEC contains the Sears Point Archaeological District, which was listed on the NRHP in 1985. Occupation of the Sears Point area spanned over thousands of years and is evidenced by extensive rock art panels concentrated along the basalt mesas overlooking the Gila River. The ACEC contains a rare example of a combination of elements from three archaeological cultures. First the Desert Archaic and then the Patayan and Hohokam cultures contributed to the petroglyphs at Sears Point. In addition, the ACEC is along an historic travel corridor with portions of the Anza Trail, Butterfield Overland Mail Route, Mormon Battalion Trail, and the Gila Trail all following the same course along the Gila River floodplain. The scenic values of this area include volcanic geology, prominent mesas, riparian vegetation, and the absence of levees.

**B. A Fish and Wildlife Resource**

This ACEC contains a mesquite bosque composed of mature mesquite trees that provides habitat for quail, dove, deer, and a variety of other wildlife species. In 1954, a segregation order on the Fred J. Weiler Greenbelt withdrew a total of 62,735 acres under Public Land Order 1015 for wildlife habitat. BLM manages 12,400 acres of the Fred J. Weiler Greenbelt, of which a portion overlaps with the existing and proposed Sears Point ACEC (see Chapter 3, Section 3.16.2 b for additional information).

**C. A Natural Process or System**

The mesquite bosque within the Sears Point ACEC is the largest and oldest in the planning area. Salt cedar has not invaded several of the mesquite stand areas. The floodplain at this location has not been modified for agriculture or flood control. The Gila River maintains the hydrological

function of the natural floodplain when the river is at flood stage, such as during the 1993 flood or during the releases from Painted Rock Dam in 2005.

**D. Natural Hazards**

Not applicable.

**6.1.2 IMPORTANCE**

**A. Has More Than Locally Significant Qualities Which Give It Special Worth, Consequence, Meaning, Distinctiveness, or Cause for Concern, Especially Compared to Any Similar Resource**

The rock art at Sears Point is one of the most extensive examples of petroglyphs in Arizona and has become an international tourist destination. The location is also significant through its association with the congressionally designated Anza Trail, which connects Mexico to San Francisco, California. In addition, the area is of known importance to several Native American tribes.

**B. Has Qualities or Circumstances That Make It Fragile, Sensitive, Rare, Irreplaceable, Exemplary, Unique, Endangered, Threatened, or Vulnerable to Adverse Change**

The archaeological district at Sears Point contains a rare density of cultural features for this corner of the Sonoran Desert. The area's indigenous artifact scatters, intaglios, trail network, and other desert pavement features are extremely fragile and vulnerable to impacts from other land uses such as recreational OHV. The ACEC's basalt mesas contain one of the most extensive examples of petroglyphs in the region, and these panels are a unique and irreplaceable part of America's heritage that requires increased protection to prevent looting and vandalism.

**C. Has Been Recognized as Warranting Protection in Order to Satisfy National Priority Concerns or to Carry Out the Mandates of FLPMA**

FLPMA directs the BLM to manage the public lands "in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values." The relevance and importance of this ACEC illustrates this area's extensive natural and cultural resource values. The potential for impacts to the ACEC's archaeological features, geologic features, and riparian vegetation, including the mesquite bosque and Fred J. Weiler Greenbelt, make this ACEC a BLM management priority.

**D. Has Qualities Which Warrant Highlighting in Order to Satisfy Public or Management Concerns About Safety and Public Welfare**

Not applicable.

**E. Poses a Significant Threat to Human Life and Safety or to Property**

Not applicable.

**6.1.4 PROPOSED PLAN MANAGEMENT STRATEGY**

The existing 3,700-acre Sears Point ACEC, originally designated in the 1988 Lower Gila South RMP, and an additional 24,800 acres in the Sears Point area were evaluated for ACEC designation in this plan. It was determined that the entire 28,500-acre area requires special management attention to manage the increasing amount of recreational use in the area while simultaneously protecting the relevant and important resource values at Sears Point.

**7.1 WALTERS CAMP**

**7.1.1 RELEVANCE**

**A. A Significant Historic, Cultural, or Scenic Value**

The proposed Walters Camp ACEC area links two national wildlife refuges and contains significant cultural resources important to Native American tribes. Hills within the proposed ACEC overlook both wildlife refuges and offer a panoramic view of five Wilderness areas: Palo Verde Mountains, Trigo Mountains, Imperial, Indian Pass, and Picacho Peak. The area includes a complex of archaeological resources, including the Xam Kwitcam creation trail, that are eligible to the NRHP.

**B. A Fish and Wildlife Resource**

The proposed ACEC includes 400 feet of undeveloped river bank with a wetlands/riparian area that is potential habitat for endangered species, including the SWFL and Yuma clapper rail. The proposed ACEC includes the Walker Lake wetlands habitat adjacent to the river.

**C. A Natural Process or System**

The area incorporates a variety of plant communities, including desert mountain foothills, wash and floodplain, and creosote bush flats. Spontaneous thunderstorms transform Milpitas, Vinagre, and Turnaround Washes into rivers as evidenced by hundreds of sheer cliffs, canyons, and rock formations.

**D. Natural Hazards**

Not applicable.

## 7.1.2 IMPORTANCE

### A. **Has More Than Locally Significant Qualities Which Give It Special Worth, Consequence, Meaning, Distinctiveness, or Cause for Concern, Especially Compared to Any Similar Resource**

The proposed Walters Camp ACEC is important for neotropical migratory birds because it provides stopover habitat along the lower Colorado River portion of the Pacific Flyway. The Xam Kwitcam creation trail extends between Avikwame near Laughlin, Nevada to Yuma, Arizona. The archaeological sites in the proposed ACEC are of significance to several Native American tribes and are an example of cultures living prehistorically along the lower Colorado River.

### B. **Has Qualities or Circumstances That Make It Fragile, Sensitive, Rare, Irreplaceable, Exemplary, Unique, Endangered, Threatened, or Vulnerable to Adverse Change**

The proposed ACEC contains cultural resources that are delicate and in need of additional protection measures from visitor use damages, such as from OHV use. Vacation home development along the river on adjacent private lands is increasing visitor use of the area, which could result in damage to the proposed ACECs natural and cultural resources. Increased use would detract from the existing undeveloped nature of the area.

### C. **Has Been Recognized as Warranting Protection in Order to Satisfy National Priority Concerns or to Carry Out the Mandates of FLPMA**

Protection of this area is applicable to FLPMA mandates for natural and cultural resources. There are cultural resource sites that are eligible to the NRHP and should be nominated for listing under Section 110 of the NHPA.

### D. **Has Qualities Which Warrant Highlighting in Order to Satisfy Public or Management Concerns About Safety and Public Welfare**

Not applicable.

### E. **Poses a Significant Threat to Human Life and Safety or to Property**

Not applicable.

## 7.1.4 PROPOSED PLAN MANAGEMENT STRATEGY

Alternative D evaluates a proposal to designate 3,500 acres as the Walters Camp ACEC. It was determined that standard or routine management prescriptions would be sufficient for managing the Walters Camp area. Under the Proposed Plan, the Walters Camp area would be managed

according to prescriptions for the Walters Camp SCRMA and Colorado River Riparian WHA allocations.

# LISTS OF FEDERALLY PROTECTED, STATE LISTED, SPECIAL STATUS, PRIORITY, AND INVASIVE SPECIES IN PLANNING AREA

**Table 1**  
**Federally-Protected Species (Listed, Proposed, Candidate) in Arizona and California Considered in the Planning Area**

Common Name	Scientific Name	Status	Vegetation Community	County
<b>Mammals (1 species)</b>				
Sonoran pronghorn	<i>Antilocapra americana sonoriensis</i>	Endangered	Sonoran Desert Scrub	Maricopa, Yuma (AZ)
<b>Birds (6 species)</b>				
California brown pelican	<i>Pelecanus occidentalis californicus</i>	Endangered	Riparian/Aquatic	La Paz, Maricopa, Yuma (AZ)
Northern aplomado falcon	<i>Falco femoralis septentrionalis</i>	Endangered, Proposed NEP	Semidesert Grassland	Yuma (AZ) Extirpated from AZ
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	Endangered, Proposed Critical Habitat	Riparian	La Paz, Maricopa, Yuma (AZ)
Yuma clapper rail	<i>Rallus longirostris yumanensis</i>	Endangered	Riparian	La Paz, Maricopa, Yuma (AZ)
Western yellow-billed cuckoo	<i>Coccyzus americanus</i>	Candidate	Riparian	La Paz, Maricopa, Yuma (AZ)
<b>Reptiles (1 species)</b>				
Desert tortoise, Mojave population	<i>Gopherus agassizii (xerobates)</i>	Threatened	Mohave Desert Scrub, Lower Sonoran Desert Scrub	Riverside, Imperial (CA)
<b>Fish (4 species)</b>				
Bonytail chub	<i>Gila elegans</i>	Endangered	Riparian/Aquatic within Sonoran Desert Scrub	La Paz (AZ)
Razorback sucker	<i>Xyrauchen texanus</i>	Endangered, Designated Critical Habitat	Riparian/Aquatic within Mohave Desert Scrub, Lower Sonoran Desert Scrub, Semi-desert Grassland	La Paz, Maricopa, Yuma (AZ)
Desert pupfish	<i>Cyprinodon macularius</i>	Endangered	Riparian/Aquatic within Upland Sonoran Desert Scrub	Extirpated from planning area
Gila topminnow	<i>Poeciliopsis occidentalis occidentalis</i>	Endangered	Riparian/Aquatic within Upland Sonoran Desert Scrub	Extirpated from planning area

AZ – Arizona; CA – California; NEP – Nonessential Experimental Population

**Table 2**  
**BLM Sensitive and State Species of Concern in Arizona and**  
**California Considered in the Planning Area**

Common Name	SCIENTIFIC NAME	Status
<b>Mammals</b>		
<b>Bats</b>		
Allen's (Mexican) big-eared bat	<i>Idionycteris phyllotis</i>	BLM
Arizona myotis	<i>Myotis lucifugus occultus</i>	BLM, CASC
Big free-tailed bat	<i>Nyctinomops macrotis</i>	BLM, CASC
California leaf-nosed bat	<i>Macrotus californicus</i>	AZSC, CASC
Cave myotis	<i>Myotis velifer</i>	BLM, CASC
Fringed myotis	<i>Myotis thysanodes</i>	BLM
Greater western mastiff bat	<i>Eumops perotis californicus</i>	CASC
Mexican long-tongued bat	<i>Choeronycteris mexicana</i>	AZSC, CASC
Pallid bat	<i>Antrozous pallidus</i>	CASC
Pale Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	CASC
Pocketed free-tailed bat	<i>Nyctinomops femorosaccus</i>	BLM, CASC
Spotted bat	<i>Euderma maculatum</i>	AZSC, CASC
Western red bat	<i>Lasiurus blossevillii</i>	AZSC
Western yellow bat	<i>Lasiurus xanthinus</i>	AZSC
Western small-footed myotis	<i>Myotis ciliolabrum</i>	BLM
<b>Rodents</b>		
Colorado River cotton rat	<i>Sigmodon arizonae plenus</i>	CASC
Yuma hispid cotton rat	<i>Sigmodon hispidus eremicus</i>	CASC
<b>Large Mammals</b>		
Yuma mountain lion	<i>Puma concolor browni</i>	AZSC, CASC
<b>Birds</b>		
<b>Grebes</b>		
Clark's grebe	<i>Aechmophorus clarki</i>	AZSC
<b>Pelicans</b>		
American white pelican	<i>Pelecanus erythrorhynchos</i>	CASC
<b>Cormorants</b>		
Double-crested cormorant	<i>Phalacrocorax auritus</i>	CASC <sup>3</sup>
<b>Hérons, Egrets, Bitterns</b>		
American bittern	<i>Botaurus lentiginosus</i>	AZSC
Western least bittern	<i>Ixobrychus exilis hesperis</i>	AZSC, CASC
Great egret	<i>Casmerodius albus</i>	AZSC
Snowy egret	<i>Egretta thula</i>	AZSC
<b>Ibises &amp; Spoonbills</b>		
White-faced ibis	<i>Plegadis chihi</i>	CASC <sup>3</sup>
<b>Storks</b>		
Wood stork	<i>Mycteria americana</i>	CASC
<b>Swans, Geese &amp; Ducks</b>		
Fulvous whistling duck	<i>Dendrocygna bicolor</i>	CASC

**Table 2**  
**BLM Sensitive and State Species of Concern in Arizona and**  
**California Considered in the Planning Area**

Common Name	SCIENTIFIC NAME	Status
<b>Birds (cont.)</b>		
<b>Hawks, Kites &amp; Eagles</b>		
Osprey	<i>Pandion haliaetus</i>	AZSC
Northern harrier	<i>Circus cyaneus</i>	CASC
Cooper's hawk	<i>Accipiter cooperi</i>	CASC <sup>3</sup>
Common black hawk	<i>Buteogallus anthracinus</i>	AZSC
Swainson's hawk	<i>Buteo swainsoni</i>	CAT
Harris' hawk	<i>Parabuteo unicinctus</i>	CASC
Ferruginous hawk	<i>Buteo regalis</i>	AZSC, CASC
Bald eagle	<i>Haliaeetus leucocephalus</i>	AZSC, CASC
Golden eagle	<i>Aquila chrysaetos</i>	CAFP
<b>Falcons &amp; Caracaras</b>		
Merlin	<i>Falco columbarius</i>	CASC <sup>3</sup>
Peregrine falcon	<i>Falco peregrinus anatum</i>	AZSC, CAE, CAFP
Prairie falcon	<i>Falco mexicanus</i>	CASC
<b>Rails, Gallinules &amp; Coots</b>		
California black rail	<i>Laterallus jamaicensis coturniculus</i>	AZSC, CAT
<b>Plovers</b>		
Snowy plover	<i>Charadrius alexandrinus</i>	AZSC, CASC
Mountain plover	<i>Charadrius montanus</i>	CASC
<b>Sandpipers &amp; Allies</b>		
Long-billed curlew	<i>Numenius americanus</i>	CASC <sup>3</sup>
<b>Gulls, Terns &amp; Allies</b>		
Black tern	<i>Chlidonias niger</i>	CASC
California gull	<i>Larus californicus</i>	CASC <sup>3</sup>
<b>Owls</b>		
Cactus ferruginous pygmy-owl	<i>Glaucidium brasilianum</i>	AZSC
Elf owl	<i>Micrathene whitneyi</i>	CAE
Long-eared owl	<i>Asio otus</i>	CASC
Short-eared owl	<i>Asio flammeus</i>	CASC
Western burrowing owl	<i>Athene cunicularia hypugea</i>	BLM, CASC
<b>Swifts</b>		
Vaux's swift	<i>Chaetura vauxi</i>	CASC
<b>Kingfishers</b>		
Belted kingfisher	<i>Ceryle alcyon</i>	AZSC
<b>Woodpeckers</b>		
Gila woodpecker	<i>Melanerpes uropygialis</i>	CAE
Gilded flicker	<i>Colaptes chrysoides</i>	CAE
<b>Tyrant Flycatchers</b>		
Brown-crested flycatcher	<i>Myiarchus tyrannulus</i>	CASC <sup>3</sup>
Thick-billed kingbird	<i>Tyrannus crassirostris</i>	AZSC
Vermilion flycatcher	<i>Pyrocephalus rubinus</i>	CASC
<b>Swallows</b>		
Bank swallow	<i>Riparia riparia</i>	CAT
Purple martin	<i>Progne subis</i>	CASC

**Table 2**  
**BLM Sensitive and State Species of Concern in Arizona and**  
**California Considered in the Planning Area**

Common Name	SCIENTIFIC NAME	Status
<b>Birds (cont.)</b>		
<b>Mockingbirds &amp; Thrashers</b>		
Bendire's thrasher	<i>Toxostoma bendirei</i>	CASC
Crissal's thrasher	<i>Toxostoma crissale</i>	CASC
Gray catbird	<i>Dumetella carolinensis</i>	AZSC
Le Conte's thrasher	<i>Toxostoma lecontei</i>	CASC
<b>Shrikes</b>		
Loggerhead shrike	<i>Lanius ludovicianus</i>	CASC
<b>Vireos</b>		
Arizona's bell vireo	<i>Vireo belli arizonae</i>	CAE
<b>Wood-Warblers</b>		
American redstart	<i>Setophaga ruticilla</i>	AZSC
Sonoran yellow warbler	<i>Dendroica petechia sonorana</i>	CASC
Yellow-breasted chat	<i>Icteria virens</i>	CASC
<b>Tanagers</b>		
Summer tanager	<i>Piranga rubra</i>	CASC
<b>Cardinals</b>		
Northern cardinal	<i>Cardinalis cardinalis</i>	CASC <sup>3</sup>
<b>Sparrows</b>		
Bell's sage sparrow	<i>Aimophila belli bellii</i>	CASC
Large-billed savannah sparrow	<i>Passerculus sandwichensis rostratus</i>	CASC
<b>Reptiles</b>		
Banded Gila monster	<i>Heloderma suspectum cinctum</i>	BLM, CASC
Chuckwalla	<i>Sauromalus ater</i>	BLM
Flat-tailed horned lizard	<i>Phrynosoma mcallii</i>	AZSC
Mojave fringe-toed lizard	<i>Uma scoparia</i>	AZSC
Rosy boa	<i>Charina trivirgata</i>	BLM
Sonoran Desert tortoise	<i>Gopherus agassizii</i>	AZSC
Yuma desert (Cowles) fringe-toed lizard	<i>Uma notata rufopunctata</i>	AZSC
<b>Amphibians</b>		
Colorado River toad	<i>Bufo alvarius</i>	CASC
Couch's spadefoot toad	<i>Scaphiopus couchii</i>	CASC
Lowland leopard frog	<i>Rana yavapaiensis</i>	AZSC, CASC
<b>Fish</b>		
None		
<b>Invertebrates</b>		
Cheese-weed moth lacewing	<i>Oliarces clara</i>	BLM
MacNeill sooty wing skipper	<i>Hesperopsis graciellae</i>	BLM

AZSC – Arizona Species of Concern; BLM – BLM Sensitive; CAE – California Endangered; CAFP – California Fully Protected; CASC – California Species of Concern; CAT – California Threatened

**Table 3**  
**BLM Priority Animal Species Considered in the Planning Area**

Common Name	SCIENTIFIC NAME	Status
<b>Bats</b>		
Lesser long-nosed Bat	<i>Leptonycteris curasoae</i>	Rare
California Myotis	<i>Myotis californicus</i>	Common
Silver-haired Bat	<i>Lasionycteris noctivagans</i>	Rare
Western Pipistrelle	<i>Pipistrellus hesperus</i>	Common
Big Brown Bat	<i>Eptesicus fuscus</i>	Locally common
Hoary Bat	<i>Lasiurus cinereus</i>	Rare
Spotted Bat	<i>Euderma maculatum</i>	Rare
Townsend's Big-eared Bat	<i>Plecotus townsendi</i>	Rare
Pallid Bat	<i>Antrozous pallidus</i>	Locally Common
American Free-tailed Bat	<i>Tadarida brasiliensis</i>	Common
Pocketed Free-tailed Bat	<i>Tadarida femorosaccus</i>	Uncommon
<b>Big Game</b>		
Mule Deer	<i>Odocoileus hemionus</i>	Common
Desert Bighorn Sheep	<i>Ovis Canadensis Mexicana</i>	Locally common
Collard Peccary	<i>Pecari tajacu</i>	Uncommon
Mountain Lion	<i>Puma concolor</i>	Rare
<b>Game Birds</b>		
Mourning Dove	<i>Zenaida macroura</i>	Common, year-round
White-winged Dove	<i>Zenaida asiatica</i>	Common, summer
Gambel's Quail	<i>Callipepla gambelii</i>	Common, year-round
Ring Necked Pheasant	<i>Phasianus colchicus</i>	Uncommon, year-round
<b>Nongame Migratory Birds (Migratory Bird Treaty Act) and Raptors</b>		
<b>Loons</b>		
Pacific Loon	<i>Gavia pacifica</i>	Rare, winter
Common Loon	<i>Gavia immer</i>	Uncommon, winter
<b>Grebes</b>		
Pied-billed Grebe	<i>Podilymbus podiceps</i>	Common, year-long
Eared Grebe	<i>Podilymbus nigricollis</i>	Uncommon, winter
Western Grebe	<i>Aechmophorus occidentallis</i>	Common, year-round
Clark's Grebe	<i>Aechmophorus clarkii</i>	Common, year-round
<b>Pelicans</b>		
American White Pelican	<i>Pelecanus erythrorhynchos</i>	Uncommon, year-round
<b>Cormorants</b>		
Double-breasted Comorant	<i>Phalacrocorax auritus</i>	Common, year-round
<b>Hérons, Egrets, Bitterns</b>		
American Bittern	<i>Botaurus lentiginosus</i>	Rare, winter
Least Bittern	<i>Ixobrychus exilis</i>	Uncommon, year-round
Great Blue Heron	<i>Ardea herodias</i>	Common, year-round
Great Egret	<i>Ardea alba</i>	Common, year-round
Snowy Egret	<i>Egretta thula</i>	Common, year-round
Little Blue Heron	<i>Egretta caerulea</i>	Rare, transient
Cattle Egret	<i>Bubulcus ibis</i>	Uncommon, year-round
Green Heron	<i>Butorides virescens</i>	Uncommon, year-round
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	Common, year-round
<b>Ibises &amp; Spoonbills</b>		
White-faced Ibis	<i>Eudocimus albus</i>	Uncommon, year-round

**Table 3**  
**BLM Priority Animal Species Considered in the Planning Area (cont.)**

Common Name	SCIENTIFIC NAME	Status
<b>Nongame Migratory Birds (Migratory Bird Treaty Act) and Raptors (cont.)</b>		
<b>Storks</b>		
Wood Stork	<i>Mycteria americana</i>	Rare, summer
<b>Swans, Geese &amp; Ducks</b>		
Fulvous Whistling-Duck	<i>Dendrocygna bicolor</i>	Rare, summer
Tundra Swan	<i>Cygnus columbianus</i>	Rare, winter
Greater White-fronted Goose	<i>Anser albifrons</i>	Rare, winter
Snow Goose	<i>Chen caerulescens</i>	Uncommon, winter
Ross's Goose	<i>Chen rossii</i>	Rare, winter
Canada Goose	<i>Branta Canadensis</i>	Common, winter
Wood Duck	<i>Aix sponsa</i>	Rare, winter
Green-winged Teal	<i>Anas crecca</i>	Common, winter
Mallard	<i>Anas platyrhynchos</i>	Common, winter
Northern Pintail	<i>Anas acuta</i>	Common, winter
Blue-winged Teal	<i>Anas discors</i>	Uncommon, transient
Cinnamon Teal	<i>Anas cyanoptera</i>	Common, year-round
Northern Shoveler	<i>Anas clypeata</i>	Common, winter
Gadwall	<i>Anas strepera</i>	Common, winter
American Wigeon	<i>Anas americana</i>	Common, winter
Canvasback	<i>Aythya valisneria</i>	Uncommon, winter
Redhead	<i>Aythya americana</i>	Uncommon, winter
Ring-necked Duck	<i>Aythya collaris</i>	Common, winter
Greater Scaup	<i>Aythya marila</i>	Rare, winter
Lesser Scaup	<i>Aythya affinis</i>	Common, winter
Common Goldeneye	<i>Bucephala clangula</i>	Common, winter
Barrow's Goldeneye	<i>Bucephala islandica</i>	Common, winter
Bufflehead	<i>Bucephala albeola</i>	Common, winter
Hooded Merganser	<i>Lophodytes cucullatus</i>	Rare, winter
Common Merganser	<i>Mergus merganser</i>	Common, winter
Red-breasted Merganser	<i>Mergus serrator</i>	Uncommon, winter
Ruddy Duck	<i>Oxyura jamaicensis</i>	Common, winter
<b>American Vultures</b>		
Turkey Vulture	<i>Cathartes aura</i>	Common, year-round
<b>Hawks, Kites &amp; Eagles</b>		
Osprey	<i>Pandion haliaetus</i>	Common, year-round
White-tailed Kite	<i>Elanus leucurus</i>	Rare, winter
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Uncommon, year-round
Northern Harrier	<i>Circus cyaneus</i>	Uncommon, winter
Sharp-shinned Hawk	<i>Accipiter striatus</i>	Uncommon, winter
Cooper's Hawk	<i>Accipiter cooperii</i>	Uncommon, year-round
Common Black-Hawk	<i>Buteogallus anthracinus</i>	Rare, summer
Harris' Hawk	<i>Parabuteo unicinctus</i>	Uncommon, year-round
Swainson's Hawk	<i>Buteo swainsoni</i>	Uncommon, transient
Zone-tailed Hawk	<i>Buteo albonotatus</i>	Rare, summer
Red-tailed Hawk	<i>Buteo jamaicensis</i>	Rare, summer
Ferruginous Hawk	<i>Buteo regalis</i>	Uncommon, winter
Rough-legged Hawk	<i>Buteo lagopus</i>	Rare, winter
Golden Eagle	<i>Aquila chrysaetos</i>	Uncommon, year-round

**Table 3**  
**BLM Priority Animal Species Considered in the Planning Area (cont.)**

Common Name	SCIENTIFIC NAME	Status
<b>Nongame Migratory Birds (Migratory Bird Treaty Act) and Raptors (cont.)</b>		
<b>Falcons &amp; Caracaras</b>		
American Kestrel	<i>Falco sparverius</i>	Common, year-round
Merlin	<i>Falco columbarius</i>	Uncommon, winter
Peregrine Falcon	<i>Falco peregrinus</i>	Rare, transient
Prairie Falcon	<i>Falco mexicanus</i>	Uncommon, year-round
<b>Rails, Gallinules &amp; Coots</b>		
Black Rail	<i>Laterallus jamaicensis</i>	Uncommon, year-round
Clapper Rail	<i>Rallus longirostris</i>	Uncommon, year-round
Virginia Rail	<i>Rallus limicola</i>	Uncommon, year-round
Sora	<i>Porzana carolina</i>	Uncommon, winter
Common Moorhen	<i>Gallinula chloropus</i>	Uncommon, year-round
American Coot	<i>Fulica americana</i>	Common, year-round
<b>Cranes</b>		
Sandhill Crane	<i>Grus canadensis</i>	Uncommon, winter
<b>Plovers</b>		
Black-bellied Plover	<i>Pluvialis squatarola</i>	Uncommon, transient
Snowy Plover	<i>Charadrius alexandrinus</i>	Rare, transient
Semipalmated Plover	<i>Charadrius semipalmatus</i>	Uncommon, transient
Killdeer	<i>Charadrius vociferous</i>	Common, year-round
Mountain Plover	<i>Charadrius montanus</i>	Rare, winter
<b>Avocets &amp; Stilts</b>		
Black-necked Stilt	<i>Himantopus mexicanus</i>	Uncommon, year-round
American Avocet	<i>Recurvirostra americana</i>	Uncommon, transient
<b>Sandpipers &amp; Allies</b>		
Greater Yellowlegs	<i>Tringa melanoleuca</i>	Uncommon, winter
Lesser Yellowlegs	<i>Tringa flavipes</i>	Uncommon, transient
Solitary Sandpiper	<i>Tringa solitaria</i>	Uncommon, winter
Willet	<i>Catoptrophorus semipalmatus</i>	Uncommon, transient
Spotted Sandpiper	<i>Actitis macularia</i>	Common, winter
Whimbrel	<i>Numenius phaeopus</i>	Rare, transient
Long-billed Curlew	<i>Numenius americanus</i>	Uncommon, transient
Marbled Godwit	<i>Limosa fedoa</i>	Uncommon, transient
Red Knot	<i>Calidris canutus</i>	Rare, transient
Sanderling	<i>Calidris alba</i>	Rare, transient
Western Sandpiper	<i>Calidris mauri</i>	Common, transient
Least Sandpiper	<i>Calidris minutilla</i>	Common, winter
Baird's Sandpiper	<i>Calidris bairdii</i>	Uncommon, transient
Pectoral Sandpiper	<i>Calidris melanotos</i>	Uncommon, transient
Dunlin	<i>Calidris alpina</i>	Uncommon, winter
Short-billed Dowitcher	<i>Limnodromus griseus</i>	Rare, transient
Long-billed Dowitcher	<i>Limnodromus scolopaceus</i>	Common, winter
Common Snipe	<i>Gallinago gallinago</i>	Common, winter
Wilson's Phalarope	<i>Phalaropus tricolor</i>	Uncommon, transient
Red-necked Phalarope	<i>Phalaropus lobatus</i>	Rare, transient

