ARAVAIPA ECOSYSTEM MANAGEMENT PLAN

MANAGEMENT RECOMMENDATIONS
July 2005

SKY ISLAND ALLIANCE
Protecting our Mountain Islands and Desert Seas

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Executive Summary

Sky Island Alliance is a non-profit volunteer organization dedicated to the preservation and restoration of our native biological diversity. Our volunteers have donated over 1500 hours inventorying roads and wilderness characteristics in the Aravaipa area over the last four years. Following are management recommendations that will help the BLM to achieve its stated vision for the Aravaipa ecosystem:

> "to sustain or restore natural ecological processes, viable native species populations, healthy biological communities, significant cultural resources, and outstanding wilderness values while providing for compatible levels of human use."

Recommendations include:

- A designated travelway system,
- a travelway closure and rehabilitation program,
- and the delineation of an area to be managed for wilderness characteristics.

Travelways on public lands serve multiple important purposes and provide access for a wide range of people who use public lands. However, there is a mounting body of scientific evidence that travelways of all kinds have damaging impacts on ecosystems and habitats. These include:

- Fragmentation of wildlife habitat
- Introduction and spread of noxious weeds
- Erosion and sedimentation
- Increase in vandalism and animal harassment
- Loss of quality hunting opportunities

The impact that existing travelways have on the hydrology, vegetation and wildlife in the the Aravaipa Watershed is severe. Many of these travelways are in poor or impassable condition and are riddled with erosion and some extend past the wilderness boundary to the edge of Aravaipa Canyon and its tributary canyons.

The BLM Safford Field Office manages a total of 1.4 million acres with only 73,740 acres designated as Wilderness and at least 1,600 miles of travelways. Sky Island Alliance has documented just over 100 miles of travelways in the Aravaipa Ecosystem Management planning area. Many travelways in this area are unnecessary and inappropriate due to their location, duplicity, the sensitive habitats they traverse, and/or the damage they cause.

The Arizona State BLM Office issued Instructional Memorandum AZ-2005-007 that states the BLM "has the authority to address wilderness characteristics and prescribe goals, objectives and management actions in land use plans."

Sky Island Alliance recommends that 34,869 acres be managed for the protection of their wilderness characteristics. This results in 62.5 miles of travelways being closed to protect wildlife habitat, watershed values, ecosystem processes, and primitive recreation opportunities.

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The hundreds of volunteers who braved the elements to work with us in the most beautiful place in Arizona.

The hundreds of members and supporters of Sky Island Alliance.

The Nature Conservancy for protecting such a beautiful place and being so helpful.

The following foundations for supporting the work of Sky Island Alliance.

- Town Creek
- Wilburforce
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I. Introduction

Aravaipa Canyon is nationally recognized as one of Arizona's most valuable biological areas (Brown, 1989). It is known for its scenic towering cliffs, lush riparian vegetation, multiple species of native fish and wildlife and its astounding beauty and naturalness. The perennial flow of Aravaipa Creek links 3 mountain ranges, 3 wilderness areas and maintains migratory corridors for both large mammals and birds, making it a crucial component to maintaining biodiversity and ecological integrity in southeastern Arizona.

The Aravaipa Ecosystem Management Area hosts a Congressional designated Wilderness Area, with much of the watershed that feeds the perennial flow lying outside of the existing wilderness boundary. The proposed area to be managed to protect wilderness characteristics is an area encompassing approximately 34,869 acres within the Aravaipa Ecosystem Management Area that is directly adjacent to the existing wilderness boundary on the north and south of the Canyon. The area to be managed to protect wilderness characteristics encompasses the core of the Aravaipa watershed along with two of the three Areas of Critical Environmental Concern in the management area (Figure 1, Attachments).

The integrity of Aravaipa Creek's stream flow depends heavily on the ecological health of the surrounding watershed. The existing wilderness consists of 19,410 acres (BLM, 2004). The canyon is 11 miles long and ranges from an elevation of 3,000 feet at the eastern trailhead to an elevation of 2,650 feet at the western trailhead. Today riparian corridors such as Aravaipa Canyon are one of the most endangered ecosystems in Arizona due to water use, development and the delicate nature of flowing water in the Arizona desert (Brown, 1989). The small land area occupied by riparian areas in Arizona is disproportionate to their immense biological importance and protecting these riparian areas along with their surrounding watersheds is key to maintaining the long-term health and diversity of Arizona's biotic communities. The current wilderness area is essential to the continued existence of the Aravaipa Creek riparian corridor, and protection of the surrounding watershed is also necessary to maintain the health of Aravaipa Canyon.

The Arizona BLM describes the Aravaipa region as consisting of five major terrestrial communities: Sonoran Desert Scrub, Desert Grassland/ Semidesert Scrubland, Interior Chaparral, Evergreen Woodland and Deciduous Riparian Forest (2004). These diverse floral communities support representatives of almost every desert songbird, 50 reptile species, 50 mammal species, 8 species of bats and nearly 500 species of plants. The biological importance of the Aravaipa watershed is demonstrated both by species richness and species diversity and thus so is the importance of further protecting the integrity of the tablelands and tributary canyons surrounding the existing Wilderness that are within the proposed area to be managed for wilderness characteristics.

Aravaipa canyon is surrounded by 9 major side canyons and numerous smaller side canyons that feed into Aravaipa creek and are vital to the continued existence of the riparian corridor. The side canyons offer many beautiful and spectacular environments with opportunities for primitive recreation that have been said by congressman Morris K. Udall to rival the mainstream of Aravaipa itself. "The tablelands above the canyon offer outstanding scenic vistas of the canyons below as well as the surrounding countryside" (Representative Udall, 1990). Excellent

opportunities for solitary exploration along with scenic and ecological values make the tributary canyons and tablelands surrounding Aravaipa Canyon an important priority for consideration to be managed to maintain its wilderness characteristics.

Three Areas of Critical Environmental Concern (ACEC) lie within the Aravaipa Canyon Watershed Management area including Turkey Creek, Table Mountain and Desert Grasslands. Table Mountain and Desert Grasslands are also designated as Research Natural Areas (RNA). The Table Mountain ACEC and RNA lies entirely within the boundary of the proposed area to be managed for wilderness characteristics. The Turkey Creek ACEC lies mostly within the boundary of the proposed area to be managed for wilderness characteristics with a portion of it extending north along the western border of Aravaipa Canyon Wilderness. The Desert Grassland ACEC and RNA lies to the north of Turkey Creek and to the east of the Wilderness boundary and is not contained within the boundaries of the proposed area to be managed for wilderness characteristics (Figure 1). This area is included in this report because of its significant ecological importance and because it also should be afforded the protection of being managed to protect its wilderness characteristic.

Areas of Critical Environmental concern are defined by the BLM to be areas where "special management attention is required to protect and prevent irreparable damage to public land and/or related waters containing resources, values, systems, processes, or hazards identified, designated, and protected through the land-use planning process." These areas must have significant cultural, scenic value; fish or wildlife resources; or other natural processes or systems, and must have substantial significance or value. This requires qualities of more than local significance and special worth, consequence, meaning, distinctiveness, or cause for concern (BLM, 1997). Research Natural Areas are areas that contain important ecological and scientific values and are managed for minimum human disturbance. They are primarily used for non-manipulative research and baseline data gathering on relatively unaltered community types. They make excellent controls for similar communities that are being actively managed (BLM, 1997).

The Turkey Creek ACEC consists of 2,326 acres that adjoins a portion of the Aravaipa Canyon Wilderness at its southeast end and contains two riparian woodlands. The area has significant cultural and scenic values and is an important wildlife resource and riparian area. The area is threatened by off road vehicle (ORV) use, unregulated camping and current and potential resource extraction.

The Table Mountain ACEC contains two plant communities of concern. These include an alligator juniper savanna at the top of Table Mountain that exists in less than 20 locations and a white oak woodland containing Mexican blue oak in the adjoining Sycamore and Saddle Canyons (BLM, 1991). The total area encompasses 1,220 acres to the south of the canyon and of concern in this area is ORV use, prescribed fire and preventing mineral withdrawal and vegetation impacts.

The Desert Grasslands ACEC is significant due to its relict desert grasslands which are an important baseline for management objectives. Desert grasslands are widely used for the majority of grazing in the desert southwest but also provide critical habitat for 13 state-listed wildlife species and are important for watershed stabilization. The retention of undisturbed tracts

of relict desert grasslands is of value to BLM management and scientific research (BLM, 1991). The Desert Grasslands area is greatly threatened by ORV use, livestock grazing, and could benefit from a prescribed fire plan. It consists of 840 acres with three areas of undisturbed desert grasslands on two different soil types.

II. History

Human use of the Aravaipa Creek area dates back to the 1800's. The upper valley, canyon and surrounding terrain of Aravaipa Canyon was well known and often visited in the middle 1800's. Prior to that the area was traversed by Francisco Vasquez de Coronado in the late 1530's and Jesuit priests in the 1600's and early 1700's. In the early 1800's, settlements in the area were few or non-existent. By 1890-1900 the Aravaipa Creek floodplain near Klondyke, Arizona had been cleared and was under cultivation (Minckley, 1981). Minckley notes that:

> Riparian forests along Aravaipa Creek in 1890-1900 were massive in size and development and seem to have been dominated by cottonwood. Young trees attested to a successfully reproducing community at that time with no evidence for heavy grazing of the understory. Riparian trees were nearer the water's edge, and cut banks, when present were obviously lower at that time, implying greater stability of riparian communities.
>
> Following the Gadsden Purchase of 1854 occupation of the area by Americans began to expand and ranching became a major land use. The Sierra Bonita Ranch included parts of uppermost Aravaipa Valley, and heavy grazing must have been experienced by the area during that period of time. Severe reductions in ranching occurred in the latest 1800s due to severe drought. Large ranching operations were established along the immediate banks of Aravaipa Creek in the 1880s and cattle and goats became major products. Diversions for irrigation of pasturage in wider parts of the valley and canyon have been practiced for more than 100 years but are transitory enough to have had little effect on the system.

The Klondyke area also experienced varying levels of mining operations, mostly for iron, between 1929 and 1957. The region surrounding Aravaipa Canyon has a rich and diverse history of human use and beautiful naturalness that combines to make it an important area to be retained as public land and to be protected.

