



United States
Department of
Agriculture

Forest
Service

**Southwestern
Region**



Travel Management Travel Analysis Process

For

Tonto National Forest

**Cave Creek Ranger District
Globe Ranger District
Mesa Ranger District
Payson Ranger District
Pleasant Valley Ranger District
Tonto Basin Ranger District**

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Text Tabbed Style

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Note: Area and length figures referenced throughout this document are based on the best available Geographic Information System (GIS) data at the time of publication. These figures are based on the Universal Transverse Mercator Zone 12 projection referencing North American Datum of 1983. Analysis and calculations have been made utilizing various GIS layers. Differences in area or length correlations between the various calculations in this document are due to minor discrepancies between GIS layers. Reported numbers have been rounded and are approximate due to such minor discrepancies. As a result, mileages reported in this document may vary slightly. Throughout the duration of this planning effort some of the various GIS layers utilized have been modified (i.e. additional data has been added and existing data updated). Data edited was not the Forest's transportation atlas data, which includes Infra and GIS corporate data, however, the transportation atlas data was used as a starting point for building the GIS data used in this report.

Executive Summary

Travel planning in the Forest Service has been traditionally split between the engineering program for road management and the recreation program for trails management. A recently revised federal regulation, Forest Service Manual (FSM) Amendment No. 7710-2009-2, now combines the scope of roads analysis to also include trails and areas.

This Travel Analysis Process (TAP) is intended to identify opportunities for the national forest transportation system to meet current and future management objectives, and provide information that allows integration of ecological, social, and economic concerns into recommendations, which can be used to assist with future decisions. The TAP is tailored to address both specific local situations and landscape/site conditions, as identified by forest personnel and public input. Terms commonly used in this document are defined in the glossary in appendix A.

The outcome of the TAP is a set of recommendations for the forest transportation system. A thorough Travel Analysis supports subsequent *National Environmental Policy Act* (NEPA) processes, allowing individual projects to be more site-specific and focused, while still addressing collective impacts.

Analysis Performed

An Interdisciplinary (ID) Team of Forest Service resource specialists was assembled to evaluate routes based upon localized, site specific resource risks (i.e., potential impacts to cultural resources and wildlife/habitat, etc.) and benefits (administrative needs, access to commercial facilities, recreational opportunities, etc.). The ID Team also considered risks and benefits from a larger landscape perspective (i.e., beyond the “route by route” perspective in order to consider the collective effects of the recommended route system). This level of evaluation from a landscape perspective by the ID Team was carried out through the utilization of information from a variety sources (e.g., agency specialists’ data, reports and expertise, agency Geographic Information System (GIS) coverages, cooperating agency and public input, etc.).

How the Report Will Be Used

This TAP will assist the Tonto National Forest (NF) in identifying issues related to the roads and motorized trails system. It will be used to inform future analyses, recommendations, specific actions, and decisions related to the forest transportation system. The information and recommendations in this TAP represents the best available information at this time. Future planning efforts may avail themselves of pertinent information from this TAP, as appropriate.

Project Introduction

Specific to National Forest System (NFS) lands and consistent with *Executive Orders 11644* and *11989*, the *Travel Management Rule* [36 Code of Federal Regulations (CFR) Parts 212, 251, 261, and 295] became effective on December 9, 2005, (revision 4 published June 30, 2008). The *Travel Management Rule* (Rule) provides for a system of NFS roads, trails and areas on NFS lands that are designated for motor vehicle use.

This analysis meets the requirements of the Rule and consolidates and analyzes information on NFS roads that can be utilized for a variety of future forest planning and permitting needs.

The Tonto NF is the fifth largest forest in the United States and it supports a variety of recreational opportunities. Its boundaries are Phoenix to the south, the Mogollon Rim to the north and the San Carlos and Fort Apache Indian reservations to the east. With the adjacent Phoenix metropolitan area, the Tonto NF is one of the most-visited urban forests in the United States. Approximately 5.8 million visitors access the Tonto NF annually and recreational use in the forest is growing. Conflicts between various users and between humans and wildlife have increased.

Off-highway vehicle (OHV) use is a growing recreational activity on the forest. OHVs travel on different types of roads for various experiences, such as sightseeing, to reach campsites or non-motorized trails, hunting, or for technical driving challenges. The amount of maintenance that these roads receive varies based upon their maintenance class, the amount and type of use, and the amount of funding available for road maintenance. Roads maintained for passenger cars usually receive regular maintenance and provide access between dispersed Forest locations and towns and highways. These “passenger car” roads tie into a larger transportation system of roads which are not managed or maintained for passenger vehicle use, but for use by “high-clearance” vehicles only. These “high-clearance” roads generally receive much less maintenance and in some cases are only maintained on an “as needed basis.” It is on these lesser maintained roads that a large segment of the visiting public utilize their OHVs.

Overnight camping with recreational vehicles is a popular activity. Many of these visitors travel the well-maintained roads with off-highway vehicles (OHVs) in tow to reach their “base camps.” They then explore the Forest on the rougher high clearance vehicle roads that extend beyond their base camp.

Hunting is another popular recreational activity, resulting in the influx of commercial outfitter guides and many out of town visitors to the Tonto NF. Motor vehicles, particularly OHVs, are used by some hunters for transportation during the hunt and for camping and off-road game retrieval, which is not prohibited in the Payson or Pleasant Valley ranger districts.

Each Tonto NF ranger district also utilizes the transportation system for a variety of administrative purposes, including fire management, law enforcement, and facilities management (e.g., to access utility or mining facilities). Ranching, utility, telecommunication, and mining permittees and operators also depend on the transportation system to maintain their permitted operations.

The travel analysis planning area is contained within the boundaries of the Tonto NF (almost 3 million acres). The planning area was first divided into the Tonto NF’s six ranger districts: Cave Creek Ranger District (CCRD), Globe Ranger District (GRD), Mesa Ranger District (MRD), Payson Ranger District (PRD), Pleasant Valley Ranger District (PVRD), and Tonto Basin Ranger District (TBRD). Each district was then divided into subregions in order to effectively analyze this large geographic area. Travel analysis specifics are described for each district in this report.

Cave Creek Ranger District (CCRD)

The southern portion of the Cave Creek RD serves as the gateway to the Tonto NF, because it has the easiest access from the nearby Phoenix metropolitan area. Developed recreation sites are found primarily along the Verde River and associated reservoirs. The northern portion of the Cave Creek RD is generally more remote and the roads rougher than those roads found in the

southern portion of the Cave Creek RD. The Mazatzal Wilderness and Interstate 17 (I-17) approximate the eastern and western district boundaries, respectively.

Cross country or off-route travel is not permitted within the CCRD; however, the public does travel on many unauthorized routes, as well as system roads that are closed to such use. The public's use of unauthorized routes may result from confusion over which roads are legally open for public use or from disregard of regulatory signing.

The CCRD covers nearly 1,000 square miles and contains more than 560,000 acres of desert, semi-desert grassland, chaparral, and piñon-juniper vegetative communities (table CCRD 1.1; map CCRD 1.1). Flowing through the CCRD is the Verde River, which feeds two reservoirs, Bartlett and Horseshoe. Wilderness areas located within the CCRD include Pine Mountain and Mazatzal Wilderness.

In the 1985 Tonto National Forest Land and Resource Management Plan (Forest Plan), seven management areas (MAs) were identified as being associated with the CCRD (see table CCRD 1.1 and map CCRD 1.1). These management areas, along with their management emphasis are listed below.

MA 1A - Pine Mountain Wilderness

- Manage for wilderness values, wildlife habitats, and natural ecological processes, while allowing livestock grazing and recreation opportunities that are compatible with maintaining these values and processes.

MA 1B - Mazatzal Wilderness

- Manage for wilderness values, wildlife habitats, and natural ecological processes, while allowing livestock grazing and recreation opportunities that are compatible with maintaining these values and processes.

MA 1C - Verde Wild River

- This Management Area was established as a result of the *Arizona Wilderness Act of 1984* that designated this segment of the Verde River as a Wild River under the *Wild and Scenic River Act (Public Law 90-542)*. The Act requires that this segment be administered in such a manner as to protect and enhance its designated outstandingly remarkable scenic, fish and wildlife, and historical/cultural values (ORVs), while protecting the river's free flowing character and water quality. The Comprehensive River Management Plan (CRMP) for the Verde Wild and Scenic River (U.S.F.S., 2004) describes the ORVs in further detail.

MA 1D - Verde Scenic River

- This Management Area was established as a result of the *Arizona Wilderness Act of 1984* that designated this segment of the Verde River as a Scenic River under the *Wild and Scenic River Act (Public Law 90-542)*. The Act requires that this segment be administered in such a manner as to protect and enhance its designated outstandingly remarkable scenic, fish and wildlife, and historical/cultural values (ORVs), while protecting the river's free flowing character and water quality. The Comprehensive Management Plan (CRMP) for the Verde Wild and Scenic River (U.S.F.S., 2004) describes the ORVs in further detail.

MA 1E - Horseshoe and Bartlett Recreation Areas

- The primary emphasis for this area is water-oriented developed and dispersed recreation. Capacity management will be established where needed to ensure a quality recreation experience, and to protect resources and public health and safety. Recreation sites in this management area will emphasize a mix of day use and overnight use. The visual resource is an important consideration in the management of this area.

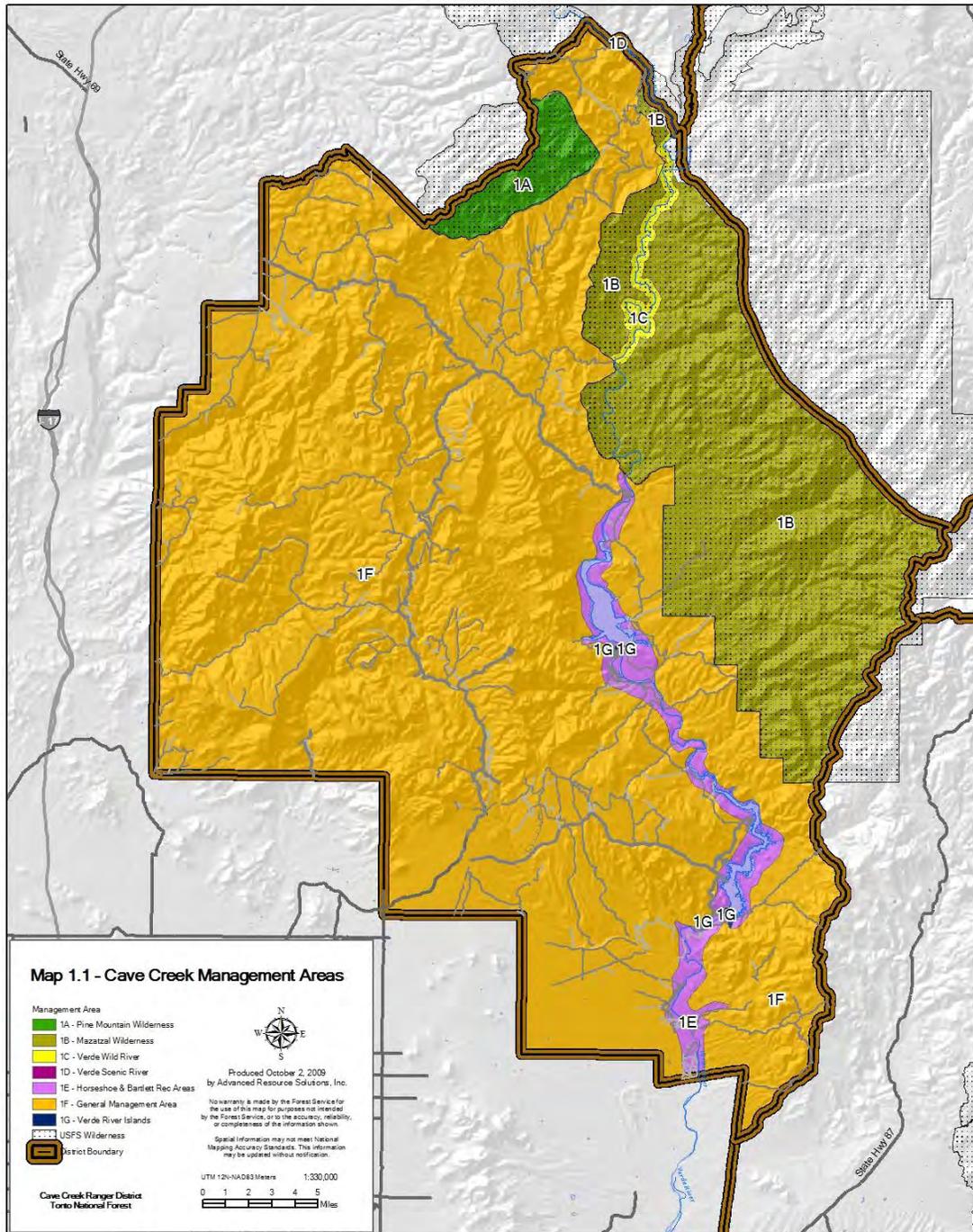
MA 1F - General Management Area

- Manage for a variety of renewable natural resources with primary emphasis on wildlife habitat improvement, livestock forage production, and dispersed recreation. Watersheds will be managed so as to improve them to a satisfactory or better condition. Improve and manage the included riparian areas (as defined by FSM 2526) to benefit riparian dependent resources.

MA 1G contains several small Verde River islands, totaling approximately 384 acres (not shown in tables or maps due to its changeable nature and small size).

Table CCRD 1.1: Cave Creek RD Management Areas with dominant vegetation types identified.

Habitat Type	Management Area						Total (acres)
	1A	1B	1C	1D	1E	1F	
<i>Riparian</i>		1,905	2,130	50	3,694	1,338	9,117
<i>Desert</i>		62,950	2,439		8,905	202,927	277,221
<i>Desert Grassland-Chaparral</i>				510			510
<i>Chaparral-Piñon Juniper</i>	10,430					205,629	216,059
<i>Non Vegetated River Channel</i>		52,926	700	120			53,746
<i>Ponderosa Pine</i>	1,020	2,877				629	4,526
<i>Water and River Channel</i>					5,781		5,781
Total (acres)	11,450	120,658	5,269	680	18,380	410,523	566,960



Map CCRD 3.1: Cave Creek Ranger District Management Areas

Globe Ranger District (GRD)

The Globe RD is located north, south and west of the city of Globe. The district surrounds the town of Superior and shares borders with both the Fort Apache and San Carlos Indian reservations. Cross country or off-route travel is not permitted within the Globe RD; however, the public does travel on some unauthorized routes, as well as system roads that are closed to such use. The public's use of unauthorized routes may result from confusion over which roads are legally open for public use.

The Globe RD contains approximately 450,000 acres of desert, chaparral, and piñon-juniper types of vegetation, as well as scattered areas of ponderosa pine (table GRD 1.1; map GRD 1.1). The Upper Salt River flows through much of this District. Wilderness areas located within the Globe Ranger District include the Salt River Canyon and Superstition wildernesses.

In the Forest Plan, seven management areas (MAs) were identified as being associated with the Globe RD (table GRD 1.1; map GRD 1.1). These management areas, along with their management emphasis are listed below.

MA 2A - Superstition Wilderness

- Manage for wilderness values, wildlife habitats, and natural ecological processes, while allowing livestock grazing and recreation opportunities that are compatible with maintaining these values and processes.

MA 2B - Salt River Canyon Wilderness

- The primary emphasis for this area is the preservation of naturally occurring flora, fauna, aesthetics, and ecological processes, while providing a very high quality white water river running experience. Special consideration will be given to nesting bald eagle home range requirements. Watershed protection is also an important emphasis, and the stream shall be maintained in a free flowing condition with water quality maintained or improved. Other activities that are authorized by the *Wilderness Act* will be conducted to minimize their impact on wilderness character.

The portion of this management area from near the Highway 288 Bridge upstream to the Fort Apache Reservation boundary was studied by the Forest Service for inclusion in the National Wild and Scenic Rivers System at the direction of the U.S. Congress. Present management emphasis will not preclude future Congressional designation of this river.

MA 2C - Upper Salt River

- The primary emphasis for this area is the preservation of naturally occurring flora and fauna, and esthetic values, while providing a very high quality white-water river-running experience. Special consideration will be given to nesting bald eagle home range requirements. Watershed protection is also an important emphasis, and the stream shall be maintained in a free-flowing condition with water quality maintained or improved. Other activities will be authorized, as long as they are consistent with primary management emphasis for this river and its adjacent lands.

MA 2D - Pinal Mountain Recreation Area

- Manage for dispersed and developed recreation opportunities, for sustained yield of livestock forage, and to maintain or improve watersheds to a satisfactory or better condition. Sawtimber and fuelwood harvest will be compatible with the recreation and

grazing opportunities and will be done primarily for salvage and sanitation purposes. Uses such as electronic sites will be allowed on special areas. The visual resource is an important consideration in the management of this area.