**Table 3**  
**BLM Priority Animal Species Considered in the Planning Area (cont.)**

Common Name	SCIENTIFIC NAME	Status
<b>Nongame Migratory Birds (Migratory Bird Treaty Act) and Raptors (cont.)</b>		
<b>Gulls, Terns &amp; Allies</b>		
Franklin's Gull	<i>Larus pipixcan</i>	Rare, transient
Bonaparte's Gull	<i>Larus philadelphia</i>	Rare, winter
Ring-billed Gull	<i>Larus delawarensis</i>	Common, winter
California Gull	<i>Larus californicus</i>	Common, winter
Herring Gull	<i>Larus argentatus</i>	Rare, winter
Caspian Tern	<i>Sterna caspia</i>	Uncommon, transient
Common Tern	<i>Sterna hirundo</i>	Uncommon, transient
Forster's Tern	<i>Sterna forsteri</i>	Uncommon, winter
Least Tern	<i>Sterna antillarum</i>	Rare, transient
Black Tern	<i>Chlidonias leucopterus</i>	Uncommon, transient
<b>Pigeons &amp; Doves</b>		
White-winged Dove	<i>Zenaida asiatica</i>	Common, summer
Mourning Dove	<i>Zenaida macroura</i>	Common, year-round
Inca Dove	<i>Columbina inca</i>	Uncommon, year-round
Common Ground Dove	<i>Columbina passerina</i>	Uncommon, year-round
Ruddy Ground Dove	<i>Columbina talpacoti</i>	Rare, winter
<b>Cuckoos &amp; Roadrunners</b>		
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	Rare, summer
Greater Roadrunner	<i>Geococcyx californianus</i>	Rare, summer
<b>Owls</b>		
Barn Owl	<i>Tyto alba</i>	Uncommon, year-round
Western Screech Owl	<i>Otis kennicottii</i>	Uncommon, year-round
Great Horned Owl	<i>Bubo virginianus</i>	Uncommon, year-round
Elf Owl	<i>Micrathene whitneys</i>	Uncommon, summer
Burrowing Owl	<i>Speotyto cunicularia</i>	Uncommon, year-round
Long-eared Owl	<i>Asio otus</i>	Rare, winter
Short-eared Owl	<i>Asio flammeus</i>	Rare, winter
<b>Nightjars</b>		
Lesser Nighthawk	<i>Chordeiles acutipennis</i>	Common, summer
Common Poorwill	<i>Phalaenoptilus nuttallii</i>	Uncommon, summer
<b>Swifts</b>		
Vaux's Swift	<i>Chaetura pelagica</i>	Uncommon, transient
White-throated Swift	<i>Aeronautes saxatalis</i>	Common, year-round
<b>Hummingbirds</b>		
Black-chinned Hummingbird	<i>Archilochus alexandri</i>	Common, summer
Anna's Hummingbird	<i>Calypte anna</i>	Common, year-round
Costa's Hummingbird	<i>Calypte costae</i>	Common, year-round
Calliope Hummingbird	<i>Stellula calliope</i>	Rare, transient
Rufous Hummingbird	<i>Selasphorus rufus</i>	Uncommon, transient
Allen's Hummingbird	<i>Selasphorus sasin</i>	Rare, transient
<b>Kingfishers</b>		
Belted Kingfisher	<i>Ceryle alcyon</i>	Common, winter

**Table 3**  
**BLM Priority Animal Species Considered in the Planning Area (cont.)**

Common Name	SCIENTIFIC NAME	Status
<b>Nongame Migratory Birds (Migratory Bird Treaty Act) and Raptors (cont.)</b>		
<b>Woodpeckers</b>		
Lewis's Woodpecker	<i>Melanerpes lewis</i>	Rare, winter
Gila Woodpecker	<i>Melanerpes uropygialis</i>	Common, year-round
Red-naped Sapsucker	<i>Sphyrapicus nuchalis</i>	Uncommon, winter
Ladder-backed Woodpecker	<i>Picoides scalaris</i>	Common, year-round
Gilded Flicker	<i>Colaptes chrysoides</i>	Common, year-round
Northern Flicker	<i>Colaptes auratus</i>	Common, winter
<b>Tyrant Flycatchers</b>		
Olive-sided Flycatcher	<i>Contopus borealis</i>	Uncommon, transient
Western Wood-Pewee	<i>Contopus sordidulus</i>	Uncommon, transient
Willow Flycatcher	<i>Empidonax traillii</i>	Uncommon, summer
Hammond's Flycatcher	<i>Empidonax hammondii</i>	Uncommon, transient
Dusky Flycatcher	<i>Empidonax oberholseri</i>	Rare, transient
Gray Flycatcher	<i>Empidonax wrightii</i>	Uncommon, transient
Pacific-slope flycatcher	<i>Empidonax difficilis</i>	Uncommon, transient
Cordilleran flycatcher	<i>Empidonax occidentalis</i>	Uncommon, transient
Black Phoebe	<i>Sayornis nigricans</i>	Common, year-round
Say's Phoebe	<i>Sayornis saya</i>	Common, year-round
Vermilion flycatcher	<i>Pyrocephalus rubinus</i>	Uncommon, year-round
Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>	Common, summer
Brown-crested Flycatcher	<i>Myiarchus tyrannulus</i>	Rare, summer
Cassin's Kingbird	<i>Tyrannus vociferans</i>	Rare, transient
Western Kingbird	<i>Tyrannus verticalis</i>	Common, summer
<b>Larks</b>		
Horned Lark	<i>Eremophila alpestris</i>	Common, year-round
<b>Swallows</b>		
Purple Martin	<i>Progne subis</i>	Rare, transient
Tree Swallow	<i>Tachycineta bicolor</i>	Common, winter
Violet-green Swallow	<i>Tachycineta thalassina</i>	Uncommon, transient
North, Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	Common, summer
Bank Swallow	<i>Riparia riparia</i>	Uncommon, transient
Cliff Swallow	<i>Hirundo pyrrhonota</i>	Common, summer
Barn Swallow	<i>Hirundo rustica</i>	Common, transient
<b>Jays &amp; Crows</b>		
Western Scrub Jay	<i>Apelocoma californica</i>	Rare, winter
American Crow	<i>Corvus brachyrhynchos</i>	Uncommon, winter
Common Raven	<i>Corvus corax</i>	Common, year-round
<b>Verdins &amp; Bushtits</b>		
Verdin	<i>Auriparus flaviceps</i>	Common, year-round
Bushtit	<i>Psaltriparus minimus</i>	Rare, winter
<b>Nuthatches &amp; Creepers</b>		
Red-breasted Nuthatch	<i>Sitta canadensis</i>	Rare, transient
Brown Creeper	<i>Certhia Americana</i>	Rare, winter

**Table 3**  
**BLM Priority Animal Species Considered in the Planning Area (cont.)**

Common Name	SCIENTIFIC NAME	Status
<b>Nongame Migratory Birds (Migratory Bird Treaty Act) and Raptors (cont.)</b>		
<b>Wrens</b>		
Cactus Wren	<i>Campylorhynchus brunneicapillus</i>	Common, year-round
Rock wren	<i>Salpinctes obsoletus</i>	Common, year-round
Canyon Wren	<i>Catherpes mexicanus</i>	Common, year-round
Bewick's Wren	<i>Thryothorus ludovicianus</i>	Uncommon, year-round
House Wren	<i>Troglodytes aedon</i>	Common, winter
Winter Wren	<i>Troglodytes troglodytes</i>	Rare, winter
Marsh Wren	<i>Cistothorus palustris</i>	Common, year-round
<b>Kinglets, Gnatcatchers &amp; Allies</b>		
Golden-crowned Kinglet	<i>Regulus satrapa</i>	Rare, winter
Ruby-crowned Kinglet	<i>Reguluscalendula</i>	Common, winter
Blue-gray Gnatcatcher	<i>Polioptila caerulea</i>	Uncommon, year-round
Black-tailed Gnatcatcher	<i>Polioptila melanura</i>	Common, year-round
Western Bluebird	<i>Sialia Mexicana</i>	Uncommon, winter
Mountain Bluebird	<i>Sialia currucoides</i>	Uncommon, winter
Townsend's Solitaire	<i>Myadestes townsendi</i>	Rare, winter
Swainson's Thrush	<i>Catharus ustulatus</i>	Uncommon, transient
Hermit Thrush	<i>Catharus guttatus</i>	Uncommon, winter
American Robin	<i>Turdus migratorius</i>	Uncommon, winter
<b>Mockingbirds &amp; Thrashers</b>		
Northern Mockingbird	<i>Mimus polyglottos</i>	Common, year-round
Sage Thrasher	<i>Oreoscoptes montanus</i>	Uncommon, transient
Curve-billed Thrasher	<i>Toxostoma curvirostre</i>	Uncommon, year-round
Crissal Thrasher	<i>Toxostoma crissale</i>	Uncommon, year-round
Le Conte's Thrasher	<i>Toxostoma lecontei</i>	Uncommon, year-round
<b>Pipits</b>		
American Pipit	<i>Anthus rubescens</i>	Common, winter
<b>Waxwings</b>		
Cedar Waxwing	<i>Bombycilla cedrorum</i>	Uncommon, winter
<b>Silky-Flycatchers</b>		
Phainopepla	<i>Phainopepla nitens</i>	Common, year-round
<b>Shrikes</b>		
Loggerhead Shrike	<i>Lanius ludovicianus</i>	Common, year-round
<b>Vireos</b>		
Bell's Vireo	<i>Vireo bellii</i>	Uncommon, summer
Gray vireo	<i>Vireo vicinior</i>	Rare, transient
Cassin's vireo	<i>Vireo cassinii</i>	Uncommon, winter
Plumbeous Vireo	<i>Vireo plumbeus</i>	Uncommon, winter
Warbling Vireo	<i>Vireo gilvus</i>	Common, transient
<b>Wood-Warblers</b>		
Orange-crowned Warbler	<i>Vermivora celata</i>	Common, winter
Nashville Warbler	<i>Vermivora ruficapilla</i>	Common, transient
Virginia's Warbler	<i>Vermivora virginiae</i>	Rare, transient
Lucy's Warbler	<i>Vermivora luciae</i>	Uncommon, summer
Yellow Warbler	<i>Dendroica petechia</i>	Uncommon, summer
Yellow-rumped Warbler	<i>Dendroica coronata</i>	Common, winter
Black-throated Gray Warbler	<i>Dendroica nigrescens</i>	Common, transient
Townsend's Warbler	<i>Dendroica townsendi</i>	Common, transient

**Table 3**  
**BLM Priority Animal Species Considered in the Planning Area (cont.)**

Common Name	SCIENTIFIC NAME	Status
<b>Nongame Migratory Birds (Migratory Bird Treaty Act) and Raptors (cont.)</b>		
<b>Wood-Warblers (cont.)</b>		
Hermit Warbler	<i>Dendroica occidentalis</i>	Common, transient
Black-and-white Warbler	<i>Dendroica varia</i>	Rare, transient
American Redstart	<i>Setophaga ruticilla</i>	Rare, transient
Northern Waterthrush	<i>Seiurus noveboracensis</i>	Rare, transient
MacGillivray's Warbler	<i>Oporornis tolmei</i>	Common, transient
Common Yellowthroat	<i>Geothlypis trichas</i>	Common, year-round
Wilson's Warbler	<i>Wilsonia pusilla</i>	Common, transient
Yellow-breasted Chat	<i>Icteria virens</i>	Common, summer
<b>Tanagers</b>		
Summer Tanager	<i>Piranga rubra</i>	Uncommon, summer
Western Tanager	<i>Piranga ludoviciana</i>	Common, transient
<b>Cardinals, Grosbeaks &amp; Allies</b>		
Northern Cardinal	<i>Cardinalis cardinalis</i>	Rare, year-round
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	Rare, transient
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>	Common, transient
Blue Grosbeak	<i>Guiraca caerulea</i>	Common, summer
Lazuli Bunting	<i>Passerina amoena</i>	Common, transient
Indigo Bunting	<i>Passerina ciris</i>	Rare, summer
<b>Sparrows</b>		
Green-tailed Towhee	<i>Pipilo chlorurus</i>	Uncommon, transient
Spotted Towhee	<i>Pipilo maculatus</i>	Uncommon, winter
Canyon Towhee	<i>Pipilo fuscus</i>	Common, year-round
Abert's Towhee	<i>Pipilo aberti</i>	Common, year-round
Chipping Sparrow	<i>Spizella passerina</i>	Uncommon, winter
Brewer's Sparrow	<i>Spizella breweri</i>	Uncommon, winter
Black-chinned Sparrow	<i>Spizella troglaris</i>	Rare, winter
Vesper Sparrow	<i>Poocetes gramineus</i>	Common, winter
Lark Sparrow	<i>Chondestes grammacus</i>	Uncommon, year-round
Black-throated Sparrow	<i>Amphispiza bilineata</i>	Common, year-round
Sage Sparrow	<i>Amphispiza bellii</i>	Uncommon, winter
Lark Bunting	<i>Calamospiza melanocorys</i>	Rare, transient
Savannah Sparrow	<i>Passerculus sandwichensis</i>	Common, winter
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	Rare, winter
Fox Sparrow	<i>Passerella iliaca</i>	Rare, winter
Song Sparrow	<i>Melospiza melodia</i>	Common, year-round
Lincoln's Sparrow	<i>Melospiza lincolni</i>	Uncommon, winter
Golden-crowned Sparrow	<i>Zonotrichia atricapilla</i>	Rare, winter
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	Common, winter
Dark-eyed Junco	<i>Junco hyemalis</i>	Uncommon, winter
Lapland Longspur	<i>Calcarius lapponicus</i>	Rare, winter
Chestnut-collared Longspur	<i>Calcarius ornatus</i>	Rare, winter

**Table 3**  
**BLM Priority Animal Species Considered in the Planning Area (cont.)**

Common Name	SCIENTIFIC NAME	Status
<b>Nongame Migratory Birds (Migratory Bird Treaty Act) and Raptors (cont.)</b>		
<b>Blackbirds &amp; Orioles</b>		
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	Common, year-round
Western Meadowlark	<i>Sturnella neglecta</i>	Common, year-round
Yellow-headed Blackbird	<i>Xanthocephalus xanthocephalus</i>	Common, summer
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	Common, winter
Great-tailed Grackle	<i>Quiscalus mexicanus</i>	Common, year-round
Brown-headed Cowbird	<i>Molothrus ater</i>	Common, year-round
Bronzed Cowbird	<i>Molothrus aeneus</i>	Rare, summer
Hooded Oriole	<i>Molothrus cucullatus</i>	Uncommon, summer
Bullock's Oriole	<i>Icterus bullockii</i>	Uncommon, summer
Scott's Oriole	<i>Icterus parisorum</i>	Rare, summer
<b>Finches</b>		
House Finch	<i>Carpodacus mexicanus</i>	Common, year-round
Pine Siskin	<i>Carduelis pinus</i>	Rare, winter
Lesser Goldfinch	<i>Carduelis psaltria</i>	Uncommon, year-round
Lawrence's Goldfinch	<i>Carduelis lawrencei</i>	Rare, transient
American Goldfinch	<i>Carduelis tristis</i>	Uncommon, winter
<b>Blackbirds &amp; Orioles</b>		
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	Common, year-round
Western Meadowlark	<i>Sturnella neglecta</i>	Common, year-round
Yellow-headed Blackbird	<i>Xanthocephalus xanthocephalus</i>	Common, summer
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	Common, winter
Great-tailed Grackle	<i>Quiscalus mexicanus</i>	Common, year-round

**Table 4**  
**BLM Sensitive, State Protected, and Priority Plants Considered in the Planning Area**

Common Name	Scientific Name	Status
Ajo lily	<i>Hesperocallis undulate</i>	ANPL-SR
Algodones Dune Sunflower	<i>Helianthus niveus ssp. tephrodes</i>	CA-E, CNPS 1B.2
Alverson's Foxtail Cactus	<i>Coryphantha alversonii</i>	Priority
Barrel Cactus	<i>Ferocactus wislizeni</i>	ANPL-SR
Beavertail Cactus	<i>Opuntia basilaris var. basilaris</i>	ANPL-SR
Beehive Cactus	<i>Echinomastus johnsonii</i>	ANPL-SR
Big Galleta	<i>Hilaria rigida</i>	Priority
Bigelow's Nolina	<i>Nolina bigelovii</i>	ANPL-SR, HR
Blue Paloverde	<i>Parkinsonia florida</i>	ANPL-SA
Blue Sand Lily	<i>Triteliopsis palmeri</i>	BLM, ANPL-SR,
Buckhorn Cholla	<i>Opuntia acanthocarpa var. acanthocarpa</i>	ANPL-SR
Bush Muhly	<i>Muhlenbergia porteri</i>	Priority
California Snakewood	<i>Colubrina californica</i>	CNPS
Catclaw Acacia	<i>Acacia greggii</i>	Priority
Cottonwood	<i>Populus fremontii</i>	Priority
Crucifixion Thorn	<i>Castella emoryi</i>	ANPL-SR
Desert Agave	<i>Agave deserti ssp. simplex</i>	ANPL-SR

**Table 4**  
**BLM Sensitive, State Protected, and Priority Plants Considered in the Planning Area (cont.)**

Common Name	Scientific Name	Status
Desert Holly	<i>Atriplex hymenelytra</i>	ANPL-SR
Desert Willow	<i>Chilopsis linearis</i>	ANPL-SA
Devil's Cholla	<i>Opuntia kunzei</i>	ANPL-SR
Diamond Cholla	<i>Opuntia ramosissima</i>	ANPL-SR
Dudleya	<i>Dudleya arizonica</i>	ANPL-SR
Dune Buckwheat	<i>Eriogonum deserticola</i>	Priority
Dune Spurge	<i>Euphorbia platysperma</i>	Priority
Elephant Tree, Torote	<i>Bursera microphylla</i>	ANPL-SR
Fairy Duster	<i>Calliandra eriophylla</i>	CNPS
Foothill Paloverde	<i>Parkinsonia microphylla</i>	ANPL-SA
Hall's Tetracoccus	<i>Tetracoccus hallii</i>	CNPS
Hedgehog Cactus	<i>Echinocereus engelmannii</i> var. <i>chrysocentrus</i>	ANPL-SR
Ironwood	<i>Oleña tesota</i>	ANPL-SA, HR
Kearney Sumac	<i>Rhus kearneyi</i> ssp. <i>kearneyi</i>	BLM, ANPL- SR
Kofa Mountain Barberry	<i>Berberis harrisoniana</i>	BLM, CNPS 1B.2
Long leaf Sandpaper Plant	<i>Petalonyx linearis</i>	Priority
Mammillaria Cactus	<i>Mammillaria tetrancistra</i>	ANPL-SR
Mesquite	<i>Prosopis</i> spp.	ANPL-SA, HR
Night Blooming Cereus	<i>Peniocereus greggii</i>	ANPL-SR
Ocotillo	<i>Fouquieria splendens</i>	ANPL-SR
Parish Wild Onion	<i>Allium parishii</i>	BLM, AZPL-HS
Pencil Cholla	<i>Opuntia leptocaulis</i>	ANPL-SR
Queen-of-the-Night	<i>Peniocereus greggii</i> var. <i>transmontanus</i>	ANPL-SR
Saguaro Cactus	<i>Carnegiea gigantea</i>	ANPL-SR, CNPS
Saguaro Cactus 'Crested' or 'Fan-top'	<i>Carnegiea gigantea</i>	ANPL-HS
Sand Food	<i>Pholisma sonora</i>	BLM , CNPS 1B.2, ANPL- HS
Scaly Sandplant	<i>Pholisma arenarium</i>	BLM, ANPL-HS
Schott Wire Lettuce	<i>Stephanomeria schottii</i>	BLM
Scrub Oak	<i>Quercus turbinella</i>	Priority
Silver Cholla	<i>Opuntia echinocarpa</i>	ANPL-SR
Smoke Tree	<i>Psorothamnus spinosus</i>	ANPL-SA
Teddy-bear Cholla	<i>Opuntia bigelovii</i>	ANPL-SR
Thurber's Pilostyles	<i>Pilostyles thurberi</i>	CNPS
Wiggins Croton	<i>Croton wigginsii</i>	CA-R
Goodding's Willow	<i>Salix gooddingii</i>	Priority

**ANPL** Arizona Native Plant Law (ANPL) Categories of Protection

**ANPL-HS** Highly Safeguarded Protected Native Plants includes those species of native plants and parts of plants, including the seeds and fruit, whose prospects for survival in Arizona are in jeopardy or which are in danger of extinction.

**ANPL-SR** Salvage Restricted Protected Native Plants includes those species of native plants that are not included in the highly safeguarded category but are subject to damage by theft or vandalism. In addition to the plants listed under Agavaceae, Cactaceae, Liliaceae, and Orchidaceae, all other species in these families are salvage restricted protected native plants

**ANPL-SA** Salvage Assessed Protected Native Plants includes those species of native plants that are not included in either the highly safeguarded or salvage restricted category but have a sufficient value of salvaged to support the cost of salvage

**ANPL-HR** Harvest Restricted Protected Native Plants includes those species of native plants that are not included in the highly safeguarded category but are subject to excessive harvesting or overcutting because of their intrinsic value.

**BLM** Arizona BLM Sensitive Species

**CA-R** Categorized by the State of California as "rare"; California Department of Fish and Game, 2000

**CA-E** Categorized by the State of California as "endangered"; California Department of Fish and Game, 2000

**CNPS** Listed by California Native Plants Society

1B Rare, threatened, or endangered in California and elsewhere

0.2 Fairly endangered in California

**Priority** Priority species in planning area

**Table 5**  
**Invasive or Non-native Plant Species**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Habit</b>	<b>Designation</b>	<b>Presence in YFO</b>
Bermuda Grass	<i>Cynodon dactylon</i>	Terrestrial		Common
Buffel Grass	<i>Pennisetum ciliare</i>	Terrestrial	AZ-regulated	Common on roadsides
Camelthorn	<i>Alhagi pseudalhagi</i>	Terrestrial		Small infestations
Dodder	<i>Cuscuta spp.</i>	Terrestrial	AZ-regulated	Uncommon
Eurasian Waternilfoil	<i>Myriophyllum spicatum</i>	Aquatic		Common
Fountain grass	<i>Pennisetum setaceum</i>	Terrestrial		Small infestations
Garden Rocket	<i>Eruca vesicaria</i>	Terrestrial		Small infestations
Giant Reed	<i>Arundo donax</i>	Terrestrial/ Riparian		Uncommon
Giant Salvinia	<i>Salvinia molesta</i>	Aquatic	Federally listed noxious, AZ- prohibited	Widespread
Hydrilla	<i>Hydrilla verticillata</i>	Aquatic	AZ-prohibited	Not known to occur
Iceplant	<i>Mesembryanthemum spp.</i>	Terrestrial		Small infestations
Lead Plant	<i>Leucaena spp.</i>	Terrestrial		Small infestations
Lehmann's Lovegrass	<i>Eragrostis lehmanniana</i>	Terrestrial		Not known to occur
Malta Starthistle	<i>Centaurea melitensis</i>	Terrestrial		Not known to occur
Mediterranean Grass	<i>Scismus barbatus,</i> <i>Scismus arabicus</i>	Terrestrial		Widespread
Pampas Grass	<i>Cortaderia selloana</i>	Terrestrial		Not known to occur
Parrot feather	<i>Myriophyllum aquaticum</i>	Aquatic		Small infestations
Puncturevine	<i>Tribulus terrestris</i>	Terrestrial	AZ-regulated	Uncommon
Ravenna Grass	<i>Erianthus ravennae</i>	Terrestrial		Small infestations
Red Brome	<i>Bromus rubens</i>	Terrestrial		Common
Russian Thistle	<i>Salsola spp.</i>	Terrestrial		Uncommon
Sahara Mustard	<i>Brassica tornafortii</i>	Terrestrial		Widespread
Salt Cedar	<i>Tamarix spp.</i>	Terrestrial/ Riparian		Widespread
Water Hyacinth	<i>Eichhornia crassipes</i>	Aquatic	AZ-restricted	Not known to occur

AZ - Arizona

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# PROPOSED CONSERVATION MEASURES

## 1.0 CONSERVATION MEASURES FOR FIRE MANAGEMENT ACTIVITIES

### 1.1 WILDLAND FIRE SUPPRESSION (FS)

The following Conservation Measures will be implemented during fire suppression operations unless firefighter or public safety, or the protection of property, improvements, or natural resources, render them infeasible during a particular operation. Each Conservation Measure has been given an alphanumeric designation for organizational purposes (*e.g.*, FS-1). Necessary modifications of the Conservation Measures or impacts to federally protected species and habitat during fire suppression operations will be documented by the Resource Advisor, and coordinated with the USFWS.

**FS-1** Protect known locations of habitat occupied by federally listed species. Minimum Impact Suppression Tactics (M.I.S.T.) will be followed in all areas with known federally protected species or habitat [Appendix U, *Interagency Standards for Fire and Aviation Operations 2003*, or updates].

**FS-2** Resource Advisors will be designated to coordinate natural resource concerns, including federally protected species. They will also serve as a field contact representative (FCR) responsible for coordination with the USFWS. Duties will include identifying protective measures endorsed by the Field Office Manager, and delivering these measures to the Incident Commander; surveying prospective campsites, aircraft landing and fueling sites; and performing other duties necessary to ensure adverse effects to federally protected species and their habitats are minimized. On-the-ground monitors will be designated and used when fire suppression activities occur within identified occupied or suitable habitat for federally protected species.

**FS-3** All personnel on the fire (firefighters and support personnel) will be briefed and educated by Resource Advisors or designated supervisors about listed species and the importance of minimizing impacts to individuals and their habitats. All personnel will be informed of the conservation measures designed to minimize or eliminate take of the species present. This information is best identified in the incident objectives.

**FS-4** Permanent road construction will not be permitted during fire suppression activities in habitat occupied by federally protected species. Construction of temporary roads is approved only if necessary for safety or the protection of property or resources, including federally protected species habitat. Temporary road construction should be coordinated with the USFWS, through the Resource Advisor.

**FS-5** Crew camps, equipment staging areas, and aircraft landing and fueling areas should be located outside of listed species habitats, and preferably in locations that are disturbed. If camps must be located in listed species habitat, the Resource Advisor will be consulted to ensure habitat

damage and other effects to listed species are minimized and documented. The Resource Advisor should also consider the potential for indirect effects to listed species or their habitat from the siting of camps and staging areas (*e.g.*, if an area is within the water flow pattern, there may be indirect effects to aquatic habitat or species located off-site).

**FS-6** All fire management protocols to protect federally protected species will be coordinated with local fire suppression agencies that conduct fire suppression on BLM-administered lands to ensure that the agency knows how to minimize impacts to federally protected species in the area.

**FS-7** The effectiveness of fire suppression activities and Conservation Measures for federally protected species should be evaluated after a fire, when practical, and the results shared with the USFWS and AGFD. Revise future fire suppression plans and tactical applications as needed and as practical.

## **1.2 FUELS TREATMENTS (PRESCRIBED BURNING AND OTHER FUELS MANAGEMENT) (FT)**

The following Conservation Measures **are mandatory** when implementing wildland fire use, prescribed fires, and the proposed vegetation treatments (mechanical, chemical, biological):

**FT-1** Biologists will be involved in the development of prescribed burn plans and vegetation treatment plans to minimize effects to federally protected species and their habitats within, adjacent to, and downstream from proposed project sites. Biologists will consider the protection of seasonal and spatial needs of federally protected species (*e.g.*, avoiding or protecting important use areas or structures and maintaining adequate patches of key habitat components) during project planning and implementation.

**FT-2** M.I.S.T. will be followed in all areas with known federally protected species or habitats.

**FT-3** Pre-project surveys and clearances (biological evaluations/assessments) for federally protected species will be required for each project site before implementation. All applicable Conservation Measures will be applied to areas with unsurveyed suitable habitat for federally protected species, until a survey has been conducted by qualified personnel to clear the area for the treatment activity.

**FT-4** Use of motorized vehicles during prescribed burns or other fuels treatment activities in suitable or occupied habitat will be restricted, to the extent feasible, to existing roads, trails, washes, and temporary fuelbreaks or site-access routes. If off-road travel is deemed necessary, any crosscountry travel paths will be surveyed prior to use and will be closed and rehabilitated after the prescribed burn or fuels treatment project is completed.

**FT-5** As part of the mandatory fire briefing held prior to prescribed burning, all personnel (firefighters and support personnel) will be briefed and educated by Resource Advisors or designated supervisors about listed species and the importance of minimizing impacts to individuals and their habitats. All personnel will be informed of the Conservation Measures designed to minimize or eliminate take of the species present.

## **1.3 REHABILITATION AND RESTORATION (RR)**

**RR-1** When rehabilitating important areas for federally listed species that have been damaged by fire or other fuels treatments, the biologist will give careful consideration to minimizing short-term and long-term impacts. Someone who is familiar with fire impacts and the needs of the affected species will contribute to rehabilitation plan development. Appropriate timing of rehabilitation and spatial needs of federally listed species will be addressed in rehabilitation plans.

**RR-2** Seed from regionally native or sterile non-native species of grasses and herbaceous vegetation will be used in areas where reseeded is necessary following ground disturbance to stabilize soils and prevent erosion by both wind and water.

**RR-3** Sediment traps or other erosion control methods will be used to reduce or eliminate influx of ash and sediment into aquatic systems.

**RR-4** Use of motorized vehicles during rehabilitation or restoration activities in suitable or occupied habitat will be restricted, to the extent feasible, to existing roads, trails, or washes, and to temporary access roads or fuelbreaks created to enable the fire suppression, prescribed burn, or fuels treatment activities to occur. If off-road travel is deemed necessary, any cross-country travel paths will be surveyed prior to use and will be closed and rehabilitated after rehabilitation or restoration activities are completed.