In the 1950's interest was first expressed in preserving the Aravaipa Canyon and utilizing it for scientific study. In 1968, the area was proposed for retention in public ownership and for federal designation as a Primitive Area. Strong local, state and national support was shown for the proposition and the Aravaipa Canyon Primitive Area was established in 1969. The original area incorporated 3,957 acres which was latter expanded to 4,044 acres in April of 1971 when land on the north and south rim was added. In December of 1978, an additional 1,480 acres of state land adjacent to the primitive area was acquired to improve protection of the area. In 1978, following the 1976 enactment of the Federal Land Policy and Management Act, the Aravaipa Canyon Primitive Area was reviewed and recommended for inclusion into the National Wilderness Preservation System (BLM, 1988). The original wilderness designation included 6,670 acres and

was mandated by the Arizona Wilderness Act of 1984. A second act, the Arizona Desert Wilderness Act of 1990 increased the total acreage of the Wilderness area to 12,711 acres. Today the wilderness consists of 19,410 acres (BLM, 2004).

III. Description

The Aravaipa Canyon watershed is bounded on the east by a low divide in the northwest Sulphur Springs Valley and on the west by the San Pedro River south of the town of Winkleman, Arizona. On the northeast the canyon is bounded by the Pinaleño and Turnbull-Santa Teresa ranges and on the southwest by the Galiuro Mountain range, the very north end of which is traversed by the creek. The watershed comprises approximately 1,400 km^2 (540 square miles) and the perennial flow of the creek originates from unconsolidated sediments of the streambed 5.5 to 6.4 km (3.5 to 4 miles) northwest of the town of Klondyke (Minckley, 1981). The watershed to the north and south of the existing Aravaipa Canyon Wilderness consists of tablelands cut by numerous tributary drainages that feed into Aravaipa Creek.

The vegetation of upper Aravaipa Creek consists of mid-elevation Chihuahuan desert-grassland characterized by many native grass species, mingled with shrubs including species of yucca (*Yucca* spp.), sotol (*Dasylirion wheeleri*), jojoba (*Simmondsia chinensis*) and beargrass (*Nolina cirocarpa*), with juniper (*Juniperus monosperm),* oak and mixed chaparral scattered on steeper middle and upper elevation slopes. Downstream, at low elevation upland areas, desert-grassland grades into desert-scrub which is characterized by creosote bush (*Larrea divaricata)* communities and paloverde-saguaro communities of small-leaved trees, shrubs including triangle-leaf bursage (*Ambrosia deltoidea)* and brittlebush (*Encelia farinose)*, and numerous cacti.

The vegetation of the riparian corridor, which is directly linked with the perennial flow of Aravaipa Creek, is best classified as Temperate Riparian Deciduous Forest according to the Brown, Lowe and Pase classification system (Brown, 1982). Minckley (1981) describes the upper Aravaipa Canyon as being characterized by a canopy of cottonwood (*Populus fremontii*), willow (*Salix* spp.), sycamore (*Platanus wrightii*), velvet ash (*Fraxinus pennsylvanica velutina*), walnut (*Juglans major)* and box elder (*Acer negundo)* with a thick and luxuriant understory of broadleaf species. Downstream the vegetation grades into a community dominated by cottonwood and willows where seepwillow (*Baccharis salicifolia)* is the dominant understory shrub.

The desert-scrub and riparian vegetation merge at floodplain zones where the vegetation can be classified as Subtropical Deciduous Woodland characterized by mesquite (*Prosopis velutina)* and catclaw (*Acacia greggii)*. Today this region is also infiltrated with introduced annual forbs such as heron-bill (*Erodium cicutarium*), mustards (London Skyrocket, *Sisymbrium irio)*, Bermuda grass (*Cynodon datylon)*, red brome (*Bromus rubens)*, and Mediterranean grass (*Schismus barbatus)* (Minckley, 1981).

Today in Arizona, these riparian and wetland communities have become totally restricted to streamways that provide the necessary water supply throughout the growth season. Riparian corridors are the most endangered of Arizona's environments, with less than 10 percent remaining in an essentially natural state (Brown, 1989). These remaining corridors support an

amount of species that is very disproportionate to their size. They are crucial corridors for species movement and stopover points for migrating species.

Aravaipa Canyon is an excellent example of a well-preserved riparian corridor. The pressures on the water resources that feed and maintain Aravaipa creek are highlighted by the BLM:

> The water resources of Aravaipa Canyon Wilderness are particularly crucial to the future well-being of the Aravaipa Canyon ecosystem. Most of the water flowing through the main canyon and side canyons originates on state, private, national forest and public lands outside of the wilderness. Irrigated crop and pasture lands in the Aravaipa Valley upstream from Aravaipa Canyon Wilderness use groundwater from the Aravaipa watershed (1988).

The Aravaipa Canyon Wilderness currently encompasses an area of 19,410 acres and is home to 50 mammal, 50 reptile, and 10 amphibian species. There is a well-established herd of desert bighorn sheep (*Ovis canadensis*) in the wilderness north of Aravaipa Creek. The canyon also contains 7 native fish species including the federally listed spikedace (*Meda fulgida*) and loach minnow (*Tiaroga cobitis*). The BLM notes that "no other Arizona stream is known to contain so many native fish in the absence of substantial numbers of introduced species," (BLM, 1988).

The canyon is habitat for 200 species of birds including nearly every type of desert songbird (BLM, 1988). Some of the species receiving federal and/or state listing include the common black-hawk (*Buteogallus anthracinus*), an uncommon species whose range extends southward into Mexico; western yellow-billed cuckoo (*Coccyzus americanus occidentalis*); peregrine falcon (*Falco peregrinus anatum*); bald eagle (*Haliaeetus leucocephalus)*; and southwest willow flycatcher (*Empidonax traillii extimus*) (BLM, 1988). (See attachment B for a list of species of concern in the Aravaipa management region.) Black-hawks nest during spring and summer in cottonwoods and sycamores along the creek and hunt frogs and fish (BLM, 1988).

A. Wilderness

In 1964 the Wilderness Act was passed in the spirit of preserving some of the nation's last remaining wild places in order to protect their natural processes and values. Through the establishment of a National Wilderness Preservation System, the authors of the Wilderness Act wanted to ensure that:

> an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States and its possessions, leaving no lands designated for preservation and protection in their natural condition…[and] to secure for the American people of present and future generations the benefits of an enduring resource of wilderness (P.L. 88-577, § 2(a); 16 U.S.C. 1131 (a)).

Wilderness is an important part of American culture and history. Wildlands shaped the character of our nation and people. During the mid to late 1800's wilderness was thought of as something to be conquered and brought under human control. By the beginning of the 20th century, spurred by the thoughts and views of people such as John Muir and Henry David Thoreau, the concept of wilderness as a valuable entity worthy of protection began to develop. Thoreau believed that "In

wilderness is the preservation of the world." This statement can very literally be applied to ecosystem processes that are unadulterated in wilderness but disrupted, stymied and taxed by human activities elsewhere. It has steadily become recognized that wilderness is important for all the ecosystem services it offers, such as critical species habitat, watershed protection, gene pools and air filtration, as well as its contribution to the mental and emotional well being of our industrialized society. This was contrary to previous notions that wilderness was only valuable for the resources that could be extracted from it, and that it was an entity to be exploited and controlled to further our progress as a nation.

Aravaipa Canyon and the surrounding proposed area to be managed for wilderness characteristics are an outstanding example of wildlands where the forces of nature still prevail. The lands of the Aravaipa Canyon Management Area are "lands of undisputable national significance" as described by Congressman Morris K. Udall in his Floor statement regarding the Arizona Desert Wilderness Act (1990). He goes on to describe the cultural significance of wilderness in Arizona:

> It is important that those who come after us know that we cherished these living deserts, their waters and all the life that regenerates itself there season after season, generation after generation.

Beyond the valuable ecosystem resources that wilderness offers there are also intangible resources in wilderness. The Wilderness Act recognizes the great value of preserving wild areas for their inherent values in and of themselves. People find value both in the knowledge that Wilderness areas exist and will be protected for future generations to see, and also in the knowledge of their ability to visit and recreate in wilderness.
Senator Clinton P. Anderson of New Mexico(American Forests*,* July 1963) described this concept well:

> Wilderness is an anchor to windward. Knowing it is there, we can also know that we are still a rich nation, tending our resources as we should--not a people in despair searching every last nook and cranny of our land for a board of lumber, a barrel of oil, a blade of grass, or a tank of water.

In the context of public lands management, Wilderness is a key tool for the protection of ecosystems and native species. Section 2(c) of the wilderness act states that:

> A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain (P.L. 88-577).

The word untrammeled elegantly captures the essence of wilderness that was important to the crafters of the Wilderness Act: freedom from man's influence. The crafters wanted designated Wilderness to be preserved in its natural character without permanent improvements or lasting imprints of humans.

B. The Wilderness Act and the Bureau of Land Management

The Federal Land Policy Management Act of 1976 (FLPMA) marked an important change in the management of public lands. It directed the Bureau of Land Management to manage its lands under the multiple use philosophy in contrast to their previous style of management for extractive uses such as mining and timber. Under section 603 of the act, the BLM was mandated to inventory their lands for wilderness characteristics for the first time. FLPMA applied the Wilderness Act to the BLM and established that the management of public lands must be on the basis of "multiple use and sustained yield" (P.L. 94-579, § 102(a)(7); 43 U.S.C. 1701 (a)(7)). The act specifically allows for lands to be managed in a manner that:

> will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource and archeological values; that where appropriate, will *preserve and protect certain public lands in their natural condition*; 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 (P.L. 94-579, § 102 (a)(8); 43 U.S.C. 1701 (a)(8)) (emphasis added).

Management to protect wilderness characteristics and habitat quality is both consistent with and an integral part of multiple use management. The importance of wilderness is highlighted in the FLPMA definition of multiple use, which lists watershed, wildlife and fish, and natural scenic, scientific and historical values as parts of the multiple use mission (P.L. 94-579, § 103(c); 43 U.S.C. 1702 (c)). These values and resources can all be elements of wilderness and can often be best protected by keeping them in their natural state through managing an area to protect its wilderness characteristics. Wilderness is valuable as a tool to carry out the "harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and quality of the environment (P.L. 94-579, § 103(c); 43 U.S.C. 1702 (c)) as BLM is directed to do by FLPMA. Protection of wilderness characteristics is also a means for taking action to prevent "unnecessary or undue degradation of the lands," another duty outlined in FLPMA (P.L. 94-579, § 302(b); 43 U.S.C. 1732(b)).