MA 2E - Picket Post Mountain Research Natural Area

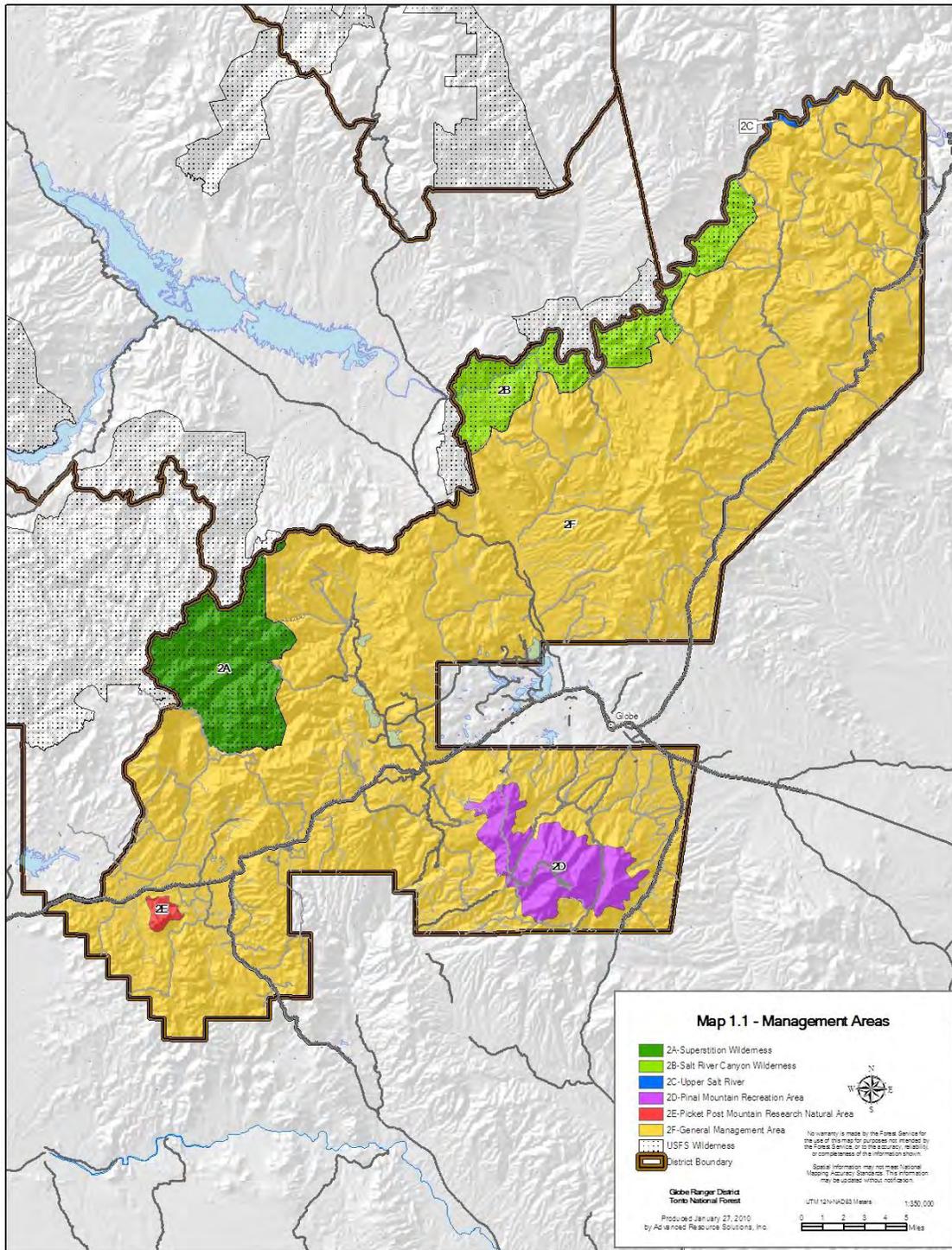
- Manage to provide opportunities of non-disruptive research and education. Use restrictions will be imposed as necessary to keep areas in their natural or unmodified condition. There will be no harvest of forest products, including fuelwood and jojoba.

MA 2F - General Management Area

- Manage for a variety of renewable natural resources with primary emphasis on wildlife habitat improvement, water quality maintenance, livestock forage production, and dispersed recreation. Watersheds will be managed to improve them to a satisfactory or better condition. Improve and manage the included riparian areas (as defined by FSM 2526) to benefit riparian dependent resources.

Table GRD 1.1: GRD Management Areas with the dominant vegetation types identified.

Habitat Type	Management Area					
	2A	2B	2C	2D	2E	2F
<i>Riparian</i>	96	494	80			4,486
<i>Desert</i>		20,654	804		1,120	103,879
<i>Chaparral-Piñon juniper</i>	23,535	714	347			264,985
<i>Non Vegetated river channel</i>		1,161	5			
<i>Non Vegetated</i>						2,100
<i>Ponderosa Pine</i>	188					10,398
<i>Ponderosa Pine/mixed conifer</i>				15,822		
Total (acres)	23,819	23,023	1,236	15,822	1,120	385,848



Map GRD 1.1: Globe Ranger District Management Areas

Mesa Ranger District (MRD)

The southwestern portion of the Mesa RD also serves as a gateway to the Tonto NF, because it has easy access from the nearby Phoenix metropolitan area. Developed recreation sites are found primarily along the Lower Salt River region and associated lakes. The Great Western Trail, a collection of back-country roads, and the non-motorized National Scenic Arizona Trail traverse the District.

A variety of forest visitors conduct hiking, backpacking, equestrian, and other non-motorized activities in wilderness areas. In dispersed recreation activities, hunting, camping, target shooting, hiking, OHV use, and driving for pleasure are the most popular activities. Cross country or off-route travel is not permitted within the Mesa RD; however, the public does travel on some unauthorized routes, as well as system roads that are closed to such use. The public's use of unauthorized routes may result from confusion over which roads are legally open for public use.

The Mesa RD covers nearly 700 square miles and contains more than 430,000 acres of semi-desert grassland, chaparral, Sonoran Desert scrub, and piñon-juniper vegetative communities as well as a small area of ponderosa pine (table MRD 1.1; map MRD 1.1). The Mesa RD is characterized by its vast desert landscape surrounding Saguaro and Canyon lakes, the Lower Salt River, Superstition, and Four Peaks wilderness areas, and a portion of the Mazatzal Wilderness.

In the Forest Plan, ten management areas (MAs) were identified as being associated with the Mesa RD (table MRD 1.1; map MRD 1.1). These management areas, along with their management emphasis are listed below.

MA 3A - Mazatzal Wilderness

- Manage for wilderness values, wildlife habitats, and natural ecological processes, while allowing livestock grazing and recreation opportunities that are compatible with maintaining these values and processes.

MA 3B - Superstition Wilderness (eastern end)

- Manage for wilderness values, wildlife habitats, and natural ecological processes, while allowing livestock grazing and recreation opportunities that are compatible with maintaining these values and processes.

MA 3C - Superstition Wilderness (western end)

- Manage for wilderness values, wildlife habitats, and natural ecological processes, while allowing livestock grazing and recreation opportunities that are compatible with maintaining these values and processes.

MA 3D - Four Peaks Wilderness

- Manage for wilderness values, wildlife habitats, and natural ecological processes, while allowing livestock grazing and recreation opportunities that are compatible with maintaining these values and processes.

MA 3E - Bush Highway Research Natural Area

- Manage to provide opportunities of non-disruptive research and education. Use restrictions will be imposed as necessary to keep areas in their natural or unmodified condition. There will be no harvest of forest products, including fuelwood.

MA 3F - Saguaro and Canyon Lakes and the Lower Salt River Recreation Area

- The primary emphasis for this area is water-oriented developed and dispersed recreation. Capacity controls will be established where needed to ensure a quality recreation experience, and to protect resources and public health and safety. Recreation sites in this management area will emphasize day-use-only during the summer season, and a mix of day use and overnight use during the winter season in these sites developed for this dual use. The visual resource is an important consideration in the management of this area.

MA 3G - proposed Desert Botanical Garden

- This management area is intended to be managed cooperatively with the Desert Botanical Garden to preserve the desert landscape, introduce and establish endangered plant species, develop a "living" museum to interpret the natural history of the Sonoran Desert and to provide opportunity for public enjoyment of the natural surroundings through participation in non-destructive recreational activities. The visual resource is an important consideration in the management of this area.

MA 3H - proposed Sycamore Creek and Blue Point Cottonwood Natural Areas

- Manage to provide protection to natural features and vegetative communities. Management is directed toward maintaining as nearly as possible existing conditions and natural processes for public enjoyment, demonstration, and study. A high level of protection is required to maintain water flows and quality. The visual resource is an important consideration in the management of this area.

MA 3I - General Management Area

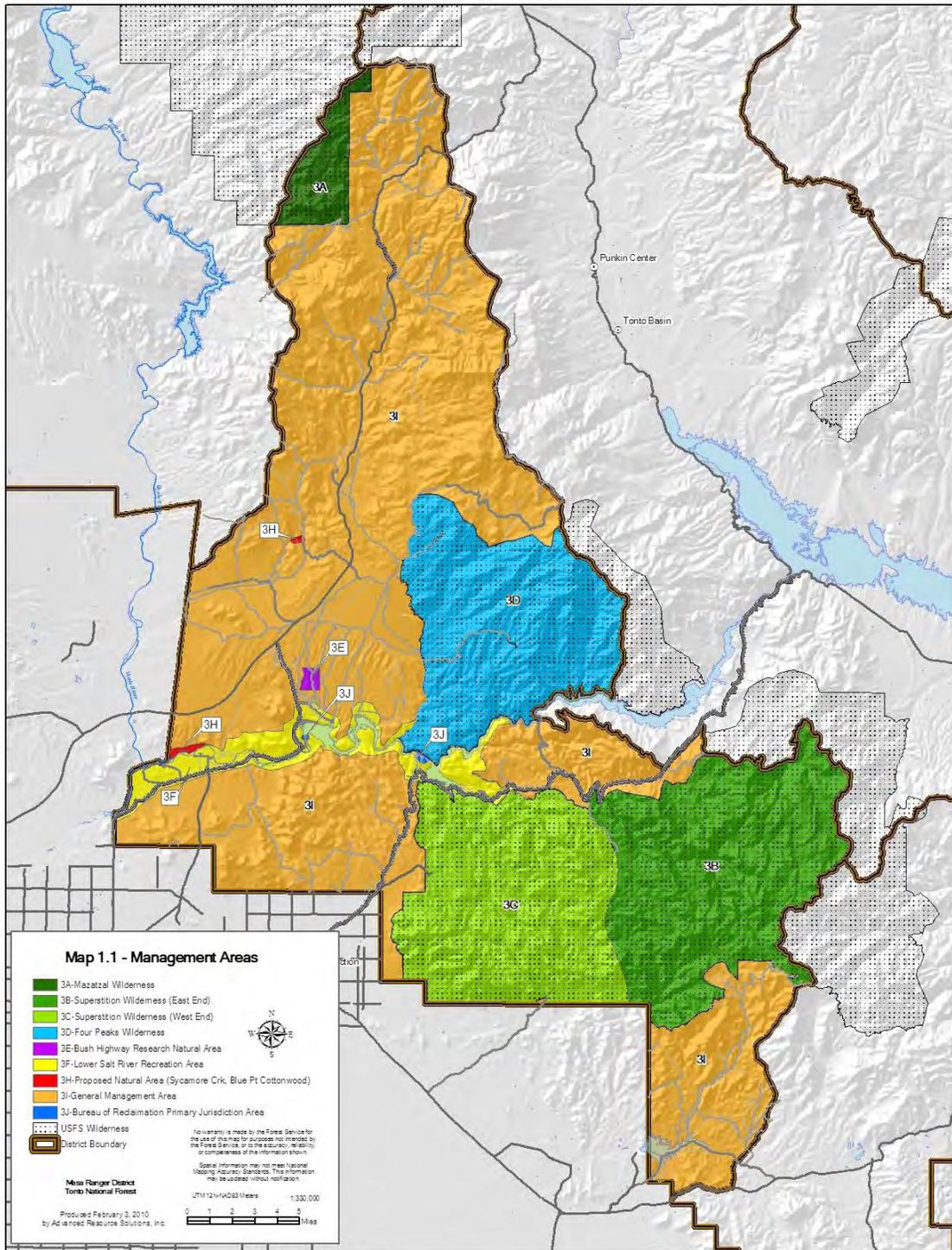
- Manage for a variety of renewable natural resources with primary emphasis on improvement of wildlife habitat, livestock forage production, and dispersed recreation. Watersheds will be maintained so as to improve them to a satisfactory or better condition. Improve and manage the included riparian areas (as defined by FSM 2526) to benefit riparian dependent resources.

MA 3J - Bureau of Reclamation (BOR) Primary Jurisdiction Area

- All management activities under the jurisdiction of the Bureau of Reclamation and their contractor, the Salt River Project.

Table MRD 1.1: MRD Management Areas with the dominant vegetation types identified. MA 3J (not shown) is under the primary jurisdiction of Bureau of Reclamation.

Habitat Type	Management Area								
	3A	3B	3C	3D	3E	3F	3G	3H	3I
<i>Riparian</i>	56		18	40		2,751		540	1,944
<i>Desert</i>	367	11,834	56,702	30,273	488	10,380	1,200		177,015
<i>Chaparral-Piñon Juniper</i>	9,651	38,585	5,952	10,532					72,240
<i>Non Vegetated River Channel</i>									1,475
<i>Ponderosa Pine</i>	679	1,058	35	1,195					4,511
<i>Lakes and River Channel</i>						2,046			
Total (acres)	10,753	53,477	62,707	42,040	488	15,177	1,200	540	275,185



Map MRD 1.1: Mesa Ranger District Management Areas

Payson Ranger District (PRD)

The Payson RD covers 700 square miles and contains more than 450,000 acres of chaparral, piñon-juniper, and ponderosa pine vegetative communities (table PRD 1.1; map PRD 1.1). The Verde River passes through portions of the Payson RD. Wilderness areas include Hellsgate and Mazatzal.

The Payson RD shares borders with Cave Creek, Tonto Basin, and Pleasant Valley RDs. The Coconino and Apache-Sitgreaves national forests share Payson RD's northern boundary. Much of the district is remote with generally rough roads. While cross country or off-route travel is currently permitted within the Payson RD, some routes officially closed are still being used. The public's use of such routes may result from confusion over which roads are legally open for public use or from disregard of regulatory signing.

In the Forest Plan, six management areas (MAs) were identified as being associated with the Payson RD (table PRD 1.1; map PRD 1.1). These management areas, along with their management emphasis are listed below.

MA 4A is the Mazatzal Wilderness

- Manage for wilderness values, wildlife habitats, and natural ecological processes, while allowing livestock grazing and recreation opportunities that are compatible with maintaining these values and processes.

MA 4B is the Verde Wild River

- This management area was established as a result of the *Arizona Wilderness Act of 1984* that designated this segment of the Verde River as a Wild River under the *Wild and Scenic River Act (Public Law 90-542)*. The Act requires that this segment be administered in such a manner as to protect and enhance its designated outstandingly remarkable scenic, fish and wildlife, and historical/cultural values (ORVs), while protecting the river's free flowing character and water quality. The Comprehensive Management Plan (CRMP) for the Verde Wild and Scenic River (U.S.F.S., 2004) describes the ORVs in further detail.

MA 4C is the Hellsgate Wilderness

- Manage for wilderness values, wildlife habitats and natural ecological processes, while allowing livestock grazing and recreation opportunities that are compatible with maintaining these values and processes.

MA 4D is the Mongollon Rim Area

- Manage for a variety of renewable resource outputs with primary emphasis on intensive, sustained-yield timber management, timber resource protection, creation of wildlife habitat diversity, increased populations of emphasis harvest species, and recreation opportunity. Timber harvesting methods and timing will include improvement of wildlife habitat quality and watershed condition, and will consider impacts on intensive range and recreation management. Mining activities are authorized in conformance with existing laws and regulations. Visual quality protection will be emphasized in the area (Analysis Area 5542) of the Highline Trail, a National Recreation Trail.

MA 4E is the Proposed Fossil Springs Natural Area

- Manage to provide protection to natural features and vegetative communities. Management is directed toward maintaining as nearly as possible existing conditions and natural processes for public enjoyment, demonstration, and study. A high level of protection is required to maintain water flows and water quality. The visual resource is an important consideration in the management of this area.

MA 4F makes up the General Management Area

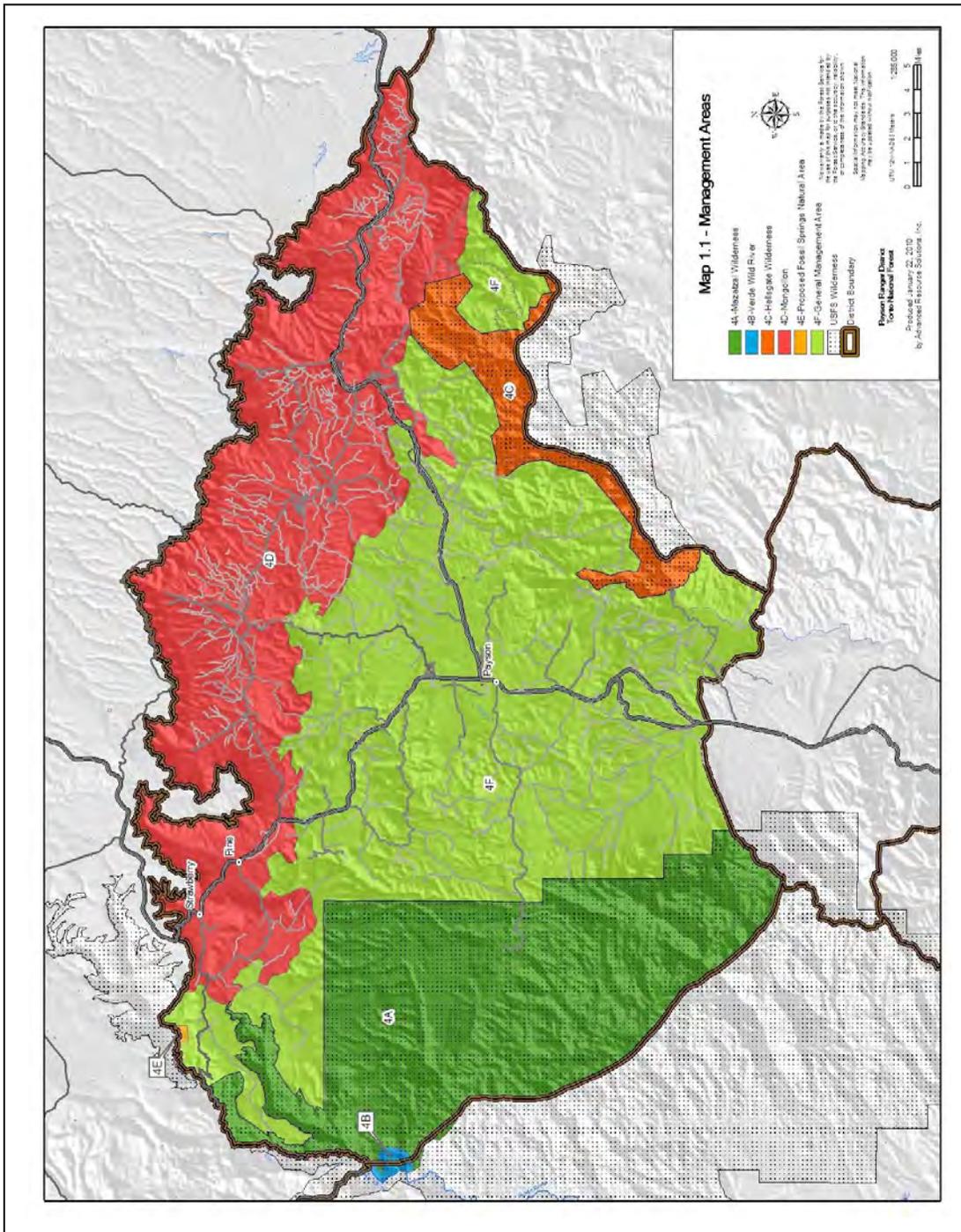
- Manage for a variety of renewable natural resources with primary emphasis on wildlife habitat improvement, livestock forage production, and dispersed recreation. Watersheds will be managed to improve them to a satisfactory or better condition. Improve and manage the included riparian areas (as defined by FSM 2526) to benefit riparian dependent resources.