**RR-5** All temporary roads, vehicle tracks, skid trails, and OHV trails resulting from fire suppression and the proposed fire management activities will be rehabilitated (water bars, etc.), and will be closed or made impassible for future use.

**RR-6** Burned area emergency rehabilitation (BAER) activities and long-term restoration activities should be monitored, and the results provided to the USFWS and AGFD. Section 7 consultation for BAER activities will be conducted independently, if necessary.

**RR-7 (Recommended)** Develop public education plans that discourage or restrict fires and fire-prone recreation uses during high fire-risk periods. Develop brochures, signs, and other interpretive materials to educate recreationists about the ecological role of fires, and the potential dangers of accidental fires.

## **2.0 CONSERVATION MEASURES FOR FIRE MANAGEMENT ACTIVITIES IN RIPARIAN AND AQUATIC HABITATS (RA)**

### **2.1 WILDLAND FIRE SUPPRESSION AND REHABILITATION**

The following Conservation Measures will be implemented during fire suppression operations in riparian, wetland, or aquatic habitats, unless firefighter or public safety, or the protection of

property, improvements, or natural resources, render them infeasible during a particular operation. Necessary modifications of the Conservation Measures or impacts to federally protected species and habitat during fire suppression operations will be documented by the Resource Advisor, and coordinated with the USFWS. The BLM's 1987 policy statement on riparian area management defines a riparian area as an area of land directly influenced by permanent water. It has visible vegetation or physical characteristics reflective of permanent water influence. Lakeshores and streambanks are typical riparian areas.

Excluded are such sites as ephemeral streams or washes that do not exhibit the presence of vegetation dependent upon free water in the soil.

**RA-1** During wildfire suppression, apply M.I.S.T. within riparian areas. Fire suppression actions in riparian areas should be prioritized to minimize damage to stands of native vegetation from wildfire or suppression operations. To the extent possible, retain large, downed woody materials and snags that are not a hazard to firefighters.

**RA-2** Fire suppression and rehabilitation in riparian corridors will be coordinated with the Resource Advisor or qualified biologist approved by BLM.

**RA-3** Site-specific implementation plans that include project areas with federally protected aquatic or riparian-obligate species will specify fire management objectives and wildland fire suppression guidance, taking into account the special concerns related to these species.

**RA-4** In riparian areas, use natural barriers or openings in riparian vegetation where possible as the easiest, safest method to manage a riparian wildfire. Where possible and practical, use wet firebreaks in sandy overflow channels rather than constructing firelines by hand or with heavy equipment.

**RA-5** Construction or development of a crossing for motorized vehicles across a perennial stream will not be permitted, unless an established road already exists or where dry, intermittent sections occur.

**RA-6** Avoid the use of fire retardants or chemical foams in riparian habitats or within 300 feet of aquatic habitats, particularly sites occupied by federally protected species. Apply operational guidelines as stated in the *Interagency Standards for Fire and Fire Aviation Operations 2003 (or updates)*, Environmental Guidelines for Delivery of Retardant or Foam Near Waterways, Chapter 8 (pp. 8-13 through 8-15).

**RA-7** Priority for placement of fire camps, fire staging areas, and aircraft landing or refueling sites will be outside riparian areas or river/stream corridors.

**RA-8** When using water from sources supporting federally protected species, care must be taken to ensure adverse impacts to these species are minimized or prevented. Unused water from fire abatement activities will not be dumped in sites occupied by federally protected aquatic species to avoid introducing non-native species, diseases, or parasites.

**RA-9** If water is drafted from a stock tank or other body of water for fire suppression, it will not be refilled with water from another tank, lakes, or other water sources that may support non-native fishes, bullfrogs, crayfish, or salamanders.

**RA-10** Use of containment systems for portable pumps to avoid fuel spills in riparian or aquatic systems will be required.

**RA-11 (Recommended)** Develop and implement restoration plans for affected riparian or aquatic areas, including long-term monitoring, to document changes in conditions in the riparian zone and watershed that maintain flood regimes and reduce fire susceptibility. Monitor stream water quality and riparian ecosystem health to determine effects of wildfire and fire management activities. Coordinate efforts and results with the USFWS and AGFD.

## **2.2 FUELS TREATMENTS (PRESCRIBED FIRE; MECHANICAL, CHEMICAL, AND BIOLOGICAL TREATMENTS)**

The following Conservation Measures **are mandatory** when implementing wildland fires use, prescribed fires, and the proposed vegetation treatments (mechanical, chemical, biological) within riparian, wetland, or aquatic habitats.

**RA-12** All Conservation Measures for wildland fire suppression (**RA-1 to RA-11, Section 2.1**) also apply to fuels treatment activities (prescribed fire; mechanical, chemical, and biological treatments) in riparian, wetland, and aquatic habitats.

**RA-13** Fire management treatments within or adjacent to riparian and aquatic habitats will be designed to provide long-term benefits to aquatic and riparian resources by reducing threats associated with dewatering and surface disturbance, or by improving the condition of the watershed and enhancing watershed function.

**RA-14** For priority fire/fuels management areas (*e.g.*, WUIs) with federally protected species or designated critical habitat downstream, BLM biologists and other resource specialists, as appropriate, in coordination with USFWS and AGFD, will determine:

- A) The number of acres and the number of projects or phases of projects to occur within one watershed per year.
- B) An appropriately-sized buffer adjacent to perennial streams in order to minimize soil and ash from entering the stream.
- C) Where livestock grazing occurs in areas that have been burned, specialists will determine when grazing can be resumed. Such deferments from grazing will only

occur when necessary to protect streams from increased ash or sediment flow into streams.<sup>1</sup>

If agreement cannot be reached or treatment will not meet fuel reduction objectives, BLM will reinitiate consultation. BLM authority to make these types of changes is in the regulations at 43 CFR 4110.3-3(b).

### **3.0 SPECIES SPECIFIC CONSERVATION MEASURES**

In addition to the general Conservation Measures listed in **Sections 1.0** and **2.0**, the following species specific Conservation Measures will be applied during wildfire suppression to the extent possible, and will be required during fuels treatment activities (wildland fire use, prescribed fire, vegetation treatments).

Necessary modifications of the Conservation Measures or impacts to federally protected species and habitat during fire suppression operations will be documented by the Resource Advisor, and coordinated with the USFWS. For all activities, if Conservation Measures for a species cannot be implemented, BLM would be required to initiate Section 7 consultation with USFWS for that particular activity.

#### **3.1 AMPHIBIANS [CHIRICAHUA LEOPARD FROG (FT); RELICT LEOPARD FROG (FC)]**

**AM-1** Implement the Conservation Measures for Fire Management Activities in Riparian and Aquatic Habitats (**Section 2.0**).

**AM-2** For fire management sites with habitat for the Chiricahua leopard frog, unsurveyed sites will be considered occupied unless surveyed prior to project implementation.

**AM-3** Install sediment traps, as determined by a Resource Advisor or qualified biologist approved by BLM, upstream of tanks and ponds occupied by Chiricahua leopard frogs in order

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<sup>1</sup> The Interagency Burned Area Emergency Stabilization and Rehabilitation Handbook, Exhibit 4-2 ,BLM supplemental guidance, page 5 of 9 (<http://fire.r9.fws.gov/ifcc/ESR/handbook/4PolicyGuidance.htm>) establishes the following policy for livestock exclusion following burns:

Exclusion of livestock is critical for the recovery of burned vegetation or establishment and maintenance of new seedlings and use of these areas should not be permitted until the vegetation recovers or is established. Both re-vegetated and, burned but not re-vegetated areas, will be closed to livestock grazing for at least two growing seasons following the season in which the wildfire occurred to promote recovery of burned perennial plants and/or facilitate the establishment of seeded species. Livestock permittees must be informed of the closure early during the plan preparation process, and livestock closures will be made a condition or term on the grazing license or permit through the issuance of grazing decision (see 43 CFR 4160). Livestock closures for less than two growing seasons may be justified on a case-by-case basis based on sound resource data and experience. Livestock management following seedling establishment and/ or burned area recovery should maintain both non-native and/or native species to meet land use (including Standards for Rangeland Health and Guidelines for Grazing Management) or activity plan objectives.

to minimize the amount of ash and sediment entering the water. Consultation with a qualified biologist during the planning phase will aid in determining sediment trap installation requirements (see Conservation Measures FT-1 and FT-3).

**AM-4** All personnel performing fire management activities at any creek crossing will be informed of the potential presence of Chiricahua leopard frogs, their status, and the need to perform their duties to avoid impacts to the frog and its habitat.

**AM-5** Except as needed in emergency situations to abate immediate fire threat or loss of life or property, no water will be drafted for fire suppression from bodies of water known to be occupied by the Chiricahua leopard frog.

## **3.2 BIRDS**

### **3.2.1 CACTUS FERRUGINOUS PYGMY-OWL (PROPOSED CH, WILDLIFE OF CONCERN IN ARIZONA)**

**FP-1** Treatment of riparian habitat, Sonoran desert/desertscrub, or mesquite-invaded grasslands under 4,000 feet in elevation that may support nesting cactus ferruginous pygmy-owls will only occur during the non-nesting season of August 1 to January 31, unless pre-project surveys indicate the area does not support pygmy-owls or mitigation plans approved by the USFWS have alleviated negative consequences.

**FP-2** Develop mitigation plans in coordination with the USFWS for fuels treatment projects (prescribed fire; vegetation treatments) that may adversely affect cactus ferruginous pygmy-owls or their habitat. Mitigation plans for prescribed fire shall limit to the extent practicable the possibility that fire would spread to riparian habitats. Mitigation plans will be approved by the USFWS.

**FP-3 (Recommended)** To the extent possible, maintain habitat features necessary to support breeding populations of the pygmy-owl within their historic range and review ongoing fire management activities for effects on essential habitat features needed by cactus ferruginous pygmy-owls. Modify activities, where necessary, to sustain the overall suitability of the habitat for the owls. Priority will be given to activities in or near occupied or recently (w/in the last 10 years) occupied habitat.

### **3.2.2 CALIFORNIA BROWN PELICAN (FE)**

**BP-1** Implement the Conservation Measures for Fire Management Activities in Riparian and Aquatic Habitats (Section 2.0).

### **3.2.3 CALIFORNIA CONDOR (FE; 10(J) SPECIES)**

The following Conservation Measures apply to BLM-administered lands within the designated 10(j) area for California condors:

**CC-1** All helicopter dip tanks will be covered when not in use.

**CC-2** Any presence of condors in the project area will be recorded and reported immediately to the Resource Advisor.

**CC-3** If condors arrive at any area of human activity associated with fire suppression or fuels treatment projects (wildland fire use, prescribed fire, vegetation treatments), the birds will be avoided. The assigned Resource Advisor or a qualified wildlife biologist approved by BLM will be notified, and only permitted personnel will haze the birds from the area.

**CC-4** All camp areas will be kept free from trash.

**CC-5** Aircraft use along the Vermilion Cliffs or sites where condors are attempting to breed or roost will be minimized,

**CC-6** The Resource Advisor will contact the Peregrine Fund daily (at 520-606-5155 or 520-380-4667) to check on locations of condors during fire suppression or fuels treatment activities involving aviation. This information will be communicated to the Incident Commander and aviation personnel.

**CC-7** If any fire retardant chemicals must be used in areas where condors are in the vicinity (see **CC-6**), the application area will be surveyed and any contaminated carcasses will be removed as soon as practical to prevent them from becoming condor food sources.

**CC-8** Aircraft will remain 400 meters from condors in the air or on the ground unless safety concerns override this restriction. If airborne condors approach aircraft, aircraft will give up airspace to the extent possible, as long as this action does not jeopardize safety.

**CC-9** Smoke from wildland fire use and prescribed fire projects will be managed to minimize negative effects to condor breeding. A potential wildland fire use event will not be initiated, or an existing event will be modified or terminated, to prevent or stop significant amounts of smoke, or smoke that will remain in place for an extended period of time, or chronic smoke events, from occurring in area(s) where condors are attempting to breed.

**CC-10** BLM will adhere to the air quality standards set by the ADEQ.

### **3.2.4 NORTHERN APLOMADO FALCON (FE)**

**AF-1** If aplomado falcons are reestablished or are discovered on public lands, and they nest in a fuels management project area, BLM will implement temporary closures to human access and project implementation (wildland fire use, prescribed burning, vegetation treatments) within ½ mile of nest sites during the breeding season. Wildland fire use and prescribed burning will be conducted in a manner to ensure nest sites are more than ½ mile from downwind smoke effects.

### **3.2.5 SOUTHWESTERN WILLOW FLYCATCHER (FE)**

**WF-1** Implement the Conservation Measures for Fire Management Activities in Riparian and Aquatic Habitats (**Section 2.0**).

**WF-2** Except where fires are active in occupied habitat, minimize unnecessary low-level helicopter flights during the breeding season (April 1 to September 30). Approach bucket dip sites at a 90-degree direction to rivers to minimize flight time over the river corridor and occupied riparian habitats. Locate landing sites for helicopters at least ¼ mile from occupied sites to avoid impacts to willow flycatchers and their habitat.

**WF-3** Minimize use of chainsaws or bulldozers to construct firelines through occupied or suitable habitat except where necessary to reduce the overall acreage of occupied habitat or other important habitat areas that would otherwise be burned.

**WF-4** Implement activities to reduce hazardous fuels or improve riparian habitats (prescribed burning or vegetation treatments) within occupied or unsurveyed suitable habitat for southwestern willow flycatchers only during the non-breeding season (October 1 to March 31).

**WF-5** Avoid developing access roads that would result in fragmentation or a reduction in habitat quality. Close and rehabilitate all roads that were necessary for project implementation (see **RR-5**).

**WF-6** Prescribed burning will only be allowed within ½ mile of occupied or unsurveyed suitable habitat when weather conditions allow smoke to disperse away from the habitat when birds may be present (breeding season of April 1 to September 30).

**WF-7** Vegetation treatment projects adjacent to occupied or unsurveyed suitable habitat will only be conducted when willow flycatchers are not present (October 1 to March 31).

### **3.2.6 YUMA CLAPPER RAIL (FE)**

**CR-1** Implement the Conservation Measures for Fire Management Activities in Riparian and Aquatic Habitats (**Section 2.0**).

**CR-2** Any prescribed fire or vegetation treatment project in occupied or suitable marsh habitat would only occur between September 1 and March 15 to avoid the Yuma clapper rail breeding and molting seasons.

**CR-3** Mechanical removal of overstory habitat (*Tamarisk*) could occur as early as August 15, after the breeding season for Yuma clapper rails.

**CR-4** Herbicide application would not occur in Yuma clapper rail habitat and drift-inhibiting agents would be used to assure that the herbicide does not enter adjacent marsh areas.

### **3.2.7 BALD EAGLE (WILDLIFE OF CONCERN IN ARIZONA)**

**BE-1** No human activity within ½ mile of known bald eagle nest sites between December 1 and June 30.

**BE-2** No tree cutting within ¼ mile of known nest trees.

**BE-3** No human activity within ¼ mile of known bald eagle winter roost areas between October 15 and April 15.

**BE-4** No tree cutting within the area immediately around winter roost sites as determined by BLM biologists.

**BE-5** No helicopter or aircraft activity or aerial retardant application within ½ mile of bald eagle nest sites between December 1 and June 30 or winter roost sites between October 15 and April 15.

**BE-6** Conduct prescribed burn activities outside of nesting season in a manner to ensure nest and winter roost sites are more than ½ mile from downwind smoke effects.

**BE-7** Provide reasonable protective measures so fire prescription or fuels treatment will not consume dominant, large trees as identified by the Resource Advisor or qualified biologist approved by BLM within ½ mile of known nests and roosts of bald eagles pre-treatment efforts should provide reasonable protection of identified nesting and roosting trees (see Conservation Measure FT-4).

### **3.2.8 MEXICAN SPOTTED OWL (FT, CH)**

**SO-1** BLM wildlife biologists will be involved early in the decision-making process for fuels management treatments (appropriately managed wildfires, prescribed fires, vegetation treatments) that are planned within suitable habitat or designated critical habitat for Mexican spotted owls (MSO).

**SO-2** Suitable habitat and designated critical habitat for MSO will be surveyed prior to implementing prescribed fire or vegetation treatment activities on BLM-administered lands to determine MSO presence and breeding status. These fire management activities will only be implemented within suitable or critical habitat if birds are not present. If a spotted owl is discovered during these surveys, BLM will notify the USFWS to reinitiate consultation and will determine any additional Conservation Measures necessary to minimize or eliminate impacts to the owl.

**SO-3** If a MSO is discovered during fire suppression or fuels treatment activities (wildland fire use, prescribed fire, vegetation treatments), the Resource Advisor or a qualified wildlife biologist will document the find and assess potential harm to the owl and advise the Incident Commander or project crew boss of methods to prevent harm. The information will include for each owl the location, date, and time of observation and the general condition of the owl. The Resource Advisor or biologist will contact the appropriate USFWS office, and BLM will reinitiate consultation for the fire suppression or project activities.

**SO-4** Within MSO critical habitat designated on BLM-administered lands:

- A)** To minimize negative effects on the primary constituent elements of critical habitat, appropriately managed wildfires, and prescribed fires will be managed primarily as low intensity fires, with only scattered high-intensity patches. The BLM's objective

- will be to limit mortality of trees greater than 18 inches dbh to less than five percent, occasionally up to 10 percent, within critical habitat.
- B)** If fireline construction is necessary during fire suppression, appropriately managed wildfires, or prescribed fires, BLM will minimize the cutting of trees and snags larger than 18 inches dbh, and no trees or snags larger than 24 inches dbh will be cut unless absolutely necessary for safety reasons.
  - C)** For mechanical vegetation treatments within critical habitat, BLM will minimize the cutting of trees and snags larger than 18 inches dbh, and no trees or snags larger than 24 inches dbh will be cut unless absolutely necessary for safety reasons.
  - D)** Critical habitat disturbed during fire suppression or fuels treatment activities, such as fire lines, crew camps, and staging areas, will be rehabilitated to prevent their use by vehicles or hikers. Fire line rehabilitation will include pulling soil, duff, litter, woody debris, and rocks back onto the line to bring it up to grade and to make it blend in with the surrounding area. Such rehabilitation will be inspected one year after the event to ensure effectiveness.

**SO-5** The following measures will be followed in suitable habitat (occupied or unoccupied) whenever consistent with objectives to reduce hazardous fuels:

- A)** Manage mixed-conifer and pine-oak forest types to provide continuous replacement nest habitat over space and time (Table III.B.1 of the Recovery Plan for Mexican Spotted Owl).
- B)** Incorporate natural variation, such as irregular tree spacing and various stand/patch sizes, into management prescriptions and attempt to mimic natural disturbance patterns.
- C)** Maintain all species of native vegetation in the landscape, including early seral species. To allow for variation in existing stand structures and provide species diversity, both uneven-aged and even-aged systems may be used as appropriate.
- D)** Allow natural canopy gap processes to occur, thus producing horizontal variation in stand structure.
- E)** Within pine-oak types, fuels treatment activities should emphasize retaining existing large oaks and promoting the growth of additional large oaks.
- F)** Retain all trees >24 inches dbh.
- G)** Retain hardwoods, large down logs, large trees, and snags. Emphasize a mix of size and age classes of trees. The mix should include large mature trees, vertical diversity, and other structural and floristic characteristics that typify natural forest conditions.

**SO-6** The effects of fire suppression and fuels treatment activities on MSO and their habitat, and the effectiveness of these Conservation Measures, will be assessed after each fire event or fuels

treatment project by the Resource Advisor or local biologist to allow evaluation of these guidelines and to allow the USFWS to track the species environmental baseline. Prescriptions for appropriately managed wildfires, prescribed fires, and vegetation treatments will be adjusted, if necessary.

### **3.2.9 YELLOW-BILLED CUCKOO (FC)**

**YC-1** Implement the Conservation Measures for Fire Management Activities in Riparian and Aquatic Habitats (**Section 2.0**).

## **3.3 FISH**

The following Conservation Measure will be implemented for all federally protected fish species that may be affected by the proposed action during fire suppression to the extent possible, and are mandatory for wildland fire use, prescribed fire, and vegetation treatment activities:

**FI-1** BLM will cooperate with other agencies to develop emergency protocols to decrease the impacts of fire suppression and fuels treatment activities on federally listed fish species. Emergency protocols will include appropriate agency contacts, a list of facilities that can hold fish, sources of equipment needed (e.g., sampling gear, trucks) and how to address human health and safety issues.

In addition to implementing **FI-1**, the following species-specific Conservation Measures will also apply:

### **3.3.1 BONYTAIL CHUB (FE, CH)**

**BC-1** Implement the Conservation Measures for Fire Management Activities in Riparian and Aquatic Habitats (**Section 2.0**) to eliminate adverse effects from fire management activities to available spawning habitat along shorelines (*i.e.*, occupied reaches and critical habitat).

### **3.3.2 DESERT PUPFISH (FE, CH)**

**DP-1** Implement the Conservation Measures for Fire Management Activities in Riparian and Aquatic Habitats (**Section 2.0**) for occupied reaches and critical habitat.

**DP-2** Conduct prescribed burns such that no more than one-half of the watershed of each desert pupfish site is burned in a two-year period (excluding buffers to the streams and/or spring habitats) and repeat treatments at greater than two-year intervals.

**DP-3** Monitor, where practical, for fish kill immediately following the first runoff event after prescribed fires in watersheds containing desert pupfish.

**DP-4** When considering which creek crossings to use for fire management activities, avoid crossings that are known to be occupied by desert pupfish.

### 3.3.3 GILA TOPMINNOW (FE)

**GT-1** Implement the Conservation Measures for Fire Management Activities in Riparian and Aquatic Habitats (**Section 2.0**).

**GT-2** Conduct prescribed burns such that no more than one-half of the watershed of each Gila topminnow natural or reintroduction site is burned in a two-year period (excluding buffers to the streams and/or spring habitats) and repeat treatments at greater than two-year intervals.

**GT-3** Monitor for fish kill, where practical, immediately following the first runoff event after prescribed fires in the watersheds containing Gila topminnows.

**GT-4** When considering which creek crossings to use for fire management activities, avoid crossings that are known to be occupied by Gila topminnow, when possible.

**GT-5** Develop mitigation plans in coordination with the USFWS for each fuels management project (prescribed fire; vegetation treatments) that may adversely affect the Gila topminnow. Mitigation plans for prescribed fire will limit to the extent practicable the possibility that fire would spread to riparian habitats. Mitigation plans will be approved by the USFWS.

**GT-6 (Recommended)** Cooperate with the USFWS and AGFD to identify site-specific measures, such as prescribed fires in grassland vegetation types to improve watershed conditions (*e.g.*, in the Cienega Creek watershed), to protect populations of Gila topminnow from other resource program impacts.

### 3.3.4 RAZORBACK SUCKER (FE, CH)

**RS-1** Implement the Conservation Measures for Fire Management Activities in Riparian and Aquatic Habitats (**Section 2.0**) to minimize adverse effects from fire management activities to available spawning habitat along shorelines (*i.e.*, occupied sites and critical habitat).

**RS-2** Project boundaries for fire management activities will avoid or protect sensitive habitats of the razorback sucker.

### 3.3.5 VIRGIN RIVER CHUB (FE, CH)

**VC-1** Implement the Conservation Measures for Fire Management Activities in Riparian and Aquatic Habitats (**Section 2.0**) for the stretch of the Virgin River within Arizona.

### 3.3.6 WOUNDFIN (FE, CH; FUTURE 10(J) POPULATIONS)

**WM-1** Implement the Conservation Measures for Fire Management Activities in Riparian and Aquatic Habitats (**Section 2.0**) for the stretch of the Virgin River within Arizona.

### **3.3.7 LITTLE COLORADO SPINEDACE (FT, CH)**

**LS-1** Implement the Conservation Measures for Fire Management Activities in Riparian and Aquatic Habitats (**Section 2.0**) to minimize adverse effects from fire management activities on BLM lands to occupied reaches and critical habitat on adjacent lands.

### **3.3.8 LOACH MINNOW (FT, CH); SPIKEDACE (FT, CH)**

**LM-1** Implement the Conservation Measures for Fire Management Activities in Riparian and Aquatic Habitats (**Section 2.0**) for occupied reaches and critical habitat.

**LM-2** All reasonable efforts shall be made to minimize disturbance within the wetted areas of Aravaipa Creek or tributary channels.

**LM-3** No heavy equipment will be used off-road during wildfire suppression and fuels treatment projects within the wetted areas of Aravaipa Creek.

**LM-4** All reasonable efforts will be made to ensure that no pollutants, retardants, or chemicals associated with wildfire suppression and fuels treatment projects or activities enter surface waters of reaches occupied by these two fish species.

**LM-5** Develop mitigation plans in coordination with the USFWS for each fuels management project (prescribed fire; vegetation treatments) that may adversely affect the loach minnow and spikedace. Mitigation plans for prescribed fire will limit to the extent practicable the possibility that fire would spread to riparian habitats. Mitigation plans will be approved by the USFWS.

**LM-6 (Recommended)** Cooperate with the USFWS and AGFD to identify site-specific measures, such as prescribed fires in grassland vegetation types to improve watershed conditions (*e.g.*, in the Aravaipa Creek watershed), to protect populations of loach minnow and spikedace from other resource program impacts.

### **3.3.9 GILA CHUB (PE, PROPOSED CH)**

**GC-1** Implement the Conservation Measures for Fire Management Activities in Riparian and Aquatic Habitats (**Section 2.0**) for occupied reaches and proposed critical habitat.

**GC-2** When considering which creek crossings to use for fire management activities, avoid crossings that are known to be occupied by Gila chub, when possible.

**GC-3 (Recommended)** Cooperate with the USFWS and AGFD to identify site-specific measures, such as prescribed fires in grassland vegetation types to improve watershed conditions (*e.g.*, in the Cienega Creek watershed), to protect populations of Gila chub from other resource program impacts.

### 3.4 FLOWERING PLANTS

The following Conservation Measures for known locations and unsurveyed habitat of all federally protected plant species within the planning area will be implemented during fire suppression to the extent possible, and are mandatory for wildland fire use, prescribed fire and vegetation treatment activities:

**PL-1** Known locations and potential habitat for plant populations will be mapped to facilitate planning for wildland fire use, prescribed fires, and vegetation treatments, and to ensure protection of these populations during fire suppression.

**PL-2** BLM will coordinate with FWS to delineate buffer areas around plant populations prior to prescribed fire and vegetation treatment activities. BLM will coordinate with USFWS during any emergency response and wildland fire use activities to ensure protection of plant populations from fire and fire suppression activities.

**PL-3** During fire suppression, wildland fire use, and prescribed fire in habitat occupied by federally protected plant species, no staging of equipment or personnel will be permitted within 100 meters of identified individuals or populations, nor will OHVs be allowed within the 100-meter buffer area, unless necessary for firefighter or public safety or the protection of property, improvements, or other resources (see **FS-7**). One of the primary threats to many of these plant species is trampling/crushing from personnel and vehicles.

**PL-4** No prescribed burning will be implemented within 100 meters of identified locations or unsurveyed suitable habitat for federally protected and sensitive plant populations unless specifically designed to maintain or improve the existing population. There are no additional species-specific conservation measures for the following federally protected plant species: **Arizona Cliffrose** (*Purshia subintegra*), **Brady pincushion cactus** (*Pediocactus bradyi*), **Holmgren Milk Vetch** (*Astragalus homgreniorum*), **Nichol Turk.s Head Cactus** (*Echinocactus horizontholoni* var. *nicholii*), **Peebles Navajo Cactus** (*Pediocactus peeblesianus* var. *peeblesianus*), **Pima Pineapple Cactus** (*Coryphantha scheeri* var. *robustispina*), **Jones Cycladenia** (*Cycladenia humilis* var. *jonesii*), **Siler Pincushion Cactus** (*Pediocactus sileri*), **Acuña Cactus** (*Echinomastus erectocentrus* var. *acunensis*), **Fickeisen Plains Cactus** (*Pediocactus peeblesianus* var. *fickeiseniae*).

#### 3.4.1 HUACHUCA WATER UMBEL (*LILAEOPSIS SCHAFFNERIANA* VAR. *RECURVA*) [FE, CH]

In addition to implementing **PL-1** through **PL-4**, the following species-specific Conservation Measures will also apply:

**WU-1** Implement the Conservation Measures for Fire Management Activities in Riparian and Aquatic Habitats (**Section 2.0**).

**WU-2 (Recommended)** The BLM should fund additional surveys for the water umbel on BLM lands, and support research on the ecology of the species. Surveys may support the use of prescribed fire in areas not occupied by the Huachuca water umbel.

### **3.4.2 KEARNEY.S BLUE STAR (*AMSONIA KEARNEYANA*) [FE]**

In addition to implementing **PL-1** through **PL-4**, the following species-specific Conservation Measures will also apply:

**KB-1** No mechanical or chemical vegetation manipulation will be authorized by BLM, and no planting or seeding of nonnative plants will occur in the Brown Canyon watershed within the Baboquivari allotment.

**KB-2** Planning and management for wildfire suppression in the watershed of Brown Canyon will be coordinated with the USFWS.