BLM's authority to inventory and designate wilderness under FLPMA has been affirmed by every administration since the Carter Administration until 2003, when the George W. Bush Administration denied these legal obligations. A 2003 settlement between the State of Utah and the Department of Interior prohibits the Bureau of Land Management from designating Wilderness Study Areas in any state pursuant to the Federal Land Policy and Management Act. In September of 2003 the BLM issued Instruction Memorandum No. 2003-274 which severely undermined what FLPMA directs. Specifically this memorandum stated, "Authority to complete Wilderness review and manage Wilderness Study Areas under the non-impairment standard under FLPMA Section 603 expired October 21, 1993." The memorandum rescinded the BLM Wilderness Inventory and Study Procedures Handbook (USDI 2001a) which outlined the procedures the BLM must take to identify and protect wilderness quality lands. Despite this interpretation, which in our opinion is legally deficient, IM 2003-275 confirms the BLM's continuing obligation to identify lands with wilderness characteristics when the characteristics "**are reasonably present, and of sufficient value (condition, uniqueness, relevance, importance) and need (trend, risk),"** and to provide for the management of such lands**.**

In December of 2004 the Arizona State BLM Office issued Instructional Memorandum AZ-2005-007 that states the BLM "has the authority to address wilderness characteristics and prescribe goals, objectives and management actions in land use plans." The wilderness characteristics of the Aravaipa Canyon tablelands and tributary canyons must be addressed in the Aravaipa Management Plan as they "**are reasonably present**, **and of sufficient value and need" (**IM 2003-275**),** and the "management direction to maintain them [should] be apparent in the plan contributing to the long-term maintenance of the resource (IM AZ-2005-007)."

IV. Recommendations

Recommendation #1 –Designate Travelway/Route System

A. Designate a route system that decreases erosion, wildlife habitat fragmentation, wildlife disturbance, and vegetation damage and close the Aravaipa Ecosystem Management Plan area to new route construction except for resource protection purposes
B. Require vehicles to stay on designated routes and within existing camping areas or pull-outs
C. Institute Limits of Acceptable Change framework for the motorized route system

See Attachments for existing route system (Figure 2) and for proposed route system (Figure 4).

Recommendation #2 –Close Travelways/Routes to Protect Watershed and Ecosystem

A. Close single-track, washes and reclaim vehicle routes as needed to decrease habitat fragmentation, limit disturbance in important habitat areas, and protect wildlife habitat
B. Close, limit or mitigate motorized vehicle routes that conflict with maintenance of wildlife habitat
C. Institute Limits of Acceptable Change protocol for the closures of the motorized route system
D. Close the following routes and rehabilitate the compacted surface and erosional features
    a) SIA Route Cx –the route north from the Decker property and west to Horse Camp Canyon. May need rehabilitation
    b) SIA Route Cv -the Cx closure will also effectively close this route. May need rehabilitation
    c) SIA Route Cu -the Cx closure will also effectively close this route. May need rehabilitation
    d) SIA Route Cy-the Cx closure will also effectively close this route. May need rehabilitation
    e) SIA Route Cw -the Cx closure will also effectively close this route. May need rehabilitation
    f) SIA Route Cz- the Cx closure will also effectively close this route. May need rehabilitation
    g) SIA Route Az –the route from Turkey Creek to Four-Mile Canyon Road. May need rehabilitation
    h) SIA Route B – the route from Turkey Creek to the Rug Road in Parsons Grove. Close for Administrative Use Only
    i) SIA Route By – route at wire corral west into the Wilderness.
    j) SIA Route F –the Rug Road from Copper Creek Canyon just east of the town of Mammoth, into the Aravaipa Canyon area
    k) SIA Route G –the interior route from Parsons Grove to Elephant Corral
    l) SIA Route Gz – the G closure will also effectively close this route
    m) SIA Route D – the route from the Trail's End Ranch to Painted Cave Ranch
    n) SIA Route Dz – the D closure will also effectively close this route
    o) SIA Route E –the route from Aravaipa Creek on the west end of the wilderness from just east of the Woods Ranch area (in the designated Wilderness) to Elephant Corral along the southwest boundary

See Attachments for proposed route closures (Figure 3) and page 24 for Route Analysis.

Recommendation #3 -Land Allocations

A. Manage 34,869 acres of uplands and tributary drainages on the North and South Rim of Aravaipa Canyon primarily to maintain or enhance wilderness characteristics. This includes TNC properties on the south tablelands and the Salazar property on the north rim
B. Lands to be managed to maintain or enhance wilderness characteristics, approximately 34,869 acres, are to be designated as closed to motorized vehicle use and as limited mechanized, non-motorized vehicle use areas, where mechanized, non-motorized vehicle use is limited to routes designated as available for mechanized, non-motorized vehicles
C. Manage ACECs to protect the outstanding botanical diversity of the native plant communities and diverse wildlife populations, and outstanding landscape and scenic features
D. Provide opportunities for recreation, with an emphasis on primitive recreation, to the extent that such use is compatible with protecting the natural resources. Management prescriptions would include:
    a) Prohibit construction of recreational facilities except to protect resources or public safety
    b) Prohibit competitive events
    c) Require vehicles to stay on designated routes and within existing camping areas or pull-out
    d) Modify or curtail public use areas as required to protect ACECs
    e) Manage the visual and scenic values of the area to maintain the natural character, including designating appropriate VRM Classes
    f) Emphasize maintaining ecological connectivity to the surrounding mountains
    g) Withdraw the ACEC from all forms of mineral entry
    h) Exclude utility rights-of-way from the ACEC
    i) Designate all other areas, approximately 29,896 acres, including the Table Mountain and Desert Grassland ACEC/ RNA and the Turkey Creek ACEC as limited motorized and mechanized vehicle use areas, where vehicles would be limited to routes designated as available, or open, for vehicle use

E. Implement the following management actions, allowable uses, and use allocations in areas to be managed primarily to maintain wilderness characteristics:

    a. Redevelop former vehicle ways to hiking and equestrian trails, as appropriate

    b. Maintain camping areas only when compatible with maintaining wilderness characteristics or when needed to protect resources or provide for public safety

    d. Remove facilities and related refuse that are no longer used

    e. Evaluate and rehabilitate existing disturbed areas to a natural condition consistent with natural resource restoration objectives

    f. Evaluate proposed uses on a case by case basis, considering:
        - need for project to protect resources or provide for public safety
        - long-term effect on naturalness and resources
        - ability to restore the use area after the project is completed to its previous natural state
        - compatibility with the specified visual resource management zone
        - loss of opportunity for solitude and primitive recreation
            potential for use to be accommodated outside of area

V. Justifications

Justifications are based on a number of factors derived from a number of sources including the Wilderness Act (1964), the Federal Land Management and Policy Act (1976), the BLM Safford District Resource Management Plan (1991), The Aravaipa Canyon Wilderness Management Plan (1988). Many published scientific studies, agency documents, agency and organizational personnel were consulted. Site visits were conducted four times through 2003-2004, and once in 2005. Over 1600 hours were donated by over 75 Sky Island Alliance volunteers to complete the travelway inventory.

The factors for justification are:

1. Road impacts
2. Primitive recreation opportunities
3. BLM Mandate
4. Long-term riparian and creek protection
5. Long-term upland protection
6. Economic impact

A. The Impact of Travelways/Routes on Natural Resources

The roads on public lands serve multiple important purposes and provide access for a wide range of people who use public lands including: the managing agency, who must be able carry out management actions, conduct fire management and ensure the safety of visitors; people who recreate in the area; and ranchers and private land owners who need access to their parcels of land and to existing structures, to name a few. There are areas where roads may be absolutely necessary or appropriate for certain needs such as those described above. However, there is a mounting body of scientific evidence that roads of all kinds have a damaging and segregating effect on ecosystems and habitats. Keeping in mind that roads in the Aravaipa Ecosystem Management Area may be important for a number of different reasons and for many different people, we would also like to point out that in certain areas, specifically in the proposed area to be managed for wilderness characteristics, roads are unnecessary and inappropriate due to their location, duplicity, the habitat they traverse, and/or the damage they cause.

A large issue of concern in the Aravaipa Watershed is the impact that existing travelways have on the hydrology, vegetation and wildlife in both the tablelands within the area to be managed for wilderness characteristics and in Aravaipa Canyon. Also of concern is the cutting of illegal travelways in the Turkey Creek area. These travelways extend to the edge of the Wilderness and in many cases past the wilderness boundary to the edge of Aravaipa Canyon and its tributary canyons. Many of these roads are in poor or impassable condition and are riddled with erosion. See examples below:

Th-19-09: 12-14” rut on far west portion of route Cx. Direction: WSW.
T 5S, R 18E, Sec. 35. UTM: 548729E, 3645515N, Datum NAD 27.

Th-20-07: Severe erosion where route Cx crosses a deep gully. Direction: SW.
T 6S, R 19E, Sec. 5. UTM: 553157E, 3645215N, Datum NAD 27.

Poorly located or unmaintained roads are known to result in serious erosional problems and can lead to severe gully formation which negatively impacts soils, vegetation and archeological resources (Moll, 1996). The designation by BLM of a route system, along with requiring vehicles to stay on designated routes and institution of a Limits of Acceptable Change framework (Recommendation 1) will be an important mitigating factor in preventing the afore mentioned problems.

Roads are known to transform the physical conditions both on and adjacent to them by directly altering the soil density, temperature, soil-water content, light, dust, surface-water flow, pattern of run-off and sedimentation (Trombulak & Frissell, 2000). Most sediment enters water bodies through overland flow, but dust from roads is a source of fine sediments, nutrients and contaminants to aquatic ecosystems (Gjessing et al., 1984). This dust also settles on plants, with physical and chemical impacts that can disrupt photosynthesis, respiration and transpiration, physically injure plants (Farmer, 1993) and alter plant community structure (Auerbach et al., 1997). The closure and rehabilitation of the routes described in Recommendation 2 will be a key component of protecting the watershed and ecosystem within the proposed area to be managed for wilderness characteristics and Aravaipa Canyon Wilderness.