Table PRD 1.1: PRD Management Areas with dominant vegetation types identified.

Habitat Type	Management Area						Total (acres)
	4A Mazatzal Wilderness	4B Verde Wild River	4C Hellsgate Wilderness	4D Mongollon Rim Area	4E Fossil Springs Natural Area	4F General Management Area	
<i>Riparian</i>	562	322		610	5	1,277	2,776
<i>Desert*</i>	2,289	680	194			1,865	5,028
<i>Chaparral-Piñon Juniper*</i>	82,501		16,883	**	15	193,786	293,185
<i>Ponderosa Pine</i>	15,407		274	129,174		6,833	151,688
Total (acres)	100,759	1,002	17,351	129,784	20	203,761	452,677

*Grasslands were not delineated as a separate habitat type during forest planning. They were most likely included within the desert and chaparral/piñon-juniper habitat types.

**Essentially continuous band of ponderosa pine and mixed conifer.



Map PRD 1.1: Payson Ranger District Management Areas

Pleasant Valley Ranger District (PVRD)

The Pleasant Valley RD contains approximately 420,000 acres of chaparral, piñon-juniper and ponderosa pine-juniper vegetative communities (table PVRD 1.1; map PVRD 1.1). Wilderness areas located within the Pleasant Valley RD include Hellsgate, Salome, and the Sierra Ancha wildernesses.

While cross country or off-route travel is currently permitted within the PVRD, some routes closed to the public are still being used. The use of unauthorized routes may result from confusion over which roads are legally open for public use or from disregard of regulatory signing.

In the Forest Plan, seven management areas (MAs) were identified as being associated with the Pleasant Valley RD (table PVRD 1.1; map PVRD 1.1). These management areas, along with their management emphasis are listed below.

MA 5A - Sierra Ancha Wilderness

- While cross country or off-route travel is currently permitted within the PVRD, some routes closed to the public are still being used. The use of unauthorized routes may result from confusion over which roads are legally open for public use or from disregard of regulatory signing.

MA 5B - Hellsgate Wilderness

- Manage for wilderness values, wildlife habitats, and natural ecological processes, while allowing livestock grazing and recreation opportunities that are compatible with maintaining these values and processes.

MA 5C - Salome Wilderness

- Manage for wilderness values, wildlife habitats, and natural ecological processes, while allowing livestock grazing and recreation opportunities that are compatible with maintaining these values and processes.

MA 5D - Mogollon Rim-Sierra Ancha Area

- Manage for a variety of renewable resource outputs with primary emphasis on intensive, sustained-yield timber management, timber resource protection, creation of wildlife habitat diversity, increased populations of emphasis harvest species, and recreation opportunity. Timber harvesting methods and timing will include improvement of wildlife habitat quality and watershed condition, and will consider impacts on intensive range and recreation management. Mining activities are authorized in conformance with existing laws and regulations. Visual quality protection will be emphasized in the area (analysis area 5542) of the Highline Trail, a National Recreation Trail.

MA 5E - Sierra Ancha Experimental Forest

- The Experimental Forest was established and is managed for purposes of research on vegetative treatments for increasing water yield. The Experimental Forest is operated by the Rocky Mountain Research Station, Flagstaff, Arizona, often cooperatively with Arizona State University and the University of Arizona.

MA 5F - Proposed Upper Forks Parker Creek Research Natural Area

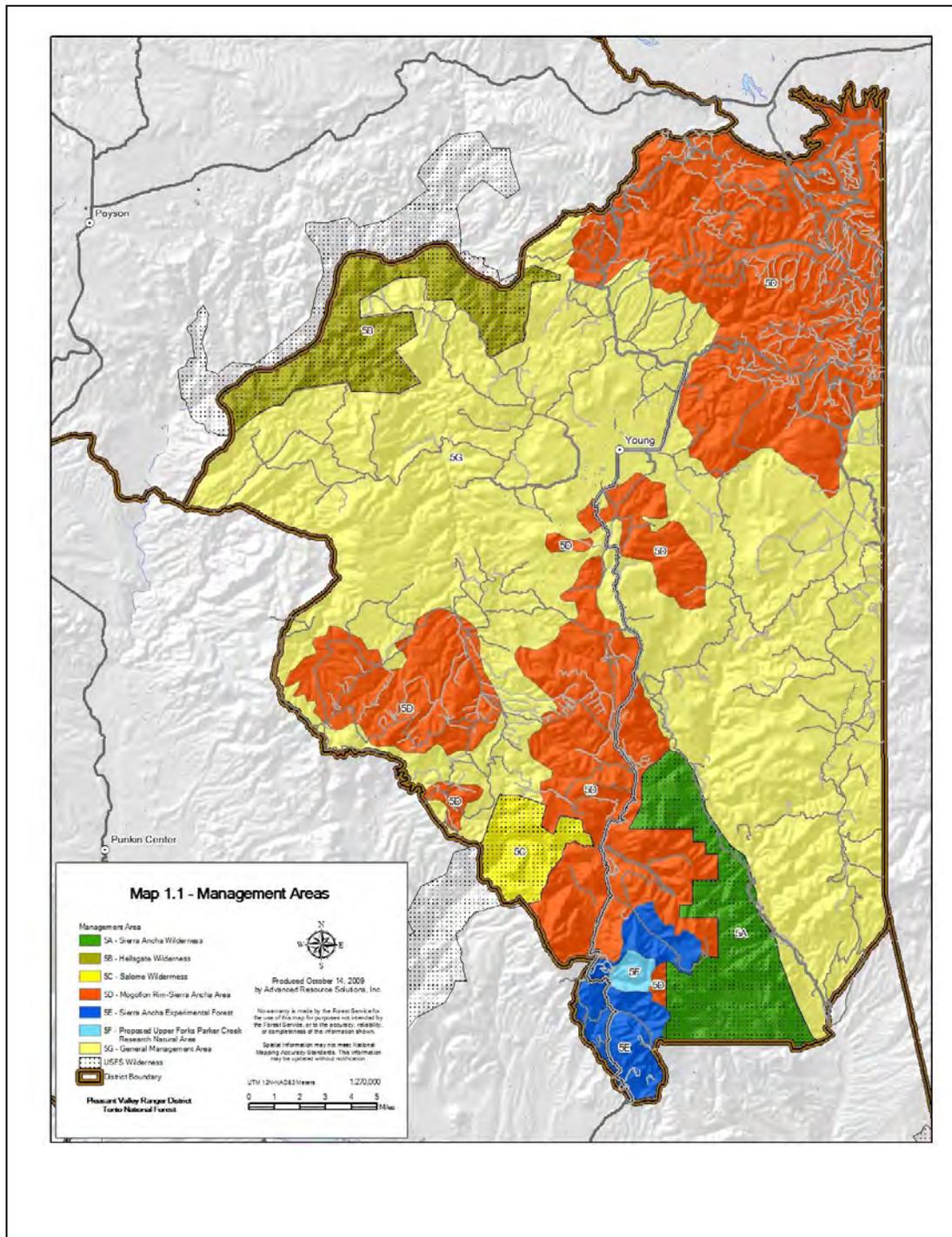
- Manage to provide opportunities for non-disruptive research and education. Use restrictions will be imposed as necessary to keep areas in their natural or unmodified condition. There will be no harvest of forest products, including fuelwood.

MA 5G - General Management Area

- Manage for a variety of renewable natural resources with primary emphasis on wildlife habitat improvement, livestock forage production, and dispersed recreation. Watersheds will be managed to improve them to a satisfactory or better condition. Improve and manage the included riparian areas (as defined by FSM 2526) to benefit riparian dependent resources.

Table PVRD 1.1: PVRD Management Areas with dominant vegetation types identified.

Habitat Type	Management Area						
	5A	5B	5C	5D	5E	5F	5G
<i>Riparian</i>			25	239			2,924
<i>Chaparral-Piñon juniper</i>	13,559	15,100	5,233		7,934	1,288	157,724
<i>Ponderosa Pine</i>	7,291	4,329	2,574	139,255	5,437		63,956
Total (acres)	20,850	19,429	7,832	139,494	13,371	1,288	224,604



Map PVRD 1.1: Pleasant Valley Ranger District Management Areas

Tonto Basin Ranger District (TBRD)

The TBRD contains approximately 530,000 acres of Sonoran Desert, semi-desert grassland, chaparral, ponderosa pine and piñon-juniper vegetative communities (table TBRD 1.1; map TBRD 1.1). Flowing through the TBRD is the Salt River, which feeds Roosevelt Lake and Apache Lake. Wilderness areas located within the TBRD include Salome, Salt River Canyon, Superstition, Four Peaks and Mazatzal wildernesses.

The TBRD shares borders with each of the other five Tonto NF ranger districts, as well as a border with the Fort Apache Indian Reservation. Developed recreation sites are primarily found along the lakes. Outside of the lakes region, much of the TBRD is remote with generally rough roads. Cross country or off-route travel is not permitted within the TBRD; however, the public does travel on some unauthorized routes, as well as system roads that are closed to such use. The public's use of unauthorized routes may result from confusion over which roads are legally open for public use or from disregard of regulatory signing.

In the Forest Plan, eleven management areas (MAs) were identified as being associated with the TBRD (table TBRD 1.1; map TBRD 1.1). These management areas, along with their management emphasis are listed below.

MA 6A - Mazatzal Wilderness

- Manage for wilderness values, wildlife habitats, and natural ecological processes, while allowing livestock grazing and recreation opportunities that are compatible with maintaining these values and processes.

MA 6B - Superstition Wilderness

- Manage for wilderness values, wildlife habitats, and natural ecological processes, while allowing livestock grazing and recreation opportunities that are compatible with maintaining these values and processes.

MA 6C - Three Bar Wildlife Area

- Manage to protect the unique watershed and wildlife habitat values of the area. Dispersed recreation activities may occur except for those that adversely affect the character of the area. Continue existing cooperative agreements for wildlife management and watershed research.

MA 6D - Buckhorn Mountain Natural Area

- Manage to provide opportunities for non-disruptive research and education. Use restrictions will be imposed as necessary to keep areas in their natural or unmodified condition. There will be no harvest of forest products including fuelwood.
- Manage for wilderness values, wildlife habitats, and natural ecological processes, while allowing livestock grazing and recreation opportunities that are compatible with maintaining these values and processes.

MA 6E - Haufer Wash Research Natural Area

- Manage to provide opportunities for non-disruptive research and education. Use restrictions will be imposed as necessary to keep areas in their natural or unmodified condition. There will be no harvest of forest products, including fuel wood.

MA 6F - Roosevelt and Apache Lakes Recreation Areas

- The primary emphasis for this area is water-oriented developed and dispersed recreation. Capacity controls will be established where needed to protect soil and water resources and public health and safety. Recreation sites in this management area will emphasize a mix of day use and overnight use. The visual resource is an important consideration in the management of this area.

MA 6G - Salt River Canyon Wilderness

- The primary emphasis for this area is the preservation of naturally occurring flora and fauna, esthetics, and ecological processes, while providing a very high quality white-water river-running experience. Special consideration will be given to meeting bald eagle home range requirements. Watershed protection is also an important emphasis, and the stream shall be maintained in a free-flowing condition with water quality maintained or improved. Other activities that are authorized by the *Wilderness Act* will be conducted as so to minimize their impact on wilderness character.

The portions of this Management Area from near the State Highway 288 bridge upstream to the Fort Apache Reservation boundary was studied by the Forest Service for inclusion in the National Wild and Scenic Rivers System at the direction of the U.S. Congress. Present management emphasis will not preclude future Congressional designation of this river.

MA 6H - Salome Wilderness

- Manage for wilderness values, wildlife habitats, and natural ecological processes, while allowing livestock grazing and recreation opportunities that are compatible with maintaining these values and processes.

MA 6I - Four Peaks Wilderness

- Manage for wilderness values, wildlife habitats, and natural ecological processes, while allowing livestock grazing and recreation opportunities that are compatible with maintaining these values and processes.

MA 6J - General Management Area

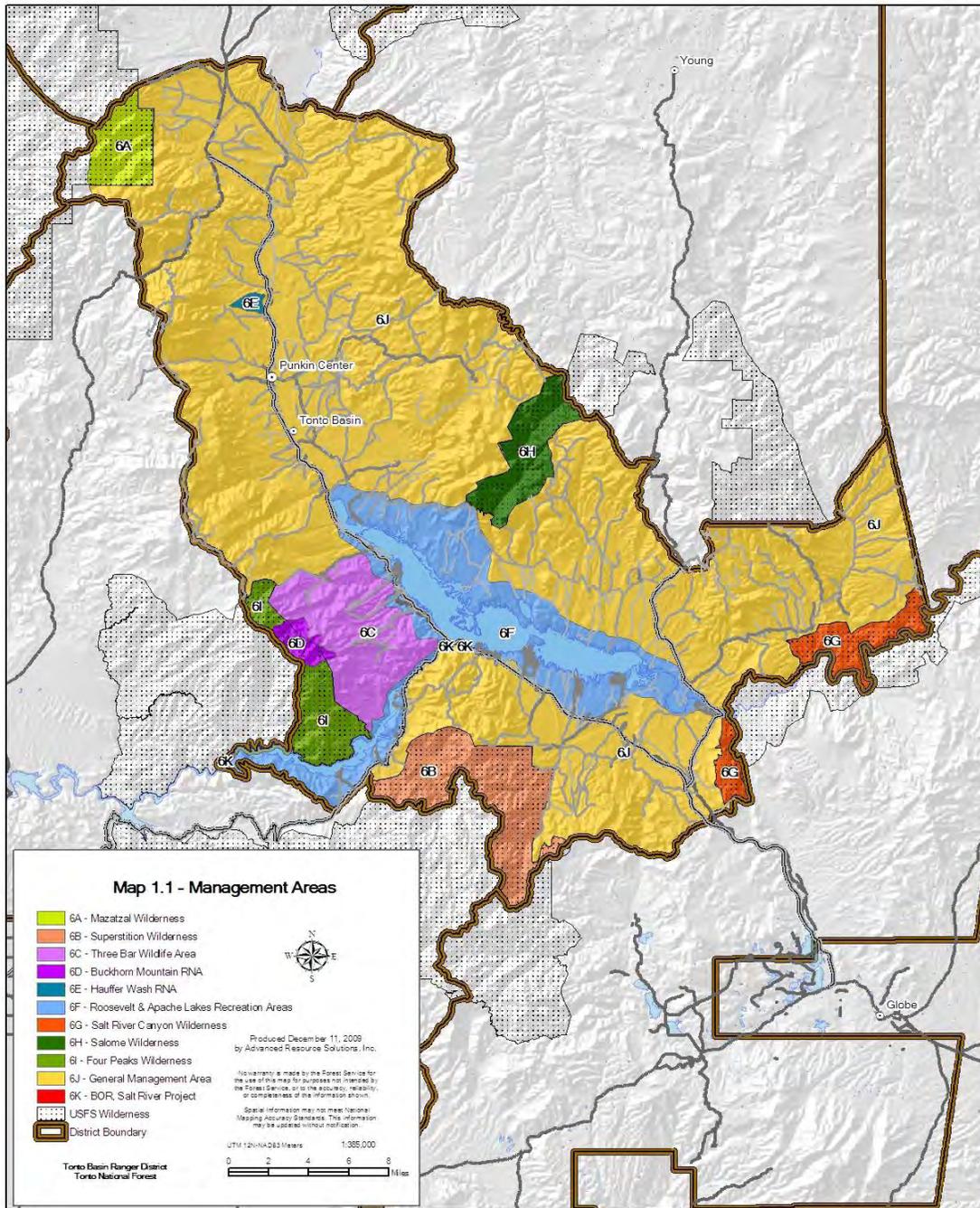
- Manage for a variety of renewable natural resources with primary emphasis on wildlife habitat improvement, livestock forage production, and dispersed recreation. Watersheds will be managed to improve them to a satisfactory or better condition. Improve and manage the included riparian areas (as defined by FSM 2526) to benefit riparian dependent resources.

MA 6K (not listed in the table) - Bureau of Reclamation Primary Jurisdiction Areas (habitat type acreages derived from the 1985 Forest Plan).

- All management activities under the jurisdiction of the Bureau of Reclamation and their contractor, the Salt River Project.

Table TBRD 1.1: TBRD Management Areas (MAs) with dominant vegetation type identified.

	Management Area									
	6A	6B	6C	6D	6E	6F	6G	6H	6I	6J
	Mazatzal Wilderness	Superstition Wilderness	Three Bar Wildlife Area	Buckhorn Mountain RNA	Haufer Wash RNA	Roosevelt and Apache Lakes Recreation Areas	Salt River Canyon Wilderness	Salome Wilderness	Four Peaks Wilderness	General Management Area
Habitat Type										
<i>Riparian</i>						4,170	50	126		6,348
<i>Desert</i>		7,749	20,892		680	39,471	6,675	1,100	5,676	157,202
<i>Chaparral -Piñon juniper</i>	5,234	13,594	7,811	2,318			3,052	9,872	3,008	199,597
<i>Ponderosa Pine</i>	4,345	411	1,079	492					1,126	6,496
<i>Lakes and River Channel</i>						21,925				
Total (acres)	9,579	21,754	29,782	2,810	680	65,566	9,777	11,098	9,810	369,743



Map TBRD 1.1: Tonto Basin Ranger District Management Areas

Chapter 1

Step 1: Setting Up the Analysis

Purpose

The purpose of setting up the analysis includes:

- Identifying the project area, objectives, and scale of analysis
- Clarifying the roles of the Interdisciplinary Team
- Explaining the Travel Analysis Process and the Analysis Plan
- Addressing information needs

Project Area and Objectives

A TAP was conducted for the each district on the Tonto NF. A TAP provides the Forest Supervisor and other decision makers with the information needed to develop a transportation system. The information in the TAP can also assist with general management, law enforcement, budgetary and maintenance concerns associated with National Forest System roads and trails.