## **3.5 MAMMALS**

### **3.5.1 BLACK-FOOTED FERRET (FE, 10(J) SPECIES)**

If black-footed ferrets are discovered or re-established on public lands, then the following Conservation Measures will apply:

**BF-1** No heavy equipment operation off of existing roads within ¼ mile of prairie dog towns having documented occurrence of black-footed ferrets.

**BF-2** No aerial retardant application within 300 feet of prairie dog towns having documented occurrence of black-footed ferrets.

**BF-3** No surface disturbance of prairie dog towns having documented occurrence of black-footed ferrets.

**BF-4** In Apache and Navajo counties, prairie dog complexes suitable for black-footed ferrets within ¼ mile of proposed project sites will either be surveyed prior to project implementation or will be protected using measures **BF-1** through **BF-3**, as if ferrets were present.

### **3.5.2 HUALAPAI MEXICAN VOLE (FE)**

**HV-1** All treatment areas will be surveyed for Hualapai Mexican vole occupancy prior to fuels management treatments (prescribed fire, vegetation treatments) in order to determine project modifications and/or avoidance and protection of occupied areas. Until surveyed, all potential vole habitat is considered occupied. Areas not considered suitable (e.g., areas dominated by thick pine needles and duff) will also be surveyed prior to treatment to protect existing snag habitat for potential future use by Mexican spotted owls.

**HV-2** Fuels management treatments (prescribed fire or vegetation treatments), construction of fire breaks, and/or staging areas for fire suppression or fuels management treatments will not be located within a vole use area. Occupied vole sites within proposed burn areas will be protected by firebreaks, precision ignition of fire around such sites, or total avoidance of the area. Fire plans will incorporate site-specific features (e.g., rock outcroppings, game trails, etc.), fire behavior, and professional judgment to determine the most appropriate method to protect

occupied vole habitat. Additionally, monitoring of fuel moisture and use of the appropriate minimum impact suppression tactics will be used to reach the desired objective at each site.

**HV-3** To minimize impacts to Hualapai Mexican voles during the breeding season, prescribed burns and vegetation treatments in occupied or potential vole habitat will be implemented only between September 1 and March 15. Treatment in chaparral habitat will occur during the latter part of this time frame, in winter and/or early spring. These prescribed fires will follow the summer monsoon period to encourage additional herbaceous growth. Post-monsoon burns would help avoid the dry conditions that could result in extremely hot fires that reduce the recruitment of grasses and forbs. Areas not considered suitable for Hualapai Mexican voles (*e.g.*, dominated by thick pine needles and duff) may be burned prior to September 1, if surveyed prior to treatment.

**HV-4** Provide a 75- to 100-foot, minimum, unburned vegetation buffer between fuels treatment sites and riparian and dry wash areas to decrease erosion into and sedimentation of the occupied or potentially occupied vole habitat. Within ponderosa pine treatment sites, use of dry washes as a fire line may be appropriate and result in less disturbance than construction of a cup trench above the wash. Under such circumstances, BLM will prepare the wash as a fire line by raking duff and removing by hand dead branches and other debris.

**HV-5** The terms and conditions from the Pine Lake Wildland/Urban Interface Biological Opinion (BLM Kingman Field Office; Consultation No. 2-21-01-F-241) continue to apply to the Pine Lake project.

### **3.5.3 JAGUAR (FE)**

**JA-1** Implement the Conservation Measures for Fire Management Activities in Riparian and Aquatic Habitats (Section 2.0) to eliminate adverse effects to jaguars that may occur in dense riparian habitats on BLM-administered lands.

**JA-2** Maintain dense, low vegetation in major riparian or xero-riparian corridors on BLM-administered lands in identified locations south of I-10 and Highway 86. Locations will be identified in site-specific fire management plans.

### **3.5.4 LESSER LONG-NOSED BAT (FE)**

**LB-1** Instruct all crew bosses (wildfire suppression, wildland fire use, prescribed fire, and vegetation treatments) in the identification of agave and columnar cacti and the importance of their protection.

**LB-2** Prior to implementing any fuels treatment activities (prescribed fire, vegetation treatments), pre-project surveys will be conducted for paniculate agaves and saguaros that may be directly affected by fuels management activities.

**LB-3** Protect long-nosed bat forage plants -- saguaros and high concentrations of agaves -- from wildfire and fire suppression activities, and from modification by fuels treatment activities (prescribed fire, vegetation treatments), to the greatest extent possible. Agave concentrations are

contiguous stands or concentrations of more than 20 plants per acre. Avoid driving over plants, piling slash on top of plants, and burning on or near plants. Staging areas for fire crews or helicopters will be located in disturbed sites, if possible.

**LB-4** No seeding/planting of nonnative plants will occur in any wildfire rehabilitation site or fuels treatment site with paniculate agaves or saguaros.

**LB-5** A mitigation plan will be developed by the BLM in coordination with the USFWS for prescribed fires or fuels management projects (mechanical, chemical, biological treatments) within 0.5 mile of bat roosts or in areas that support paniculate agaves or saguaros. The mitigation plan will ensure that effects to bat roosts and forage plants are minimized and will include monitoring of effects to forage plants. The plan will be approved by the USFWS.

**LB-6 (Recommended)** BLM personnel should examine concentrations of agaves (including shindagger *A. schottii*) within each proposed fuels treatment area, and blackline or otherwise protect from treatments any significant concentrations of agaves that appear to be amidst fuel loads that could result in mortality greater than 20 percent (>50 percent for *A. schottii*). BLM personnel should use their best judgment, based on biological and fire expertise, to determine which significant agave stands are prone to mortality greater than 20 percent (>50 percent for *A. schottii*) (see Conservation Measures FT-1 and FT-3).

**LB-7 (Recommended)** BLM should continue to support and cooperate in the investigations of agave relationships to livestock grazing, and of the effects of prescribed fire on paniculate agaves.

### **3.5.5 MEXICAN GRAY WOLF (FE; 10(J) SPECIES)**

If Mexican gray wolves are re-established on public lands, then the following Conservation Measures will apply:

**GW-1** No human disturbance associated with fire management activities will be within one mile of a den site from April 1 to June 30.

**GW-2** No human disturbance associated with fire management activities will be within one mile of known rendezvous sites from April 1 to June 30.

### **3.5.6 OCELOT (FE)**

No species-specific Conservation Measures developed.

### **3.5.7 SONORAN PRONGHORN (FE)**

No species-specific Conservation Measures developed.

### **3.5.8 BLACK-TAILED PRAIRIE DOG (FC)**

If black-tailed prairie dogs are re-established on public lands, then the following Conservation Measures will apply:

**PD-1** No heavy equipment operation off of existing roads within ¼ mile of black -tailed prairie dog colonies.

**PD-2** No aerial retardant application within ¼ mile of black -tailed prairie dog colonies.

**PD-3** No surface disturbance of black-tailed prairie dog colonies.

## **3.6 REPTILES**

### **3.6.1 DESERT TORTOISE, MOJAVE POPULATION (FT)**

**DT-1** Take appropriate action to suppress all wildfires in desert tortoise habitat, based on preplanned analysis and consistent with land management objectives, including threats to life and property. Full suppression activities will be initiated within key desert tortoise habitat areas identified in site-specific Fire Management Plans.

**DT-2** Suppress all wildfires in desert tortoise habitat with minimum surface disturbance, in accordance with the guidelines in Duck et al. (1995) and the 1995 programmatic biological opinion on fire suppression on the Arizona Strip (2-21-95-F-379).

**DT-3** Pre-position suppression forces in critical areas during periods of high fire dangers.

**DT-4** As soon as practical, all personnel involved in wildfire suppression (firefighters and support personnel) will be briefed and educated about desert tortoises and the importance of protecting habitat and minimizing take, particularly due to vehicle use. Fire crews will be briefed on the desert tortoise in accordance with Appendix II of Duck et al. (1995).

**DT-5** If wildfire or suppression activities cannot avoid disturbing a tortoise, the Resource Advisor or monitor will relocate the tortoise, if safety permits. The tortoise will be moved into the closest suitable habitat within two miles of the collection site that will ensure the animal is reasonably safe from death, injury, or collection associated with the wildfire or suppression activities. The qualified biologist will be allowed some discretion to ensure that survival of each relocated tortoise is likely. If the extent or direction of movement of a fire makes sites within two miles of the collection site unsuitable or hazardous to the tortoise or biologists attempting to access the area, the tortoise may be held until a suitable site can be found or habitat is safe to access and not in immediate danger of burning. The Resource Advisor will contact the USFWS Arizona Ecological Services Field Office (AESFO) as soon as possible concerning disposition of any animals held for future release. Desert tortoises will not be placed on lands outside the administration of the Federal government without the written permission of the landowner. Handling procedures for tortoises, including temporary holding facilities and procedures, will adhere to protocols outlined in Desert Tortoise Council (1994).

**DT-6** Upon locating a dead, injured, or sick desert tortoise, initial notification must be made to the appropriate USFWS Law Enforcement Office within three working days of its finding. Written notification must be made within five calendar days and include the date, time, and location of the animal, a photograph, and any other pertinent information. The notification will be sent to the Law Enforcement Office with a copy to the AESFO.

**DT-7** Care must be taken in handling sick or injured animals to ensure effective treatment and care, and in handling dead specimens to preserve biological material in the best possible state. If possible, the remains of intact desert tortoises will be placed with educational or research institutions holding appropriate State and Federal permits. If such institutions are not available, the information noted above will be obtained and the carcass left in place. Arrangements regarding proper disposition of potential museum specimens will be made with the institution prior to implementing the action. Injured animals should be transported to a qualified veterinarian by an authorized biologist. Should any treated desert tortoise survive, the USFWS should be contacted regarding final disposition of the animal.

**DT-8** The Resource Advisor or monitor(s) will maintain a record of all desert tortoises encountered during fire suppression activities. This information will include for each desert tortoise:

- 1) locations and dates of observation;
- 2) general condition and health, including injuries and state of healing, and whether animals voided their bladders;
- 3) location moved from and to; and
- 4) diagnostic markings (i.e., identification numbers of marked lateral scutes). No notching of scutes or replacement of fluids with a syringe is authorized.

**DT-9** Prior to moving a vehicle, personnel will inspect under the vehicle for tortoises. If a tortoise is found under the vehicle, the tortoise will be allowed to move away from the vehicle on its own accord, if possible. Otherwise an individual will move the tortoise to a safe locality in accordance with **FS-2** and **DT-5**.

**DT-10** OHV activity will be restricted to the minimum necessary to suppress wildfires. Vehicles will be parked as close to roads as possible, and vehicles will use wide spots in roads or disturbed areas to turn around. Whenever possible, a biologist or crewperson trained to recognize tortoises and their shelter sites will precede any vehicle traveling off-road to direct the driver around tortoises and tortoise burrows. Whenever possible, local fire-fighting units should provide direction and leadership during off-road travel because of their expertise and knowledge of area sensitivities.

**DT-11** Fire-related vehicles will drive slow enough to ensure that tortoises on roads can be identified and avoided.

**DT-12** Fire crews or rehabilitation crews will, to the extent possible, obliterate off-road vehicle tracks made during fire suppression in tortoise habitat, especially those of tracked vehicles, to reduce future use.

**DT-13** To the maximum extent practical, campsites, aircraft landing/fueling sites, and equipment staging areas will be located outside of desert tortoise habitat or in previously disturbed areas. If such facilities are located in desert tortoise habitat, 100 percent of the site will be surveyed for desert tortoises by a qualified biologist approved by BLM, whenever feasible. Any tortoises

found will be moved to a safe location in accordance with **FS-2** and **DT-5**. All personnel located at these facilities will avoid disturbing active tortoise shelter sites.

**DT-14** Elevated predation by common ravens or other predators attributable to fire suppression activities will be reduced to the maximum extent possible. Work areas, including campsites, landing/fueling sites, staging areas, etc. will be maintained in a sanitary condition at all times. Waste materials at those sites will be contained in a manner that will avoid attracting predators of desert tortoises. Waste materials will be disposed of at an appropriate waste disposal site. Waste means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

**DT-15** Backfiring operations are permitted where necessary in desert tortoise habitat. Burning out patches of identified habitat within or adjacent to burned areas is not permitted as a standard fire suppression measure unless necessary for firefighter or public safety or to protect property, improvements, or natural resources.

**DT-16** Use of foam or retardant is authorized within desert tortoise habitat.

**DT-17** Rehabilitation of vegetation in tortoise habitat will be considered, including seeding, planting of perennial species, etc.

**DT-18** Recovery of vegetation will be monitored, including establishing and monitoring paired plots, inside and outside burned areas in tortoise habitat. Recovery plans will be coordinated with the USFWS and AGFD.

**DT-19** The effectiveness of wildfire suppression activities and desert tortoise Conservation Measures will be evaluated after a wildfire. Procedures will be revised as needed.

### **3.6.2 NEW MEXICO RIDGENOSE RATTLESNAKE (FT)**

**RN-1** To the extent possible, minimize surface disturbing activities from fire suppression and fuels treatment activities within New Mexico ridgenose rattlesnake habitat on BLM-administered lands in the southern Peloncillo Mountains, particularly during active periods for snakes (July through October).

**RN-2** Prior to using wildland fire for resource benefit, cool season (November to March) prescribed fire or other fuel treatments should be used to reduce unnatural fuel loads within suitable habitat to avoid catastrophic fires and loss of canopy cover.

**RN-3** All fires that occur outside of prescriptions that will result in low intensity, low severity burns will be fully suppressed within or near suitable New Mexico ridge-nose rattlesnake habitat.

## **3.7 CONSERVATION AGREEMENT AND MANAGEMENT PLAN SPECIES**

### **3.7.1 FLAT-TAILED HORNED LIZARD**

No species-specific Conservation Measures developed.

### **3.7.2 PARADINE (KAIBAB) PLAINS CACTUS**

Implement **PL-1** and **PL-2** to protect known locations during fire suppression to the extent possible and during the fuels treatment activities.

### **3.7.3 VIRGIN SPINEDACE**

Implement the Conservation Measures for Fire Management Activities in Riparian and Aquatic Habitats (**Section 2.0**) for the stretch of the Virgin River within Arizona.

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## SPECIAL EPHEMERAL RULE

Published in the Federal Register, Vol. 33, No. 238, Saturday, December 7, 1968 (Livestock Grazing Ephemeral Range: Arizona, California and Nevada).

In accordance with 43 CFR 4115.2-1 regarding special rules for grazing districts and pursuant to the receipt of recommendations of the State Directors for Arizona, California and Nevada and a factual showing of its necessity, a special rule for range designated as ephemeral is hereby approved.

Ephemeral (annual) ranges lie within the general southwest desert region extending primarily into southern Arizona, southern California and southern Nevada and include portions of the Mohave, Sonoran and Chihuahuan deserts. The region is characterized by desert type vegetation some of which may be classed as ephemeral only. Ephemeral range does not consistently produce forage, but periodically provides annual vegetation suitable for livestock grazing. In years of abundant moisture and other favorable climatic conditions a large amount of forage may be produced. Favorable years are highly unpredictable and the season is usually short lived. Ephemeral areas fall generally below the 3,200-foot contour and below the eight-inch precipitation isoline. A minor percentage of the total plant composition is made up of desirable perennial forage plants and potential to improve range condition and produce a dependable supply of forage by applying intensive management practices is lacking.

Because of the unique characteristics of ephemeral range the following special rules shall apply as follows:

- Applicable allotments or uses shall be formally designated by the District Manager as ephemeral range.
- An annual application by qualified licensees or permittees is not required unless grazing use is desired. On a year-to-year basis whenever forage exists or climatic conditions indicate the probability of an ephemeral forage crop, livestock grazing may be authorized upon application pursuant to any management requirements for the allotment.
- Use of base property (water base) during nonforage years is not feasible or economical and no use of base properties is required except during these periods when ephemeral forage is available and livestock grazing occurs.

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# Description of the Route Evaluation Tree Process<sup>©</sup>

## *USGS Travel Management Workshop*

**Fort Collins, Colorado**

**February 22, 2006**

The Route Evaluation Tree Process<sup>©</sup> (Advanced Resource Solutions, Inc.) and its associated software/database is a tool designed to assist land management agency planners and resource specialists with the systematic neutral collection and compilation of data necessary for the thorough evaluation, analysis and/or designation of both motorized and non-motorized routes. It builds upon the history of past efforts of route designation, assists with addressing various issues and concerns raised by both private and public entities (e.g. planning policy, sensitive resource protection, commercial access needs, recreational access preferences) and helps to assess compliance with numerous state and federal statutory requirements (e.g. NEPA, ESA, NHPA, Presidential Executive Orders & Proclamations, Agency Organic Acts, Mining and Grazing Acts) that need to be considered in this type of planning. Additionally, the Route Evaluation Tree Process<sup>©</sup> helps to build into the land use planning process a means by which to achieve desired outcomes that are specifically tailored to the needs and issues unique to a planning area. The Route Tree Evaluation Process<sup>©</sup> is not a replacement for NEPA process, documents, or analysis, but rather is a tool designed to assist with the systematic collection of sensitive resource and route-use information that can then be subsequently used to evaluate and designate routes in a NEPA-compliant manner.

In order to address the many facets of route evaluation and transportation planning the Route Evaluation Tree Process<sup>©</sup> is divided into a number of smaller finite tasks or steps, which allows for the fine-tuning of the collection information needed to successfully evaluate and designate routes. The process is illustrated on the attached Route Evaluation Tree Process<sup>©</sup> for Travel Management Planning (see Attachment 1).

The actual use of the Route Evaluation Tree<sup>©1</sup> (Evaluation Tree<sup>©</sup>) (see Attachment 2), is only one sub-step (#17) amongst the 25 identified in the Route Evaluation Process<sup>©</sup>. Specifically, the Route Evaluation Tree software systematically guides the “evaluator” through a series of questions and associated project-specific drop-down menus that assist with addressing compliance with a variety of pertinent statutory requirements that principally address the need to protect identified sensitive resources, as well as commercial/administrative access needs and public recreational access issues. The questions and menus allow both for narrowly focused route-by-route, as well as landscape scale assessment (the latter of which allows for better consideration of broader network, collective and/or cumulative effects). Specific steps in the

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<sup>1</sup> The process has previously been referred to as the “Route Evaluation/Designation Decision Tree Process” or “Decision Tree”. A “decision tree” is a technique or tool for assisting in the decision making process by leading one through a series of yes/no questions based upon input received (flowchart). A “decision” in the context of NEPA has a more legalistic meaning specifically relating to the NEPA process. The name “Decision Tree” was used to indicate it was created in a style, however to avoid the potential for misunderstanding of the meaning of the word “decision”, it has been removed from the title of the process.

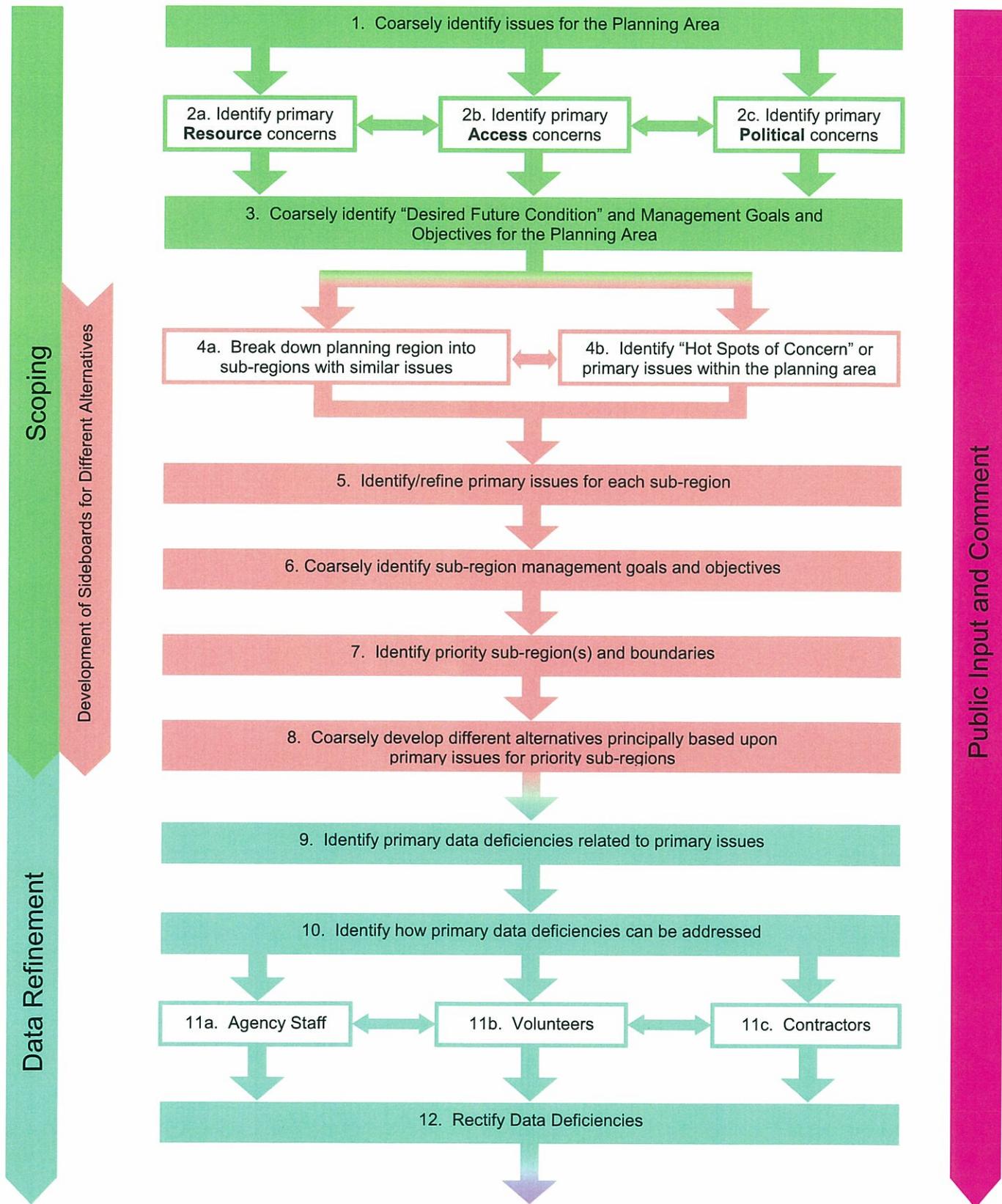
process also allow for the identification and/or delineation of planning areas/units at a number of geographic scales (e.g. Travel Management Areas, sub- regions, watersheds, etc.) thereby allowing the fine tuning of management guidelines and goals at various geographic scales tailored to specific project needs or issues. Additionally, the process provides for the development of project- specific menu choices that allow for the systematic consideration and selection of measures designed to eliminate, minimize or mitigate resource impacts. The result of this process is the creation of different route network options or alternatives that utilize different thresholds of acceptable impact to address the various identified issues. Lastly, the Route Evaluation Tree software compiles all the data collected during the evaluation into a database that can be queried and if desired, integrated with other Access databases (e.g. GIS). Whether used as a stand alone database or integrated with other databases, this information can be utilized to assist in making decisions within the environmental impact analysis process required by the National Environmental Policy Act (NEPA) and/or can be utilized to assist with other planning activities (e.g. grazing, mining, oil & gas permits, timber plans, etc.).

The Route Evaluation Tree Process © has been or is being successfully used by a number of BLM Field Offices and USDA National Forests in the western United States. It is or has been utilized in numerous EIS- and EA- level documents, including BLM Resource Management Plans and Travel Management Plans, and USFS Motorized Travel Plans. Several of these planning efforts include National Monuments. The process has been carefully honed through this experience to meet or exceed the needs of the BLM Planning Handbook and the new USFS rule concerning OHVs and travel management and is continually being refined in response to feedback from both the public and agency staff. The process is not confined exclusively to motorized planning and has been and is being used to evaluate non-motorized access needs as well on a number of projects.

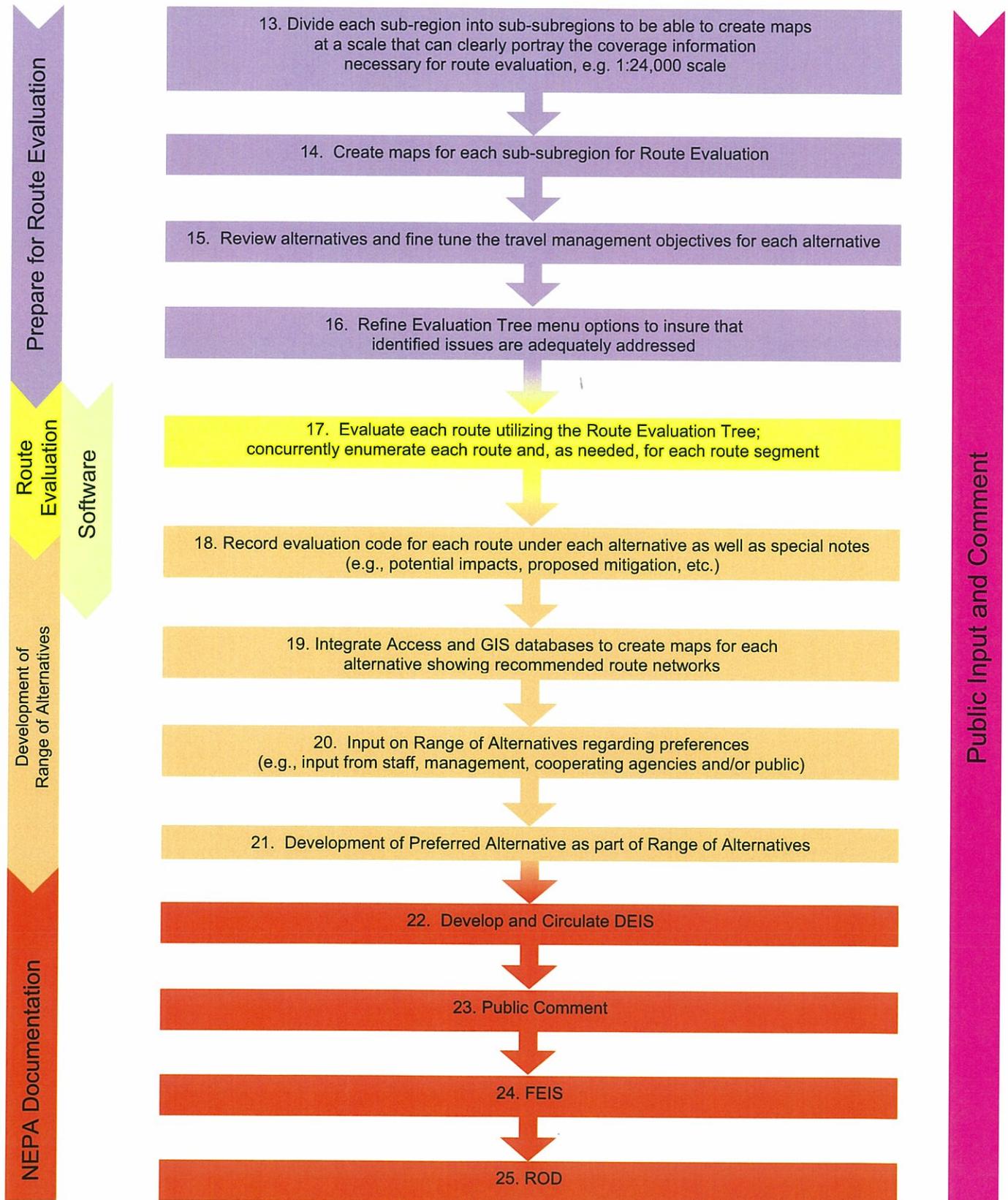
In summary, the Route Evaluation Tree Process is appreciated by agency planners, NEPA specialists, resource specialists and managers as a tool that is primarily helpful for its ability to prompt staff in the systematic collection of a variety of sensitive resource, recreational and commercial data that is necessary both for statutory compliance and to meet concerns raised by the public. It does this in a manner that collects the data neutrally and then stores it in a standardized and easily retrievable format, which is both presentable to the public in a number of easily understood formats, and readily linked to GIS, ACCESS and EXCEL databases. In order to reduce redundancy of effort, the process was specifically designed to build upon and enhance preexisting agency databases. When the process is performed properly, the database that is created not only consists of that information which is necessary for the proper evaluation and designation of routes, but when linked with GIS databases will assist agency staff both in the creation of a range of route network options/alternatives, and in the analysis of specific environmental impacts and cumulative effects as part of their NEPA documentation.