Roads are known to have a zone of effect that can extend from 1/4 mile up to 2 miles from the actual footprint of the road. The amount of habitat that is fragmented and affected by the road is therefore much greater that just the network of roads (Hartley et al., 2003). Wilcox and Murphey (1983) concluded that habitat fragmentation is the most serious threat to biological diversity and is the main cause of the current extinction crisis. With roads having an ecological effect on 94% of the United States (including the National Parks) (Soule, 2000), the elimination and curtailment of further development of roads (Recommendation 1C, 3B) is a serious consideration for the protection of the Aravaipa watershed and its biodiversity.

There is a positive feedback loop between primitive roads and habitat destruction. Roads in primitive areas lead to the destruction of habitat through activities such as poaching, grazing, campsite development, ORV joyriding and ATVs creating illegal travelways off already established routes (Soule, 2000). Once these activities are exhausted new roads are then required to reach more remote areas to continue the same activities (Crumbo, 2002).

The negative biological impacts from roads in the tablelands of Aravaipa Canyon are certain to worsen and threaten the health of the canyon if motorized access remains the same or increases. Closure and restoration of these types of impacted and degraded areas greatly facilitates ecological recovery (Strittholt & Delasalla, 2001).

The Impact of Roads on Hydrology

Because of the nature of moving water, the physical effects from roads can be seen long distances from the direct incursion of the road (Richardson et al., 1975). The perennial flow of Aravaipa Creek is threatened by sediment that is washed from the roads and enters the watershed, through both erosion and surface run-off. The perennial flow is also threatened by increased sediment entering the creek from road dust. It has been found that high concentrations of suspended sediment may directly kill aquatic organisms and impair aquatic productivity including reducing the productivity, survival and growth of fish (Newcombe & Jensen, 1996).

This is of particular concern because of the federally threatened loach minnow and spike dace that have designated critical habitat in Aravaipa Creek. The creek also has the most diverse native fish fauna in the state and is a rarity because it has the largest number of native fish species in the absence of substantial numbers of introduced species (BLM, 1988). Arid lands in the Southwest are particularly vulnerable to disturbances caused by off-road vehicles which compact soil, change soil porosity, and decrease infiltration capacity. This leads to an increase in runoff during rainfall and a subsequent increase in soil erosion because rainfall cannot filter as readily into the soil (Iverson et al., 1981). Iverson et al. (1981) found that the largest increase in compaction of the soil per pass of vehicle tires occurred in the first few passes.

Because such a large proportion of soil compaction damage occurs in initial vehicle passes, illegal cutting of travelways in the area to be managed for wilderness characteristics is a serious threat to the Aravaipa watershed even when they do not become established routes. The cutting of illegal travelways will be curtailed by the designation of a route system, by requiring vehicles to stay on designated routes (Recommendation 1), and by closing routes that disturb important habitat within the proposed area to be managed for wilderness characteristics (Recommendation 2). The continued physical disturbances caused by roads can be reduced by remediation of the roads (Weaver et al., 1987; Harr & Nichols, 1993); however, the consequences of sedimentary delivery are long term and cumulative (Hagans et al., 1986). This makes protection of the proposed area to be managed for wilderness characteristics from roads even more pressing so that long-term damage to the Aravaipa Canyon ecosystem from sedimentary load is decreased or averted (Recommendation 2A, B, C and D).

The Impacts of Roads on Wildlife

Roads impact animal behavior, energy expenditure and reproductive success (Trombulak & Frissel, 2000). Small rodents and invertebrates will avoid crossing roads even when the roads are narrow and unpaved. This means that the type of roads found in the proposed area to be managed for wilderness characteristics contribute to the fragmentation of populations and create habitat patches that isolate organisms. Roads also have measurable effects on large mammals such as bighorn sheep, bear, deer and mountain lions. Roads were found to increase the heart rate and therefore the metabolic rate and energy expenditure of big horn sheep (*Ovis canadensis*) in the proximity of the road regardless of any human use on the road (MacArthur, 1979). This is of concern for the currently established herd of bighorn sheep in the Wilderness north of Aravaipa Creek. It has also been found that large mammals such as mountain lions have threshold road densities above which the habitat is no longer able to function naturally and support a sustained population of the large predators (Forman & Alexander, 1998).

Poaching and harassment pose serious threats to many wildlife species, and would be lessened considerably without roads. Species vulnerable to poaching in the Aravaipa management area include bighorn sheep, mule deer, mountain lions, desert tortoise and raptors. Preventing poaching and species harassment will have a positive impact on hunting quality as it has been found that the closure of travelways, such as those of concern at Aravaipa, increase hunter success and improve perceived hunting quality (Lyon et al., 1985:7-9; Gratson & Whitman, 2000: 308-309; McLaughlin et al., 1989).

The Impact of Roads on Plants

"Roads provide a major conduit for the spread of exotic plants into natural areas, particularly in arid and semiarid landscapes of the American West, where exotic annual grasses and forbs pose a major conservation challenge" (Gelbard & Belnap, 2003). Roads promote the spread of exotic species through the accidental movement of alien seeds (Schmidt, 1989) and through the high rates of soil disturbance on and adjacent to the road (Tyser & Worley, 1991). Frequently disturbed environments favor the growth of invasive species and some non-native species that are adapted to reproduce effectively in frequently disturbed habitat. Tyser and Worley (1991) note "both the construction of new roads and the improvement of existing roads appear to be important factors in the ongoing spread of exotic plants throughout [the] landscape." Exotic plants provide poor habitat for wildlife that is adapted to utilize native vegetation, and can have serious long-term effects on native biodiversity. Research has shown the importance of maintaining and managing roadless areas and the restoration of areas to a roadless status (Strittholt & Dellasala, 2001). Recommendation 2 and 3D address the closure and restoration of roads, and the protection of botanical diversity respectively.

B. Primitive Recreation Opportunities

The BLM Safford Field Office manages a total of 1.4 million acres of land. Of those 1.4 million acres there are six Wilderness Areas comprising 73,740 acres (BLM, 2004). This means that only 5.3% of the lands managed by the Safford Field Office are managed to provide primitive recreation opportunities.

There are at least 1,592 miles of roads traversing the lands of the Safford Field Office. This gives a road density of at least 0.71 miles of road per square mile facilitating numerous motorized recreational opportunities throughout these lands[1]. In the recommendations for management of the area to be managed for wilderness characteristics Sky Island Alliance is asking that 62.5 miles of roads be closed. This would allow 48.3 miles of road to remain open for motorized recreation and expand the primitive recreation opportunities that are currently available in only 5.3% of this management area.

It has been found that on average a road-effect zone extends 400 to 1000 meters on either side of a roadway with the area affected being approximately 0.6 km^2 per kilometer of road length (Forman & Deblinger, 2000). This equals an area of .231 mi^2 per mile of road. When this area is multiplied by the 1,592 miles of roads traversing the Safford Field Office lands, it is found a total of 368 square miles of land is adversely affected by roads. This is equivalent to 235,361 acres of land that are impacted by roads as compared to only 73,740 acres that are being maintained as Wilderness and therefore offer primitive recreation opportunities.

As ATV use, ORV use, and recreation on public lands continues to grow, it is important to provide and protect non-motorized primitive recreation opportunities. The BLM Safford Field Office has an excellent opportunity to do this through the Aravaipa Ecosystem Management plan by managing the area we have proposed to protect its wilderness characteristics thereby preserving and enhancing the existing primitive recreation opportunities.

[1] The road data was gathered from TIGER/Line Data 2000 US Census Bureau and BLM AZ Safford FO with the GIS analysis performed by Cory Jones in order to calculate the total miles and the road density.

C. BLM Mandate

The Wilderness Act of 1964 did not direct the Bureau of Land Management to conduct a wilderness review because at the time the BLM was under a 1946 establishment mandate to dispose of lands of the public domain and to issue authorizations for grazing and mining (Williams, 2004). The Federal Land Policy Management Act (FLPMA) of 1976 was the first organic law governing the lands retained by the Bureau of land Management and addressed wilderness review on BLM lands. Section 603 of FLPMA directed the BLM to identify and inventory all the public lands having wilderness characteristics and values as defined in the Wilderness Act and to study them for possible recommendation as wilderness.

BLM's authority to inventory and designate wilderness under FLPMA has been affirmed by every administration since the Carter Administration, until 2003 when the George W. Bush Administration denied these legal obligations. A 2003 settlement between the State of Utah and the Department of Interior prohibits the Bureau of Land Management from designating Wilderness Study Areas in any state pursuant to the Federal Land Policy and Management Act. In September of 2003 the BLM issued Instruction Memorandum No. 2003-274 which severely undermined what FLPMA directs. Specifically this memorandum stated, "Authority to complete Wilderness review and manage Wilderness Study Areas under the non-impairment standard under FLPMA Sect. 603 expired October 21, 1993." The memorandum also rescinded the BLM Wilderness Inventory and Study Procedures Manual Handbook (USDI 2001a) which outlined the procedures the BLM must take to identify and protect wilderness quality lands. Despite this interpretation, which in our opinion is legally deficient, they did define Wilderness Characteristics in attachment 1 of IM2003-275 as to be considered in land use planning when the characteristics "**are reasonably present, and of sufficient value and need**" as well as is obligation to provide for the management of such lands.

In December of 2004 The Arizona State BLM Office issued Instructional Memorandum AZ-2005-007 which states the BLM "has the authority to address wilderness characteristics and prescribe goals, objectives and management actions in land use plans." The wilderness characteristics of the Aravaipa Canyon tablelands and tributary canyons must be addressed in the Aravaipa Management Plan as they "**are reasonably present**, **of sufficient value and need" (IM 2003-274),** and the "management direction to maintain them [should] be apparent in the plan, contributing to the long-term maintenance of the resource (IM AZ-2005-007)."