The TAP uses a comprehensive interdisciplinary evaluation of current National Forest System roads and trails to provide site specific recommendations for changes to the Tonto NF transportation system. The TAP integrates social, ecological, and economic concerns.

Scale of Analysis

The scale of this analysis includes all National Forest System roads and motorized trails on lands located within each district on the Tonto NF. In addition, where appropriate, unauthorized roads¹ identified prior to and during the route evaluation process were analyzed.

Interdisciplinary Teams

Interdisciplinary (ID) Teams were formed to complete the TAP process. As members of the ID Team, each specialist reviewed the site specific data gathered for each route and developed road and trail recommendations (tables CCRD 1.2 to TBRD 1.2).

Table CCRD 1.2: Cave Creek Ranger District ID Team Members and Their Specialty

CCRD ID Team Members	Specialty
Norm Ambos	Soils
David Bailey	Geographic Information Services
Terry Brennan	Engineering
Carol Engle	Range
Dave Franquero	Engineering
Kelly Jardine	Recreation, Lands, Minerals
Kathy Nelson	Riparian / Hydrology

¹ Unauthorized road or trail: A road or trail that is not a forest road or trail or a temporary road or trail and that is not included in a forest transportation atlas (36 CFR 212.1).

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CCRD ID Team Members	Specialty
Tammy Pike	Off-highway Vehicle Recreation Coordinator
Jason „Levi’ Taylor	Engineering
Kim VanderHoek	Landscape Architect
Todd Willard	Wildlife
Scott Wood	Cultural Resources

Table GRD 1.2: Globe Ranger District ID Team Members and Their Specialty.

GRD ID Team Members	Specialty
Norm Ambos	Soils
Paul Churchill	Fire
Brad Johnson	Minerals
Ernest Gipson	Range
Connie Lane	Recreation
Kathy Nelson	Riparian / Hydrology
Richard Reitz	District Ranger
Annette Smits	Recreation
Donald Sullivan	Recreation
Jamie Wages	Range
Craig Woods	Wildlife
Scott Wood	Cultural Resources

Table MRD 1.2: Mesa Ranger District ID Team Members and Their Specialty.

MRD ID Team Members	Specialty
Norm Ambos	Soil Scientist
Janet Grove	Riparian Specialist
Debra Hobbs	Recreation
Kelly Kessler	Wildlife, Range
Grant Loomis	Hydrology
Lynn Mason	Hydrology
Kathy Nelson	Natural Resource Specialist
Tammy Pike	OHV Recreation
Scott Wood	Archeology

Table PRD 1.2: Payson Ranger District ID Team Members and Their Specialty.

PRD ID Team Members	Specialty
Norm Ambos	Soils
Dan Eckstein	Fire
Jeff Leonard	Forestry
Jim Mercer	Vegetation
Kathy Nelson	Hydro/riparian
Denise Ryan	Archaeology
Chris Thiel	Range
Mark Tiffany	Fire
Larry Vogel	Recreation
John Wilcox	Wildlife
Kim VanderHoek	Visual Quality
Scott Wood	Archaeology

Table PVRD 1.2: Pleasant Valley Ranger District ID Team Members and Their Specialty

PVRD ID Team Members	Specialty
Norm Ambos	Soils
David Bailey	Geographic Information Services
Heather Berman	Assistant Recreation, Lands, Minerals
Dave Franquero	Engineering
Dave Frew	Recreation, Lands, Minerals
Jeremy Human	Fuels Planner
Duke Klein	Wildlife
Jim Mercer	Silviculturist
Kathy Nelson	Riparian / Hydrology
Denise Ryan	Cultural Resources
John Thornburg	Fire
Jared Whitmer	Range

Table TBRD 1.2: Tonto Basin Ranger District ID Team Members and Their Specialty.

TBRD ID Team Members	Specialty
Norm Ambos	Soils
Mike Behrens	Fire
Hugh Dorathy	Range
Amy Madara-Yagla	Wildlife
Kathy Nelson	Riparian / Hydrology

Chapter 1 – Step 1: Setting Up the Analysis

TBRD ID Team Members	Specialty
Annette Smits	Recreation
Shannon Torrence	Wildlife
Troy Waskey	Recreation, Lands, Minerals
Scott Wood	Cultural Resources
Craig Yow	Engineering

Travel Analysis Process

This TAP follows the six-step process described in *FS-643: Roads Analysis, Informing Decisions about Maintaining the National Forest Transportation System* (1999).

The six-step process is:

1. Setting up the Analysis (Chapter 1)
2. Describing the Situation (Chapter 2)
3. Identifying the Issues (Chapter 3)
4. Assessing Benefits, Problems, and Risks (Chapter 4)
5. Describing Opportunities and Setting Priorities (Chapter 5 – Identifying the Minimum Road System)
6. Summary (Chapter 6)

Analysis Plan

The intent of the TAP is to capture and organize comprehensive site specific data enabling the responsible official to make informed decisions. In designating National Forest System roads, trails, and areas for motor vehicle use, the responsible official shall consider effects on natural and cultural resources, public safety, provision of recreational opportunities, access needs, conflicts among uses of NFS lands, the need for maintenance and administration of NFS routes that would arise if the uses under consideration are designated; and the availability of resources for that maintenance and administration (*36 CFR 212.55*). Specific criteria for designation of roads and trails are listed in appendix E.

The Tonto NF chose to use the Route Evaluation Tree Process© (RET Process) to gather information for the TAP and to evaluate the risks and benefits of potential changes to the transportation system. Use of the RET Process enabled the ID Team to collect data in a systematic, neutral and interdisciplinary manner and provided a database for storing and retrieving this data in a variety of formats.

The RET Process captures information for each specific route, and assists with compiling additional information from a “landscape” perspective for the larger planning area. Gathering information from this larger perspective is necessary for a thorough evaluation of each route and can be useful as a supplement to the information utilized in the subsequent environmental analysis. Information gathered and considered in evaluation of the routes included pertinent agency land use/management documents, such as various Tonto NF documents (e.g., Forest Land Management Plan, Environmental Impact Statements, Environmental Analysis), United States Fish and Wildlife Service Biological Assessments/Opinions, Grazing Plans, professional reports/expertise, cooperating agency input and input from the public. Pertinent laws and

regulations were carefully considered during this interdisciplinary process. These laws and regulations include but are not limited to *National Forest Management Act*, *National Environmental Policy Act*, *Endangered Species Act*, *43 CFR 212.55* (derived from Presidential Executive Orders concerning OHV planning), *Administrative Procedures Act*, *Clean Water Act*, *Clean Air Act*, *Federal Advisory Committee Act*, State-adopted *Best Management Practices*, *Historic Preservation and Antiquities Acts*, *Wilderness Act*, mining and grazing acts, and State Codes and Regulations (e.g., Arizona Game and Fish Department). The policy described in FSM 7700 was used extensively. Additional data and informational input was gained through the use of ground-truthed maps, route inventories, field verification and management recommendations. Together, this information assisted the ID Team in identifying a minimum road system.

The RET Process captures and consolidates resource and route inventory data which is integrated into GIS products (maps and layers). The associated GIS data and maps are utilized during route evaluation to assess the risks and benefits associated with each route.

Information Needs

The ID Team developed a comprehensive list of information needs while preparing to evaluate routes for their uses, benefits, and risks, as well as other concerns including consideration of how to minimize impacts (per the EO minimization criteria) as part of this planning/evaluation process. Specific needs were derived from the guidelines provided in *36 CFR 212.55(b)*, *(c)* and *(d)* (see Appendix E), which describe the types of considerations necessary in making informed recommendations.

While employing these guidelines the ID Team accumulated and considered the best available information regarding the following:

- Planning area (landscape scale) issues/concerns
- Desired Future Condition and Management Objectives (i.e., from the current Forest Land Management Plan)
- Resource, access, and political considerations
- Localized “Hot Spots” of concern
- Specific habitat and sensitive species concerns
- Best Management Practices
- State laws regulating motorized vehicle use
- Pertinent Federal, State, and local laws
- Public and user group values and concerns
- Cultural resources
- Current management situation and conditions
- Current observed use levels

Data was acquired from multiple sources. One source was Infra, an integrated database containing a large amount of route specific data. Other sources included the Forests, the public, the National Forest’s GIS library, other agency data from the Tonto NF specialists, and data from other agencies such as the Arizona Game and Fish Department.

Chapter 2

Step 2: Describing the Situation

Purpose

The purpose of this step is to describe:

- The existing transportation system,
- including road maintenance levels
- Existing direction from the Forest Plan and other documents
- Road Management Strategy

Existing Transportation System and Road Maintenance Levels

The existing system includes NFS roads and trails currently managed for motor vehicle use. All existing motor vehicle use restrictions, prohibitions and closures on the Tonto NF contribute to the existing condition. Appendix C describes road maintenance levels.

The current road system for the Tonto NF (map CCRD 2.1 to map TBRD 2.1) was defined by Resource Access & Travel Management, 1990 (RATM). According to the Forest's Infra database there are 4,533 miles (August 2009) of roads within the Tonto NF (table 2.1). No motorized trails currently exist on the forest. A total of 5,414 miles of NFS roads and other types of routes (i.e., unauthorized routes) were analyzed in this TAP.

Table 2.1 Tonto NF Existing Road System and Other Analyzed Routes by District*

Ranger District	Mileage of Existing Roads (Infra)	Mileage of Other Routes Analyzed	Total Mileage
Cave Creek	635	298	933
Globe	881	7	888
Mesa	508	197	675
Payson	791	103	894
Pleasant Valley	909	221	1,130
Tonto Basin	839	55	894
Tonto NF	4,533	881	5,414

*Reported numbers have been rounded and are approximate due to minor Geographic Information System (GIS) data discrepancies. As a result, mileages reported in this document may vary slightly.

Roads and motorized trails are determined by laws, regulations, official directives, forest plans, forest orders, and forestwide or project-specific roads decisions, etc. Information about a national forest's managed system is often documented in road and motorized trail management objectives, maps, recreation opportunity guides (ROG) and tabular databases.

The United States Forest Service (U.S. Forest Service) recognizes five levels of road maintenance for roads under its jurisdiction. These maintenance levels are based on the road's purpose and uses, degree of user comfort desired, estimated speed, and other factors. In addition to the roads defined by RATM, unauthorized routes were analyzed in the TAP. The different types of routes analyzed are defined in table 2.2 below (see appendix C for more information).

Table 2.2: Description of Tonto NF Route Types Analyzed in the TAP

Route Type	Description
Maintenance Level 1 Road	Closed to motorized travel for at least one year at a time.
Maintenance Level 2 Road	Managed for high clearance vehicles. Passenger car traffic, user comfort, and user convenience are not considerations.
Maintenance Level 3 to 5 Road	Managed for passenger car travel with varying degrees of passenger comfort (Level 5 providing the most degree of passenger comfort).
Decommissioned Road	Demolition, dismantling, removal, obliteration and/or disposal of a deteriorated or otherwise unnecessary road. This action eliminates the deferred maintenance needs for the road. Portions may remain, if they do not cause problems or require maintenance.
Converted Road	Converted use of the road to another use such as a trail.
Unauthorized Routes	A road or trail that is not a forest road or trail or a temporary road or trail and that is not included in a forest transportation atlas (36 CFR 212.1).

Cave Creek Ranger District (CCRD)

There are 635 miles of National Forest System Roads on the CCRD. These system roads consist of 517 miles open to motorized vehicles (Maintenance Level (ML) 2 to 4) and 117 miles of ML 1 roads where motorized travel is prohibited (table CCRD 2.1). No ML 5 roads exist on the CCRD. The current road system is shown on map CCRD 2.1.

Table CCRD 2.1: Current National Forest System Roads on the Cave Creek RD.

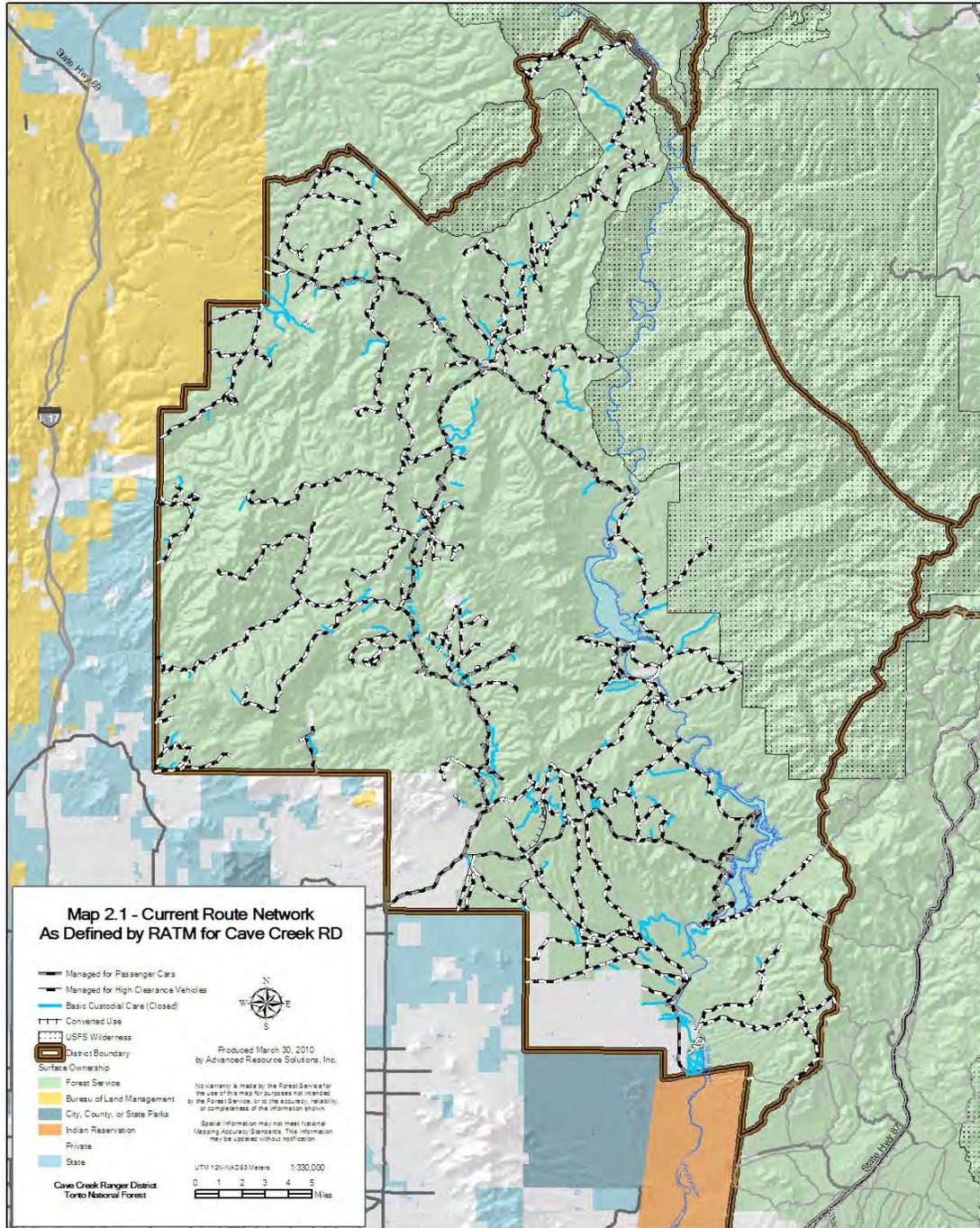
System Roads: by Maintenance Level (ML)	Miles	% of Total
ML 1	117	19%
ML 2	415	65%
ML 3 to 4	102	16%
Total	635	100%

(Maintenance Levels derived from *Infra*. Mileages derived from GIS data.)

Approximately 38 miles of roads identified to be decommissioned were re-evaluated during this analysis (table CCRD 2.2). Three miles of converted use roads (i.e., roads made into another use such as for motorized or non-motorized trails) were evaluated and approximately 257 miles of unauthorized motorized routes were also identified during the TAP and are included in this analysis.

Table CCRD 2.2: Other Routes by Type and Mileage Found on the Cave Creek RD.

Other Routes by Type :	Mileages	% of Total
Decommissioned	38	13%
Converted Use	3	1%
Unauthorized Motorized Routes	257	86%
Total	298	100%



Map CCRD 2.1: Current NFS roads (defined by RATM) on the Cave Creek Ranger District

Globe Ranger District

There are about 881 miles of National Forest System Roads on the GRD. These roads consist of 437 miles of system roads open to motorized vehicles (Maintenance Level (ML) 2 to 5) and 444 miles of ML 1 roads where motorized travel is prohibited (table GRD 2.1). The current road system is shown on map GRD 2.1.

Table GRD 2.1: Current National Forest System Roads on the Globe RD.