## **Attachment 1**

# Route Evaluation Process<sup>®</sup> for Travel Management Planning



# Route Evaluation Process<sup>®</sup> for Travel Management Planning



## **Attachment 2**

## Main Features Include:

1. Logical, standardized, balanced and repeatable approach to route evaluation.
2. Systematic questions to assess compliance with a variety of pertinent statutory requirements including:
  - Valid existing rights and other vested rights or permitted uses
  - Degree of potential impact or degradation to specially protected resources, such as species protected by the Federal Endangered Species Act (ESA), cultural, historic and scientific objects protected by the Historic Preservation and Antiquities Acts (e.g. Monument Proclamations, Section 106) and wilderness values as protected by the Wilderness Act.
  - Implementation of Agency Organic Acts and their charge to balance the public's need/desire for access to Federal lands with resource protection through a philosophy of management for "multiple use". Such consideration includes recognizing the value of providing a range of recreational opportunities and treating those opportunities in accordance with the Organic Acts as a resource worthy of protection.
3. Systematic consideration of access opportunities and resource protection needs on both a narrowly focused route by route assessment, as well as a broad-based cumulative assessment of the total network's effect.
4. Systematic consideration of mitigation and/or limited designation as a means by which to ameliorate resource impacts. Recommended designation options include a range from open to closed, and a number of intermediate actions as a means by which to balance access needs and resource protection.
5. Systematic recordation of data allowing for future retrieval and review/updating of evaluation information as needed (i.e. evaluation pathways are numerically coded).
6. Systematic ability to assess a route's recommended designation status based upon the management goals of each individual alternative.

## How does the Tree Work?

1. The region or management area in which the route is located is thoroughly evaluated. Resource protection, recreation and commercial access concerns pertinent to route are identified. The patterns of these identified uses and concerns, as well as their trends are also noted. Other related issues such as law enforcement, route maintenance and user conflicts are further identified.
2. The desired future condition and management goals of each proposed alternative are identified and reviewed.
3. Each route is systematically numbered. This both allows for tracking the evaluation process and enables the public to make comment on specific routes.
4. Each route is systematically assessed by sequentially answering the questions in the Evaluation Tree. Specifically, the questions are assessed and answered in the context of the regional concerns identified in step #1 and the management goals identified in step #2 for each of the alternatives.
5. The recommendation of a designation for each route under each alternative is dictated by addressing the management goals for that alternative.
6. The specific answers to each question for each route are recorded by the final coded answer.
7. Detailed information that may have been critical to the answer of any question(s) or in the determination of the final outcome is recorded as part or the individual route evaluation record.

## Recommended Route Designations



**Close:** A route that is recommended for permanent closure to all use. Physical closure may include restoring the route to the degree possible to blend with surrounding landscape, as well as installation of physical barriers and signing at the original departure point, if necessary.



**Mitigate/Limit:** A route that is recommended for limited use by certain parties or entities with valid, vested, or implied rights of access, or to certain vehicle types, seasons of use, etc., following mitigation action(s) aimed at avoiding, minimizing or mitigating certain estimated impacts identified during the route evaluation process.



**Limit:** A route that is recommended for limited use by certain parties or entities with valid, vested, or implied rights of access, or to certain vehicle types, seasons of use, etc.



**Mitigate/Open:** A route that is recommended open for all uses, following mitigation action(s) aimed at avoiding, minimizing or mitigating certain estimated impacts identified during the route evaluation process.

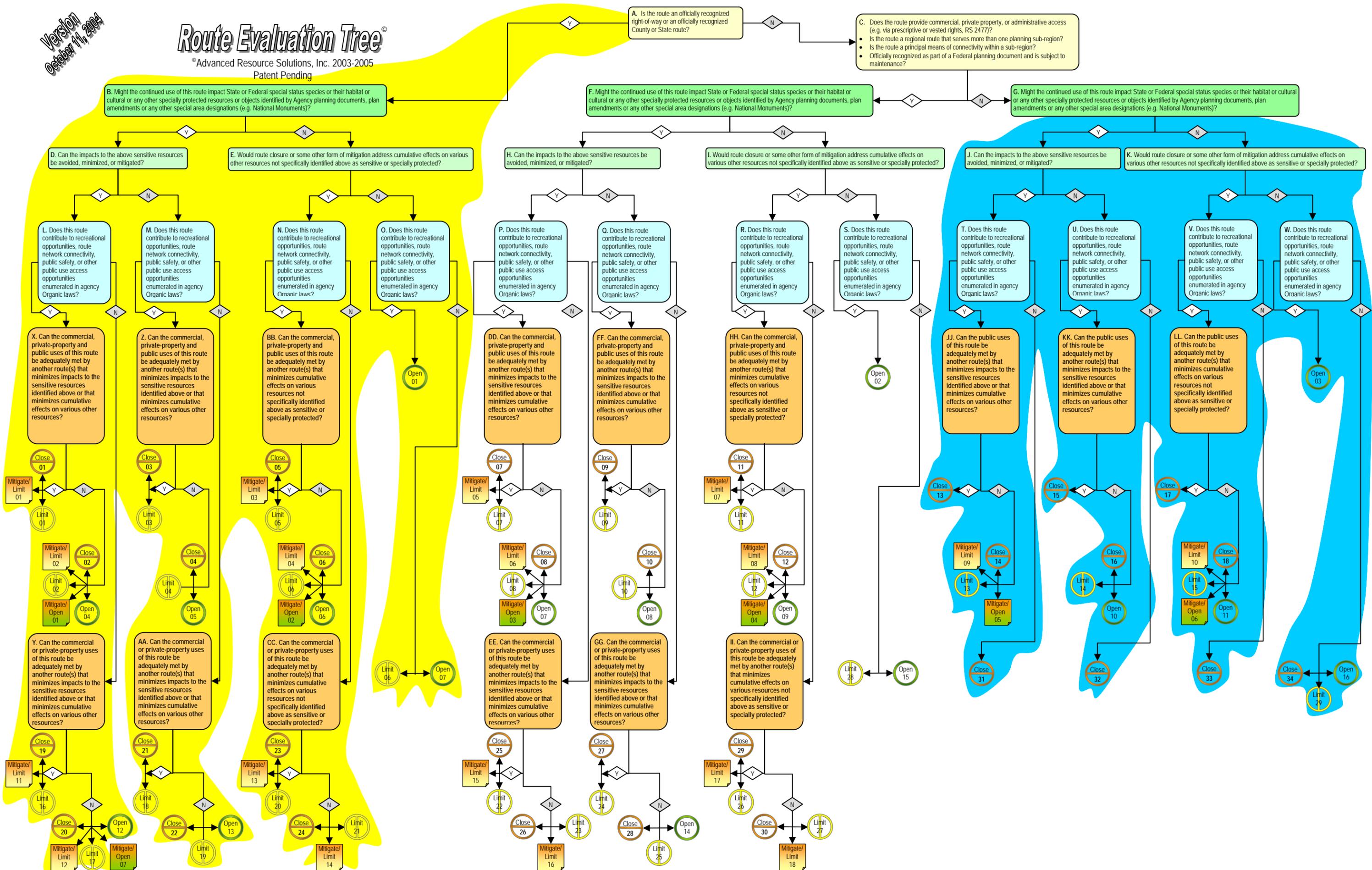


**Open:** A route that is recommended open for all uses.

Version  
October 14, 2004

# Route Evaluation Tree

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Patent Pending



# SPECIAL CULTURAL RESOURCE MANAGEMENT AREAS

**Special Cultural Resource Management Area (SCRMA)** – An area containing cultural resources (archaeological sites, historic sites or places of traditional cultural importance) that are particularly important for public use, scientific use, traditional use or other uses as defined in BLM Manual 8110.4. Management prescriptions for these areas should reflect and support the primary values for which the areas are allocated. For example, management prescriptions for a SCRMA allocated primarily for public use should focus on developing and interpreting sites for public visitation, including heritage tourism. Management prescriptions for a SCRMA allocated primarily for scientific use should focus on protecting sites for study, supporting field schools and other research efforts. Management prescriptions for a SCRMA allocated primarily for traditional use should seek to accommodate the traditional cultural practices of Native American tribes or other cultural groups that ascribe religious or other heritage values to specific cultural properties or places within the area. Management prescriptions for a SCRMA allocated primarily to protect scarce sites of singular importance that should not be subjected to invasive studies or other uses that would threaten their present condition should focus on conserving sites for the future.

Management prescriptions for a single SCRMA can focus on more than one type of use, just as a single cultural property can be allocated to more than one of the use categories described in Manual 8110.4. For example, a SCRMA might contain a set of cultural properties that, linked together and interpreted as a group, would make a good auto tour route for heritage tourism. At the same time, the area might contain several cultural properties of unusual historic importance that should be segregated from land or resources uses that might impair their present condition or setting. While both kinds of properties should receive management emphasis, they can be subsumed within a single land use allocation with management prescriptions tailored to support public visitation of the sites along the auto tour route, and protection for the sites that warrant segregation.

The primary purpose of this land use allocation is to differentiate some portions of a planning area from others in terms of cultural resource values. The allocation can denote priority for the expenditure of time and funds or the need for special protection to achieve management objectives. The allocation might also indicate priority areas for proactive inventory. However, highlighting a geographic area for its special cultural resource values does not diminish the importance of cultural resources in other areas. Cultural resources on lands not included within SCRMA's still need to be managed for the values they contain and opportunities they afford.

This land use allocation carries no inherent restrictions on competing land uses. Decisions about proposed land uses that may affect individual cultural properties within SCRMA's will be made on a case-by-case basis, weighing the cultural resource values in the balance along with all other considerations. Enclosing cultural properties within SCRMA's does not add value to those properties beyond what they would have if they were not within SCRMA's. SCRMA allocations

provide focus to management but they do not in themselves increase the scientific, public, traditional or other values that cultural properties possess. Some cultural properties within SCRMA's may, in fact, have little or no value beyond the information gathered by documenting them in the field.

ACEC is a designation that can be used to protect and provide special management attention to areas with significant cultural resource values. ACEC designation should be considered whenever an area containing important cultural resources meets the criteria for designation. However, allocation of a SCRMA can be useful in focusing management attention on an area not meeting the criteria for designation as an ACEC or where designation of an ACEC would be inappropriate. In such cases, a SCRMA can be allocated, incorporating management prescriptions that will provide the special protection or other emphasis needed to achieve management objectives.

# CURRENT WITHDRAWALS IN THE YUMA FIELD OFFICE

Agency/Project	Mechanism	Date
U.S. Bureau of Reclamation, Temporary Withdrawal Colorado River Reclamation Project	Secretarial Order	9/15/1902
U.S. Bureau of Reclamation, Temporary Withdrawal Colorado River Reclamation Project	Secretarial Order	2/5/1903
U.S. Bureau of Reclamation, Colorado River Reclamation Project	Secretarial Order	4/14/1903
U.S. Bureau of Reclamation, Temporary Withdrawal Colorado River Project, Yuma and Picacho Dam Sites	Secretarial Order	8/1/1903
U.S. Bureau of Reclamation, Colorado River Project	Secretarial Order	8/1/1903
U.S. Bureau of Reclamation, Yuma Project, Ditch Riders Quarters	Secretarial Order	8/5/1903
U.S. Bureau of Reclamation, Colorado River Project	Secretarial Order	4/9/1904
U.S. Bureau of Reclamation, Temporary Withdrawal Colorado River Project, Laguna Reservoir Site	Secretarial Order	7/1/1904
U.S. Bureau of Reclamation, Yuma Project	Secretarial Order	9/30/1904
U.S. Bureau of Reclamation, Yuma Project	Secretarial Order	7/20/1905
U.S. Bureau of Reclamation, Yuma Project	Missing Document	5/26/1906
U.S. Bureau of Reclamation, Yuma Project	Missing Document	6/23/1908
U.S. Bureau of Reclamation, Colorado River Project	Secretarial Order	6/15/1910
U.S. Department of Defense, National Guard of Arizona	Executive Order 1255	10/13/1910
U.S. Bureau of Reclamation, Colorado River Survey		3/27/1913
U.S. Bureau of Reclamation, Yuma Project (AZAZAAA3528)	Secretarial Order	5/5/1917
U.S. Bureau of Reclamation, Yuma Project (AZA17413)	Secretarial Order	5/5/1917
U.S. Bureau of Reclamation, Yuma Mesa Auxiliary Project	Secretarial Order	7/12/1917
U.S. Bureau of Reclamation, Sentinel Project	Secretarial Order	11/16/1918
U.S. Bureau of Reclamation, Yuma Project	Secretarial Order	10/22/1919
U.S. Bureau of Reclamation, Yuma Project	Secretarial Order	8/7/1920
U.S. Bureau of Reclamation, Yuma Project	Secretarial Order	12/10/1921
U.S. Bureau of Reclamation, Yuma Project, Ditch Riders Quarters	Secretarial Order	12/10/1921
U.S. Bureau of Reclamation, Yuma Project (AZAZAA003530)	Secretarial Order	12/19/1924
U.S. Bureau of Reclamation, Yuma Project, Ditch Riders Quarters (AZA013414)	Secretarial Order	12/19/1924
U.S. Bureau of Reclamation, Colorado River Project	Secretarial Order	1/30/1929
U.S. Customs, San Luis #71	Secretarial Order	8/26/1929
U.S. Bureau of Reclamation, Colorado River Storage Project		4/5/1930
U.S. Bureau of Reclamation, Colorado River Storage Project	Secretarial Order	6/4/1930
U.S. Bureau of Reclamation, Colorado River Reclamation Project	Secretarial Order	3/26/1931
U.S. Bureau of Reclamation, Colorado River Storage Project	Secretarial Order	10/6/1931
U.S. Fish and Wildlife Service, Kofa Game Range	Executive Order 8039	1/25/1939
U.S. Fish and Wildlife Service, Cabeza Prieta Game Range	Executive Order 8038	1/25/1939
U.S. Bureau of Reclamation, Gila Project	Secretarial Order	5/23/1940
U.S. Fish and Wildlife Service, Imperial National Wildlife Refuge	Executive Order 8685	2/14/1941
U.S. Bureau of Reclamation, Colorado River Storage Project	Bureau Order	8/3/1949
U.S. Bureau of Reclamation, Colorado River Storage Project	Secretarial Order	2/19/1951
U.S. Department of Air Force, Dateland Air Force Auxiliary Field	Public Land Order 780	12/29/1951
U.S. Department of Army, Yuma Test Station	Public Land Order 848	7/8/1952

<b>Agency/Project</b>	<b>Mechanism</b>	<b>Date</b>
U.S. Department of Defense, Vincent Air Force Base	Public Land Order 1889	6/26/1959
U.S. Bureau of Reclamation, Colorado River Control	Public Land Order 2644	4/6/1962
U.S. Fish and Wildlife Service, Cibola National Wildlife Refuge	Public Land Order 3442	8/21/1964
U.S. Bureau of Reclamation, Colorado River Storage Project	Public Land Order 3752	7/30/1965
U.S. Bureau of Land Management, Crystal Hill Recreation Area	Public Land Order 4216	4/29/1967
U.S. Department of Justice, Customs Facility (Administrative Site)	Public Land Order 4525	9/30/1968
Withdrawal for Flood Control	Public Land Order 5003	1/26/1971
U.S. Department of Army, Yuma Proving Ground	Public Land Order 6475	10/5/1983
U.S. Fish and Wildlife Service, Kofa National Wildlife Refuge	Public Law 100-696	11/18/1988
U.S. Navy, Marine Corps Air Station	Public Land Order 6804	10/16/1990
U.S. Bureau of Land Management, Eagletail Mountains Wilderness Area	Public Law 101-628	11/28/1990
U.S. Bureau of Land Management, Muggins Mountains Wilderness Area	Public Law 101-628	11/28/1990
U.S. Bureau of Land Management, New Water Mountains Wilderness Area	Public Law 101-628	11/28/1990
U.S. Bureau of Land Management, Trigo Mountains Wilderness Area	Public Law 101-628	11/28/1990
U.S. Bureau of Land Management, Big Maria Mountains Wilderness	Public Law 103-433	10/31/1994
U.S. Bureau of Land Management, Little Picacho Wilderness	Public Law 103-433	10/31/1994
U.S. Bureau of Land Management, Riverside Mountains Wilderness	Public Law 103-433	10/31/1994
U.S. Bureau of Land Management, Gila River Cultural Area of Critical Environmental Concern	Public Land Order 7212	8/27/1996
U.S. Marine Corps and U.S. Air Force, Barry M. Goldwater Range	Public Law 106-65	10/5/1999

# GUIDE TO STIPULATIONS WITH CODES

## MACRO INDEX

The standard stipulations on the following pages are organized by subject matter; the alphanumeric code preceding each stipulation corresponds to the following list.

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## **A. CONSTRUCTION PLANS**

**a1** The holder shall construct, operate, and maintain the facilities, improvements, and structures within this ROW in strict conformity with the plan(s) of development which was (were) approved and made part of the grant on [user entry]. Any relocation, additional construction, or use that is not in accord with the approved plan(s) of development, shall not be initiated without the prior written approval of the authorized officer. A copy of the complete ROW grant, including all stipulations and approved plan(s) of development, shall be made available on the right-of-way area during construction, operation, and termination to the authorized officer. Noncompliance with the above will be grounds for an immediate temporary suspension of activities if it constitutes a threat to public health and safety or the environment.

NOTE: Select the appropriate version of the text inside parentheses, delete the other versions and this note.

**a2** The holder shall submit a plan or plans of development that describe in detail the construction, operation, maintenance, and termination of the ROW and its associated improvements and/or facilities. The degree and scope of these plans will vary depending upon (1) the complexity of the ROW or its associated improvements and/or facilities, (2) the anticipated conflicts that require mitigation, and (3) additional technical information required by the authorized officer. The plans will be reviewed and, if appropriate, modified and approved by the authorized officer. An approved plan of development shall be made a part of the ROW grant.

**a3** The holder shall contact the authorized officer at least [user entry] days prior to the anticipated start of construction and/or any surface disturbing activities. The authorized officer may require and schedule a preconstruction conference with the holder prior to the holder's commencing construction and/or surface disturbing activities on the ROW. The holder and/or his representative shall attend this conference. The holder's contractor, or agents involved with construction and/or any surface disturbing activities associated with the ROW, shall also attend this conference to review the stipulations of the grant including the plan(s) of development.

**a4** The holder shall designate a representative(s) who shall have the authority to act upon and to implement instructions from the authorized officer. The holder's representative shall be available for communication with the authorized officer within a reasonable time when construction or other surface disturbing activities are underway.

**a5** The authorized officer may suspend or terminate in whole or in part, any notice to proceed which has been issued when, in his judgment, unforeseen conditions arise which result in the approved terms and conditions being inadequate to protect the public health and safety or to protect the environment.

**a6** The holder shall not initiate any construction or other surface disturbing activities on the ROW without the prior written authorization of the authorized officer. Such authorization shall be a written notice to proceed issued by the authorized officer. Any notice to proceed shall authorize construction or use only as therein expressly stated and only for the particular location or use therein described.

- a7** Where slope stabilization requires significant terrace or bench construction, the holder shall include engineering drawings for this work to be reviewed and, where appropriate, modified and approved by the authorized officer.
- a8** No surface disturbing activities shall take place on the subject ROW until the associated APD is approved. The holder will adhere to special stipulations of the Surface Use Program of the approved APD, relevant to any ROW facilities.
- a9** The holder shall perform the necessary transportation studies and recommend a road standard to meet the purpose of the road. This standard and the topography, soils, and geologic hazards of the lands crossed will define the level of survey and design necessary. Accepted standards for road design, including the BLM Manual Section may be used.
- a10** The holder shall obtain the services of a licensed professional engineer to locate, survey, design, and construct the proposed road as directed by the authorized officer. The road design shall be based on the (1) width, (2) maximum grade, and (3) design speed of the road.
- a11** The holder shall submit standard or typical cross sections of the road to be constructed, maintained, or reconstructed as directed by the authorized officer. The cross sections should include, but are not limited to, the proposed road width, ditch dimensions, cut and fill slopes, and typical culvert installation.
- a12** As directed by the authorized officer, the completed subgrade shall be submitted to the BLM for approval prior to the placement of any surfacing.
- a13** As directed by the authorized officer, surfacing shall be designed to accommodate anticipated loading and traffic volumes and shall provide for future maintenance.
- a14** The holder shall submit a plan of development that describes in detail the construction, operation, maintenance, and termination of the ROW and its associated improvements and/or facilities. The plan shall include drawings in sufficient detail to enable a complete evaluation of all proposed structures, facilities, and landscaping to ensure compliance with the requirements of the grant and to ensure visual compatibility with the site. These drawings shall be the construction documents and must show dimensions, materials, finishes, etc. to demonstrate compliance with the requirements. The plans will be reviewed and, if appropriate, modified and approved by the authorized officer. An approved plan of development shall be made a part of the ROW grant.
- a15** The design and location of all facilities shall be approved by the authorized officer prior to construction.
- a16** No signs or advertising devices shall be placed on the premises or on adjacent public lands, except those posted by or at the direction of the authorized officer.
- a17** The site plan, building design, floor plan, tower design, and electrical drawings submitted with the original proposal shall be made a part of this ROW grant. All construction must conform to these drawings.

## **B. CULTURAL/PESTICIDES/WEEDS/MONUMENTS**

**b1** Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

**b2** Use of pesticides shall comply with the applicable Federal and State laws. Pesticides shall be used only in accordance with their registered uses and within limitations imposed by the Secretary of the Interior. Prior to the use of pesticides, the holder shall obtain from the authorized officer written approval of a plan showing the type and quantity of material to be used, pest(s) to be controlled, method of application, location of storage and disposal of containers, and any other information deemed necessary by the authorized officer. Emergency use of pesticides shall be approved in writing by the authorized officer prior to such use.

**b3** The holder shall be responsible for weed control on disturbed areas within the limits of the ROW. The holder is responsible for consultation with the authorized officer and/or local authorities for acceptable weed control methods (within limits imposed in the grant stipulations).

**b4** The holder shall protect all survey monuments found within the ROW. Survey monuments include, but are not limited to, General Land Office and BLM Cadastral Survey Corners, reference corners, witness points, U.S. Coastal and Geodetic benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. In the event of obliteration or disturbance of any of the above, the holder shall immediately report the incident, in writing, to the authorized officer and the respective installing authority if known. Where General Land Office or BLM ROW monuments or references are obliterated during operations, the holder shall secure the services of a registered land surveyor or a BLM cadastral surveyor to restore the disturbed monuments and references using surveying procedures found in the *Manual of Surveying Instructions for the Survey of the Public Lands in the United States*, latest edition. The holder shall record such survey in the appropriate county and send a copy to the authorized officer. If the BLM cadastral surveyors or other Federal surveyors are used to restore the disturbed survey monument, the holder shall be responsible for the survey cost.

## **C. CIVIL RIGHTS/CORPS OF ENGINEERS 404 PERMITS**

**c1** The holder of this ROW grant or the holder's successor in interest shall comply with Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d et seq.) and the regulations of the Secretary of the Interior issued pursuant thereto.

**c2** The holder shall comply with the construction practices and mitigating measures established by 33 CFR 323.4, which sets forth the parameters of the "nationwide permit"

required by Section 404 of the Clean Water Act. If the proposed action exceeds the parameters of the nationwide permit, the holder shall obtain an individual permit from the appropriate office of the USACOE and provide the authorized officer with a copy of same. Failure to comply with this requirement shall be cause for suspension or termination of this ROW grant.

## **D. STAKING**

**d1** The holder shall place slope stakes, culvert location and grade stakes, and other construction control stakes as deemed necessary by the authorized officer to ensure construction in accordance with the plan of development. If stakes are disturbed, they shall be replaced before proceeding with construction.

**d2** The holder shall mark the exterior boundaries of the ROW with a stake and/or lath at [user entry] foot intervals. The intervals may be varied at the time of staking at the discretion of the authorized officer. The tops of the stakes and/or laths will be painted and the laths flagged in a distinctive color as determined by the holder. The survey station numbers will be marked on the boundary stakes and/or laths at the entrance to and the exit from public land. Holder shall maintain all boundary stakes and/or laths in place until final cleanup and restoration is completed and approved by the authorized officer. The stakes and/or laths will then be removed at the direction of the authorized officer.

**d3** The holder shall survey and clearly mark the centerline and/or exterior limits of the ROW, as determined by the authorized officer.

**d4** No surface disturbance or construction activity will be allowed within [user entry] feet of [user entry] which shall be clearly marked as specified by the authorized officer. Any deviation from this requirement shall have the prior written approval of the authorized officer.

**d5** The holder shall set center line stakes to identify the location of the proposed road as directed by the authorized officer.

**d6** Cut and fill slope stakes shall be set as directed by the authorized officer.

**d7** Culverts and lateral ditches shall be staked for location, skew, and elevation as directed by the authorized officer.

## **E. CLEARING**

**e1** ROW clearing shall be limited to ([user entry] on each side of the centerline) (the limits of the ROW) ( the limits of the cut and fill stakes).

NOTE: Select the appropriate version of the text inside parentheses, delete the other versions and this note.

**e2** A buffer strip of vegetation [user entry] feet wide shall be left between areas of surface disturbance and riparian vegetation as determined necessary by the authorized officer.

**e3** Suitable topsoil material removed in conjunction with clearing and stripping shall be conserved in stockpiles (within the ROW) (at the following staked locations: [user entry]). Top soil shall be stripped to an average depth of [user entry] inches. A total of [user entry] cubic yards of topsoil shall be stockpiled.

NOTE: Select the appropriate version of the text within parentheses, delete the other versions and this note.

**e4** The holder shall trim trees in preference to cutting trees and shall cut trees in preference to bulldozing them as directed by the authorized officer.

**e5** The holder shall not clear trees to allow passage of equipment for stringing the line without the prior written approval of the authorized officer.

**e6** Excavation and embankment quantities shall be balanced as nearly as design and construction considerations allow. Any waste and/or borrow needs shall be specifically identified by the holder.

**e7** Material encountered on the project and needed for select borrow, surfacing, riprap, or other special needs shall be conserved.

**e8** Excess excavated, unsuitable, or slide materials shall be disposed of as directed by the authorized officer.

**e9** As directed by the authorized officer, clearing limits shall extend [user entry] feet beyond the cut stakes and [user entry] feet beyond the fill stakes.

**e10** Clearing and grubbing debris shall not be placed or permitted to remain in or under any embankment sections. Clearing and grubbing debris may be placed under waste material with a minimum of three feet of cover as directed by the authorized officer.

**e11** Prior to any operations, the holder, if required, shall enter into a timber sale contract with the BLM for timber designated for cutting on the ROW.

**e12** The holder shall cut and deck all timber located within the ROW as directed by the authorized officer.

**e13** The holder shall clear and remove all roots, woody plants over [user entry] feet high, and other vegetative materials from the surfaces to be covered by embankments and disturbed by excavation. Clearing shall be accomplished without mixing topsoil with vegetation. Cleared vegetative materials shall be disposed of as directed by the authorized officer; excess mineral materials shall be stockpiled for disposal by the U.S. or used in construction in accordance with 43 CFR 2801.1-1(d).

**e14** Earthwork areas shall be cleared of vegetation and the topsoil stockpiled for future rehabilitation. Prior to fill construction, the existing surface shall be sloped to avoid sharp banks and allow equipment operations. No fills shall be made with water-saturated soils. Materials

shall be placed in uniform layers not to exceed [user entry]. Construction equipment shall be routed evenly over the entire width of the fill to obtain a thorough compaction.

**e15** Holder shall remove only the minimum amount of vegetation necessary for the construction of structures and facilities. Topsoil shall be conserved during excavation and reused as cover on disturbed areas to facilitate regrowth of vegetation.

## **F. CONSTRUCTION**

**f1** No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of [user entry] inches deep, the soil shall be deemed too wet to adequately support construction equipment.

**f2** Construction activity and surface disturbance will be prohibited during the period from [user entry] to [user entry] for the protection of [user entry]. Any exceptions to this requirement must have prior written approval from the authorized officer.

**f3** The holder shall conduct all activities associated with the construction, operation, and termination of the ROW within the authorized limits of the ROW.

**f4** Construction holes left open over night shall be covered. Covers shall be secured in place and shall be strong enough to prevent livestock or wildlife from falling through and into a hole.

**f5** All design, material, and construction, operation, maintenance, and termination practices shall be in accordance with safe and proven engineering practices.

**f6** Holder shall limit excavation to the areas of construction. No borrow areas for fill material will be permitted on the site. All off-site borrow areas must be approved in writing by the authorized officer in advance of excavation. All waste material resulting from construction or use of the site by holder shall be removed from the site. All waste disposal sites on public land must be approved in writing by the authorized officer in advance of use.

## **G. CATTLEGUARDS/FENCES**

**g1** Cattleguards shall be [user entry] feet by [user entry] feet and as a minimum meet the [user entry] standard. They shall be set on (timber, precast concrete, cast-in-place concrete) bases at right angles to the roadway. Backfill around cattleguards shall be thoroughly compacted. A bypass gate shall be built adjacent to each cattleguard structure. Gate materials, dimensions, and construction shall conform to the requirements as specified by the authorized officer.

NOTE: Select one material from those within parentheses, delete the rest and this note.

**g2** Cattleguards shall be constructed and installed as shown on attached drawings and specifications as provided by the authorized officer.

**g3** Fences, gates, and brace panels shall be reconstructed to appropriate BLM standards and/or specifications as determined by the authorized officer.

When construction activity in connection with the ROW breaks or destroys a natural barrier used for livestock control, the gap, thus opened, shall be fenced to prevent the drift of livestock. The subject natural barrier shall be identified by the authorized officer and fenced by the holder as per instruction of the authorized officer.