D. Protection of the Canyon and its Riparian Resources

Aravaipa Canyon is widely recognized as an area of ecological, scientific and scenic national importance. It is one of the most valuable biological areas in Arizona and today in Arizona riparian corridors such as Aravaipa Canyon are one of the most endangered ecosystems (Brown, 1989). Though the main canyon is currently protected under wilderness designation, the watershed upstream of the canyon and much of the tablelands surrounding the canyon are not protected under wilderness designation and the question rises if enough of the Aravaipa Canyon watershed has been protected to ensure proper ecosystem functioning. The current lack of protection of the Aravaipa Creek watershed presents a direct threat to the core Aravaipa Canyon Wilderness. Protecting the watershed is key to maintaining integrity of the aquatic habitat of Aravaipa Creek and the riparian corridor of the canyon that together support many species of birds, native fish, amphibians, reptiles and large mammals.

Within the riparian corridor directly adjacent to Aravaipa Canyon Wilderness lies Turkey Creek ACEC. The BLM identified the Turkey Creek Riparian area for designation as an ACEC because protection and enhancement of riparian vegetation is a high management priority for them. Turkey creek along with Oak Grove and Maple Canyons are described by the BLM as containing " riparian communities, wildlife, cultural and scenic resources that warrant Area of Critical Environmental Concern designation" (BLM, 1991). This area is also described by the BLM as being "fragile, sensitive and vulnerable to adverse change" (BLM, 1991). Because of its outstanding riparian communities and fragile qualities a part has been included in the proposed area to be managed for wilderness characteristics. If the 34, 869 acres we have outlined, including the Turkey Creek ACEC, are managed to maintain wilderness characteristics, this will further ensure the proper functioning of the Aravaipa Canyon ecosystem so that it will persist in its untrammeled state.

E. Protection of the Uplands and Their Watershed Values

The protection of Chihuahuan desert scrub, found on the tablelands surrounding Aravaipa canyon, is of particular importance because of its relative under-representation in the National Wilderness Preservation System. The Chihuahuan Semi-desert province has only 0.6% of its total area represented as wilderness in the National Wilderness Preservation System as compared to the median value of 2.3% for all the provinces across the United States (Loomis & Echohawk, 1999).

The Chihuahaun Semi-desert province encompasses the Table Mountain ACEC/RNA and the Desert Grasslands ACEC/RNA. The Table Mountain ACEC/RNA contains an alligator juniper savanna which was described by the BLM to be "known to exist in less than 20 locations" (BLM, 1991). The area also encompasses a white oak woodland containing Mexican blue oak. This area has special botanical values and is an outstanding natural area in the uplands surrounding Aravaipa Canyon thus warranting special protection by being included in the proposed area to be managed for wilderness characteristics. The Desert Grasslands ACEC/RNA is a representation of desert grasslands on upland soils that "provide critical habitat for 13 state-listed wildlife species and are important for watershed stabilization" (BLM, 1991). This area of relict grassland is of special conservation concern because it is sensitive, rare and vulnerable to adverse change. It was therefore included in the 34,869 acres to be managed for wilderness characteristics.

F. Economic Benefits of Wildlands

There is a growing body of evidence that wilderness provides significant economic benefits to society. "There have been more than a dozen studies quantifying the economic value of wilderness recreation and the other economic benefits that wilderness provides society" (Loomis, 2000). The most obvious benefit to surrounding communities is the money that wilderness visitors often spend in the local economy. Wilderness also contributes to the economic health of nearby communities through scientific benefits, passive use benefits, off-site benefits, ecological services and multiple others (Loomis & Echohawk, 2000). The amenities offered by wilderness increase the quality of life of nearby residents and often attract new residents and new businesses. Wilderness is a crucial source of fish and wildlife collected off the preserve. It is also

a crucial source of ecological services such as nutrient cycling, water purification and carbon storage that are important to quality of life off the preserve.

Previously, regional development models have assumed that people follow jobs, however recent research shows that jobs follow people in the American west (Nelson, 1999). This indicates that "keeping a high-quality wild environment is a development strategy" (Nelson, 1999) and that wilderness designation has a stimulating effect on the economies of nearby communities. Much of the concern over protection of public land comes from rural communities and there is a common belief that these communities rely heavily on resource industries such as mining, gas development and logging for personal income. In fact, resource industries combined with farming and ranching represented 8% of the total personal income in 2000. This is down from 20% in 1970 (Rasker et al., 2003), which is indicative of the economic evolution of the West to a new situation where space, residential and recreational property, second homes and environmental protection are important amenities (Shumway & Otterson, 2001).

VII. Route Analysis for the Aravaipa Canyon Area

The Sky Island Alliance has prepared a route inventory for the area to be managed for wilderness characteristics. This inventory was completed over the course of 2 years with the help of 75 volunteers who donated an approximate total of 1600 volunteer hours. The data is not as complete as it should be due to the nature of data collected by many different volunteers who have different levels of experience in travelway ground truthing. When information was not provided by the volunteer surveys the data field is marked as "unknown". Despite this, the data is sufficient to support the following route analysis and recommendations based on a solid knowledge of what conditions exist on the ground.

All of the routes included in this analysis except for route B do not meet the legal definition of a road as outlined under section .13 (A) in the BLM handbook: "a route which was established or has been maintained solely by the passage of vehicles would not be considered a road, even if it is used on a relatively regular basis" (USDI. 2001)

Route #: Az
Proposed Action: Revegetate and monitor
Length: 2.2 miles
Construction Type: User Created
Meets FLPMA Road definition: No, not maintained mechanically
Campsites: 3 small campsites
Vehicle Type: No
Erosion: Wheel ruts and gullies >5" deep.
Vegetation Present: This section of Turkey Creek is a wide floodplain with little vegetation structure. Road surface is taken over by small shrubs and forbs.
Other Impacts: Road
Notes: Route closed by BLM, but closure not 100% effective. No major incursions were noted and road is nearly obliterated in creek corridor. However it is visible from the B route as you head up towards Parson's Grove from Turkey Creek and some vehicle tracks were noted where it climbs out of the east side of the creek corridor.

AW-100-02: Start of route Az. Direction: E.

AW-100-15: Severe erosion on portion of route Az that was previously closed. Direction: SSW.


AW-100-07: Route Az crosses a wash, erosion. Direction: NNW.

Route #: B
Proposed Action: Close to allow administrative use only
Length: 5.7 miles.
Construction Type: Bladed and maintained
Meets FLPMA Road definition: Yes
Campsites: 2
Vehicle Type: 4WD and ATV
Erosion: Wheel ruts/gullies >12 inches deep.
Vegetation Present: Bare soil is >50% of surface
Other Impacts: N/A
Notes: Recent grinding work is evident and is supportive of the Prescribed Fire Plan

AC-B-08: Start of route B on right off of route A (Turkey Creek Road). Direction: SE.

AC-B-07: Mechanical improvements on route B (Grinding of road bed and left hand cliff wall). Direction: SW.


AW-B-01: Illegal spur off of route B (route B continues to the left) used for scenic overlook . Direction: NE.


AW-B-05: Erosion on route B. Direction: S.

Route #: By
Proposed Action: Close
Length: < 1 mile.
Construction Type: unknown
Meets FLPMA Road definition: No

Campsites: 1
Vehicle Type: 4WD and ATV
Erosion: Wheel ruts/gullies >12 inches deep.
Vegetation Present: Bare soil is >50% of surface
Other Impacts: Allows motorized access into the Wilderness.
Notes: Should be closed at the B route.


AW-By-04: Route beginning. Direction: E.


AW-By-03: Route Average. Direction: W.


AW-By-04: Route end. Motorized vehicles using area to left and behind Wilderness sign Direction: W.

Route #: C
Proposed Action: No action
Length: 3.8 miles
Construction Type: Unknown
Meets FLPMA Road definition: No, not maintained mechanically
Campsites: Unknown
Vehicle Type: Unknown
Erosion: Unknown
Vegetation Present: Unknown
Other Impacts: N/A
Notes: Route from Bear Canyon northeast towards the Aravaipa Town site; Route not surveyed by Sky Island Alliance.

Route: Cy
Proposed Action: Close and rehabilitate
Length: 2.7 miles
Construction Type: Unknown
Meets FLPMA Road definition: No, not maintained mechanically
Campsites: 8 small campsites
Vehicle Type: 4WD
Erosion: Ruts/gullies > 5" deep
Vegetation Present: grass/forbs intermittent with 25-50% bare soil

Other Impacts: There is evidence of abuse from irresponsible campers
Notes: This route provides access to Hell's Hole Canyon but cuts through the Wilderness in some segments.


TH-23-18: Beginning of route Cy. Direction: SW.


Th-23-17: End of route Cy, 0.25 miles past the Wilderness boundary. Note fire ring. Direction: E.


Th-23-15: Erosion on route Cy. Direction: SE.

Route #: Cx
Proposed Action: Close and rehabilitate at the north boundary of the Decker property
Length: 8.2 miles
Construction Type: Unknown
Meets FLPMA Road definition: No, not maintained mechanically
Campsites: 5
Vehicle Type: 4WD
Erosion: Wheel ruts/gullies as deep as 12”
Vegetation Present: Bare soil is >50% of the surface
Other Impacts: N/A
Notes: The owner of the Decker Ranch has indicated she would like to see all access closed north and west of the deeded land.

Th-23-19 : Start of Route Cx to the left, shortcut to route C proceeds to the right. Direction: NE.

Th-23-21: Campsite at junction of route Cx with a spur, area was covered with extensive litter. Direction: W.

Th-20-14: Average travel conditions on route Cx through uplands. Direction: S.

Th-20-07: Severe erosion where route Cx crosses a deep gully. Direction: SW.


Th-19-09: 12-14” rut on far west portion of route Cx. Direction: WSW.

Route #: Cv
Proposed Action: Close
Length: .25 miles
Construction Type: User created
Meets FLPMA Road definition: No not maintained mechanically
Campsites: Undocumented
Vehicle Type: Undocumented
Erosion: Undocumented
Vegetation Present: Undocumented
Other Impacts: Undocumented
Notes: Closure of Cx above the Decker property will effectively close this route


Th-20-09: Beginning of route Cv. Direction: SE.

Route #: Cu
Proposed Action: Close and rehabilitate the surface
Length: 3.7 miles
Construction Type: Unknown
Meets FLPMA Road definition: No, not maintained mechanically
Campsites: 0
Vehicle Type: dirt bike/ORV
Erosion: Unstabilized slumping of TW cut slopes
Vegetation Present: Primarily grass, <25% bare soil exposed
Other Impacts: N/A
Notes: Closure of Cx above the Decker property will effectively close this route

Th-20-27: Beginning of route Cu. Direction: S.