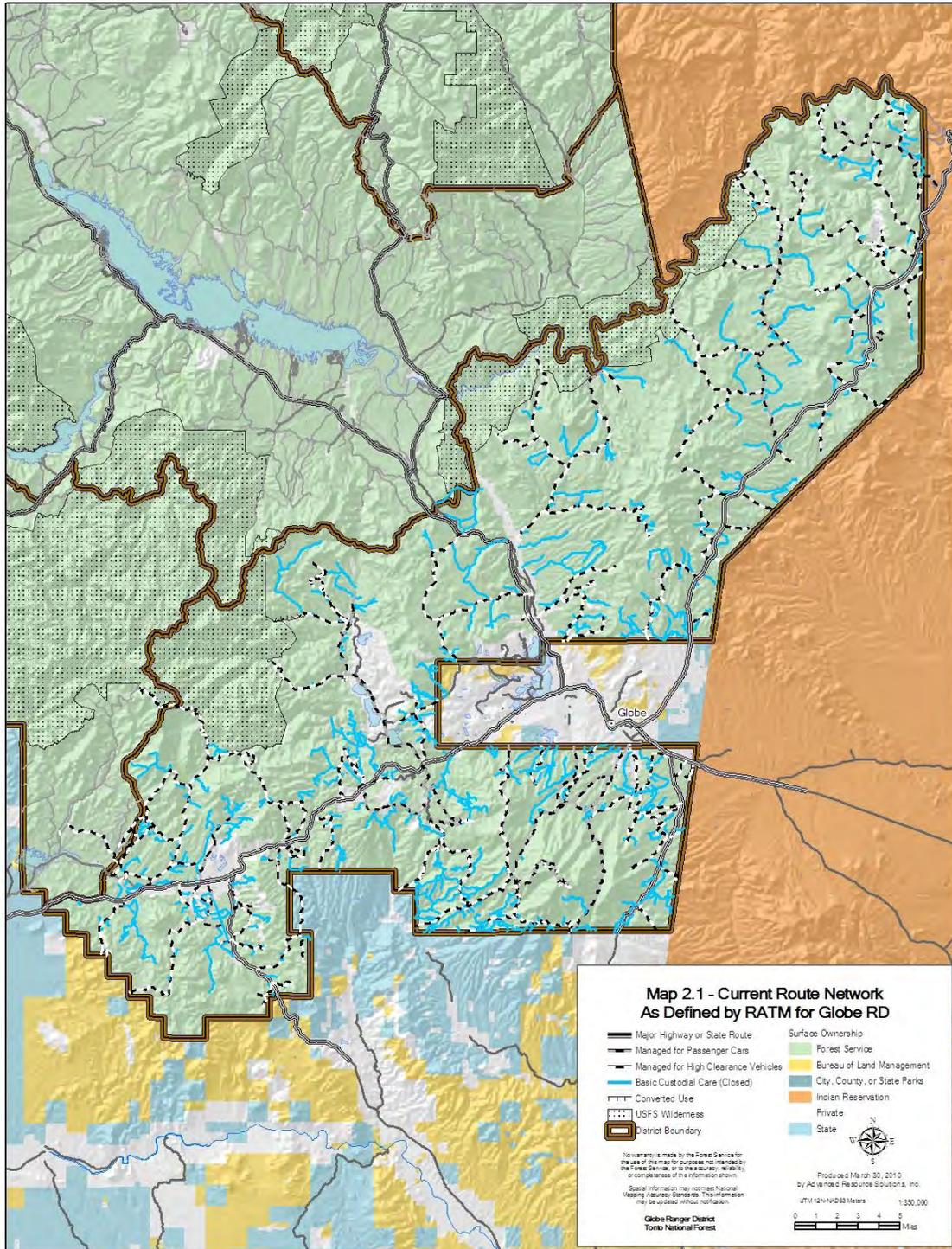
System Roads: by Maintenance Level (ML)	System Road Miles	% of Total
ML 1	444	50%
ML 2	356	40%
ML 3 to 5	81	10%
Total	881	100%

(Maintenance Levels derived from Infra. Mileages derived from GIS data.)

Two miles of roads identified to be decommissioned were re-evaluated during this planning effort (table GRD 2.2). Approximately 5 miles of unauthorized routes were identified prior to and during the route evaluation process. No converted-use roads were evaluated for this district.

Table GRD 2.2: Other Routes by Type and Mileage Found on the Globe RD.

Other Routes by Type :	Mileages	% of Total
Decommissioned	2	29%
Unauthorized Motorized Routes	5	71%
Total	7	100%



Map GRD 2.1: Current NFS roads (defined by RATM) on the Globe Ranger District.

Mesa Ranger District

Currently there are 478 miles of authorized routes on the MRD. These system routes consist of 336 miles of system roads open to motorized vehicles (ML 2 to 5) and 142 miles of ML 1 roads where motorized travel is prohibited (table MRD 2.1). The current road system is shown on map MRD 2.1.

Table MRD 2.1: Current National Forest System Roads on the Mesa RD.

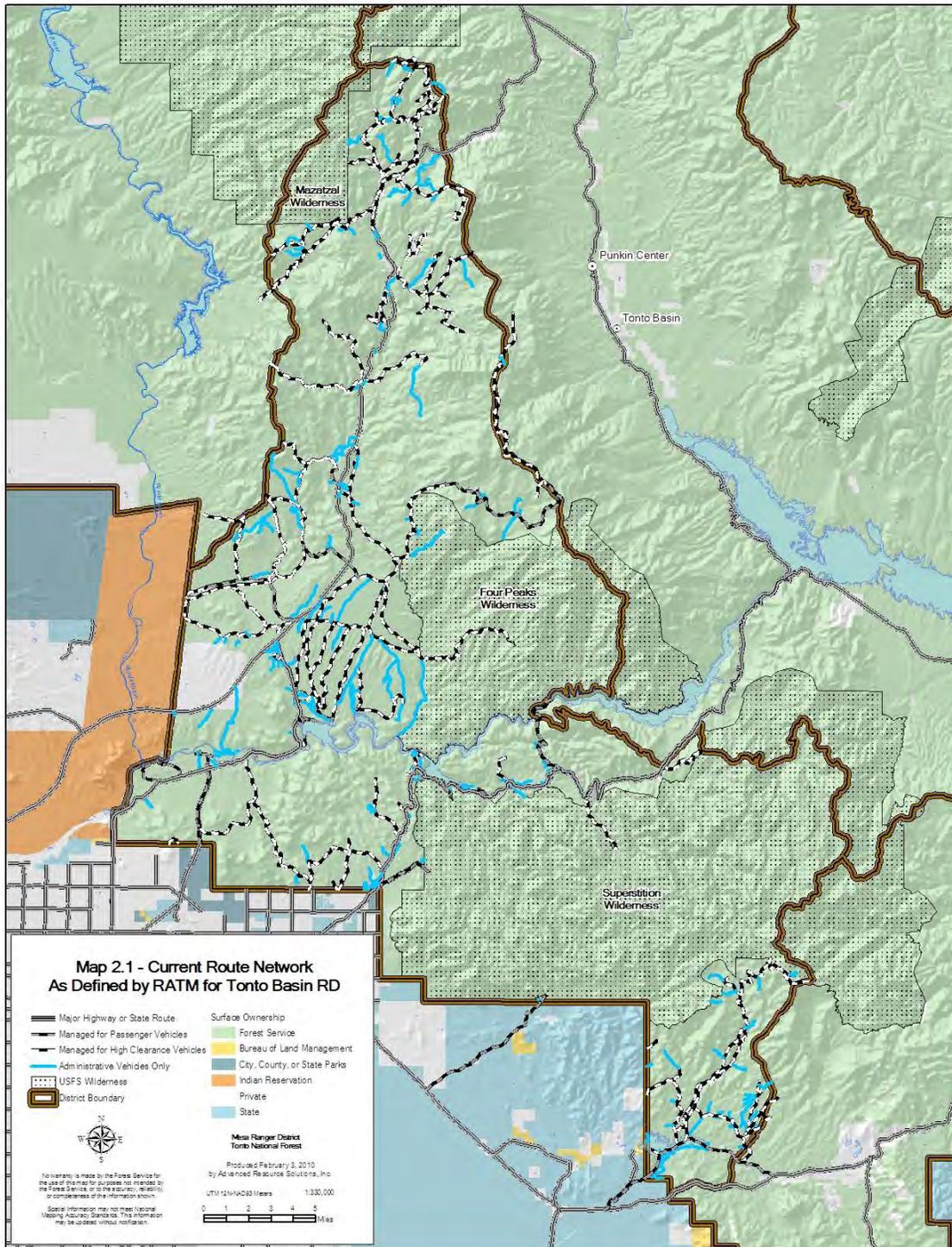
System Routes: by Road Objective Maintenance Level (ML)	System Route Miles	% of Total
ML 1	142	30%
ML 2	260	54%
ML 3 to 5	76	16%
Total	478	100%

(Maintenance Levels derived from Infra. Mileages derived from GIS data.)

Approximately 49 miles of roads identified to be decommissioned were re-evaluated during this analysis (table MRD 2.2). No miles of converted use roads (i.e., roads made into another use such as for motorized or non-motorized trails) were evaluated and approximately 148 miles of unauthorized motorized routes were also identified during the TAP process and are included in this analysis.

Table MRD 2.2: Other Routes by Type and Mileage Found on the Mesa RD.

Other Routes by Type :	Mileages	% of Total
Decommissioned	49	25%
Unauthorized Motorized Routes	148	75%
Total	197	100%



Map MRD 2.1: Current NFS roads (defined by RATM) on the Mesa Ranger District.

Payson Ranger District

There are about 791 miles of NFS roads on the PRD. These roads consist of 431 miles of open to motorized vehicles (Maintenance Level (ML) 2 to 4) and 360 miles of ML 1 roads where motorized travel is prohibited (table PRD 2.1). No ML 5 (the highest degree of passenger comfort) roads exist on the district. The current road system is shown on map PRD 2.1.

Table PRD 2.1: Current NFS Roads on the Payson RD.

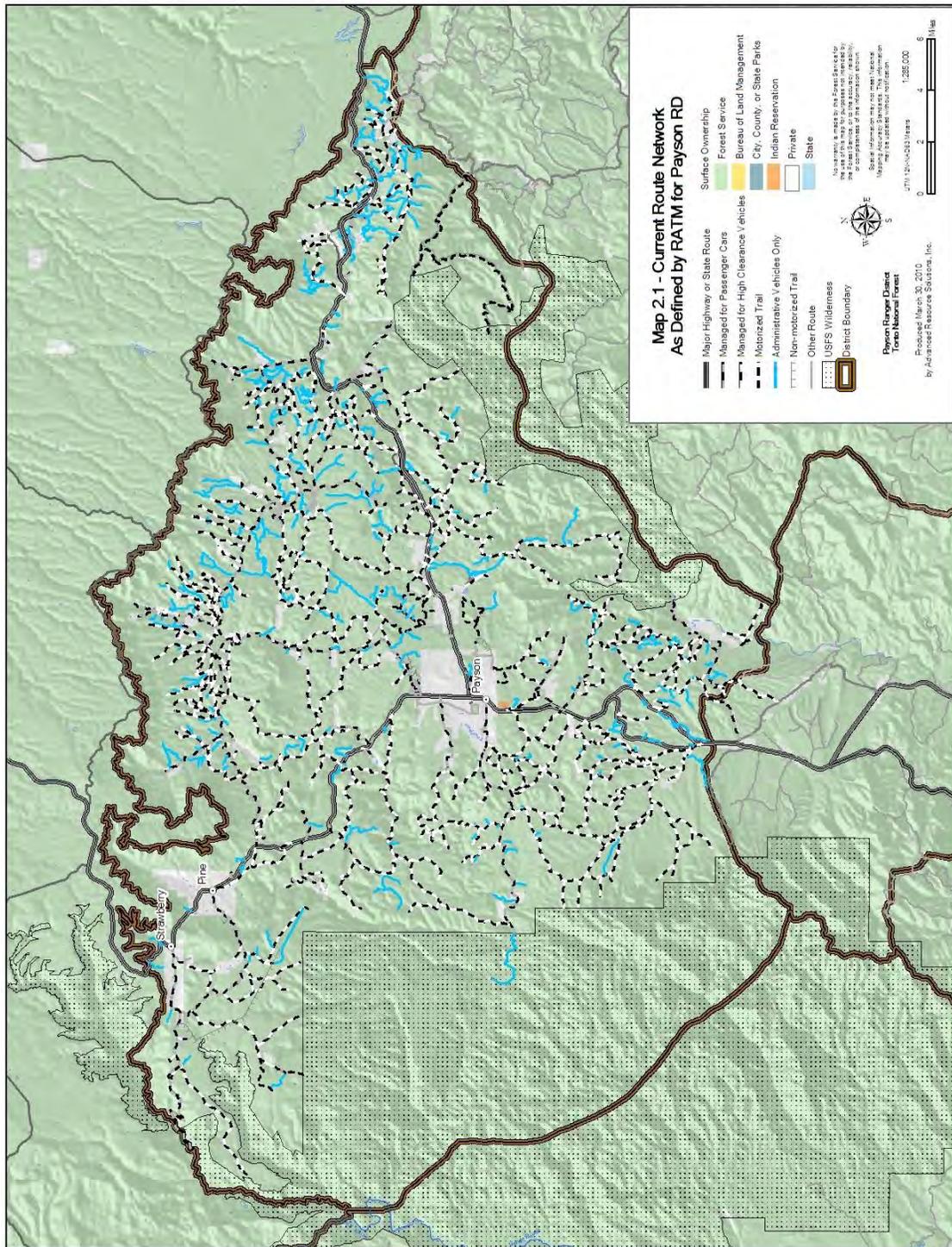
System Roads by Maintenance Level (ML)	System Road Miles	% of Total
ML 1	360	45%
ML 2	291	37%
ML 3 to 4	140	18%
Total	791	100%

(Maintenance Levels derived from Infra. Mileages derived from GIS data.)

Approximately 73 miles of roads identified to be decommissioned were re-evaluated during this analysis (table PRD 2.2). Fifteen miles of converted use roads (i.e., roads made into another use such as for motorized or non-motorized trails) were evaluated and approximately 15 miles of unauthorized motorized routes were also identified during the TAP process and are included in this analysis.

Table PRD 2.2: Other Routes by Type and Mileage Found on the Payson RD.

Other Routes by Type :	Mileages	% of Total
Decommissioned	73.0	71%
Converted Use	15.0	15%
Unauthorized Motorized Routes	14.7	14%
Total	102.8	100%



Map PRD 2.1: Current NFS roads (defined by RATM) on the Payson Ranger District

Pleasant Valley Ranger District

There are about 909 miles of NFS roads on the PVRD. These roads consist of 550 miles open to motorized vehicles (ML 2 to 5) and 359 miles of ML 1 roads where motorized travel is prohibited (table PVRD 2.1). The current road system is shown on map PVRD 2.1.

Table PVRD 2.1: Current National Forest System Roads Located on the Pleasant Valley RD.

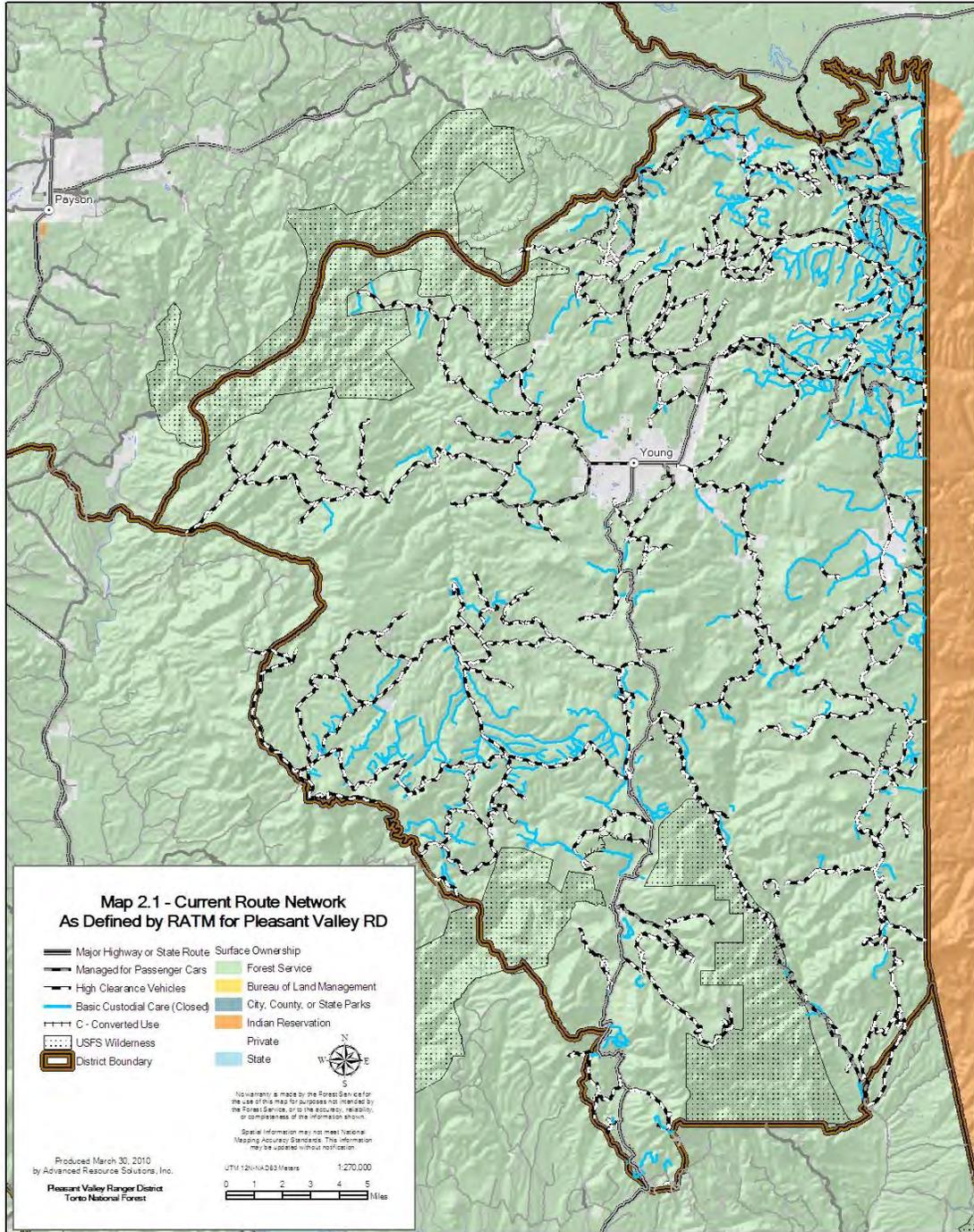
System Roads: Maintenance Level (ML)	Miles	% of Total
ML 1	359	40 %
ML 2	464	51 %
ML 3 to 5	86	9 %
Total	909	100 %

(Maintenance Levels derived from Infra. Mileages derived from GIS data.)

Approximately 73 miles of roads identified to be decommissioned were re-evaluated during this analysis (table PVRD 2.2). About 9 miles of converted use roads (i.e., roads made into another use such as for motorized or non-motorized trails) were evaluated and approximately 140 miles of unauthorized motorized routes were also identified during the TAP process and are included in this analysis.

Table PVRD 2.2: Other Routes by Type and Mileage Found on the Pleasant Valley RD.

Other Routes by Type:	Mileages	% of Total
Converted Use	9	4 %
Decommissioned	73	33 %
Unauthorized Motorized Routes	140	63 %
Total	222	100 %



Map PVRD 2.1: Current NFS roads (defined by RATM) on the Pleasant Valley RD

Tonto Basin Ranger District

There are about 839 miles of NFS roads on TBRD. These system roads consist of 593 miles open to motorized vehicles (Maintenance Level (ML) 2 to 5) and 246 miles of ML 1 roads where motorized travel is prohibited (table TBRD 2.1). The current road system is shown on map TBRD 2.1.

Table TBRD 2.1: Current NF System Roads Located on the Tonto Basin Ranger District.