## **H. DRAINAGE STRUCTURES**

**h1** The holder shall furnish and install culverts of the gauge, materials, diameter(s), and length(s) indicated and approved by the authorized officer. Culverts shall be free of corrosion, dents, or other deleterious conditions. Culverts shall be placed on channel bottoms on firm, uniform beds which have been shaped to accept them and aligned to minimize erosion. Backfill shall be thoroughly compacted. No equipment shall be routed over a culvert until backfill depth is adequate to protect the culverts.

**h2** As directed by the authorized officer, construction stakes shall be set for each culvert to show location as well as inlet and outlet elevations, diameter, and length.

**h3** As directed by the authorized officer, the holder shall submit a complete culvert list to reflect the drainage plan for the road. The list shall include, but not be limited to, size(s), lengths, and locations of the culverts.

**h4** The minimum diameter for culverts shall be 18 inches.

**h5** As directed by the authorized officer, drainage structures with an end area greater than [user entry] square feet and all bridges shall be designed by a registered professional engineer. Design of drainage facilities shall include, but not limited to, design storms, debris, bedload, fish passage, erosion, and floodplain impact.

**h6** The holder shall construct low-water crossings in a manner that will prevent any blockage or restriction of the existing channel. Material removed shall be stockpiled for use in rehabilitation of the crossings.

**h7** The holder shall design and construct adequate water-control structures in each drainage crossing to prevent excessive erosion along the pipeline and protect the pipeline from the natural erosion process within the drainage.

**h8** All roads and parking areas shall be constructed to provide drainage and minimize erosion. Culverts shall be installed if necessary to maintain drainage. All areas to be used for roads and parking shall be surfaced with [user entry].

## **I. CONSTRUCTION ACCESS**

- i1** Specific sites as identified by the authorized officer (e.g., archaeological sites, areas with threatened and endangered species, or fragile watersheds) where construction equipment and vehicles shall not be allowed, shall be clearly marked onsite by the holder before any construction or surface disturbing activities begin. The holder shall be responsible for assuring that construction personnel are well trained to recognize these markers and understand the equipment movement restrictions involved.
- i2** The holder shall provide for the safety of the public entering the ROW. This includes, but is not limited to, barricades for open trenches, flagmen/women with communication systems for single-lane roads without intervisible turnouts, and attended gates for blasting operations.
- i3** The holder shall permit free and unrestricted public access to and upon the ROW for all lawful purposes except for those specific areas designated as restricted by the authorized officer to protect the public, wildlife, livestock, or facilities constructed within the ROW.
- i4** Construction-related traffic shall be restricted to routes approved by the authorized officer. New access roads or cross-country vehicle travel will not be permitted unless prior written approval is given by the authorized officer. Authorized roads used by the holder shall be rehabilitated or maintained when construction activities are complete as approved by the authorized officer.
- i5** Existing roads and trails on public lands that are blocked as a result of the construction project shall be rerouted or rebuilt as directed by the authorized officer.
- i6** Fording of streams and rivers with construction equipment and other motorized vehicles shall be permitted only with prior approval of the authorized officer. Temporary bridges, culverts, or other structures shall be used whenever stream crossings are required, unless otherwise approved of in writing by the authorized officer. Rivers, streams, and impoundments shall be promptly cleared of all pilings, debris, or other obstructions placed therein or caused by construction activities.
- i7** If “cross country” access is necessary, clearing vegetation or grading a roadbed will be avoided whenever practicable. All construction and vehicular traffic shall be confined to the ROW or designated access routes, roads, or trails unless otherwise authorized in writing by the authorized officer. All temporary roads used for construction shall be rehabilitated after construction is completed. Only one road or access route will be permitted to each site requiring access.

## **J. PIPELINES**

- j1** The stipulation number Aj1" has been deleted from the handbook.
- j2** The holder shall inform the authorized officer with 48 hours of any accidents on Federal lands that require reporting to the Department of Transportation as required by 49 CFR Part 195.

**j3** The holder is prohibited from discharging oil or other pollutants into or upon the navigable waters of the U., adjoining shorelines, or the waters of the contiguous zone in violation of Section 311 of the CWA as amended, 33 U.S.C. 1321, and the regulations issued thereunder, or applicable laws of the State(s) of [user entry] and regulations issued thereunder. Holder shall give immediate notice of any such discharge to the authorized officer and such other Federal and State officials as are required by law to be given such notice.

**j4** Prior to any discharge, hydrostatic testing water will be tested and processed, if necessary, to ensure that the water meets local, State, or Federal water quality standards. Prior to discharge of hydrostatic testing water from the pipeline, the holder shall design and install a suitable energy dissipater at the outlets, and design and install suitable channel protection structures necessary to ensure that there will be no erosion or scouring of natural channels within the affected watershed as a result of such discharge. The holder will be held responsible for any erosion or scouring resulting from such discharge. Sandbags, rock, or other materials or objects installed shall be removed from the site upon completion of hydrostatic testing.

**j5** The pipelines may be laid above ground from station [user entry] to station [user entry] and no blading shall be allowed between these stations.

## **K. POWERLINES**

**k1** Unless otherwise agreed to by the authorized officer in writing, powerlines shall be constructed in accordance to standards outlined in "Suggested Practices for Raptor Protection on Powerlines," Raptor Research Foundation, Inc., 1981. The holder shall assume the burden and expense of proving that pole designs not shown in the above publication are "eagle safe." Such proof shall be provided by the raptor expert approved by the authorized officer. The BLM reserves the right to require modifications or additions to all powerline structures placed on this ROW, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the U.S.

**k2** The holder shall coordinate with the authorized officer on the design and color of the poles and transmission lines to achieve the minimum practicable visual impacts.

**k3** The holder shall use nonreflecting lines and conductors at the following locations: [user entry].

## **L. REHABILITATION**

**l1** The holder shall recontour disturbed areas or designated sections of the ROW by grading to restore the site to approximately the original contour of the ground as determined by the authorized officer.

**l2** The holder shall recontour the disturbed area and obliterate all earthwork by removing embankments, backfilling excavations, and grading to re-establish the approximate original contours of the land in the ROW.

**13** The holder shall evenly spread the excess soil excavated from pole holes within the ROW and in the immediate vicinity of the pole structure.

**14** The holder shall restore drainages, to the greatest extent possible, to the original bank configuration, stream bottom width, and channel gradient. Loose soil, fill, and culverts shall be removed from drainage channels as directed by the authorized officer.

**15** The holder shall uniformly spread topsoil over all unoccupied disturbed areas (outside the ditch line, fence line, work area). Spreading shall not be done when the ground or topsoil is frozen or wet.

**16** The holder shall construct waterbars on all disturbed areas to the spacing and cross sections specified by the authorized officer. Waterbars are to be constructed to: (1) simulate the imaginary contour lines of the slope (ideally with a grade of one or two percent); (2) drain away from the disturbed area; and (3) begin and end in vegetation or rock whenever possible.

**17** All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" designated by the Rocky Mountain Five-State Interagency Committee. The color selected for this [user entry] is [user entry].

**18** Upon completion of construction, the holder shall post as directed by the authorized officer, the BLM serial number assigned to this ROW grant at the following location(s): [user entry].

**19** The existing subgrade shall be scarified to its full width and to a depth sufficient to eliminate surface irregularities. The scarified surface shall then be bladed and shaped to the lines, grades, dimensions, and typical cross section shown on the plans.

**110** As directed by the authorized officer, all road segments shall be winterized by providing a well-drained roadway by water barring, maintaining drainage, and any additional measures necessary to minimize erosion and other damage to the roadway or the surrounding public lands.

## **M. SEED MIX/MULCH**

**m1** The holder shall prepare a seedbed by (scarifying the disturbed area) (distributing topsoil uniformly) (disking the topsoil) as directed by the authorized officer.

NOTE: select the text with parentheses as appropriate, delete the other text, the parentheses, and this note.

**m2** The holder shall mulch disturbed areas designated by the authorized officer. The type of mulch shall meet one of the following requirements:

- (a) Straw used for mulching shall be from oats, wheat, rye, or other approved grain crops, and free from noxious weeds or other objectionable material as determined by the

authorized officer. Straw mulch shall be suitable for placing with mulch blower equipment.

(b) Hay shall be of approved herbaceous mowings, free from noxious weeds or other objectionable material as determined by the authorized officer. Hay shall be suitable for placing with mulch blower equipment.

(c) Wood cellulose fiber shall be natural or cooked wood cellulose fiber, shall disperse readily in water, and shall be nontoxic. The homogeneous slurry or mixture shall be capable of application with power spray equipment. A colored dye that is non-injurious to plant growth may be used when specified. Wood cellulose fiber shall be packaged in new, labeled containers.

**m3** The holder shall seed all disturbed areas using an agreed upon method suitable for the location. Seeding shall be repeated if a satisfactory stand is not obtained as determined by the authorized officer upon evaluation after the [user entry] growing season.

**m4** The holder shall seed all disturbed areas with the seed mixture(s) listed below. The seed mixture(s) shall be planted in the amounts specified in pounds of pure live seed (PLS) per acre. There shall be no primary or secondary noxious weed seed in the seed mixture. Seed shall be tested and the viability testing of seed shall be done in accordance with State law(s) and within [user entry] months prior to purchase. Commercial seed shall be either certified or registered seed. The seed mixture container shall be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed shall be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop to the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre noted below are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of the [user entry] growing season after seeding. The authorized officer is to be notified of the minimum of [user-entry] days prior to seeding of the project.

Seed Mixture

Species of seed	Variety	Pounds PLS/acre
[user entry]	[user entry]	[user entry]

Total [user entry] lbs/acre PLS

Pure Live Seed (PLS) formula: % of purity of seed mixture times % germination of seed mixture = portion of seed mixture that is PLS.

## **N. FIRE**

**n1** The holder shall prepare a fire prevention and suppression plan, that shall be reviewed, modified, and approved, as appropriate, by the authorized officer. The holder shall take into account such measures for prevention and suppression of fire on the ROW and other public land used or traversed by the holder in connection with operations of the ROW. Project personnel shall be instructed as to individual responsibility in implementation of the plan.

**n2** During construction, operation, maintenance, and termination of the ROW, during the period from [user entry] to [user entry], vehicles, gas-powered equipment, and flues shall be equipped with spark arrestors approved by the authorized officer.

**n3** During conditions of extreme fire danger, operations shall be limited or suspended in specific areas, or additional measures may be required by the authorized officer.

**n4** The holder shall maintain a fire watch with fire-fighting equipment during construction at the following locations: [user entry] as required by the authorized officer.

**n5** When requested by the authorized officer, the holder shall make his equipment already at the site with operators, temporarily available for fighting fires in the vicinity of the project. Payment for such services will be made at rates determined by the authorized officer.

## **P. ROW MAINTENANCE**

**p1** The holder shall be liable for damage or injury to the U.S. to the extent provided by 43 CFR Sec. 2803.1-4. The holder shall be held to a standard of strict liability for damage or injury to the U.S. resulting from fire or soil movement (including landslides and slumps as well as wind and water-caused movement of particles) caused or substantially aggravated by any of the following within the ROW or permit area:

- (1) Activities of the holder, including but not limited to construction, operation, maintenance, and termination of the facility.
- (2) Activities of other parties including, but not limited to:
  - (a) Land clearing and logging;
  - (b) Earth-disturbing and earth-moving work;
  - (c) Blasting; and
  - (d) Vandalism and sabotage.

The maximum limitation for such strict liability damages shall not exceed \$[user entry] for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from the negligent acts or omissions of the U.S.

**p2** The holder shall be liable for damage or injury to the U.S. to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the U.S. resulting from fire or soil movement (including landslides and slumps as well as wind and water-caused movement of particles) caused or substantially aggravated by any of the following within the ROW or permit area:

- (1) Activities of the holder including, but not limited to, construction, operation, maintenance, and termination of the facility.
- (2) Activities of other parties including, but not limited to:
  - (a) Land clearing and logging;
  - (b) Earth-disturbing and earth-moving work;
  - (c) Blasting;
  - (d) Vandalism and sabotage; and
  - (e) Acts of God.

The maximum limitation for such strict liability damages shall not exceed \$[user entry] for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the U.S.

**p3** The holder shall provide a bond in the amount of \$[user entry] to be maintained until restoration of disturbed areas and other requirements relative to the construction phase of the project have been accepted by the authorized officer. Upon completion, or partial completion of these construction related requirements, the authorized officer may terminate or reduce the amount of the bond.

**p4** A bond, acceptable to the authorized officer, shall be furnished by the holder by [user entry] or at such earlier date as may be specified by the authorized officer. The amount of this bond shall be determined by the authorized officer. This bond must be maintained in effect until removal of improvements and restoration of the ROW have been accepted by the authorized officer.

**p5** The holder agrees that all monies deposited with the authorized officer as security for holder's performance of the terms and conditions of this grant may, upon failure on the holder's part to fulfill any of the requirements herein set forth or made a part hereof, be retained by the U.S. to be applied as far as may be needed to the satisfaction of the holder's obligations assumed hereunder, without prejudice whatever to any other rights and remedies of the U.S.

**p6** Should the bond delivered under this grant become unsatisfactory to the authorized officer, the holder shall, within 30 days of demand, furnish a new bond.

**p7** The holder shall provide a bond, acceptable to the authorized officer, in the amount of \$[user entry], to be maintained until the electronic operations of the holder and/or the holder's sub-lessee(s) have been accepted by the authorized officer. Said period of bond maintenance shall not be less than six (6) months following the completion of construction and continuous operation of the holder's electronic equipment authorized by this grant or following the initiation of continuous operation of the electronic equipment of holder's sub-lessee(s) authorized by this grant or future amendments to this grant. Upon acceptance of the electronic operations of the holder or the holder's sub-lessee(s), the authorized officer may terminate or reduce the amount of the bond. Prior to approving an amendment of this grant to authorize the addition of a new sub-lessee or to change the authorized equipment or technical operating parameters of the holder of existing sub-lessee(s), the authorized officer shall require the holder to provide a similar bond in the amount of \$[user entry] to be maintained as specified above. The bond shall be available to cure interference problems to existing site users when, in the judgment of the authorized officer, the operation of the holder's or sub-lessee's facility and/or equipment is the direct cause of that interference.

## **Q. BONDS/LIABILITY**

**q1** If snow removal from the road is undertaken, equipment for snow removal operations shall be equipped with shoes to keep the blade [user entry] inches off the road surface. Holder shall take special precautions where the surface of the ground is uneven and at drainage crossings to ensure that equipment blades do not destroy vegetation.

**q2** Holder shall maintain the ROW in a safe, usable condition, as directed by the authorized officer. (A regular maintenance program shall include, but is not limited to, blading, ditching, culvert installation, and surfacing.)

**q3** Except ROW expressly authorizing a road after construction of the facility is completed, the holder shall not use the ROW as a road for purposes other than routine maintenance as determined necessary by the authorized officer in consultation with the holder.

## **R. HAZARDOUS WASTE/LIABILITY/WASTE DISPOSAL**

**r1** Construction sites shall be maintained in a sanitary condition at all times; waste materials at those sites shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

**r2** A litter policing program shall be implemented by the holder, and approved of in writing by the authorized officer, which covers all roads and sites associated with the ROW.

**r3** The holder(s) shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder(s) shall comply with the Toxic

Substances Control Act of 1976, as amended (15 U.S.C. 2601, et seq.) with regard to any toxic substances that are used, generated by, or stored on the ROW or on facilities authorized under this ROW grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by CERCLA of 1980, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

**r4** The holder of ROW No. [user entry] agrees to indemnify the U.S. against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the CERCLA of 1980, 42 U.S.C. 9601 et seq. or the Resource Conservation and Recovery Act of 1976, 42 U.S.C. 6901 et seq.) on the ROW (unless the release or threatened release is wholly unrelated to the ROW holder's activity on the ROW). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

## **S. OIL AND GAS BOUNDARY ADJUSTMENT/ TERMINATION**

**s1** Boundary adjustments in Oil and Gas [user entry (lease or unit number)] shall automatically amend this ROW to include that portion of the facility no longer contained within the above described [user entry]. In the event of an automatic amendment to this ROW grant, the prior on-lease/unit conditions of approval of this facility will not be affected even though they would now apply to facilities outside of the lease/unit as a result of a boundary adjustment. Rental fees, if appropriate shall be recalculated based on the conditions of this grant and the regulations in effect at the time of an automatic amendment.

**s2** Prior to termination of the ROW, the holder shall contact the authorized officer to arrange a pre-termination conference. This conference will be held to review the termination provisions of the grant.

**s3** [user entry, period of time] prior to termination of the ROW, the holder shall contact the authorized officer to arrange a joint inspection of the ROW. This inspection will be held to agree to an acceptable termination (and rehabilitation) plan. This plan shall include, but is not limited to, removal of facilities, drainage structures, surface material, recontouring, topsoiling, or seeding. The authorized officer must approve the plan in writing prior to the holder's commencement of any termination activities.

## **T. CONTINGENCY PLANS/SPILLS**

**t1** The holder shall submit its contingency plan to the authorized officer prior to scheduled start up.

a. Include provisions for oil or other pollutant spill control.

- b. The agencies responsible for contingency plans in [user entry] shall be among the first to be notified in the event of any pipeline system failure resulting in a spill of oil or other pollutant.
- c. Provide for restoration of the affected resource.
- d. Provide that the authorized officer shall approve any materials or devices used for oil spill control and any disposal sites or techniques selected to handle oil, matter, or other pollutants.
- e. Include separate and specific techniques and schedules for cleanup of spills of oil or other pollutants on land or waters.

**t2** If during any phase of the construction, operation, or termination of the pipeline or related facilities, any oil or other pollutant should be discharged from the pipeline system, or from containers or vehicles impacting Federal lands, the control and total removal, disposal, and cleanup of such oil or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of holder to control, cleanup, or dispose of such discharge on or affecting Federal lands, or to repair all damages to Federal lands resulting therefrom, the authorized officer may take such measures as he deems necessary to control and cleanup the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the authorized officer shall not relieve the holder of any liability or responsibility.

## **U. ROAD MAINTENANCE AGREEMENTS**

(Numbers u1 and u2 intentionally omitted.)

**u3** For the purpose of determining joint maintenance responsibilities, the holder shall make road use plans known to all other authorized users of the road. Holder shall provide the authorized officer, within 30 days from the date of the grant, with the names and addresses of all parties notified, dates of notification, and method of notification. Failure of the holder to share proportionate maintenance costs on the common use access road in dollars, equipment, materials, or manpower with other authorized users may be adequate grounds to terminate the ROW grant. The determination as to whether this has occurred and the decision to terminate shall rest with the authorized officer. Upon request, the authorized officer shall be provided with copies of any maintenance agreement entered into.

## **V. COMMUNICATION SITES**

**v1** The holder and the holder's sub-grantees shall operate within the parameters of the [user entry] Site Management Plan.

**v2** The U.S. will not be held liable for any damage to the communication facility caused by the general public or as a result of fire, wind, or other natural disasters or as a result of silvicultural practices, timber harvesting operations, or other actions stemming from the normal land management activities of the BLM.

**v3** The ROW herein granted is conditioned upon the submission to the authorized officer of a copy of an approved license and/or renewal license granted by the Federal Communications Commission (FCC) or Interdepartmental Radio Advisory Committee (IRAC) for each electronic station installation authorized by this grant or future amendment to this grant. A copy of the FCC or IRAC authorization shall be submitted with 90 days of issuance of this grant or within 90 days of issuance of this grant or within 90 days following approval of an amendment to this grant. Failure to submit the FCC or IRAC authorization copy within the time specified shall be grounds for termination of this grant or cancellation of an amendment to this grant. The authorized officer may grant an extension of up to 90 days, if requested in writing by the holder.

**v4** The holder shall not allow the operation of any electronic equipment in the building or on the site unless and until the user has obtained a license from the Federal Communications Commission or the Interdepartmental Radio Advisory Committee.

**v5** Each electronic type station installation authorized by this grant shall be operated in conformity with the requirements of the FCC or, in the case of Federal government installation operations, in accordance with the IIRAC agreements.

**v6** The holder may authorize or sub-grant to third parties the right to use the holder's facilities upon a filing of a grant amendment application and a finding by the authorized officer that the amendment is acceptable. Third party sub-grant holders shall be required to comply with the requirements as presented herein as well as those stipulations imposed by the authorized officer upon approval of the grant amendment.

**v7** The holder shall not authorize or sub-grant the right to use the holder's facilities to any third party who would operate at an effective radiated power of 1000 watts or greater unless and until such high power third party user has obtained a separate ROW grant from the authorized officer.

**v8** The holder agrees not to install or allow the installation of any other radio electronic type equipment not specified in this grant or amendment to this grant on or within the structure or on the premises authorized and covered by this grant, without advance notification and written approval of the authorized officer.

**v9** The holder shall not install nor allow the installation of any other organization's electronic equipment in the holder's building, or attachment to the holder's antenna support structures, without the new organization obtaining a separate right-of-way grant from the BLM for the joint occupancy of the said facility.

**v10** The holder shall notify the authorized officer of any intent to locate additional users within or upon their existing facilities, not less than 45 days prior to occupancy of holder's facilities. Information that must be included is:

- (1) Name, current address, and phone number of the third party.
- (2) Expected date of occupancy.

(3) A photo or sketch illustrating the type of antenna to be installed, as well as any other planned physical changes to the exterior facilities operated by the holder. If the proposed use is not specified in the original ROW grant, an amendment will be required.

**v11** The holder shall furnish a listing of, or other information pertaining to, all occupants of the facility upon request of the authorized officer.

**v12** No less than 45 days prior to occupancy of the holder's facility, the holder shall notify existing users within a one-mile radius that the holder intends to accommodate a new communication user in its facility. Existing users can then file any comments pertaining to potential frequency or electromagnetic problems, with the FCC, 1919 M Street, N. W., Washington, D.C. 20554, with a copy to the authorized officer.

**v13** The holder shall accept all applications for compatible uses of the facility on a first-come first-served basis. If an applicant agrees to comply with all the terms and conditions for use of the site contained herein, obtains a FCC or IRAC authorization, and there is space available, the holder may not refuse to enter into a use agreement with applicant.

**v14** The holder may place no restriction on what brand of equipment is installed on the site so long as it conforms to industry standards, as determined by the authorized officer.

**v15** The holder shall place no unreasonable restriction on persons who service units belonging to users of the building, providing the servicing personnel are qualified and licensed to service the type units involved.

**v16** At any time a government agency wishes to make use of the facility, its application shall become the first application in line for available space.

**v17** Utility and service facilities constructed by the holder, including but not limited to power and telephone lines, roads, and fences, within the reasonable capacity of such facilities, shall be available for use by the U.S. for construction and operation of electronic facilities installed by the U.S. without any contribution for construction costs of such facilities. The U.S. agrees to pay the rental as determined by a mutually acceptable method, for any use made of buildings, antenna tower(s), or other structures belonging to the holder.

**v18** The BLM reserves the right to authorize joint use by other electronic communication users of the site, together with the roads and the power, telephone, and other auxiliary utility service lines installed and operated by the holder, upon payment by such users to the holder of a just and equitable portion of the costs of installation, maintenance, and operation; provided that such joint use will conform to sound engineering practices.

**v19** Federal government agencies shall be provided 20 percent of building space at no charge for the installation of communication facilities. Federal agencies shall be required to enter into available combining systems whenever technically feasible, and the cost of combiner ports shall be paid by the Federal government at the same cost as paid by other users.

**v20** Twenty percent of the microwave antenna capacity of the tower (based on wind loading) shall be available for Federal government use. If the government has not installed microwave equipment at the time only 20 percent of tower capacity remains, the holder may allocate remaining capacity to customers.

**v21** The holder shall make a reasonable and uniform charge for building and tower space, services rendered, and equipment to all users of the facility.

**v22** The holder shall upon request furnish the authorized officer a current price schedule for all services provided by said holder to other users, both to such other users using the equipment owned by the holder and other users using their own equipment.

**v23** The holder will reduce to writing all agreements with authorized third party users of the facilities covered by this grant, specifying therein, as a separate item, the rental and service charge for the use of said facilities, and will furnish a true copy of each such agreement and changes therein to the authorized officer.

**v24** The holder is permitted to use, without charge, up to three (3) rack spaces so long as the equipment is for the sole benefit of the holder. Any additional use by the holder or authorized third parties shall require the assessment of a rental charge as specified in the pricing schedule. Such charges shall be included as part of the gross receipts.

**v25** The holder shall follow generally accepted accounting principles in recording financial transactions and reporting results to the authorized officer. Holder shall maintain suitable systems of internal control to ensure the recording of all revenue, in the accounts and reports. When requested by the authorized officer, the holder, at holder's expense, shall have its accounting records and reports audited by a public accountant acceptable to the authorized officer and shall furnish the authorized officer a complete copy of the accountant's report.

**v26** The holder shall at all times operate its radio-electronic equipment in such a manner so as not to cause interference with radio-electronic operations of existing users in the vicinity. If such interference results from holder's operations, holder will promptly, at its own expense, modify the equipment and operations, or shut down if necessary to eliminate or reduce the interference to the satisfaction of the FCC and/or the authorized officer.

**v27** It will be the responsibility of the holder to ascertain whether existing facilities on the same or adjoining sites will adversely affect the proposed operations. Holder will accept operations, i.e., frequencies, emissions, power output, radiation fields, antenna arrays, etc., of existing facilities on the same or adjoining sites, provided such operations are consistent with the regulations of the FCC if a non-Federal government use, and the Standards of the IRAC if a Federal government use.

**v28** The holder shall take measures necessary to eliminate interference to other site users caused by holder's sub-lessee(s). If the holder does not eliminate such interference within 10 days of receipt of notice from the authorized officer, the operations of the sub-lessee causing the interference, as determined by the authorized officer, shall be terminated by the holder.

- v29** Buildings shall not exceed [user entry] feet in height, including roof.
- v30** Fences not directly related to the security of the telecommunication equipment or structures are not permitted. Any fencing material shall be approved, prior to installation, by the authorized officer. Metallic fencing shall be vinyl clad and grounded to prevent electrical interference. Any fencing material shall be neutral medium gray or color blended to match the building and surrounding environment.
- v31** Antenna support structures (towers) shall be designed and certified by a Professional Engineer registered in the State of [user entry].
- v32** The antenna support structures (towers) shall be galvanized steel. The tower(s) shall reflect uniformity of design a materials for the entire site. Antenna tower(s) shall be jointly used when electronically compatible. If the location of the tower (s) and guy wires will create conflicts with ground personnel, vehicles, and equipment, or any other safety hazards, tower(s) shall be self-supporting.
- v33** All towers shall meet Electronics Industries Associates Standard RS-222-C, *Structural Standards for Steel Antenna Towers*.
- v34** All installations, antenna supports, etc., shall be constructed and maintained in a neat and safe condition in accordance with good engineering practices as accepted by industry and applicable laws. Antenna supports shall conform to the installation specifications of the tower manufacturer. Any variance from these standards shall be allowed only to the extent required because of local terrain or obstructions at the site, and all variances shall conform to good engineering practice.
- v35** All metallic structural materials shall be galvanized, plated, or coated. Dissimilar metals will not be placed in contact with each other in such a manner that could create a galvanic junction.
- v36** Location and height of tower(s) and location of antennas on tower(s) shall not be changed after the initial installation and tests without the approval of the authorized officer. The tower height(s) shall not exceed [user entry] feet.
- v37** Combining electronic features are required where technically feasible to minimize apparent overall antenna mass and height.
- v38** Adequate ventilation shall be provided for the protection of personnel and to prevent the accumulation of explosive gasses and heated stagnant air. Where feasible, maximum protection against dust is recommended. If forced air ventilation systems are used, they shall be equipped with removable filters for servicing.
- v39** All structures shall meet the requirements of the latest codes governing designs of facilities as outlined in the Uniform Building Codes. All structures shall be designed to meet minimum loads for a wind velocity of [user entry].

**v40** All electric facilities, equipment, and their installation shall conform to the current National Electrical Safety Code and applicable laws and all regulations.

**v41** Installations shall include an effective lightning ground in accordance with the “cone of protection” theory. All electrical outlets shall be of the three-conductor grounding receptacle type. All electrical or electronic equipment cabinets shall be properly connected to the system ground. Structures shall be designed for maximum lightning protection through bonding and a grounding system.

**v42** Standards and specifications for raceways, switching, grounding, wiring methods, and materials shall be equivalent to or greater than those issued by the National Fire Protection Association in its most current National Electrical code.

**v43** The holder shall join the [user entry] Users Association and remain a member in good standing. Within [user entry] days from the effective date of this grant, the holder shall provide the authorized officer with evidence of membership. Failure of the holder to join the [user entry] Users Association and remain a member in good standing shall constitute sufficient grounds for termination of this ROW grant.

**v44** At such future time as a Users Association for this communication site is formed, the holder shall join the Users Association and remain a member in good standing. Within [user entry] days of the creation of such Users Association, the holder shall provide the authorized officer with evidence of membership. Failure of the holder to join the Users Association and remain a member in good standing shall constitute sufficient grounds for termination of this ROW grant.

**v45** The holder shall not implement or allow a sub-grantee to implement any changes in or additions to the authorized operating frequencies, types of emission, band widths, radio frequency power outputs, class of service, types of antenna, or named FCC licensees without providing advance notification to, and receiving written approval from, the authorized officer.