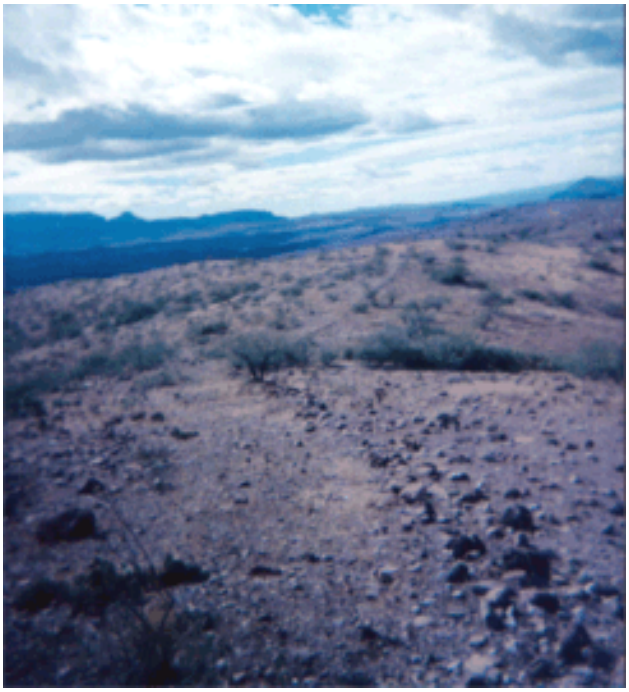
AC-11-13: Tracks along Paisano Wash off of Route Cu. Direction: N.

AC-11-14: Route going into Paisano Wash off Cu. Direction: NE.

AC-11-15: Route going out of Paisano Canyon and up the hill. Direction: NW.


Th-20-17: Worst erosion on route Cu. Direction: NE.

Route #: Cz
Proposed Action: Close
Length: 3 miles
Construction Type: Unknown
Meets FLPMA Road definition: No, not maintained mechanically
Campsites: Unknown
Vehicle Type: Unknown
Erosion: Undocumented
Vegetation Present: Unknown
Other Impacts: N/A
Notes: Closure of Cx above the Decker property will effectively close this route; Route not inventoried by Sky Island Alliance


Th-20-23: Beginning of route Cz, route outlined by rock berm on left of photo.
Direction: SSW

Route #: Cw
Proposed Action: Close and rehabilitate at San Carlos Apache Reservation Boundary
Length: 6.1 miles
Construction Type: User created and maintained
Meets FLPMA Road definition: No, not maintained mechanically
Campsites: 0
Vehicle Type: 4WD
Erosion: Live stream channeled down travelway
Vegetation Present: Grass/forbs intermittent with 25-50% bare soil
Other Impacts: N/A
Notes: Closure of Cx above the Decker property will effectively close this route from the east.

AC-10-05: Average conditions on Route Cw. Direction: WSW.

AC-10-03: Wilderness boundary with ATV tracks going past (boundary sign on left). Direction: S.

AC-10-01: Route Cw ends inside the Wilderness boundary with tracks ending at the edge of Aravaipa Canyon. Direction: ESE.

AC-10-06: Erosion on route Cw. Direction: S.

Route #: D
Proposed Action: Close at north property boundary of Trails End Ranch and at boundary with San Carlos Apache Reservation
Length: 4.2 miles
Construction Type: Unknown
Meets FLPMA Road definition: No, not maintained mechanically
Campsites: Unknown

Vehicle Type: 4WD
Erosion: Unknown
Vegetation Present: Unknown
Other Impacts: N/A
Notes: No legal access from Aravaipa Canyon.


AC-05-01: Average conditions on route D. Direction: E..

Route #: Dz (No photos)
Proposed Action: Close
Length: 9.4
Construction Type: Unknown
Meets FLPMA Road definition: No, not maintained mechanically
Campsites: Unknown
Vehicle Type: Unknown
Erosion: Unknown
Vegetation Present: Unknown
Other Impacts: N/A
Notes: No legal access from Aravaipa Canyon; Route not inventoried by Sky Island Alliance.

Route #: E
Proposed Action: Close
Length: 5.5 miles.
Construction Type: Bulldozer constructed, no evidence of maintenance
Meets FLPMA Road definition: No, not maintained mechanically
Campsites: 3

Vehicle Type: Dirt bike/ ORV.
Erosion: Live stream channeled down travelway with wheel ruts/gullies of up to 60 inches
Vegetation Present: Grass/forbs intermittent, bare soil is 25-50% of surface
Other Impacts:
Notes: No legal access from Aravaipa Canyon; Rock fall partially blocks route in one spot.


AW-03-08: Beginning of route E in the creek corridor just inside the Wilderness. No vehicle tracks were noted. Direction: E.


AW-03-07: Route E partially blocked due to rock fall. Direction: W.


AW-03-06: Worst erosion on route E, gully approximately 5’ deep. Direction: N.

Route #: F (No photos)
Proposed Action: Close at southern boundary of Area to Managed for Wilderness Characteristics (Boundary of sections 16 and 21, T 7S R 18E).
Length: Proposed Closure of 2.3 miles
Construction Type: User created
Meets FLPMA Road definition: No, not maintained mechanically
Campsites: 1
Vehicle Type: 4WD
Erosion: Severe in places south of study area
Vegetation Present: Bare soil is >50% of surface
Other Impacts: There is evidence of illegal dumping near Parson Grove
Notes: Locally known as the Rug Road, it travels approximately 6 miles north from Copper Creek Canyon just east of the town of Mammoth into the Aravaipa Canyon area.

Route #: G
Proposed Action: Close
Length: 7.1 miles
Construction Type: Unknown
Meets FLPMA Road definition: No, not maintained mechanically
Campsites: 1 small campsite
Vehicle Type: 4WD
Erosion: Unknown
Vegetation Present: Bare soil is >50% of the surface.
Other Impacts: N/A

Notes: This route has no purpose and has been partially closed in the past.

AW-50-66: Beginning of Sky Island Alliance survey of route G. Direction: N.

AW-50-75: Route G very rough and overgrown. Direction: NNE.


AW-50-105: Travelway Average Direction: SSW.

Route #: Gz (No photos)
Proposed Action: Close
Length: 4.6
Construction Type: Unknown
Meets FLPMA Road definition: No, not maintained mechanically
Campsites: Unknown
Vehicle Type: Unknown
Erosion: Unknown
Vegetation Present: Unknown
Other Impacts: This route is a cherry stem that goes into the wilderness from the south rim
Notes: This route has no purpose; Closure of route G will effectively close this route; Route not inventoried by Sky Island Alliance.

VIII. Special Status Species in the Aravaipa Canyon Watershed

COMMON NAME	SCIENTIFIC NAME	STATUS
Allen's big-eared bat	*Idionycteris phyllotis*	S
American peregrine falcon	*Falco peregrinus anatum*	SC, WC
Aravaipa sage	*Salvia amissa*	S
Aravaipa wood fern	*Thelypteris puberula var. sonorensis*	S
Arizona giant sedge	*Carex spissa* var. *ultra*	S
Bald eagle	*Haliaeetus leucocephalus*	LT, WC
Belted kingfisher	*Ceryle alcyon*	WC
Black-bellied whistling-duck	*Dendrocygna autumnalis*	WC
Buff-collared nightjar	*Camprimulgus ridgwayi*	S
Catalina beardtongue	*Penstemon discolor*	HS
Cave myotis	*Myotis velifer*	S
Common black-hawk	*Buteogallus anthracinus*	WC
Desert sucker	*Catostomus clarki*	S
Fringed myotis	*Myotis thysanodes*	S
Gila chub	*Gila intermedia*	WC
Gila topminnow	*Poeciliopsis occidentalis*	LE, WC
Loach minnow	*Tiaroga cobitis*	LT, WC
Longfin dace	*Agosia chrysogaster*	S
Lowland leopard frog	*Rana yavapaiensis*	WC
Mexican spotted owl	*Strix occidentalis lucida*	LT, WC
Northern goshawk	*Accipiter gentilis*	WC
Northern gray hawk	*Asturina nitida maxima*	WC, S
Roundtail chub	*Gila robusta*	WC
San Carlos wild-buckwheat	*Eriogonum capillare*	SR
Sonora sucker	*Catostomus insignis*	S
Sonoran desert tortoise	*Gopherus agassizii*	LT, WC
Speckled dace	*Rhinichthys osculus*	S
Spikedace	*Meda fulgida*	LT, WC
Toumey agave	*Agave toumeyana* var *bella*	SR
Western red bat	*Lasiurus blossevillii*	WC
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	WC

LE – USFWS Listed Endangered. **LT** – USFWS Listed Threatened. **WC** – AGFD Wildlife of Special Concern in Arizona.
S – BLM Sensitive Species. **HS** – Arizona Native Plant Law Highly Safeguarded. **SR** – Arizona Native Plant Law Salvage Restricted.

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Attachments

Figure 1 –Proposed Area to be Managed for Wilderness Characteristics

Figure 2 –Overview of Existing Routes

Figure 3 –Present Route recommendations

Figure 4 –Proposed Route System

Letter dated 17 October 2005

Addressed to the BLM with specific requests.