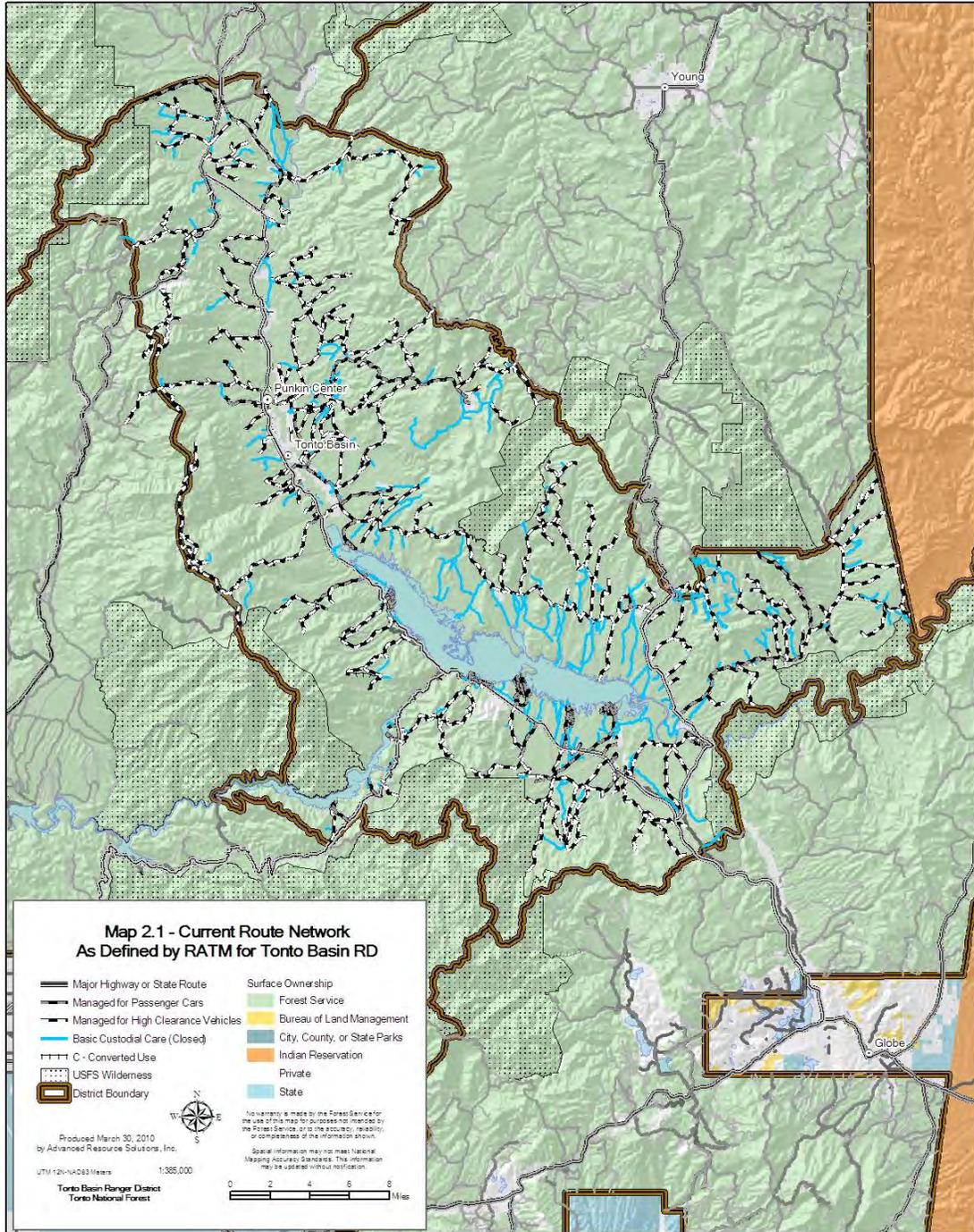
System Routes: Maintenance Level (ML)	System Route Miles	% of Total
ML 1	246	29%
ML 2	472	56%
ML 3 to 5	121	15%
Total	839	100%

(Maintenance Levels derived from Infra. Mileages derived from GIS data.)

Approximately 28 miles of roads identified to be decommissioned were re-evaluated during this analysis (table TBRD 2.2). About two miles of converted use roads (i.e., roads made into another use such as for motorized or non-motorized trails) were evaluated and approximately 25 miles of unauthorized motorized routes were also identified during the TAP process and are included in this analysis.

Table TBRD 2.2: Other Routes by Type and Mileage Found on the Tonto Basin RD.

Other Routes by Type:	Mileages	% of Total
Decommissioned	28	51%
Converted Use	12	3%
Unauthorized Motorized Routes	25	46%
Total	55	100%



Map TBRD 2.1: Current NFS roads (defined by RATM) on the Tonto Basin Ranger District

Existing Direction

“The final Rule at *36 CFR part 212* directs the responsible official of each national forest or other unit of the National Forest System to perform a comprehensive analysis of the road system within the unit and to document the overall forest transportation system in a transportation atlas” (*Federal Register, Vol. 68, No. 241, p. 69986*).

A. Forest Service Regulations

Forest Service Regulations and Arizona State Laws control where motor vehicle use on the Tonto NF is allowed. Some of these regulations are listed in table 2.3.

Table 2.3: Selection of Forest Service Law Enforcement Regulations Pertinent to Travel Management

Regulations	Specification
<i>36 CFR 212</i>	The <i>Travel Management Rule 36 CFR 212.55 (a), (b) 1 through 5</i> (see appendix E).
<i>36 CFR 261.12(c)</i>	Prohibited: Damaging and leaving in a damaged condition any such road, trail, or segment thereof.
<i>36 CFR 261.13</i>	Motor vehicle use off designated roads and trails and outside designated areas is prohibited.
<i>36 CFR 261.50</i>	Special Orders may be used to restrict the use of certain specific areas.
<i>36 CFR 261.54(d)</i>	Prohibited per <i>Closure Order 12-6</i> (as revised): Operating a vehicle in violation of the speed, load, weight, height, length, width, or other limitations when regulatory signs are so posted as per the <i>Manual on Uniform Traffic Control Devices</i> .
<i>36 CFR 261.54(f)</i>	Prohibited per <i>Closure Order 12-6</i> (as revised): Operating a motor vehicle on any Forest Development Road carelessly, recklessly, or without regard for the rights or safety of other persons or in a manner or speed that would endanger or be likely to endanger any person or property.
<i>36 CFR 261.56</i>	Prohibited: Possessing or using a motor vehicle off any Forest Development Road.
<i>A.R.S. 17-454</i>	No person shall drive a motor operated vehicle cross-country on public or private lands where such cross-country driving is prohibited by rule or regulation or, in the case of private lands, by proper posting.

Regulations	Specification
A.R.S. 28-1174	<p>A person shall not drive an off-highway vehicle:</p> <ol style="list-style-type: none"> 1. With reckless disregard for the safety of persons or property. 2. Off of an existing road, trail or route in a manner that causes damage to wildlife habitat, riparian areas, cultural or natural resources or property or improvements. 3. On roads, trails, routes, or areas closed as indicated in rules or regulations of a federal agency, this state, a county, or a municipality or by proper posting if the land is private land. 4. Over unimproved roads, trails, routes, or areas unless driving on roads, trails, routes, or areas where such driving is allowed by rule or regulation. <p>B. A person shall drive an off-highway vehicle only on roads, trails, routes, or areas that are opened as indicated in rules or regulations of a federal agency, this state, a county, or a municipality.</p> <p>C. A person shall not operate an off-highway vehicle in a manner that damages the environment including: excessive pollution of air, water, or land; abuse of the watershed or cultural or natural resources or impairment of plant or animal life, where it is prohibited by rule, regulation, ordinance, or code.</p> <p>D. A person shall not place or remove a regulatory sign governing off-highway vehicle use on any public or state land. This subsection does not apply to an agent of an appropriate federal, state, county, town, or city agency operating within that agency's authority.</p> <p>E. A person who violates subsection A, paragraph 1, is guilty of a class 2 misdemeanor.</p> <p>F. A person who violates any other provision of this section is guilty of a class 3 misdemeanor.</p> <p>G. In addition to or in lieu of a fine pursuant to this section, a judge may order the person to perform at least 8, but not more than 24 hours of community restitution, or to complete an approved safety course related to the off-highway operation of motor vehicles, or both.</p> <p>H. Subsections A and B do not prohibit a private landowner or lessee from performing normal agricultural or ranching practices, while operating an all-terrain vehicle or an off-highway vehicle on the private or leased land.</p>
Forestwide	Cross Country Travel Prohibited (except in management areas 4D, 5D as defined in the Forest Plan).

B. U.S. Fish and Wildlife Service-Forest Management Standards and Guidelines

The U.S. Fish and Wildlife Service (USFWS) as both an official regulatory and cooperating agency participates in Forest Service land management planning efforts and has certain specific regulatory responsibilities related to those efforts. On June 10, 2005, the USFWS issued Standards and Guidelines as part of a Programmatic Biological and Conference Opinion as related to the Continued Implementation of the Land and Resource Management Plans for Eleven National Forests and National Grasslands of the Southwestern Region (Cons. #2-22-03-F-366

June 10, 2005). A portion of this opinion, as well as a series of Standards and Guidelines specific to the Tonto NF, is included in table 2.4. These Standards and Guidelines are included in the Forest Plan.

Table 2.4: Standards and Guidelines (Cons. #2-22-03-F-366) Most Relevant to the TAP for the Tonto National Forest

	Standards and Guidelines
1351	Standard: Identify and delineate the home range of all bald eagle breeding areas. Document and correct any resource conflicts and disturbances to bald eagles and their habitat. During portions of any year that a bald eagle's nest site is active, an appropriate area of land surrounding the nest will be closed to public entry, if such closure is necessary.
1355	All Riparian Areas: Rehabilitate and maintain, through improved management practices, mixed broadleaf riparian to achieve 80 percent of the potential overstory crown coverage. Natural regeneration is anticipated to achieve most of this goal. Artificial regeneration may be necessary in some areas.
1356	Standard: Re-establish riparian vegetation in severely degraded, but potentially productive riparian areas. Natural regeneration is anticipated to achieve this goal, but artificial regeneration may be necessary in some areas.
1361	Guideline: Manage riparian areas to the level needed to provide protection and improvement.
1362	Guideline: Where possible, locate roads on natural benches, ridges, flat slopes near ridges [J02, L04, F01] ² or valley bottoms, and away from stream channels.
1363	Guideline: Roads should be located on well-drained and stable ground, avoiding seeps and other unstable areas.
1364	Guideline: Stream crossing approaches should avoid steep pitches and grades in order to prevent sedimentation.
1365	Guideline: Where channel crossings are necessary, select an area where the channel is straight and cross the channel at right angles.
1367	Guideline: Reduce road dimensions to that which will adequately fulfill anticipated needs and avoid large road cuts and fills.
1368	Guideline: Avoid channel changes or disturbance of stream channels and minimize impacts to riparian vegetation.
1371(a)	Preserve the free-flowing condition of this river [Verde] (free-flowing is defined by law as: existing or flowing in a natural condition without impoundment, diversion, straightening, rip-rapping, or other modifications of waterway). Retention of minor structures which existed at the time of designation may be permitted (Tonto NF Management Areas 1C and 1D on CCRD, see CCRD map 1.1).
1371(f)	No roads will be built in this area (Tonto NF Management Area 1C, see CCRD map 1.1).
1371(g)	Construct or reconstruct trails in either former or new locations to prevent resource degradation and provide public safety.
1376(c)	Operations & Maintenance of entire trail system to provide for a variety of user experience levels, resource protection, and public safety. Include trail condition surveys and maintenance plans.

² J02, L04, F01 are management prescriptions (Forest Plan)

	Standards and Guidelines
1381	ORV use prohibited (Tonto NF Management Areas 1B, 2A, 2B, 2C, 2E, 3A, 3B, 3C, 3D, 3E, 4A, 4C, 4E, 5A, 5B, 5C, 5F, 6A, 6B, 6D, 6E, 6G, 6H, and 6I see maps CCRD 1.1, GRD 1.1, MRD 1.1, PRD 1.1, PVRD 1.1, and TBRD 1.1).
1388	ORV use allowed (except as noted above [LRMP BO Appendix 2005]) unless posted as closed (Tonto NF Management Area 4D on PRD, see map PRD 1.1)
1391	Habitat requirements for threatened, endangered, and sensitive species will take precedence over requirements for other species (Tonto NF Management Area 4D on PRD, see map PRD 1.1)
1404 (a)	Manage dispersed recreation at low intensity, reduced service level (Tonto NF Management Area 4E on PRD, see map PRD 1.1).
1404 (c)	Manage the East Verde River and Tonto Creek to ensure that their river recreation attributes are maintained (Tonto NF Management Area 4D on PRD, see map PRD 1.1).
1404 (d)	ORV use allowed unless posted as closed (Tonto NF Management Area 4F on PRD and 5D on PVRD, see maps PRD 1.1 and PVRD 1.1).
1422 (a)	ORV use is prohibited unless posted as open (Tonto NF Management Area (MA) 1E on CCRD, MA 2D on GRD, MA 3F on MRD, and MA 6J on TBRD, see maps CCRD 1.1, GRD 1.1, MRD 1.1, and TBRD 1.1).

C. Tonto National Forest Travel Management Foundation Documents

1985 Land and Resource Management Plan

Formal efforts at travel management planning first occurred on the Tonto NF in the 1980s with an evaluation of the need and use of roads, trails, trailheads and Off-Road Vehicle (ORV)/OHV areas. This early planning effort was incorporated into the Forest Plan in 1985. Since published in 1985, this Forest Plan has been amended 27 times.

The Forest Plan defines the long-term management direction and purpose of the Tonto NF. This purpose includes the provision for “multiple use and sustained yield of goods and services from the Forest in a way that maximizes long-term net public benefits in an environmentally sound manner” *36 CFR 219.1(a)*. Additionally, goals are identified by each resource element toward which management is to be directed. Those resource elements and associated goals most relevant to travel management are listed in table 2.5 (following).

Table 2.5: Management Goals Relevant to Travel Management (National Forest Management Plan 1985, as amended).

Resource Element	Management Goal
Forest Plan Overall Goal	The Tonto National Forest is attempting to achieve a management situation that can respond to local or national demands for wood products, livestock production, water yield, and a wide mix of recreation opportunities, including wildlife related uses that range from the primitive to the urban end of the spectrum. The goal is to produce these outputs and opportunities on a sustained basis while maintaining air, soil, and water resources at or above minimum local, State, or Federal standards.

Resource Element	Management Goal
Soil, Water and Air Quality	Provide direction and support to all resource management activities to (1) meet minimum air and water quality standards, (2) emphasize improvement of soil productivity, air and water quality, (3) augment water supplies when compatible with other resources, and (4) enhance riparian ecosystems by improved management. All major riparian areas under intensive management by 1995, (5) obtain water rights necessary to ensure orderly resource development, and (6) inventory and interpret soil, air, and water resources. Resource planning and management activities within the desert zone must fully recognize the limitations this unique ecosystem has to the impacts of human uses and activities.
Transportation and Utility Corridors	Provide that rights-of-way grants are confined to designated corridors to the extent practicable.
Transportation and Administrative Facilities	Provide a serviceable road and trail transportation system to meet public access, land management, and resource protection needs. Provide administrative facilities to meet resource and activity needs, which meet pollution abatement standards where applicable.
Outdoor Recreation	Maintain and enhance visual resource values by emphasizing recreation resource management, which will increase opportunities for a variety of developed and dispersed experiences. Provide those developed sites needed to meet most of the public demand and to support dispersed visitor use. Emphasize visual quality objectives in all resource planning and management activities. Conduct inventory, evaluation, nomination, management protection, scientific study, public interpretation, and enhancement of cultural resources in accordance with the management prescriptions, and objectives and priorities identified in (Forest Plan appendix H). Coordinate planning for these activities with the State Cultural Resource Plan, the State Historic Preservation Office, and with other pertinent State (e.g., AZ Game and Fish) and Federal agencies (e.g., Bureau of Land Management (BLM)).
Wilderness and Wild and Scenic Rivers	Work cooperatively with the Coconino and Prescott national forests to protect and enhance the specific outstanding remarkable values within the designated Wild and Scenic segments of the Verde River. Protect its free-flowing conditions and water quality.

Several important guiding principles were described in the *National Forest Management Act (NFMA) regulations [36 CFR 219.1(b)]*, and are integrated throughout the Forest Plan and subsequently this TAP. They include:

- The national forests are ecosystems and their management of goods and services requires an awareness of the interrelationships among plants, animals, soil, water, air, and other environmental factors within such ecosystems.
- Establishment of goals and objectives for the sustained yield of products and services resulting from multiple-use management without impairment of the productivity of the land.
- Protection and, where appropriate, improvement of the quality of renewable resources.
- Preservation of important historic, cultural, and natural aspects of our national heritage.

- Provision for the safe use and enjoyment of forest resources by the public.
- A systematic, interdisciplinary approach to ensure coordination and integration of planning activities for multiple-use management.
- Early and frequent public participation.
- Management of National Forest System lands in a manner that is sensitive to economic efficiency (see appendix D).
- Responsiveness to changing conditions in the land and changing social and economic demands of the American people.

1990 Resource Access-Travel-way Management (RATM)

Based on the direction of the Forest Plan, Tonto NF personnel completed an analysis of roads and trails known at that time. During this process, Tonto NF personnel considered four alternatives for each road and trail in the forest; 1) obliterate the road or trail; 2) close the road or trail except when it is needed for access to a specific project (i.e. timber sale; administrative purpose; wildfire; etc.); 3) leave the road or trail open; or 4) place the road or trail under a special use permit to the specific user. Carried out during the 1990s, RATM implementation primarily focused on road closures and the installation of signs.

Forest Level Roads Analysis: Tonto National Forest 2003

The objective of the Forest Level Roads Analysis (2003) was to provide line officers with the information needed to make informed road system decisions. This effort analyzed 525 miles of routes within the Tonto NF and focused primarily on maintenance level (ML) 3, 4, and 5 roads. A few ML 2 roads were also included in the analysis. This analysis was almost evenly divided by district.

Together, the Forest Plan (1985), RATM (1990), the Forest Level Roads Analysis (2003) and other analysis and plans as described below represent important reference documents used in this TAP.