**v46** The holder may not increase the effective radiated power of [user entry] KW without first requesting an amendment of this grant and obtaining written approval from the authorized officer.

**v47** Copies of the amended FCC license or IRAC frequency assignment must be filed with the authorized officer before modification of previously authorized facilities will be approved.

**v48** Construction of the facility must be complete and the facility operational within [user entry] months from the effective date of this grant unless an extension is approved in writing by the authorized officer prior to the end of the [user entry] month period.

**v49** Holder shall, within 30 days following completion of the facility, submit proof of construction. Said proof shall include “as built” drawings of site construction, location of building, tower, roads, utility lines, and an “as built” drawing of the building showing all changes from the approved design. Final approval and occupancy will not be allowed until these drawings are approved by the authorized officer.

**v50** Holder shall file, within 30 days of completion of construction and before proof-of-construction is approved, certification by a Professional Engineer registered in the State of [user entry], that the facilities are constructed in conformance with approved design.

**v51** This ROW shall terminate 60 days after expiration or cancellation of the FCC license or IRAC radio frequency assignment, unless renewal is obtained within this period and a copy of such renewal is furnished to the authorized officer.

**v52** The following clause must be made a part of every sublease or use agreement associated with this grant.

In the event of termination of this ROW grant, sub-lessee shall, at the option of the BLM authorized officer, either transfer to the next BLM designated holder as lessee or apply for a ROW in his/her own name.

**v53** In the event the grant is terminated for any cause, the holder agrees that, if the authorized officer so elects, holder will convey by quitclaim deed all improvements on the site necessary to operate the multi-user facility (other than equipment on site used solely by the holder) to the next holder authorized by the BLM, upon payment of fair market value as determined by the BLM appraisal for the improvements on the date of termination

## **W. DAMS AND RESERVOIRS**

**w1** The dam and reservoir shall be designed by an engineer licensed in the State of [user entry] with demonstrable experience in dam design.

**w2** The holder shall submit, for the authorized officer's review and approval, designs and plans approved by the [user entry] State Engineer (or other appropriate state authority) prior to beginning construction or other surface disturbing activity. The authorized officer shall issue a Notice to Proceed (BLM Form 2800-15) upon approval of the design and plans.

NOTE: Edit the text in parentheses as appropriate and delete this note.

**w3** Within [user entry] days after receipt of the authorized officer's written notification of damage or defects found in the structure or related facilities, the holder will restore the facility to the originally constructed condition, using materials of equal or superior quality to those used in the original construction.

**w4** Within 30 days of completion, the holder will submit to the authorized officer as-built drawings and a certification of construction verifying that the facility has been constructed (and tested) in accordance with the design, plans, specifications, and applicable laws and regulations.

**w5** Should the holder fail to perform the required maintenance or repair within [user entry] days of receipt of the authorized officer's written notification to do so, BLM may perform the required maintenance or repair, or at the discretion of the authorized officer, remove the facility, at the holder's expense, including the administrative costs to BLM to effect any such action

**w6** The holder shall provide a bond in the amount of [user entry] prior to issuance of the grant or at such later time as the authorized officer deems necessary to ensure the proper maintenance of the facility.

**w7** The holder shall prepare an Emergency Action Plan in accordance with BLM standards for structures with a “High” or “Significant” hazard classification. The [user entry] State Engineer (or other appropriate state authority) will determine the hazard classification following an inspection of the downstream potential for property damage and/or loss of life.

NOTE: Edit the text within parentheses as appropriate and delete this note.

**w8** The road proposed as part of this authorization shall be constructed and maintained in accordance with BLM standards prescribed for a [user entry] type road.

**w9** The U.S., its officers and employees shall be held harmless from and indemnified against any damage, injury, or liability resulting from the construction, operation, or maintenance of the dam and reservoir being authorized by this ROW grant; including, but not limited to, any liability which the U.S. may have as owner of the land which is the subject of the ROW grant.

## **X. AIR QUALITY**

**x1** The holder shall submit for the authorized officer’s review a technical report addressing criteria and methodology of how the proposed facility will be located and designed to meet applicable Federal, State, and local air quality standards.

**x2** The holder shall meet Federal, State, and local emission standards for air quality.

**x3** The holder shall furnish and apply water or other means satisfactory to the authorized officer for dust control.

# LANDS PROPOSED FOR DISPOSAL, ALTERNATIVES A–E

## ALTERNATIVE A

### Gila and Salt River Meridian, Arizona

T. 1 N., R. 10 W.,  
sec. 13, SW $\frac{1}{4}$ , N $\frac{1}{2}$ SE $\frac{1}{4}$ .

T. 2 N., R. 10 W.,  
sec. 2, lots 1, 2, 3, 4, S $\frac{1}{2}$ N $\frac{1}{2}$ , and S $\frac{1}{2}$ ;  
sec. 11, all.

T. 4 S., R. 10 W.,  
sec. 18, lots 1 (subsurface estate), 2 (subsurface  
estate), E $\frac{1}{2}$ NW $\frac{1}{4}$  (subsurface estate).

T. 5 S., R. 10 W.,  
sec. 1, lots 1, 2, S $\frac{1}{2}$ NE $\frac{1}{4}$ ;  
sec. 11, N $\frac{1}{2}$ NW $\frac{1}{4}$ ;  
sec. 18, lot 1, S $\frac{1}{2}$ NE $\frac{1}{4}$ , E $\frac{1}{2}$ NW $\frac{1}{4}$ , NE $\frac{1}{4}$ SE $\frac{1}{4}$ .

T. 5 S., R. 11 W.,  
sec. 33, N $\frac{1}{2}$ SE $\frac{1}{4}$ .

T. 6 S., R. 11 W.,  
sec. 1, E $\frac{1}{2}$ W $\frac{1}{2}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ , E $\frac{1}{2}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ ,  
SE $\frac{1}{4}$ SE $\frac{1}{4}$ ;  
sec. 10, N $\frac{1}{2}$ NW $\frac{1}{4}$ ;  
sec. 23, NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ , W $\frac{1}{2}$ SE $\frac{1}{4}$ ;  
sec. 24, S $\frac{1}{2}$ NW $\frac{1}{4}$ ;  
sec. 25, S $\frac{1}{2}$  (subsurface estate);  
sec. 27, E $\frac{1}{2}$ NE $\frac{1}{4}$ , SE $\frac{1}{4}$ ;  
sec. 29, W $\frac{1}{2}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ , W $\frac{1}{2}$ NW $\frac{1}{4}$ , SE $\frac{1}{4}$ NW $\frac{1}{4}$ .

T. 7 S., R. 11 W.,  
sec. 6, lots 1 through 7, inclusive, S $\frac{1}{2}$ NE $\frac{1}{4}$ ,  
SE $\frac{1}{4}$ NW $\frac{1}{4}$ , E $\frac{1}{2}$ SW $\frac{1}{4}$ ;  
sec. 7, lots 1, 2, 3, NE $\frac{1}{4}$ , E $\frac{1}{2}$ NW $\frac{1}{4}$ , NE $\frac{1}{4}$ SW $\frac{1}{4}$ ,  
NW $\frac{1}{4}$ SE $\frac{1}{4}$ , W $\frac{1}{2}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ ;  
sec. 8, NW $\frac{1}{4}$ ;  
sec. 10, S $\frac{1}{2}$ SW $\frac{1}{4}$ ;  
sec. 15, SE $\frac{1}{4}$ ;  
sec. 27, all (subsurface estate);  
sec. 28, N $\frac{1}{2}$ N $\frac{1}{2}$  (subsurface estate), SE $\frac{1}{4}$  (subsurface  
estate);  
sec. 30, E $\frac{1}{2}$ SW $\frac{1}{4}$ ;  
sec. 31, lots 3, 4, E $\frac{1}{2}$ SW $\frac{1}{4}$ , E $\frac{1}{2}$ SE $\frac{1}{4}$ .

T. 3 N., R. 12 W.,  
sec. 27, W $\frac{1}{2}$ .

T. 6 S., R. 12 W.,  
sec. 4, lots 3, 4, S $\frac{1}{2}$ NW $\frac{1}{4}$ ;  
sec. 5, lots 1, 2, S $\frac{1}{2}$ NE $\frac{1}{4}$ ;  
sec. 9, NW $\frac{1}{4}$ ;  
sec. 10, N $\frac{1}{2}$ .

T. 7 S., R. 12 W.,  
sec. 4, NW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ ;  
sec. 5, lot 4, N $\frac{1}{2}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ , N $\frac{1}{2}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ ,  
E $\frac{1}{2}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ , NE $\frac{1}{4}$ SW $\frac{1}{4}$ ,  
N $\frac{1}{2}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ , SW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ , NE $\frac{1}{4}$ SE $\frac{1}{4}$ ,  
E $\frac{1}{2}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ , E $\frac{1}{2}$ W $\frac{1}{2}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ ,  
NE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ , NW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ ;  
sec. 6, SE $\frac{1}{4}$ NW $\frac{1}{4}$ , NE $\frac{1}{4}$ SW $\frac{1}{4}$ ;  
sec. 25, W $\frac{1}{2}$ SE $\frac{1}{4}$ ;  
sec. 33, SE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ , E $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ ,  
E $\frac{1}{2}$ W $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ ;  
sec. 34, W $\frac{1}{2}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ , NW $\frac{1}{4}$ NE $\frac{1}{4}$ , S $\frac{1}{2}$ N $\frac{1}{2}$ , S $\frac{1}{2}$ .

T. 6 S., R. 13 W.,  
sec. 17, NE $\frac{1}{4}$ SW $\frac{1}{4}$ , S $\frac{1}{2}$ SW $\frac{1}{4}$ ;  
sec. 18, SE $\frac{1}{4}$ SE $\frac{1}{4}$ ;  
sec. 19, S $\frac{1}{2}$ SE $\frac{1}{4}$ ;  
sec. 27, N $\frac{1}{2}$ NW $\frac{1}{4}$ ;

sec. 28, N $\frac{1}{2}$ N $\frac{1}{2}$

T. 7 S., R. 13 W.,

sec. 1, lot 2, W $\frac{1}{2}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ , SE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ ,  
W $\frac{1}{2}$ SW $\frac{1}{4}$ , SE $\frac{1}{4}$ SW $\frac{1}{4}$ , S $\frac{1}{2}$ N $\frac{1}{2}$ SE $\frac{1}{4}$ ;  
sec. 3, lot 1, S $\frac{1}{2}$ NE $\frac{1}{4}$ , SE $\frac{1}{4}$ NW $\frac{1}{4}$ , S $\frac{1}{2}$ ;  
sec. 4, SE $\frac{1}{4}$ SW $\frac{1}{4}$ , NE $\frac{1}{4}$ SE $\frac{1}{4}$ , S $\frac{1}{2}$ SE $\frac{1}{4}$ ;  
sec. 7, lot 4, SE $\frac{1}{4}$ SW $\frac{1}{4}$ , NE $\frac{1}{4}$ SE $\frac{1}{4}$ , S $\frac{1}{2}$ SE $\frac{1}{4}$ ;  
sec. 8, S $\frac{1}{2}$ NE $\frac{1}{4}$ , S $\frac{1}{2}$ S $\frac{1}{2}$ ;  
sec. 9, N $\frac{1}{2}$ N $\frac{1}{2}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ , W $\frac{1}{2}$ NE $\frac{1}{4}$ , NW $\frac{1}{4}$ ,  
W $\frac{1}{2}$ SW $\frac{1}{4}$ , W $\frac{1}{2}$ E $\frac{1}{2}$ SW $\frac{1}{4}$ .

T. 6 S., R. 14 W.,

sec. 34, S $\frac{1}{2}$ ;  
sec. 35, N $\frac{1}{2}$ , SW $\frac{1}{4}$ , NW $\frac{1}{4}$ SE $\frac{1}{4}$ .

T. 7 S., R. 14 W.,

sec. 3, lots 1, 2, 3, 4, SW $\frac{1}{4}$ NE $\frac{1}{4}$ , S $\frac{1}{2}$ NW $\frac{1}{4}$ ,  
NW $\frac{1}{4}$ SW $\frac{1}{4}$ ,  
sec. 4, lots 1, 2, 3, 4, S $\frac{1}{2}$ N $\frac{1}{2}$ , S $\frac{1}{2}$ ;  
sec. 5, lots 1, 2, 3, 4, S $\frac{1}{2}$ N $\frac{1}{2}$ , N $\frac{1}{2}$ S $\frac{1}{2}$ ;  
sec. 13, All;  
sec. 14, SE $\frac{1}{4}$ NE $\frac{1}{4}$ , S $\frac{1}{2}$ ;  
sec. 15, SE $\frac{1}{4}$ ;  
sec. 20, SE $\frac{1}{4}$ ;  
sec. 24, N $\frac{1}{2}$ NW $\frac{1}{4}$ .

T. 8 S., R. 15 W.,

sec. 20, NE $\frac{1}{4}$ SW $\frac{1}{4}$ , N $\frac{1}{2}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ ,  
E $\frac{1}{2}$ W $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ , E $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ ;  
sec. 24, W $\frac{1}{2}$ SE $\frac{1}{4}$ ;  
sec. 29, SW $\frac{1}{4}$ .

T. 4 N., R. 19 W.,

sec. 4, SE $\frac{1}{4}$ ;  
sec. 9, N $\frac{1}{2}$ , SW $\frac{1}{4}$ , S $\frac{1}{2}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ , W $\frac{1}{2}$ SE $\frac{1}{4}$ , SE $\frac{1}{4}$ SE $\frac{1}{4}$ ;  
sec. 15, E $\frac{1}{2}$ , N $\frac{1}{2}$ NW $\frac{1}{4}$ , N $\frac{1}{2}$ S $\frac{1}{2}$ NW $\frac{1}{4}$ ,  
SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ , SE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ , SW $\frac{1}{4}$ ;  
sec. 17, All;  
sec. 20, N $\frac{1}{2}$ , SW $\frac{1}{4}$ , N $\frac{1}{2}$ SE $\frac{1}{4}$ , SW $\frac{1}{4}$ SE $\frac{1}{4}$ ,  
N $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ , SW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ ,  
S $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ ;

- sec. 21,  $W\frac{1}{2}NE\frac{1}{4}$ ,  $N\frac{1}{2}NW\frac{1}{4}$ ,  $SW\frac{1}{4}NW\frac{1}{4}$ ,  
 $E\frac{1}{2}SE\frac{1}{4}NW\frac{1}{4}$ ,  $SW\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$ ;  
sec. 22, lot 1,  $NE\frac{1}{4}$ ,  $E\frac{1}{2}NW\frac{1}{4}$ ,  $SE\frac{1}{4}SE\frac{1}{4}$ ;  
sec. 23,  $N\frac{1}{2}$ ,  $NE\frac{1}{4}SW\frac{1}{4}$ ,  $NW\frac{1}{4}SW\frac{1}{4}SW\frac{1}{4}$ ,  
 $SE\frac{1}{4}SW\frac{1}{4}SW\frac{1}{4}$ ,  $N\frac{1}{2}SE\frac{1}{4}$ ,  
 $N\frac{1}{2}S\frac{1}{2}SE\frac{1}{4}$ ,  $N\frac{1}{2}SW\frac{1}{4}SW\frac{1}{4}SE\frac{1}{4}$ ,  
 $SE\frac{1}{4}SW\frac{1}{4}SW\frac{1}{4}SE\frac{1}{4}$ ,  $SE\frac{1}{4}SE\frac{1}{4}SW\frac{1}{4}SE\frac{1}{4}$ ,  
 $E\frac{1}{2}SW\frac{1}{4}SE\frac{1}{4}SE\frac{1}{4}$ ,  $W\frac{1}{2}SE\frac{1}{4}SE\frac{1}{4}SE\frac{1}{4}$ ;  
sec. 26,  $S\frac{1}{2}NE\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}$ ,  $W\frac{1}{2}NE\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}$ ,  
 $SE\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}$ ,  $E\frac{1}{2}NW\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}$ ,  
 $S\frac{1}{2}NW\frac{1}{4}NW\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}$ ,  
 $SW\frac{1}{4}NW\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}$ ,  $S\frac{1}{2}NE\frac{1}{4}NE\frac{1}{4}$ ,  
 $E\frac{1}{2}NE\frac{1}{4}NW\frac{1}{4}NE\frac{1}{4}$ ,  $SW\frac{1}{4}NE\frac{1}{4}NW\frac{1}{4}NE\frac{1}{4}$ ,  
 $E\frac{1}{2}NW\frac{1}{4}NW\frac{1}{4}NE\frac{1}{4}$ ,  $SW\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}NE\frac{1}{4}$ ,  
 $S\frac{1}{2}NE\frac{1}{4}$ ,  $S\frac{1}{2}NE\frac{1}{4}NE\frac{1}{4}NW\frac{1}{4}$ ,  
 $W\frac{1}{2}NE\frac{1}{4}NW\frac{1}{4}$ ,  $SE\frac{1}{4}NE\frac{1}{4}NW\frac{1}{4}$ ,  $SE\frac{1}{4}NW\frac{1}{4}$ ;  
sec. 28,  $NW\frac{1}{4}SE\frac{1}{4}$ ;  
sec. 29,  $W\frac{1}{2}W\frac{1}{2}NE\frac{1}{4}NE\frac{1}{4}$ ,  $NW\frac{1}{4}NE\frac{1}{4}$ ,  
 $W\frac{1}{2}NE\frac{1}{4}NW\frac{1}{4}$ ,  $SE\frac{1}{4}NE\frac{1}{4}NW\frac{1}{4}$ ,  
 $NW\frac{1}{4}NW\frac{1}{4}$ ,  $S\frac{1}{2}SW\frac{1}{4}$ .

T. 3 N., R. 22 W.,  
sec. 11, lot 7  
sec. 24,  $NW\frac{1}{4}NW\frac{1}{4}$ .

T. 9 S., R. 22 W.,  
sec. 1, lots 1, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15,  $S\frac{1}{2}NE\frac{1}{4}$ ,  
 $NW\frac{1}{4}SE\frac{1}{4}$ ;  
sec. 17,  $NE\frac{1}{4}NE\frac{1}{4}$ ,  $N\frac{1}{2}NW\frac{1}{4}NE\frac{1}{4}$ ,  
 $E\frac{1}{2}SE\frac{1}{4}NW\frac{1}{4}NE\frac{1}{4}$ ,  $S\frac{1}{2}SW\frac{1}{4}SE\frac{1}{4}NE\frac{1}{4}$ ,  
 $SE\frac{1}{4}SE\frac{1}{4}NE\frac{1}{4}$ .

T. 1 S., R. 23 W.,  
sec. 5, lot 8 (part).

T. 8 S., R. 23 W.,  
sec. 34,  $W\frac{1}{2}NE\frac{1}{4}NW\frac{1}{4}$  (portion),  $W\frac{1}{2}NW\frac{1}{4}NE\frac{1}{4}$   
(portion);  
sec. 35,  $S\frac{1}{2}NW\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}SW\frac{1}{4}$ ,  
 $S\frac{1}{2}NE\frac{1}{4}NE\frac{1}{4}SW\frac{1}{4}$ ,  $W\frac{1}{2}NE\frac{1}{4}SW\frac{1}{4}$ ,  
 $SE\frac{1}{4}NE\frac{1}{4}SW\frac{1}{4}$ ,  $NW\frac{1}{4}SW\frac{1}{4}$ .

T. 9 S., R. 23 W.  
sec. 28, lot 2;  
sec. 29, lots 2, 3, 4, 5, 6 (portion), 7, 8,  
N<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>;  
sec. 33, W<sup>1</sup>/<sub>2</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>.

T. 8 S., R. 24 W.,  
sec. 28, lot 19.

T. 9 S., R. 24 W.,  
sec. 8, lot 8.

T. 11 S., R. 25 W.,  
sec. 1, lots 3, 4, 5, 11 (portion), 14, and 15,  
W<sup>1</sup>/<sub>2</sub>E<sup>1</sup>/<sub>2</sub>SW<sup>1</sup>/<sub>4</sub>, SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>,  
N<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>;  
sec. 11, lot 28;  
sec. 12, Block 29, lots 1, 2, and 3;  
Block 30, lots 1 to 11, inclusive;  
Block 31, lots 1, 2, 3, and 4.

### **San Bernardino Meridian, California**

T. 9 S., R. 21 E.,  
sec. 12, lots 1, 2, NE<sup>1</sup>/<sub>4</sub>.

T. 8 S., R. 22 E.,  
sec. 24, lot 4.

T. 9 S., R. 22 E.,  
sec. 9, lot 12.

T. 14 S., R. 23 E.,  
sec. 1, SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> (portion).

T. 14 S., R. 23 E.,  
sec. 12, NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> (portion).

## ALTERNATIVE B

### Gila and Salt River Meridian, Arizona

- T. 2 N., R. 10 W.,  
sec. 2, lots 1, 2, 3, 4, S $\frac{1}{2}$ N $\frac{1}{2}$ , and S $\frac{1}{2}$ ;  
sec. 11, all.
- T. 4 S., R. 10 W.,  
sec. 18, lots 1 (subsurface estate), 2 (subsurface estate), E $\frac{1}{2}$ NW $\frac{1}{4}$  (subsurface estate).
- T. 6 S., R. 11 W.,  
sec. 25, S $\frac{1}{2}$  (subsurface estate).
- T. 7 S., R. 11 W.,  
sec. 15, SE $\frac{1}{4}$ ;  
sec. 27, all (subsurface estate);  
sec. 28, N $\frac{1}{2}$ N $\frac{1}{2}$  (subsurface estate), SE $\frac{1}{4}$  (subsurface estate);  
sec. 30, E $\frac{1}{2}$ SW $\frac{1}{4}$ ;  
sec. 31, lots 3 and 4, E $\frac{1}{2}$ SW $\frac{1}{4}$ , E $\frac{1}{2}$ SE $\frac{1}{4}$ .
- T. 3 N., R. 12 W.,  
sec. 27, NW $\frac{1}{4}$ .
- T. 7 S., R. 12 W.,  
sec. 4, NW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ .
- T. 6 S., R. 13 W.,  
sec. 17, NE $\frac{1}{4}$ SW $\frac{1}{4}$ , S $\frac{1}{2}$ SW $\frac{1}{4}$ ;  
sec. 18, SE $\frac{1}{4}$ SE $\frac{1}{4}$ ;  
sec. 19, S $\frac{1}{2}$ SE $\frac{1}{4}$ .
- T. 8 S., R. 15 W.,  
sec. 20, NE $\frac{1}{4}$ SW $\frac{1}{4}$ , N $\frac{1}{2}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ ,  
E $\frac{1}{2}$ W $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ , E $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ ;  
sec. 24, W $\frac{1}{2}$ SE $\frac{1}{4}$ ;  
sec. 29, SW $\frac{1}{4}$ .

## T. 5 N., R. 18 W.,

sec. 7, lots 1, 2, 3, and 4, E $\frac{1}{2}$ , E $\frac{1}{2}$ W $\frac{1}{2}$ ;  
 sec. 18, lots 1, 2, 3, and 4, E $\frac{1}{2}$ , E $\frac{1}{2}$ W $\frac{1}{2}$ ;  
 sec. 19, lots 1, 2, 3, and 4, E $\frac{1}{2}$ , E $\frac{1}{2}$ W $\frac{1}{2}$ ;  
 sec. 30, lots 1, 2, 3, and 4, E $\frac{1}{2}$ , E $\frac{1}{2}$ W $\frac{1}{2}$ ;  
 sec. 31, lots 1, 2, 3, and 4, E $\frac{1}{2}$ , E $\frac{1}{2}$ W $\frac{1}{2}$ .

## T. 3 N., R. 19 W.,

sec. 1, lots 1, 2, 3, and 4, S $\frac{1}{2}$ N $\frac{1}{2}$ , S $\frac{1}{2}$ ;  
 sec. 2, lots 1, 2, 3, and 4, S $\frac{1}{2}$ N $\frac{1}{2}$ , S $\frac{1}{2}$ ;  
 sec. 3, lots 1, 2, 3, and 4, S $\frac{1}{2}$ N $\frac{1}{2}$ , S $\frac{1}{2}$ ;  
 sec. 4, lots 1, 2, 3, and 4, S $\frac{1}{2}$ N $\frac{1}{2}$ , S $\frac{1}{2}$ ;  
 sec. 5, lots 1, 2, 3, and 4, S $\frac{1}{2}$ N $\frac{1}{2}$ , S $\frac{1}{2}$ ;  
 sec. 6, lots 1, 2, 3, 4, 5, 6, and 7, S $\frac{1}{2}$ NE $\frac{1}{4}$ ,  
 SE $\frac{1}{4}$ NW $\frac{1}{4}$ , E $\frac{1}{2}$ SW $\frac{1}{4}$ , SE $\frac{1}{4}$ .

## T. 4 N., R. 19 W.,

sec. 3, lots 1, 2, 3, and 4, S $\frac{1}{2}$ N $\frac{1}{2}$ , S $\frac{1}{2}$ ;  
 sec. 4, lots 1, 2, 3, and 4, S $\frac{1}{2}$ N $\frac{1}{2}$ , S $\frac{1}{2}$ ;  
 sec. 5, lots 1, 2, 3, and 4, S $\frac{1}{2}$ N $\frac{1}{2}$ , S $\frac{1}{2}$ ;  
 sec. 6, lots 1, 2, 3, 4, 5, 6, and 7, S $\frac{1}{2}$ NE $\frac{1}{4}$ ,  
 SE $\frac{1}{4}$ NW $\frac{1}{4}$ , E $\frac{1}{2}$ SW $\frac{1}{4}$ , SE $\frac{1}{4}$ ;  
 sec. 7, lots 1, 2, 3, and 4, E $\frac{1}{2}$ , E $\frac{1}{2}$ W $\frac{1}{2}$ ;  
 sec. 8, all;  
 sec. 9, N $\frac{1}{2}$ , SW $\frac{1}{4}$ , S $\frac{1}{2}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ , W $\frac{1}{2}$ SE $\frac{1}{4}$ , SE $\frac{1}{4}$ SE $\frac{1}{4}$ ;  
 sec. 10, all;  
 sec. 11, all;  
 sec. 12, all;  
 sec. 13, all;  
 sec. 14, all;  
 sec. 15, E $\frac{1}{2}$ , N $\frac{1}{2}$ NW $\frac{1}{4}$ , N $\frac{1}{2}$ S $\frac{1}{2}$ NW $\frac{1}{4}$ ,  
 SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ , SE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ , SW $\frac{1}{4}$ ;  
 sec. 17, all;  
 sec. 18, lots 1, 2, 3, and 4, E $\frac{1}{2}$ , E $\frac{1}{2}$ W $\frac{1}{2}$ ;  
 sec. 19, lots 1, 2, 3, and 4, E $\frac{1}{2}$ , E $\frac{1}{2}$ W $\frac{1}{2}$ ;  
 sec. 20, N $\frac{1}{2}$ , SW $\frac{1}{4}$ , N $\frac{1}{2}$ SE $\frac{1}{4}$ , SW $\frac{1}{4}$ SE $\frac{1}{4}$ ,  
 N $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ , SW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ ,  
 S $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ ;  
 sec. 21, W $\frac{1}{2}$ NE $\frac{1}{4}$ , N $\frac{1}{2}$ NW $\frac{1}{4}$ , SW $\frac{1}{4}$ NW $\frac{1}{4}$ ,  
 E $\frac{1}{2}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ , SW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ ;  
 sec. 22, lot 1, NE $\frac{1}{4}$ , E $\frac{1}{2}$ NW $\frac{1}{4}$ , SE $\frac{1}{4}$ SE $\frac{1}{4}$ ;  
 sec. 23, N $\frac{1}{2}$ , NE $\frac{1}{4}$ SW $\frac{1}{4}$ , NW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ ,  
 SE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ , N $\frac{1}{2}$ SE $\frac{1}{4}$ ,  
 N $\frac{1}{2}$ S $\frac{1}{2}$ SE $\frac{1}{4}$ , N $\frac{1}{2}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ ,  
 SE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ , SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ ,

- $E\frac{1}{2}SW\frac{1}{4}SE\frac{1}{4}SE\frac{1}{4}$ ,  $W\frac{1}{2}SE\frac{1}{4}SE\frac{1}{4}SE\frac{1}{4}$ ;  
sec. 24,  $N\frac{1}{2}$ ,  $N\frac{1}{2}SW\frac{1}{4}$ ,  $S\frac{1}{2}N\frac{1}{2}SW\frac{1}{4}SW\frac{1}{4}$ ,  
 $S\frac{1}{2}SW\frac{1}{4}SW\frac{1}{4}$ ,  $SE\frac{1}{4}SW\frac{1}{4}$ ,  $SE\frac{1}{4}$ ;  
sec. 25, all;  
sec. 26,  $S\frac{1}{2}NE\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}$ ,  $W\frac{1}{2}NE\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}$ ,  
 $SE\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}$ ,  $E\frac{1}{2}NW\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}$ ,  
 $S\frac{1}{2}NW\frac{1}{4}NW\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}$ ,  
 $SW\frac{1}{4}NW\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}$ ,  $S\frac{1}{2}NE\frac{1}{4}NE\frac{1}{4}$ ,  
 $E\frac{1}{2}NE\frac{1}{4}NW\frac{1}{4}NE\frac{1}{4}$ ,  $SW\frac{1}{4}NE\frac{1}{4}NW\frac{1}{4}NE\frac{1}{4}$ ,  
 $E\frac{1}{2}NW\frac{1}{4}NW\frac{1}{4}NE\frac{1}{4}$ ,  $SW\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}NE\frac{1}{4}$ ,  
 $S\frac{1}{2}NE\frac{1}{4}$ ,  $S\frac{1}{2}NE\frac{1}{4}NE\frac{1}{4}NW\frac{1}{4}$ ,  
 $W\frac{1}{2}NE\frac{1}{4}NW\frac{1}{4}$ ,  $SE\frac{1}{4}NE\frac{1}{4}NW\frac{1}{4}$ ,  $SE\frac{1}{4}NW\frac{1}{4}$ ,  
 $S\frac{1}{2}$ ;  
sec. 28,  $NW\frac{1}{4}SE\frac{1}{4}$ ;  
sec. 29,  $W\frac{1}{2}W\frac{1}{2}NE\frac{1}{4}NE\frac{1}{4}$ ,  $NW\frac{1}{4}NE\frac{1}{4}$ ,  
 $W\frac{1}{2}NE\frac{1}{4}NW\frac{1}{4}$ ,  $SE\frac{1}{4}NE\frac{1}{4}NW\frac{1}{4}$ ,  
 $NW\frac{1}{4}NW\frac{1}{4}$ ,  $S\frac{1}{2}SW\frac{1}{4}$ ;  
sec. 30, lots 1, 2, 3, and 4,  $NE\frac{1}{4}$ ,  $E\frac{1}{2}W\frac{1}{2}$ ,  $W\frac{1}{2}SE\frac{1}{4}$ ,  
 $SE\frac{1}{4}SE\frac{1}{4}$ ;  
sec. 31, lots 1, 3, and 4,  $E\frac{1}{2}$ ,  $E\frac{1}{2}W\frac{1}{2}$ ;  
sec. 32, all;  
sec. 33, all;  
sec. 34, all;  
sec. 35, all;  
sec. 36, all.