Figure 1.
Proposed Area to be Managed for Wilderness Characteristics

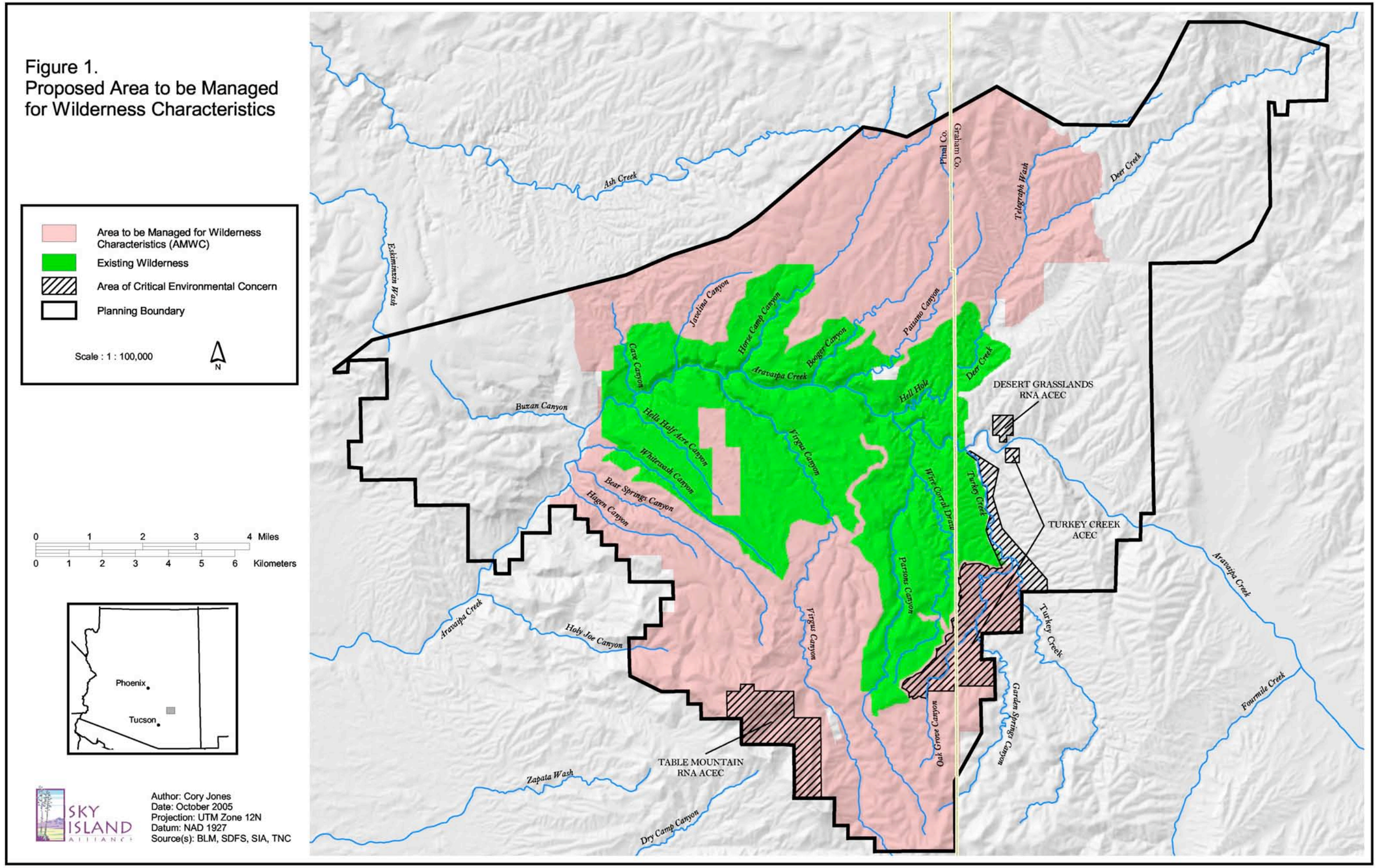


Figure 2.
Overview of Existing Routes

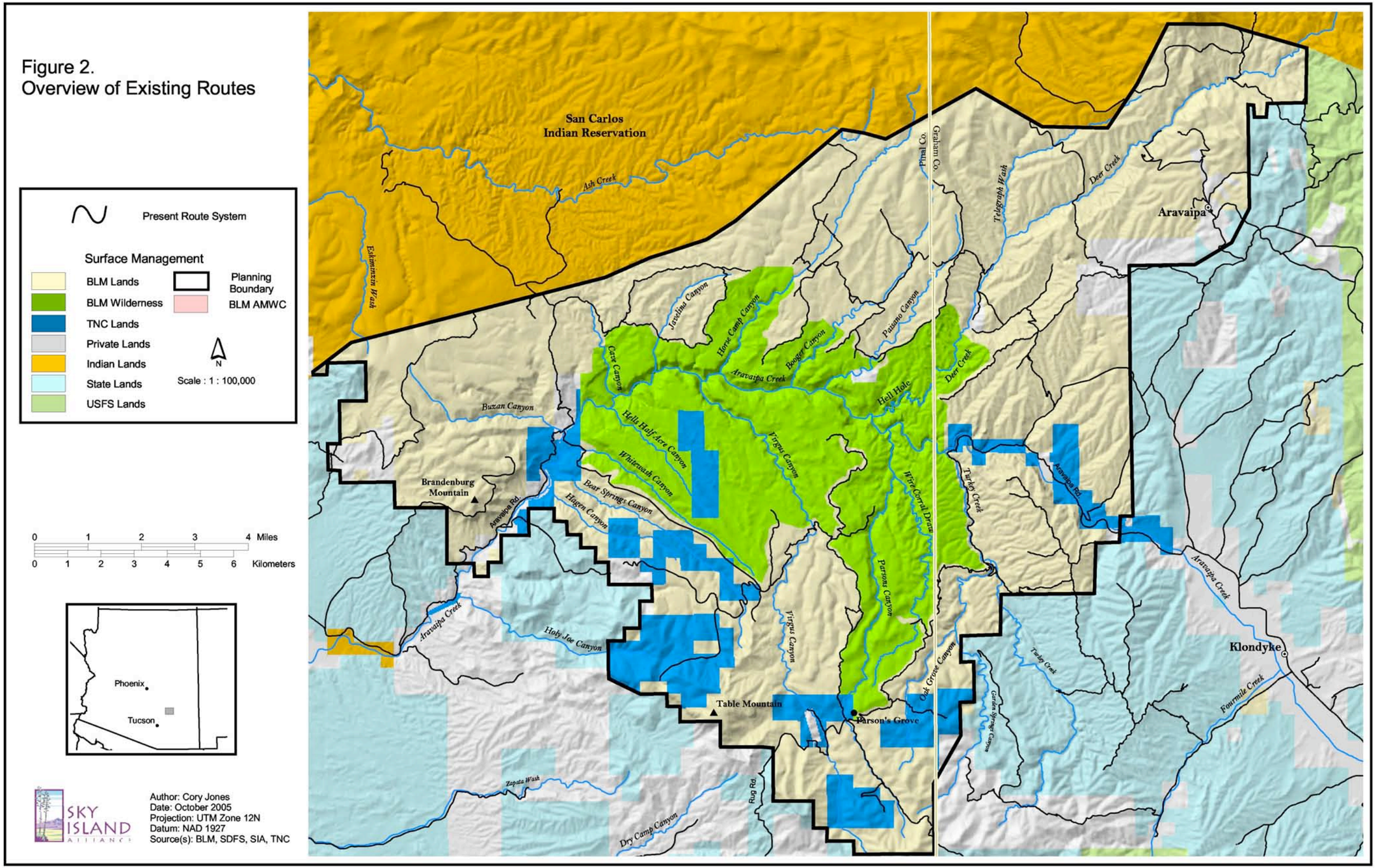


Figure 3.
Present Route System
Recommendations

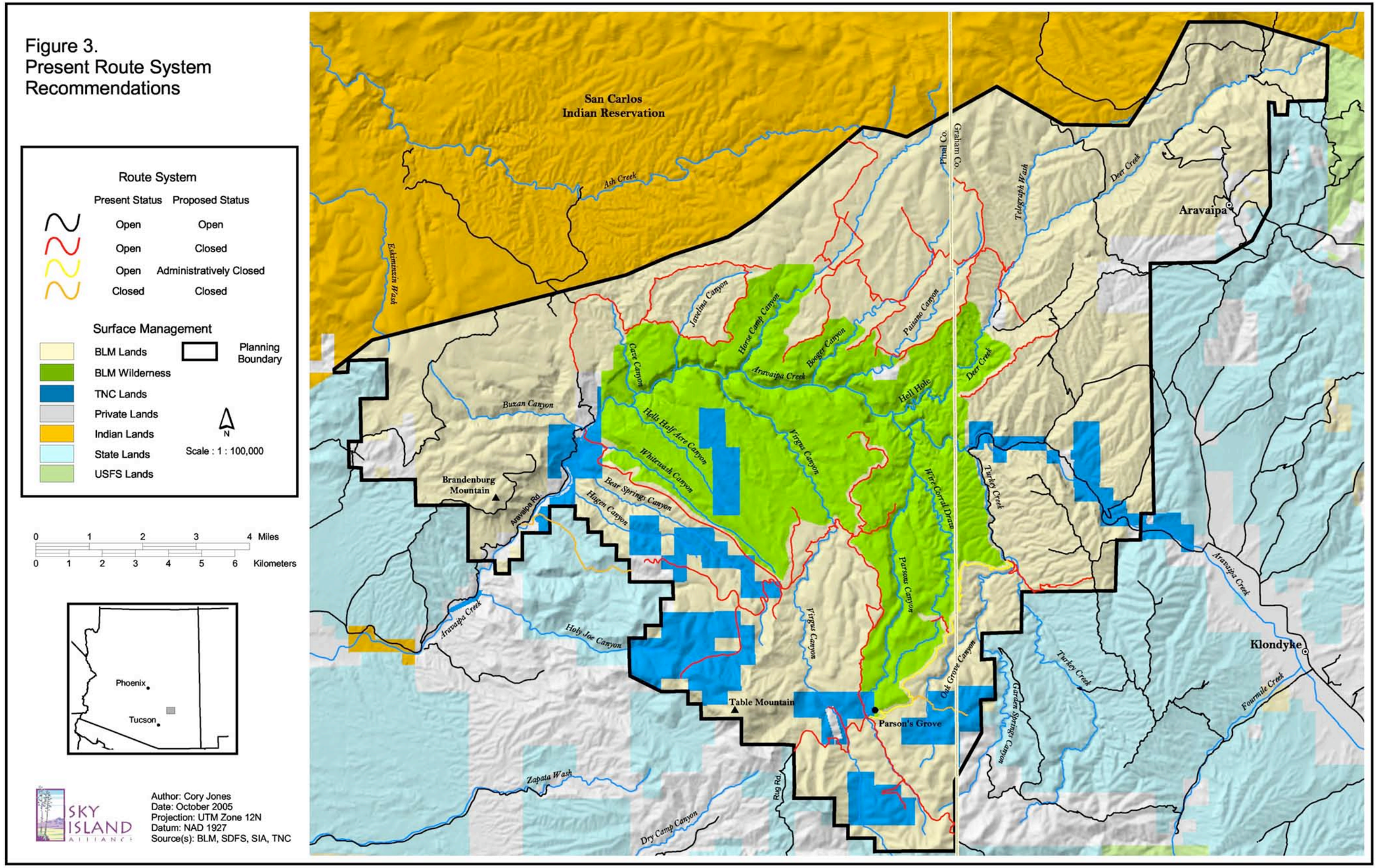
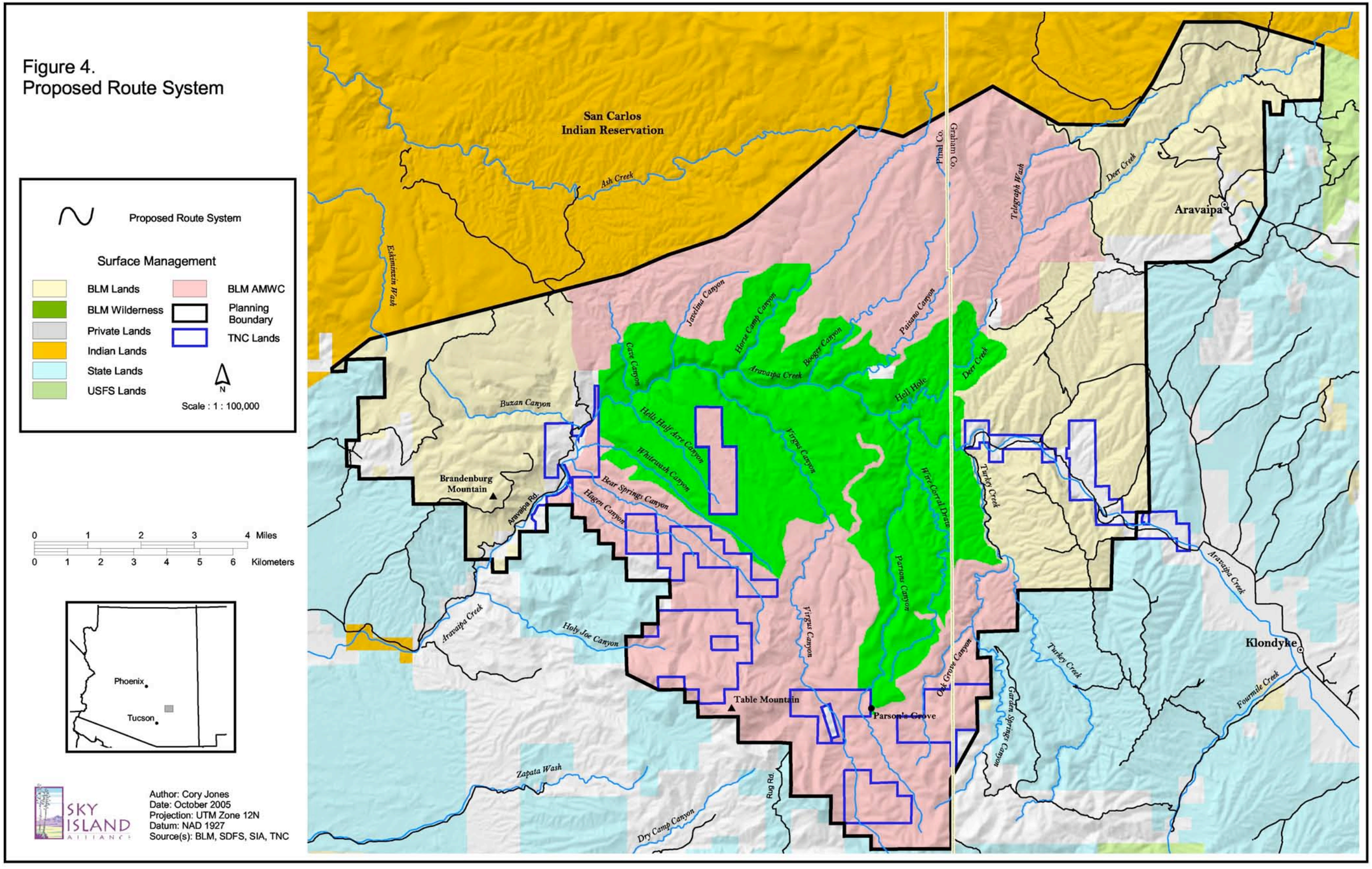


Figure 4.
Proposed Route System



SKY ISLAND ALLIANCE
Protecting our Mountain Islands and Desert Seas

17 October 2005

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Dear Marlo, Duane and Dale,
Thank you very much for your hard work on behalf of Aravaipa Canyon. As a membership-based, conservation organization dedicated to the preservation and restoration of native flora and fauna in the sky islands of the southwestern United States and northwestern Mexico, Sky Island Alliance has appreciated the opportunity to participate in the ongoing planning process.

We understand that you are finalizing alternatives for the Aravaipa Ecosystem Management Plan (AEMP) this week, and would like to comment on the importance of a designated transportation system that protects resources while allowing appropriate recreational and wildlife management access. Inventories by Sky Island Alliance volunteers identified many redundant, badly eroded, and dangerous roads in the area, and this information along with detailed recommendations were presented to the BLM and AEMP Working Groups earlier this year. The document is also available at www.skyislandalliance.org/pdffiles/aravaipa.pdf.

We implore the planning team to remove roads that pose resource or safety issues, do not serve a purpose, or exceed the BLM's fiscal/practical capabilities for maintenance and enforcement. The mere presence of a road should not dictate it's continued presence – land management agencies around the country are quickly finding that user-created wildcat roads present significant challenges in many regards. We, along with the thousands of members and volunteers whom we represent, hope that this planning process will not simply codify existing roads for their own sake, but rather

make a priority to remove unnessssary, illegal, or damaging roads, in compliance with the mission of the AEMP.

We would like to see alternatives developed that explore the efficacy of differing levels of road closures to protect the resources of the Aravaipa Ecosystem. These alternatives should also address the availability of primitive non-motorized recreation opportunities in the uplands surrounding Aravaipa Canyon.

The current defacto transporation system includes routes that allow motorized access into a Congressionally designated Wilderness Area, in violation of federal law. In addition there are currently roads that host severe erosion, that access TNC private property, and are redundant or serve no purpose. Now is the time to remove those roads. Ample access currently exists to the Aravaipa area, and we would be disappointed if after this planning process, there was a net gain in roads, considering the already tough management challenges faced with the transportation system.

Another point we would like to make is that no transportation system should be approved without a monitoring and management plan including law enforcement that can adequately detect resource impacts and illegal use.

Please see, attached, the analysis of the roads that we feel are most important to close as soon as possible and that should be included in the preferred alternative.