Cave Creek Ranger District: Desert Vista Trail System: Road and Trail Analysis 2003

An inventory of unauthorized motorized routes was completed in 2001 for the Desert Vista Trail System. The inventory covered approximately 100,000 acres of Tonto NF and adjoining State Trust Land within the CCRD. Map 3.1 (p. 35) identifies the location of the Desert Vista Trail System.

Special Order and Forest Closures

Special orders and emergency closures may be implemented by the District Ranger to prevent resource damage on the Forest. A variety of Special Orders and Closures are currently in place limiting motorized use in particular areas within the Tonto NF (table CCRD 2.6 through table TBRD 2.6).

Cave Creek Ranger District

Table CCRD 2.6: Special Orders and Area

<p>Closure Order 12-07-225 Sycamore Creek Public Safety</p> <p>Prohibitions: Pursuant to <i>Title 36 CFR 261.50 (a) and (b)</i>, the following acts are prohibited on the areas, roads, and trails described in this order, all within the Mesa and Cave Creek Ranger Districts...from January 1 through February 15 of each year.</p> <ol style="list-style-type: none"> 1. Going into or being upon the described area when US Forest Service or Maricopa County Officials have determined that more than 250 persons are present <i>36 CFR 261.53(e)</i> 2. Building, maintaining, or attending or using any fire or campfire within the described area. <i>36 CFR 261.529(a)</i> <p>Area Described: All National Forest System lands, roads and trails within the upper and lower Sycamore Creek areas, more specifically described as follows: bounded by State Route 87 on the east; by Goldfield Subdivision on the south; by the Ft. McDowell Indian reservation on the west; by the Verde River on the northwest; and by National Forest System Road 160 on the north, continuing to State Route 87 at the point of beginning.</p>
<p>Closure Order 12-58-3R (as revised) Seasonal Closure from December 1 to June 30</p> <p>Prohibitions: Vehicle entry prohibited</p> <p>Area Described: The Cliff Endangered Species Area below Horseshoe Dam</p>
<p>Closure Order 12-37 (as revised) Seasonal Closure from December 1 to June 30</p> <p>Prohibitions: Vehicle entry prohibited</p> <p>Area Described: Lower Verde Sensitive Species Area. Verde gauge downstream from Bartlett to approximately 1 miles north of Forest boundary on lower Verde River.</p>
<p>Tonto Foothills Motorized Closure</p> <p>Prohibitions: Vehicle entry prohibited</p> <p>Area Described: Approximately 1,400 acres bounded by Bartlett Lake Road, Cave Creek Road, and Camp Creek Wash.</p>
<p>Order 12-209R</p> <p>Bart Wildfire Special Area Closure</p> <p>Prohibitions: Pursuant to <i>16 USC 551, 36 CFR §261.50(a) and (b)</i> the following special restrictions and prohibitions are established within the specific area....</p> <p>It is prohibited to use or possess a motor vehicle on any of the...described lands which are closed for resource protection. <i>36 CFR §261.53(b, c & e)</i>.</p> <p>Area Described: Beginning at the intersection of National Forest System Road 19 (Bartlett Dam Road) and National Forest System Road 205 (Horseshoe Dam road); thence in a northeasterly direction following National Forest System Road 205 to the intersection with national Forest System Road 42; thence in an easterly direction to the intersection with national Forest System Road 2109; following National Forest System Road 2109 to the west bank of the Verde River; thence in a southeasterly direction including the western shore of Bartlett Lake ...to National Forest System Road 459; thence in southerly direction to the intersection with National Forest System Road 19 (Bartlett Dam Road); thence in a northwesterly direction to along National Forest System Road 19 to the starting point.</p>

<p>Order 12-215 Special Restrictions Cave Creek Complex Wildfire Prohibitions: Pursuant to <i>16 USC 551, 36 CFR §261.50(a) and (b)</i> the following special restrictions and prohibitions are established within the specific areas of the Tonto National Forest...contained within portions of the [specified township ranges]. It is prohibited to be on any road or motorized trail with motor vehicles on any of the described lands below, which are closed for resource protection due to the Cave Creek Complex Wildfire (<i>36 CFR §261.53(b, c) and 36 CFR§261.54(e)</i>). Area Described: T. 10 N., R. 4 E.; T. 10 N., R. 5 E.; T. 9.5 N., R. 4 E.; T. 9.5 N., R. 5 E.; T. 9 N., R. 3 E.; T. 9 N., R. 4 E.; T. 9 N., R. 5 E.; T. 9 N., R. 6 E.; T. 8 N., R. 3 E.; T. 8 N., R. 4 E.; T. 8 N., R. 5 E.; T. 8 N., R. 6 E.; T. 7 N., R. 3 E.; T. 7 N., R. 4 E.; T. 7 N., R. 5 E.; T. 7 N., R. 6 E.; and T. 6 N., R. 5 E.</p>
<p>Closure Order 12-155 Recreation Sites Prohibitions: Off-road vehicle use is prohibited in these recreation areas. Off-road vehicles are defined as any 3-wheel or 4-wheel all-terrain vehicle, a 4-wheel-drive vehicle less than 1,500 pounds gross vehicle weight, dirt bike, and/or off-road motorcycle. Area Described: Recreation sites between Forest Development Road (FDR) 459 and Bartlett Reservoir; Jojoba Boat Launch at Bartlett Reservoir; Recreation Sites below Horseshoe Dam and east of FDR 205; and Seven Springs Recreation Area.</p>
<p>Closure Order 12-137 (as revised) Prohibitions: Restricts use of any motor vehicle. Area Described: FDR 20 from Rio Verde Drive north to Camp Creek Wash (FDR 413) to those currently registered in compliance with Arizona transportation laws (ARS 28, Chapter 3).</p>
12-20-3R Special Restrictions Bartlett Reservoir Recreation Area
12-126 FDR 1094 Walnut Canyon Road Closure
12-90-2R Forest Development Trails restrictions
12-4-2R Special Restrictions Off-Road Motor Vehicle Use
12-172 Cramm Mountain Impoundment

Globe Ranger District

No Special Orders or Area Closures are currently in place that limit motorized use in particular areas within the district.

Mesa Ranger District

Table MRD 2.6: Special Orders and Area Closures

<p>Order #12-216 Prohibitions: To possess or use any type of vehicle on Forest Roads 22, 23, 524, 1451, 1452, and 3529. To possess or use a vehicle off National Forest System roads within the area described. Area Described: T. 6 N., R. 9 E., Sec. 9, 10, 15, 16, 17, 21, 22, 27, and W ½ of Sec. 11.</p>
<p>Order # 12-5-6R Prohibitions: Possessing or using a motor vehicle off the Bush Hwy. or off any Forest Development Road except for motorized wheelchairs.</p>

Area Described: Lower Salt River Recreation Area
Order #12-74
Prohibitions: Using any type of motor vehicle.
Area Described: Forest Development Road #1455
Order # 12-152
Prohibitions: To use any type of motor vehicle (including but not limited to motorcycles, trucks, cars, ATCs) on Forest Development Roads. To possess or use a motor vehicle off Forest Development Roads. Exemption: Persons with written authorization by a Forest officer which specifically authorizes the prohibited act.
Area Described: Bulldog Canyon Off-Highway Vehicle Area

Payson Ranger District

Table PRD 2.6: Special Orders and Area Closures.

12-31R Cold Springs Area: Use of any type of motorized vehicle is prohibited
12-52 Hunter Creek Meadow: Possessing or using any type of motorized vehicle is prohibited
12-56R National Forest System Road 608: Using any type of motorized vehicle is prohibited
12-88-2R Area of the Dude Fire: Possessing or using any type of motorized vehicle is prohibited
12-133 Shoofly Village Ruin and Recreation Site: Using any type of motorized vehicle is prohibited
12-151 Round Valley Meadow Area: Using any type of motorized vehicle is prohibited
12-166 Bradshaw Meadow Area: Possessing or using any type of motorized vehicle is prohibited
12-213 Star Valley Houston Creek OHV Site: Possessing or using any type of motorized vehicle is prohibited

Pleasant Valley Ranger District

Table PVRD 2.6: Special Orders and Area Closures.

Closure Order 12-57-5R Road Closures (12/15 to 3/31 Annually)
Prohibitions: Pursuant to <i>Title 36 CFR 261.50 (b)</i> , the following restrictions are established annually from December 15 th through March 31 st on those National Forest System roads listed in Exhibit A, which are located within the Pleasant Valley RD of the Tonto National Forest: Using any type of motor vehicle. <i>36 CFR 261.54(a)</i>
Area Described: Road Numbers: 128, 188, 291, 411, 411c, and 487. Gates are installed and closed on the dates prescribed. The closed area does not always encompass the whole road.
Closure Order 12-90-R Forest Development Trails
Prohibitions: Vehicle entry prohibited on listed Forest Development Trails Attachment A – non-motorized and Attachment C portions of Forest Development Trails (Attachment A and C of Closure order 12-90-R).
Area Described: All Tonto National Forest Development trails.
Closure Order 12-155-3R Use of Off-Highway Vehicles Within Developed Recreation Sites
Prohibitions: Using any all-terrain vehicle, four-wheel-drive vehicle less than 1500 pounds gross vehicle weight, dirt bikes, and/or off-highway motorcycle on any National Forest System Road which is within any of the above mentioned Developed Recreation Sites. <i>36 CFR 261.54(a)</i> .
Area Described: See attached list of Developed Recreation Sites on Order 12-155-3R.

Tonto Basin Ranger District**Table TBRD 2.6: Special Orders and Area Closures.**

<p>12-216 Prohibitions: Pursuant to <i>16 USC 551, 36 CFR §261.50(a) and (b)</i> the following special restrictions and prohibitions are established within the specific area, known as Bushnell Tanks...</p> <ol style="list-style-type: none"> 1. It is prohibited to possess or use any type of vehicle on Forest Service Roads 22, 23, 524, 1451, 1452, and 3529 within the area described above <i>36 CFR §261.54(e)</i>. 2. It is prohibited to possess or use a vehicle off national Forest System roads within the area described above <i>36 CFR §261.5</i>. <p>Area Described: ...contained within the boundary lines described as follows...T. 6 N., R. 9 E., Sec. 9, 10, 15, 16, 17, 21, 22, 27 and W½ of Sec. 11.</p>
12-4-2R Special Restrictions Off-Road Motor Vehicle Use
12-16-5R Roosevelt Lake Wildlife Area Closure
12-17 Diversion Dam Recreation Area Restrictions
12-99-4R Windy Hill Recreation Site Restrictions
12-100-R Cholla Recreation Site Restrictions
12-101 Burnt Corral Recreation Site Restriction
12-110 Grapevine Recreation Site Restrictions
12-156 Cottonwood Cove, Roosevelt Lake Closure
12-157 Grapevine Airstrip
12-218 Roosevelt lake Threatened Species Breeding Area – seasonal closure
12-158 Seventy-six Endangered Species Area – seasonal closure
12-167-2R Tonto Creek/ Salt River Endangered Species Area

Chapter 3

Step 3: Identifying Issues

Purpose

The purpose of this step is to:

- Identify specific resource and management considerations
- Identify management objectives
- Identify key road and motorized trail related issues

Specific Resource Considerations by Ranger District

General Topics

Resource considerations involve both landscape and site specific scales. The ID Teams first developed a landscape scale overview for each district prior to beginning their analysis of the system of roads and trails. This information is discussed by district in table CCRD 3.1 to table TBRD 3.1.

Cave Creek Ranger District (CCRD)

Table CCRD 3.1: Topics identified and considered by the Cave Creek RD ID Team in preparation for the roads and trails analysis

Management Goals Considered	Protection of Sonoran Desert and riparian areas. Compliance with Forest Plan (1985) and other management plans. Protection of all heritage resources and public interpretation developments at Perry Mesa. Provide for a variety of motorized and non-motorized activities and a wide range of recreational opportunities. Protect and enhance scenic and aesthetic values. Maintain compliance with local, State, and Federal laws. Minimize impacts from a rapidly increasing population in the greater Phoenix metropolitan area. Minimize impacts on water and air quality and other sensitive resources. Coordinate route recommendations with those route designations on the adjoining Agua Fria National Monument to minimize conflicts and impacts to sensitive resources. Take into consideration the foreseeable effects of changes to management of recreational opportunities on adjoining and other local public lands (e.g., if State Lands were to limit OHV access, the Tonto NF may see increased use on Forest Service lands; more specifically motorized public closures on State Lands south of Desert Vista may limit OHV access).
Commercial Uses	Consider the effects of recommended actions on: range permittees, special R/recreation permits (SRPs), commercial water hauling, road use permits, communication sites, mining operations, power lines (WAPA and APS lines), outfitter guides, reservoir marina facilities (commercial public service site), Salt River Project (SRP) dams and operations, as well as individual events such as bike races, fishing tournaments, commercial filming, jeep tours, etc.

Cultural Resources	A wide range of site types are found throughout the Cave Creek RD, e.g., prehistoric, historic, standing buildings, ruins, and a developed interpretive site (Sears-Kay). Many sites are found along the Verde River and its tributaries. Azatlan is found in the southern portion of the District. No designated traditional cultural properties (TCPs) have been identified yet (but possibly eventually on the Perry Mesa site). In the southern desert portions of the Cave Creek RD and in some northern areas (i.e., Bloody Basin/Perry Mesa) the potential of route proliferation and cultural resource and route conflict is more of a risk than in other areas.
Recreational Uses	The Cave Creek RD experiences a wide range of recreational uses. Motorized activities include water- and land-based motorized recreation including boating, motorcycles, ATVs, 4X4 and technical rock-crawling. Uses also include non-motorized activities, e.g., hikers seeking solitude in wilderness areas and equestrian (heavy mostly along the urban interface; private entry from private property) including Desert Vista Area. Water-based recreational use is popular along the river corridor and reservoirs. Dispersed recreation occurs throughout the CCRD. The Great Western Trail crosses the District (considering re-route at lower portion of Camp Creek Wash and FSR160). Other uses include hunting, shooting, fishing, hiking, photography, camping, birding, rock hounding, geo-caching, bicycling (mostly touring and some mountain biking), archaeological site exploration, special use permits (SUP) - outfitter guides (motorized and non-motorized), fishing tournaments, recreation events (races, etc.), and an unauthorized landing areas (air strip and Red Creek).
Trends	Significant population growth in the Phoenix metropolitan area is expanding the urban interface area into the areas adjacent to Cave Creek RD. Increasing levels of recreational use (campers, motorized recreation, and equestrian use especially along the south boundary from private developments and from the Town of Cave Creek) and associated impacts (i.e., route proliferation, illegal collection of forest resources (saguaros, wood, boulders, etc.). Shifting ethnic composition of recreational users. Change in demographic base leading to larger family gatherings, more group activities, and need for multi-lingual signage. Newly relocated individuals looking for recreation activities on the Tonto NF; greater number of first-time visitors (resulting in an increased need for interpretive and informational materials). Continuing need to educate visitors. Hotter and drier climate.
Urban Interface Issues	Growing concern as population and number of houses on the boundary increase. “Backdoor effect” – adjoining private landowners want private trails onto the Tonto NF.

<p>Portal Access Points</p>	<p>On south boundary, fence grant (14 miles of fence) has been received and there will be 5 portal access points for motorized access and additional access points for non-motorized access (e.g., step-overs). Information kiosks need to be built at entry points. Need to increase control of access generally and motorized use out of Azatlan and Needle Rock Recreation Area (e.g., develop official staging areas). Minimize motorized impacts on riparian habitat. Southernmost boundary area of Cave Creek RD gets high use and currently has multiple access routes (e.g., 269, 41, and 24) that may result in conflicts with adjoining land uses as the adjoining private properties are developed. The community of New River is expanding adjacent to Forest boundary. Forest access is currently very limited from New River; therefore, need to anticipate increased demands for Forest access. Illegal motorized use has created an unauthorized route within Squaw Creek Riparian Area. Considering area use fees and staging areas for various activities (primarily motorized use) to manage use through parking and staging. Considering ways to move or disperse some concentrated use to avoid exceeding PM10³ limits. Move or disperse use from areas that could conflict with new developments. Consider capacity of areas and carry forward in planning process. Conform to the capacity of land through appropriate sizing of the staging areas. Due to riparian and wildlife issues and heavy recreation uses and community concerns, consider ways to minimize or eliminate stream crossings and identify loop opportunities. Considering new parking area along river.</p>
<p>Wildlife</p>	<p>Arizona Game and Fish Department manages wildlife on the Tonto NF. Migratory birds of notable interest include various neo-tropical species and occupation by bald eagles throughout the Verde River corridor and reservoirs. Various special status species associated with riparian zones. Verde managed for native fish upstream of Horseshoe Dam. Currently the Cave Creek RD has the only population of antelope on the Forest (Perry Mesa north to Prescott). Need to minimize impacts to various Threatened, Endangered, and Sensitive species throughout the District.</p>

3 In 1987, EPA replaced the earlier Total Suspended Particulate (TSP) air quality standard with a PM-10 standard. The new standard focuses on smaller particles that are likely responsible for adverse health effects, because of their ability to reach the lower regions of the respiratory tract. The PM-10 standard includes particles with a diameter of 10 micrometers or less (0.0004 inches or one-seventh the width of a human hair) (source: <http://www.epa.gov/air/airtrends/aqtrnd95/pm10.html>).