T. 5 N., R. 19 W.,

- sec. 8, all;  
sec. 9, all;  
sec. 10, all;  
sec. 11, all;  
sec. 12, all;  
sec. 13, all;  
sec. 14, all;  
sec. 15, all;  
sec. 16, all;  
sec. 17, all;  
sec. 20, all;  
sec. 21, all;  
sec. 22, all;  
sec. 23, all;  
sec. 24, all;  
sec. 25, all;  
sec. 26, all;  
sec. 27, all;  
sec. 28, all;

sec. 29, all;  
sec. 32, all;  
sec. 33, all;  
sec. 34, all;  
sec. 35, all;  
sec. 36, all.

T. 8 S., R. 21 W.,  
sec. 28, E $\frac{1}{2}$ , E $\frac{1}{2}$ W $\frac{1}{2}$ ;  
sec. 33, E $\frac{1}{2}$ , E $\frac{1}{2}$ NW $\frac{1}{4}$ , SW $\frac{1}{4}$ NW $\frac{1}{4}$ , SW $\frac{1}{4}$ .

T. 3 N., R. 22 W.,  
sec. 11, lot 7  
sec. 24, NW $\frac{1}{4}$ NW $\frac{1}{4}$ .

T. 9 S., R. 22 W.,  
sec. 1, lot 7;  
sec. 17, NE $\frac{1}{4}$ NE $\frac{1}{4}$ , N $\frac{1}{2}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ ,  
E $\frac{1}{2}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ , S $\frac{1}{2}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ ,  
SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ .

T. 1 S., R. 23 W.,  
sec. 5, lot 8 (portion).

T. 8 S., R. 23 W.,  
sec. 34, W $\frac{1}{2}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$  (portion), W $\frac{1}{2}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$   
(portion);  
sec. 35, S $\frac{1}{2}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ ,  
S $\frac{1}{2}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ , W $\frac{1}{2}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ ,  
SE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ , NW $\frac{1}{4}$ SW $\frac{1}{4}$ .

T. 9 S., R. 23 W.  
sec. 28, lot 2;  
sec. 29, lots 2, 3, 4, 5, 6 (portion), 7, 8,  
N $\frac{1}{2}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ , SW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ ;  
sec. 33, W $\frac{1}{2}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ .

T. 8 S., R. 24 W.,  
sec. 28, lot 19.

T. 9 S., R. 24 W.,  
sec. 8, lot 8.

T. 11 S., R. 24 W.,  
sec. 6, lots 7, 8, 9, and  $N\frac{1}{2}N\frac{1}{2}SW\frac{1}{4}SW\frac{1}{4}$ .

T. 11 S., R. 25 W.,  
sec. 1, lots 3, 4, 5, 11 (portion), 14, and 15,  
 $W\frac{1}{2}E\frac{1}{2}SW\frac{1}{4}$ ,  $SE\frac{1}{4}NW\frac{1}{4}SW\frac{1}{4}$ ,  
 $N\frac{1}{2}NE\frac{1}{4}SW\frac{1}{4}SW\frac{1}{4}$ ;  
sec. 11, lot 28;  
sec. 12, Block 29, lots 1, 2, and 3;  
Block 30, lots 1 to 11, inclusive;  
Block 31, lots 1, 2, 3, and 4.

### **San Bernardino Meridian, California**

T. 9 S., R. 21 E.,  
sec. 12, lots 1, 2,  $NE\frac{1}{4}$ .

T. 8 S., R. 22 E.,  
sec. 24, lot 4.

T. 9 S., R. 22 E.,  
sec. 9, lot 12.

T. 14 S., R. 23 E.,  
sec. 1,  $SE\frac{1}{4}NW\frac{1}{4}SE\frac{1}{4}$  (portion).

T. 14 S., R. 23 E.,  
sec. 12,  $NW\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}$  (portion).

## ALTERNATIVE C

### Gila and Salt River Meridian, Arizona

- T. 2 N., R. 10 W.,  
sec. 2, lots 1, 2, 3, 4, S $\frac{1}{2}$ N $\frac{1}{2}$ , and S $\frac{1}{2}$ ;  
sec. 11, all.
- T. 4 S., R. 10 W.,  
sec. 18, lots 1 (subsurface estate), 2 (subsurface estate), E $\frac{1}{2}$ NW $\frac{1}{4}$  (subsurface estate).
- T. 6 S., R. 11 W.,  
sec. 25, S $\frac{1}{2}$  (subsurface estate).
- T. 7 S., R. 11 W.,  
sec. 27, all (subsurface estate);  
sec. 28, N $\frac{1}{2}$ N $\frac{1}{2}$  (subsurface estate), SE $\frac{1}{4}$  (subsurface estate);  
sec. 30, E $\frac{1}{2}$ SW $\frac{1}{4}$ .
- T. 3 N., R. 12 W.,  
sec. 27, NW $\frac{1}{4}$ .
- T. 7 S., R. 12 W.,  
sec. 4, NW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ .
- T. 8 S., R. 15 W.,  
sec. 20, NE $\frac{1}{4}$ SW $\frac{1}{4}$ , N $\frac{1}{2}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ ,  
E $\frac{1}{2}$ W $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ , E $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ ;  
sec. 24, W $\frac{1}{2}$ SE $\frac{1}{4}$ ;  
sec. 29, SW $\frac{1}{4}$ .
- T. 4 N., R. 19 W.,  
sec. 4, SE $\frac{1}{4}$ ;  
sec. 8, all;  
sec. 9, N $\frac{1}{2}$ , SW $\frac{1}{4}$ , S $\frac{1}{2}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ , W $\frac{1}{2}$ SE $\frac{1}{4}$ , SE $\frac{1}{4}$ SE $\frac{1}{4}$ ;  
sec. 10, all;  
sec. 11, all;  
sec. 14, all;

- sec. 15, E<sup>1</sup>/<sub>2</sub>, N<sup>1</sup>/<sub>2</sub>NW<sup>1</sup>/<sub>4</sub>, N<sup>1</sup>/<sub>2</sub>S<sup>1</sup>/<sub>2</sub>NW<sup>1</sup>/<sub>4</sub>,  
SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>, SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub>;
- sec. 17, all;
- sec. 20, N<sup>1</sup>/<sub>2</sub>, SW<sup>1</sup>/<sub>4</sub>, N<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>,  
N<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>,  
S<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>;
- sec. 21, W<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>, N<sup>1</sup>/<sub>2</sub>NW<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>,  
E<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>;
- sec. 22, lot 1, NE<sup>1</sup>/<sub>4</sub>, E<sup>1</sup>/<sub>2</sub>NW<sup>1</sup>/<sub>4</sub>, SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>;
- sec. 23, N<sup>1</sup>/<sub>2</sub>, NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>, NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>,  
SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>, N<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>,  
N<sup>1</sup>/<sub>2</sub>S<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>, N<sup>1</sup>/<sub>2</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>,  
SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>, SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>,  
E<sup>1</sup>/<sub>2</sub>SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>, W<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>;
- sec. 26, S<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>, W<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>,  
SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>, E<sup>1</sup>/<sub>2</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>,  
S<sup>1</sup>/<sub>2</sub>NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>,  
SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>, S<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>,  
E<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>,  
E<sup>1</sup>/<sub>2</sub>NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>,  
S<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>, S<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>,  
W<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>, SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>, SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>;
- sec. 28, NW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>
- sec. 29, W<sup>1</sup>/<sub>2</sub>W<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>, NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>,  
W<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>, SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>,  
NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>, S<sup>1</sup>/<sub>2</sub>SW<sup>1</sup>/<sub>4</sub>.

- T. 9 S., R. 22 W.,  
sec. 1, lot 7;  
sec. 17, NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>, N<sup>1</sup>/<sub>2</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>,  
E<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>, S<sup>1</sup>/<sub>2</sub>SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>,  
SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>.

- T. 1 S., R. 23 W.,  
sec. 5, lot 8 (portion).

- T. 8 S., R. 23 W.,  
sec. 34, W<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> (portion), W<sup>1</sup>/<sub>2</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>  
(portion);  
sec. 35, S<sup>1</sup>/<sub>2</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>,  
S<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>, W<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>,  
SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>, NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>.

T. 9 S., R. 23 W.  
sec. 28, lot 2;  
sec. 29, lots 2, 3, 4, 5, 6 (portion), 7, 8,  
N<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>;  
sec. 33, W<sup>1</sup>/<sub>2</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>.

T. 8 S., R. 24 W.,  
sec. 28, lot 19.

T. 9 S., R. 24 W.,  
sec. 8, lot 8.

T. 11 S., R. 24 W.,  
sec. 6, lots 7, 8, 9, and N<sup>1</sup>/<sub>2</sub>N<sup>1</sup>/<sub>2</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>.

T. 11 S., R. 25 W.,  
sec. 1, lots 3, 4, 5, 11 (portion), 14, and 15,  
W<sup>1</sup>/<sub>2</sub>E<sup>1</sup>/<sub>2</sub>SW<sup>1</sup>/<sub>4</sub>, SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>,  
N<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>;  
sec. 11, lot 28;  
sec. 12, Block 29, lots 1, 2, and 3;  
Block 30, lots 1 to 11, inclusive;  
Block 31, lots 1, 2, 3, and 4.

## ALTERNATIVE D

### Gila and Salt River Meridian, Arizona

T. 2 N., R. 10 W.,  
sec. 2, lots 1, 2, 3, 4, S<sup>1</sup>/<sub>2</sub>N<sup>1</sup>/<sub>2</sub>, and S<sup>1</sup>/<sub>2</sub>;  
sec. 11, all.

T. 4 S., R. 10 W.,  
sec. 18, lots 1 (subsurface estate), 2 (subsurface  
estate), E<sup>1</sup>/<sub>2</sub>NW<sup>1</sup>/<sub>2</sub> (subsurface estate).

T. 6 S., R. 11 W.,  
sec. 25, S<sup>1</sup>/<sub>2</sub> (subsurface estate).

T. 7 S., R. 11 W.,  
sec. 15, SE<sup>1</sup>/<sub>4</sub>;  
sec. 27, all (subsurface estate);  
sec. 28, N<sup>1</sup>/<sub>2</sub>N<sup>1</sup>/<sub>2</sub> (subsurface estate), SE<sup>1</sup>/<sub>4</sub> (subsurface estate);  
sec. 30, E<sup>1</sup>/<sub>2</sub>SW<sup>1</sup>/<sub>4</sub>;  
sec. 31, lots 3, 4, E<sup>1</sup>/<sub>2</sub>SW<sup>1</sup>/<sub>4</sub>, E<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>.

T. 6 S., R. 13 W.,  
sec. 17, NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>, S<sup>1</sup>/<sub>2</sub>SW<sup>1</sup>/<sub>4</sub>;  
sec. 18, SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>;  
sec. 19, S<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>.

T. 8 S., R. 15 W.,  
sec. 20, NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>, N<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>,  
E<sup>1</sup>/<sub>2</sub>W<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>, E<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>;  
sec. 24, W<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>;  
sec. 29, SW<sup>1</sup>/<sub>4</sub>.

T. 4 N., R. 19 W.,  
sec. 4, SE<sup>1</sup>/<sub>4</sub>;  
sec. 9, N<sup>1</sup>/<sub>2</sub>, SW<sup>1</sup>/<sub>4</sub>, S<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>, W<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>, SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>;  
sec. 15, E<sup>1</sup>/<sub>2</sub>, N<sup>1</sup>/<sub>2</sub>NW<sup>1</sup>/<sub>4</sub>, N<sup>1</sup>/<sub>2</sub>S<sup>1</sup>/<sub>2</sub>NW<sup>1</sup>/<sub>4</sub>,  
SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>, SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub>;  
sec. 17, all;  
sec. 20, N<sup>1</sup>/<sub>2</sub>, SW<sup>1</sup>/<sub>4</sub>, N<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>,  
N<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>,  
S<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>;  
sec. 21, W<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>, N<sup>1</sup>/<sub>2</sub>NW<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>,  
E<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>;  
sec. 22, lot 1, NE<sup>1</sup>/<sub>4</sub>, E<sup>1</sup>/<sub>2</sub>NW<sup>1</sup>/<sub>4</sub>, SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>;  
sec. 23, N<sup>1</sup>/<sub>2</sub>, NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>, NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>,  
SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>, N<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>,  
N<sup>1</sup>/<sub>2</sub>S<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>, N<sup>1</sup>/<sub>2</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>,  
SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>, SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>,  
E<sup>1</sup>/<sub>2</sub>SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>, W<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>;  
sec. 26, S<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>, W<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>,  
SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>, E<sup>1</sup>/<sub>2</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>,  
S<sup>1</sup>/<sub>2</sub>NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>,  
SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>, S<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>,  
E<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>,  
E<sup>1</sup>/<sub>2</sub>NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>,  
S<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>, S<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>,  
W<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>, SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>, SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>;

sec. 28, NW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>;  
sec. 29, W<sup>1</sup>/<sub>2</sub>W<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>, NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>,  
W<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>, SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>,  
NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>, S<sup>1</sup>/<sub>2</sub>SW<sup>1</sup>/<sub>4</sub>.

T. 9 S., R. 22 W.,  
sec. 1, lot 7;  
sec. 17, NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>, N<sup>1</sup>/<sub>2</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>,  
E<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>, S<sup>1</sup>/<sub>2</sub>SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>,  
SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>.

T. 1 S., R. 23 W.,  
sec. 5, lot 8 (portion).

T. 8 S., R. 23 W.,  
sec. 34, W<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> (portion), W<sup>1</sup>/<sub>2</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>  
(portion);  
sec. 35, S<sup>1</sup>/<sub>2</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>,  
S<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>, W<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>,  
SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>, NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>.

T. 9 S., R. 23 W.  
sec. 28, lot 2;  
sec. 29, lots 2, 3, 4, 5, 6 (portion), 7, 8,  
N<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>;  
sec. 33, W<sup>1</sup>/<sub>2</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>.

T. 8 S., R. 24 W.,  
sec. 28, lot 19.

T. 9 S., R. 24 W.,  
sec. 8, lot 8.

## ALTERNATIVE E

### Gila and Salt River Meridian, Arizona

T. 2 N., R. 10 W.,  
sec. 2, lots 1, 2, 3, 4, S $\frac{1}{2}$ N $\frac{1}{2}$ , and S $\frac{1}{2}$ ;  
sec. 11, all.

T. 4 S., R. 10 W.,  
sec. 18, lots 1 (subsurface estate), 2 (subsurface  
estate), E $\frac{1}{2}$ NW $\frac{1}{4}$  (subsurface estate).

T. 6 S., R. 11 W.,  
sec. 25, S $\frac{1}{2}$  (subsurface estate).

T. 7 S., R. 11 W.,  
sec. 15, SE $\frac{1}{4}$ ;  
sec. 27, all (subsurface estate);  
sec. 28, N $\frac{1}{2}$ N $\frac{1}{2}$  (subsurface estate), SE $\frac{1}{4}$  (subsurface  
estate);  
sec. 30, E $\frac{1}{2}$ SW $\frac{1}{4}$ .

T. 3 N., R. 12 W.,  
sec. 27, NW $\frac{1}{4}$ .

T. 7 S., R. 12 W.,  
sec. 4, NW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ .

T. 6 S., R. 13 W.,  
sec. 17, NE $\frac{1}{4}$ SW $\frac{1}{4}$ , S $\frac{1}{2}$ SW $\frac{1}{4}$ ;  
sec. 18, SE $\frac{1}{4}$ SE $\frac{1}{4}$ ;  
sec. 19, S $\frac{1}{2}$ SE $\frac{1}{4}$ .

T. 7 S., R. 13 W.,  
sec. 3, SE $\frac{1}{4}$ SE $\frac{1}{4}$ ;

T. 8 S., R. 15 W.,  
sec. 20, NE $\frac{1}{4}$ SW $\frac{1}{4}$ , N $\frac{1}{2}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ ,  
E $\frac{1}{2}$ W $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ , E $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ ;

sec. 24, W $\frac{1}{2}$ SE $\frac{1}{4}$ ;  
 sec. 29, SW $\frac{1}{4}$ .

T. 4 N., R. 19 W.,

sec. 4, SE $\frac{1}{4}$ ;  
 sec. 8, all;  
 sec. 9, N $\frac{1}{2}$ , SW $\frac{1}{4}$ , S $\frac{1}{2}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ , W $\frac{1}{2}$ SE $\frac{1}{4}$ ,  
 SE $\frac{1}{4}$ SE $\frac{1}{4}$ ;  
 sec. 10, all;  
 sec. 11, all;  
 sec. 14, all;  
 sec. 15, E $\frac{1}{2}$ , N $\frac{1}{2}$ NW $\frac{1}{4}$ , N $\frac{1}{2}$ S $\frac{1}{2}$ NW $\frac{1}{4}$ ,  
 SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ , SE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ , SW $\frac{1}{4}$ ;  
 sec. 17, all;  
 sec. 20, N $\frac{1}{2}$ , SW $\frac{1}{4}$ , N $\frac{1}{2}$ SE $\frac{1}{4}$ , SW $\frac{1}{4}$ SE $\frac{1}{4}$ ,  
 N $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ , SW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ ,  
 S $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ ;  
 sec. 21, W $\frac{1}{2}$ NE $\frac{1}{4}$ , N $\frac{1}{2}$ NW $\frac{1}{4}$ , SW $\frac{1}{4}$ NW $\frac{1}{4}$ ,  
 E $\frac{1}{2}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ , SW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ ;  
 sec. 22, lot 1, NE $\frac{1}{4}$ , E $\frac{1}{2}$ NW $\frac{1}{4}$ , SE $\frac{1}{4}$ SE $\frac{1}{4}$ ;  
 sec. 23, N $\frac{1}{2}$ , NE $\frac{1}{4}$ SW $\frac{1}{4}$ , NW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ ,  
 SE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ , N $\frac{1}{2}$ SE $\frac{1}{4}$ ,  
 N $\frac{1}{2}$ S $\frac{1}{2}$ SE $\frac{1}{4}$ , N $\frac{1}{2}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ ,  
 SE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ , SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ ,  
 E $\frac{1}{2}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ , W $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ ;  
 sec. 26, S $\frac{1}{2}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ , W $\frac{1}{2}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ ,  
 SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ , E $\frac{1}{2}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ ,  
 S $\frac{1}{2}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ ,  
 SW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ , S $\frac{1}{2}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ ,  
 E $\frac{1}{2}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ , SW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ ,  
 E $\frac{1}{2}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ , SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ ,  
 S $\frac{1}{2}$ NE $\frac{1}{4}$ , S $\frac{1}{2}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ ,  
 W $\frac{1}{2}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ , SE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ , SE $\frac{1}{4}$ NW $\frac{1}{4}$ ;  
 sec. 28, NW $\frac{1}{4}$ SE $\frac{1}{4}$ ;  
 sec. 29, W $\frac{1}{2}$ W $\frac{1}{2}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ , NW $\frac{1}{4}$ NE $\frac{1}{4}$ ,  
 W $\frac{1}{2}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ , SE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ ,  
 NW $\frac{1}{4}$ NW $\frac{1}{4}$ , S $\frac{1}{2}$ SW $\frac{1}{4}$ .

T. 3 N., R. 22 W.,

sec. 11, lot 7;  
 sec. 24, NW $\frac{1}{4}$ NW $\frac{1}{4}$ .

T. 9 S., R. 22 W.,

sec. 1, lot 7;

sec. 17, NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>, N<sup>1</sup>/<sub>2</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>,  
E<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>, S<sup>1</sup>/<sub>2</sub>SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>,  
SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>.

T. 1 S., R. 23 W.,  
sec. 5, lot 8 (portion).

T. 8 S., R. 23 W.,  
sec. 34, W<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> (portion), W<sup>1</sup>/<sub>2</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>  
(portion);  
sec. 35, S<sup>1</sup>/<sub>2</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>,  
S<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>, W<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>,  
SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>, NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>.

T. 9 S., R. 23 W.  
sec. 28, lot 2;  
sec. 29, lots 2, 3, 4, 5, 6 (portion), 7, 8,  
N<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>;  
sec. 33, W<sup>1</sup>/<sub>2</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>.

T. 8 S., R. 24 W.,  
sec. 28, lot 19.

T. 9 S., R. 24 W.,  
sec. 8, lot 8.

T. 11 S., R. 24 W.,  
sec. 6, lots 7, 8, 9, and N<sup>1</sup>/<sub>2</sub>N<sup>1</sup>/<sub>2</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>;  
sec. 8, lots 1, 2, 3, 4, E<sup>1</sup>/<sub>2</sub>, E<sup>1</sup>/<sub>2</sub>W<sup>1</sup>/<sub>2</sub>.

T. 11 S., R. 25 W.,  
sec. 1, lots 3, 4, 5, 11 (portion), 14, and 15,  
W<sup>1</sup>/<sub>2</sub>E<sup>1</sup>/<sub>2</sub>SW<sup>1</sup>/<sub>4</sub>, SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>,  
N<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>;  
sec. 11, lot 28;  
sec. 12, Block 29, lots 1, 2, and 3;  
Block 30, lots 1 to 11, inclusive;  
Block 31, lots 1, 2, 3, and 4.

**San Bernardino Meridian, California**

T. 9 S., R. 21 E.,  
sec. 12, lots 1, 2, NE<sup>1</sup>/<sub>4</sub>.

T. 8 S., R. 22 E.,  
sec. 24, lot 4.

T. 9 S., R. 22 E.,  
sec. 9, lot 12.

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# REASONABLE FORESEEABLE DEVELOPMENT

## 1.1 INTRODUCTION

This appendix provides a summary of the exploration history, current lease status, and 20-year projections for Reasonable Foreseeable Development of leasable, locatable, and salable minerals in the planning area. This information is a summary of the data presented in the *Mineral Resource Potential Report* (TetraTech 2005).

Three factors of analysis are considered when making mineral determinations in RMPs: (1) the potential for occurrence and development of mineral resources, (2) immediate and cumulative impacts due to Reasonable Foreseeable Development (RFD) of mineral resources, and (3) the need to apply constraints or restrictions, known as stipulations, to the determination (BLM 1985). The first factor, mineral resource potential, is discussed in the Mineral Resource Potential Report. The second factor, RFD, is discussed in this appendix. The third factor, stipulations, will be analyzed and considered in the RMP.

## 1.2 LEASABLE MINERALS

### 1.2.1 OIL AND GAS

BLM-administered land in the planning area identified as having moderate oil and gas potential is 50,210 acres. There are no documented proven reserves in the planning area, and currently only minor leasing interest. No drilling activity has occurred since 1987. The RFD for fluid mineral development estimates that six exploratory wells would be drilled within the next 15 years. An estimated one exploratory well would lead to the discovery and production of one small economic oil and gas field, with an average life of 20 years, resulting in approximately 1,060 acres of disturbance. When evaluating the RFD, it was assumed that fluid mineral development would increase over the 15 years and advances in technology would improve the delineation of potential reservoir targets. A typical oil/gas drilling site is described in the Mineral Resource Potential Report.

### 1.2.2 CARBON DIOXIDE (CO<sub>2</sub>) AND HELIUM (HE)

Areas having moderate CO<sub>2</sub>/He potential in the planning area are assumed to be correlative with areas of moderate oil and gas potential. So far, there has been no CO<sub>2</sub>/He exploration in the

planning area and no leasing interest. The RFD for CO<sub>2</sub>/He development estimates that no oil and gas exploratory wells drilled in the planning area would discover CO<sub>2</sub>/He reserves, and no exclusively CO<sub>2</sub>/He exploratory wells would be drilled. The evaluation process for the RFD assumed that an increase in oil and gas drilling would result in production tests in two oil and gas exploratory wells without recovery of economic concentrations of CO<sub>2</sub>/He. Therefore, there will be no disturbance or impact in the planning area from development of a CO<sub>2</sub>/He field.

### **1.2.3 GEOTHERMAL**

A total of four low-temperature geothermal resource regions in the planning area were identified in the Mineral Resource Potential Report. There has been significant development of those geothermal energy resources only for aquaculture. These low-temperature geothermal resources may be used for small-scale space heating and resort spas. Costs to develop low-temperature geothermal resources are prohibitive compared to the potential revenue generation and limited uses of these resources. There are no geothermal energy leases in the planning area, and no indications of future leasing activity. The RFD for geothermal resource development in the planning area expects that no leasing, exploration, or development would occur in the next 15 years. There is no foreseeable disturbance to public lands from geothermal resource development in the planning area in the next 15 years.

### **1.2.4 COAL**

There are no coal deposits reported in the planning area.

### **1.2.5 SODIUM**

There has been no significant development of sodium resources and no indications for future leasing and development activity. The absence of leasing activity for sodium resources in the planning area is likely due to the limited demand for sodium resources and the considerable expense to explore and develop them. The RFD for sodium resource development expects that no leasing, exploration, or development will occur in the planning area in the next 15 years. There is no foreseeable disturbance to public lands from sodium resource development in the planning area in the next 15 years.

## **1.3 LOCATABLE MINERALS**

Mineral districts in the planning area are regions of known occurrence and high potential of locatable metallic and nonmetallic mineral resources. The location of these mineral districts was identified in the *Mineral Resource Potential Report*. There are no active locatable mineral mines currently operating in the planning area (USGS 1999; Phillips, et al. 2002).

The RFD for locatable mineral resources in the planning area indicates that some exploration would occur in the next 15 years with two underground locatable mineral deposits and one placer deposit being developed. The following assumptions were considered when evaluating the RFD for locatable mineral resources in the planning area:

- There would be two new locatable hard rock or lode discoveries (Verdstone and Copperstone) in the next 15 years and one placer gold mineral discovery.
- Each new locatable mineral discovery would include an underground mine, occupy approximately 80 surface acres, and include mining waste rock piles.
- Where applicable, commodity ore would be transported offsite via surface roads for processing.
- The land surface would not be reclaimed during the life of the mine.

There is some foreseeable disturbance due to mining activities on public lands in the planning area in the next 15 years. Activities associated with the two new underground mines would impact up to 160 acres, including placement of waste rock piles. Disturbance of the land surface would require reclamation at the end of the mine life.

## **1.4 SALABLE MINERALS**

### **1.4.1 AGGREGATE AND STONE**

Known occurrences (quarries and pits), prospects, and potential locations for salable mineral resources were identified in the Mineral Resource Potential Report. Most locations are actively used for aggregate for construction operations or in some cases, for decorative stone or rip rap. The following assumptions were considered when evaluating the RFD for salable mineral resources in the planning area:

- The demand for salable minerals would increase during the next 15 years as population increases stimulate construction and infrastructure development.
- Based on past experience and projected future demand, a total of 200 pits would be permitted/contracted in the next 15 years. Approximately 75 of these would be for new sites.
- New quarries or pits would be between five and 10 acres in size.
- New quarry or pit access will require new road construction.

The RFD for salable mineral resources (mineral materials disposal) is 902,000 tons per year, for a total of 13,530,000 tons over 15 years. The total disturbed area over the 15 year planning period would be 1,500 acres with about 300 acres being disturbed during any one time. Disturbance of the land surface would require reclamation at the end of the life of the pits.

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