If you have any questions please feel free to contact me @ 624-7080 x204 or trevor@skyislandalliance.org.

Sincerely,

Trevor Hare
Conservation Biologist

Cc:
Bill Brandau
Elaine Zelinski
Gerry Perry
Duane Shroufe
Tom Callazo

Highest Priority Road Closures

Closed routes being used by ATVs

Route #: SIA –Az; BLM AC1015
Route closed by BLM, but closure not 100% effective. No major incursions were noted and road is nearly obliterated in creek corridor. However it is visible from the B route as you head up towards Parson's Grove from Turkey Creek and some vehicle tracks were noted where it climbs out of the east side of the creek corridor.

AC-100-02: Start of route Az. Direction: E. UTM 553674/3636335

AC-100-15: Severe erosion on portion of route Az that was previously closed. Direction: SSW. UTM 553916/3635664

Route #: SIA Bx; BLM AC1081
Route closed by BLM, but closure not 100% effective. Road has been used recently and crosses a perennial section of the creek in Oak Grove Canyon.

Unnumbered photo: Start of route Bx that was previously closed. Direction: ENE. UTM 550380/3632290

Unnumbered photo: Stream Crossing on route Bx that was previously closed. Direction: E. UTM 550840/3632189. Note recent use.

Routes that allow motorized access into the Wilderness

Route #: SIA Cz; BLM AC1039
Not inventoried by Sky Island Alliance. BLM mapping shows it entering the Wilderness.

Route #: SIA Cw; BLM AC1050
This road also serves no purpose and is severely eroded

AC-10-03: Wilderness boundary with ATV tracks going past (boundary sign on left). Direction: S. UTM 546531/3642497

AC-10-01: Route Cw ends inside the Wilderness boundary with tracks ending at the edge of Aravaipa Canyon. Direction: ESE. UTM 546245/3641962

Route #: SIA no number; BLM AC1038
Not inventoried by Sky Island Alliance. BLM mapping shows it entering the Wilderness.

Route #: SIA Gz; BLM AC1033
Not inventoried by Sky Island Alliance. BLM mapping shows it entering the Wilderness.

Route #: SIA no number; BLM AC1033a
Not inventoried by Sky Island Alliance. BLM mapping shows it entering the Wilderness.

Route #: SIA no number; BLM AC1085
Not inventoried by Sky Island Alliance. BLM mapping shows it entering the Wilderness.

Route #: SIA By; BLM AC1030
This road also serves no purpose and is severely eroded.

AW-By-04: Route end. Motorized vehicles using area to left and behind Wilderness sign Direction: W. UTM 551493/3634308

Routes that allow access into TNC private property

No specific data is presented. We have added these roads as there is no need to access these properties.
Route #: SIA no number; BLM AC1078.
From Parson's Grove to the Bleak Spring property.

Route #: SIA G; BLM AC1131.
Route into Holy Joe Peak area.

Route #: SIA I; BLM AC1080.
From Parson's Grove to the Peach Spring property.

Route #: SIA E; BLM AC1032.
From Aravaipa Creek on the west side and the Woods ranch to the Elephant Corral area. This road is also redundant, serves no purpose and is severely eroded.

Routes that are redundant or serve no purpose

Route #: SIA By; BLM AC1030
Wire Corral Road. See previous. Route goes to no developments and is providing illegal access into the Wilderness.

Route #: SIA D; BLM AC1063
Road from Trails End Ranch north. This road also is severely eroded and is closed by the property owner.