Riparian	Minimize impacts to riparian areas. Protection of riparian areas is to receive special consideration. Significant portions of the Biological Opinions (BOs) specifically address management in riparian and upland watersheds. Approximately 1 percent of the Cave Creek RD is riparian. Riparian resources that may need protection are located along a number of drainages: Verde River, Red Creek, Tangle Creek, Cave Creek, Seven Springs, Camp Creek, Lime Creek, Holmes, Bishop, and Silver creeks. Copper Creek, New River, Grapevine, Round Tree Canyon, Houston Creek, Cottonwood Creek, portions of Sycamore Creek, etc. (all outside the Wilderness), as well as Wet Bottom, Sheep Creek, Deadman, and Davenport, etc. (in wilderness). There are also various springs (including major spring developments), e.g., Dutchman's Grave, etc. Routes 18, 16, 269, FR 20, FR 19, FR 162, FR 161, FR 532, FR 205, FR 1879, FR 1101, FR 568, and FR 479 access the Verde River. The areas along the Verde River that are accessed by these routes are a special concern (i.e., minimization of impacts to riparian habitat and route proliferation). Motorized use in riparian areas needs to be managed.
Soils	Sonoran Desert granitic soils are especially sensitive to erosion. Cross country travel in the Sonoran Desert can be easy due to the dispersed nature of the vegetation, if the terrain does not limit it. This can lead to route proliferation and resource damage. This problem is even more pronounced on recently burned lands in that the barriers created by vegetation are removed. Riparian soils (supporting riparian vegetation) and burned areas are especially sensitive to erosion.
Recreation Opportunity Spectrum (ROS)	ROS classes include Primitive, Semi-Primitive Non-Motorized, Semi-Primitive, and Roaded Natural. Motorized routes are restricted in areas with ROS class of Primitive and Semi-Primitive Non-Motorized.
Visual Quality Objective (VQO)	VQO classes include Preservation, Retention, Partial Retention, Modification and Maximum Modification. New roads can affect visual quality by detracting from the natural form, line, and color of the surroundings. Improperly designed roads, specifically those with fresh cut and fill slopes, would notably reduce visual quality. Decommissioning roads, by contrast, would in the long term, likely restore visual quality as the unused road returns to its natural state. Visual quality will be addressed as new road construction, reconstruction, or decommissioning is recommended. Inability to perform maintenance on roads can result in visible erosion damage, which decreases visual quality within the road corridor.
Other	Maricopa Air Quality regulations must be considered and adhered to. Prevent concentrated uses as a means to address air quality concerns. Utilize “peer-patrols,” OHV Ambassadors, various Cave Creek RD staff efforts, pilot projects to address the various resource concerns.

Globe Ranger District (GRD)

Table GRD 3.1: Topics identified and considered by the Globe RD ID Team in preparation for the roads and trails analysis.

<p>Management Goals considered</p>	<p>Protect and conserve Sonoran Desert and Riparian areas. Comply with Forest Plan (1985) and other management plans. Protection of all heritage resources. Provide for a variety of motorized and non-motorized activities. Provide a wide range of recreational opportunities. Protect and enhance scenic and aesthetic values. Maintain compliance with local, State, and federal laws. Minimize impacts from Arizona’s rapidly increasing population. Minimize impacts on water and other sensitive resources. Provide diverse wildlife habitats, which sustain populations of wildlife for consumptive and non-consumptive enjoyment by current and future generations.</p>
<p>Commercial Uses</p>	<p>Consider the effects of recommended actions on: range, recreation special recreation permits (SRPs), water hauling, road use permits, communication sites, mining operations, apiary sites, powerlines (WAPA, SRP, and APS lines), outfitter guides, gas transmission lines (Southwest Gas), communication towers, recreation residences, and special recreation events such as runs, bike races, and rock climbing events.</p>
<p>Cultural Resources</p>	<p>A wide range of site types are found throughout the Globe RD, e.g., prehistoric, historic, standing buildings, and ruins. No designated traditional cultural properties (TCPs) have been identified yet (but undoubtedly exist). The potential of route proliferation and cultural resource and route conflict is more of a risk along major travel corridors throughout the Globe RD and in proximity to communities, subdivision and in-holdings than in other areas.</p>
<p>Recreational Uses</p>	<p>The Globe RD experiences a wide range of recreational uses. Motorized activities include motorcycles, ATVs, 4X4 and technical rock-crawling. Uses also include non-motorized activities, e.g., hikers seeking solitude in wilderness areas, rock climbing, and equestrian use (heavy mostly along the urban interface; private entry from private property). Dispersed recreation occurs throughout the Globe RD. Hunting, shooting, fishing, hiking, photography, camping, birding, rock hounding, geo-caching, and bicycling (mostly touring and some downhill mountain biking). Archaeological site exploration. Special use permits (SUP) - outfitter guides (motorized and non-motorized), target shooting, white water rafting, and kayaking (heavy).</p>
<p>Trends</p>	<p>Arizona has experienced significant population growth especially in the Phoenix metropolitan area. This growth is expanding the urban interface area into the Tonto NF including Globe RD. Increasing levels of recreational use (campers, motorized recreation, and equestrian use and their associated impacts (i.e., route proliferation, illegal collection of Forest resources (saguaros, wood, and boulders, etc.). Shifting ethnic composition of recreational users. Change in demographic base leading to larger family gatherings, more group activities and need for multi-lingual signage. Continuing need to educate visitors. Hotter and drier climate. Unauthorized outfitter/guide OHV operations are using the district.</p>

Urban Interface Issues	Growing concern as population and number of houses on the boundary increase. “Backdoor effect” – adjoining private landowners want private trails onto the Globe RD. Increasing levels of disturbance and habitat alteration near urban interfaces such as: Mexican spotted owl in Pinal Mountains and Sonoran Desert species near Superior.
Portal Access Points	Considering ways to disperse concentrated use to avoid exceeding PM10 limits. Direct use away from new developments. Consider capacity of areas. Manage capacity of land with the sizing of the staging areas and carry forward in planning process. Consider looping opportunities as a means to eliminate stream crossings and to address public concerns regarding habitat and wildlife disturbance.
Wildlife	Game, non-game, and special status species and management for all. Arizona Game and Fish manages game populations. Habitat for species such as deer, turkey and bighorn sheep should be improved or maintained. Migratory birds and other wildlife associated with riparian zones are important. Threatened, Endangered and Sensitive species.
Riparian	The Forest Plan (1985) states that riparian areas are to be managed for riparian values. Riparian areas of concern with possible road impacts include Salt River, Ash Creek, Pinto Creek, hundreds of springs, other intermittent and ephemeral riparian areas. Eliminate any motorized use in riparian areas. Johnson et al., (1977) reported that 77 percent of the 166 nesting species of birds in the southwest are in some manner dependent on water related (riparian) habitat and 50 percent are completely dependent on riparian habitats.
Soils	Sonoran Desert granitic soils, riparian (supporting riparian vegetation) and burned areas are especially sensitive to erosion and fine textured soils are subject to compaction. Cross country travel can damage these soil types.
Recreation Opportunity Spectrum (ROS)	ROS classes include: primitive, semi-primitive non-motorized, semi-primitive, and roaded natural. Motorized routes are restricted in areas with ROS class of primitive and semi-primitive non-motorized.
Visual Quality Objective (VQO)	VQO classes include: preservation, retention, partial retention, modification, and maximum modification. New roads can affect visual quality by detracting from the natural form, line, and color of the surroundings. Improperly designed roads, specifically those with fresh cut and fill slopes, would notably reduce visual quality. Decommissioning roads, by contrast, may in the long term, restore visual quality as the unused road returns to its natural state. Visual quality will be addressed as new road construction, reconstruction, or decommissioning is proposed. Inability to perform maintenance on roads can result in visible erosion damage, which decreases visual quality within the road corridor.
Other	Prevent concentrated uses to disperse air quality concerns. Peer patrol being developed (OHV Ambassadors).

Mesa Ranger District (MRD)

Table MRD 3.1: Topics identified and considered by the Mesa RD ID Team in preparation for the roads and trails analysis.

<p>Management Goals considered</p>	<p>Protection of Sonoran Desert and riparian areas. Compliance with Forest Plan (1985) and other management plans. Protection of all heritage resources. Provide for a variety of motorized and non-motorized activities and a wide range of recreational opportunities. Protect and enhance scenic and aesthetic values. Maintain compliance with local, State, and Federal laws. Minimize impacts from a rapidly increasing population in the greater Phoenix metropolitan area. Minimize impacts on water and air quality and other sensitive resources. Take into consideration the foreseeable effects of changes to management of recreational opportunities on adjoining and other local public lands (e.g., if State Lands were to limit OHV access, the Tonto NF may see increased use on Forest Service lands).</p>
<p>Commercial Uses</p>	<p>Consider the effects of recommended actions on: range, special recreation permits, road use permits, sheep transportation corridor, road use permits, communication sites, mining operations, apiary sites (none out currently), power lines (WAPA and APS lines), Salt River Project (SRP) dams and operations, outfitter guides (motorized and non-motorized), marina facilities and individual events such as bike races, marathons, fishing tournaments, commercial filming, rock crawling, and jeep tours, etc.</p>
<p>Cultural Resources</p>	<p>Throughout the Mesa RD are hundreds of recorded prehistoric archaeological sites representing the occupation and agricultural modification and use of this area by people related to the Archaic and Hohokam archaeological traditions over a period of 8,000 to 10,000 years. Also historic sites reflect its use and occupation by Apache and Yavapai hunters and gatherers, miners and prospectors, cattle ranchers, sheep herders, the U.S. Army, the U.S. Forest Service, and the Work Projects Administration (WPA) and Civilian Conservation Corp (CCC), including a number of historic roads. Most of the District has not been inventoried, so that the likely number of sites will run into the thousands. Several places within the district are still used for traditional purposes by the Yavapai.</p>
<p>Recreational Uses</p>	<p>The Mesa RD experiences a wide range of recreational uses. Motorized activities include water- and land-based motorized recreation including boating, motorcycles, all-terrain vehicle (ATV) and four-wheel drive use, and technical rock-crawling. Uses also include non-motorized activities, e.g., hikers seeking solitude in wilderness areas, and equestrian (heavy mostly along the urban interface; private entry from private property). Water-based recreational use is popular along the river corridor and reservoirs. Scout jamborees, and large (over 75) group camping occurs. The Great Western Trail (motorized) and Arizona Trail (non-motorized) passes through the District. Dispersed recreation occurs throughout the Mesa RD. Other uses include hunting, shooting, fishing, hiking, photography, camping, birding, rock hounding, geo-caching, bicycling (mostly touring and some mountain biking), archaeological site exploration, special use permits (SUP) - outfitter guides (motorized and non-motorized), fishing tournaments, and recreation events (races, etc.).</p>

Trends	Significant population growth in the Phoenix metropolitan area is expanding the urban interface area into the areas adjacent to the Mesa RD. Increasing levels of recreational use (campers, motorized recreation, and equestrian use especially along the boundaries from private developments) and associated impacts including route proliferation and the collection (illegal) of forest resources (saguaros, wood, and boulders, etc.). There is shifting ethnic composition of recreational users and change in demographic base leading to larger family gatherings, more group activities and need for multi-lingual signage. With population growth and close proximity to Phoenix, there are a greater number of first-time visitors resulting in an increased need for interpretive and informational materials. There is a continued need to educate visitors.
Urban Interface Issues	Growing concern as population and number of houses on the boundary increase. “Backdoor effect” – adjoining private landowners want private trails onto the Tonto NF.
Forest Access Points	Forest Roads 143, 403, 402, 160, and 357 are primary access routes. The communities of Apache Junction and Gold Canyon are expanding adjacent to the Forest boundary, which is increasing motorized use in Mesa RD. Unauthorized routes are developing throughout the district. User access may be controlled with staging areas and fee areas. Staging areas may help by dispersing some concentrated use to avoid exceeding PM10 ⁴ limits and/or to disperse use away from areas that could conflict with new developments. Staging area could help limit area capacities. Consider installing access control (gates) at each portal from highway onto forest roads and information kiosks at staging areas, which display motorized use rules and regulations. Current problems include difficulties in controlling access (illegal) and motorized use in the Rolls, Bulldog, and Sycamore areas.
Wildlife	Arizona Game and Fish Department manages wildlife on the Tonto NF. Migratory birds of notable interest include various neo-tropical species and seasonal breeding population of occupation by bald eagles throughout the Lower Salt River corridor and reservoirs. Various special status species associated with riparian zones. Need to minimize impacts to various Threatened, Endangered, and Sensitive species throughout the Mesa RD. Make sure Biological Evaluations are in place for seasonal closures. Close redundant roads to minimize habitat fragmentation. Route proliferation in Mexican spotted owl (MSO) habitat must be curtailed. Limit stream crossings and limit use in riparian areas to protect sensitive plant and wildlife species including longfin dace and lowland leopard frog. OHV use in the Whitlow Dam area threatens (potentially) southwestern willow flycatcher (SWFL) suitable habitat.

⁴ In 1987, EPA replaced the earlier Total Suspended Particulate (TSP) air quality standard with a PM-10 standard. The new standard focuses on smaller particles that are likely responsible for adverse health effects because of their ability to reach the lower regions of the respiratory tract. The PM-10 standard includes particles with a diameter of 10 micrometers or less (0.0004 inches or one-seventh the width of a human hair) (source: <http://www.epa.gov/air/airtrends/aqtrnd95/pm10.html>).

Riparian	Minimize impacts to riparian areas. Riparian areas receive special consideration. Significant portions of the Biological Opinions (BOs) address management of riparian and upland watersheds. Portions of the Salt River are eligible for Wild and Scenic River designation. Salt River, Queen Creek, Apache Lake, and Canyon Lake are listed as impaired by ADEQ and will be on Arizona's 2006/2008 303(d) List, once approved by EPA. Sensitive riparian resources are located along a number of drainages including Sycamore Creek, Log Corral Canyon, Queen Creek, Hewitt Canyon, and their tributaries.
Soils	Riparian soils (supporting vegetation), burned areas, and Sonoran Desert granitic soils are especially sensitive to erosion. Cross country travel in the Sonoran Desert can be easy due to the dispersed nature of the vegetation, if the terrain does not limit it. This can lead to route proliferation and resource damage. This problem is even more pronounced on recently-burned lands because the barriers created by vegetation are removed.
Recreation Opportunity Spectrum (ROS)	ROS classes include primitive, semi-primitive non-motorized, semi-primitive and roaded natural. Motorized routes are restricted in areas with ROS class of primitive and semi-primitive non-motorized. Roaded natural may be added in the near future.
Visual Quality Objective (VQO)	VQO classes include: preservation, retention, partial retention, modification and maximum modification. New roads can affect visual quality by detracting from the natural form, line, and color of the surroundings. Improperly designed roads, specifically those with fresh cut and fill slopes, would notably reduce visual quality. Decommissioning roads, by contrast, would in the long term, likely restore visual quality as the unused road returns to its natural state. Visual quality will be addressed as new road construction, reconstruction or decommissioning is recommended. Inability to perform maintenance on roads can result in visible erosion damage, which decreases visual quality within the road corridor.
Other	Maricopa air quality regulations must be considered/adhered to. Dispersing concentrated use may address air quality concerns. Management efforts may be enhanced with the utilization of "peer-patrols," OHV Ambassadors, various Mesa RD staff efforts and volunteer/partnership programs.

Payson Ranger District**Table PRD 3.1: Topics identified and considered by the Payson RD ID Team in preparation for the roads and trails analysis.**

Management Goals considered	Protection of riparian areas. Compliance with Forest Plan (1985) and other management plans. Protection of all heritage resources and public interpretation developments. Consider impacts of rapidly increasing population in the greater Phoenix metropolitan area. Provide for a variety of motorized and non-motorized activities and a wide range of recreational opportunities. Protect and enhance scenic and aesthetic values. Maintain compliance with local, State, and Federal laws. Minimize impacts on water and other sensitive resources.
Commercial Uses	Consider the effects of recommended actions on: range, special recreation permits (SRPs), road use permits, communication sites, mining operations; individual events such as bike races, fishing tournaments, commercial filming, and jeep tours, etc. Commercial timber and fuelwood sales, commercial small product permits (e.g., Manzanita, novelty wood).
Cultural Resources	A wide range of site types are found throughout the Payson RD, e.g., prehistoric, historic, standing buildings, ruins, developed interpretative site (Shoofly Village). No designated traditional cultural properties (TCPs) have been identified yet. The potential of route proliferation and cultural resource and route conflict is more of a risk in the southern desert portions of the Payson RD and in proximity to communities, subdivisions, and in-holdings than in other areas.
Recreational Uses	The Payson RD experiences a wide range of recreational uses. Communities adjacent to forest lands provide forest users easy forest access for a variety of recreational activities. These activities include hunting, camping, hiking, and motorized vehicle use. Currently, with only a few exceptions, cross country travel is permitted on the Payson RD. Additionally a huge network of user created routes has been established. These routes are interspersed with system roads and trails; often making it difficult to determine where one ends and the other begins. Areas around private in-holdings are the hubs of this system of unauthorized routes. Access to the forest via motorized transport is important to the local population for hunting and recreational opportunities. However, there is a growing contingent of the population (especially those whose properties are adjacent to forest land) who are very distressed by what they view as the constant noise, dust, unchecked trespass, and resource damage associated with the motorized vehicle user groups. Additional uses include personal use fuelwood and small product permits (posts, poles, etc.), ceremonial tribal free use forest product gathering, recreational gathering of campfire wood and recreational gathering of small quantities of forest products below permit amounts (mistletoe, burls for wood turning, etc.).

Trends	Increased population in Arizona is leading to more forest visitors and recreationists. Related to this increase in visitors are associated impacts including route proliferation and general forest use (i.e., camping). Change in demographic base and shifting ethnic composition of forest visitors is leading to larger family gatherings and more group activities. Newly relocated individuals are looking for recreation activities on the Forest; greater number of first-time visitors (increased need for information and visitor education). Public demands for fuelwood are increasing, as is the illegal collection of forest products (fuelwood, rock, etc.).
Urban Interface Issues	18,083 acres of private land are contained in more than 60 in-holdings leading to a high degree of interaction between the forest and the local population. At the center of the District is the largest of these in-holdings, the town of Payson. The resulting “backdoor effect” is many unauthorized routes have been created between private in-holdings and the Forest.
Wildlife	Wildlife are potentially impacted by cross country travel (i.e., removes and modifies vegetation and increases sediment transportation into waterways affecting aquatic organisms and higher order predators). Route proliferation fragments habitat and influences predation rates. Invasive species are problematic (spread on vehicles especially where cross country travel is permitted).
Riparian	The Tonto NF Forest Land Management Plan states that riparian areas are to be managed for riparian values. Specific areas of concern include the Verde River and Fossil Creek (both designated Wild and Scenic Rivers). Those eligible for Wild and Scenic River designation are Tonto Creek and the East Verde River. East Verde River, Tonto Creek, and Christopher Creek are listed as impaired by ADEQ and are shown on Arizona’s 2006/2008 303(d) List, once approved by EPA. Additional streams with sensitive riparian areas include: Pine Creek, Webber Creek, Bray Creek, Sycamore and North Sycamore Creeks, Chase Creek, Big Canyon, Dude and Dry Dude Creeks, Bonita, Perley, Moore and Lewis Creeks, Ellison Creek, Thompson Draw, Jim Roberts Draw, Pyatt Draw, Hunter Creek, Sharp Creek, Gordon Canyon, Green Valley Creek, Preacher Canyon, Houston Creek, Gibson Creeks, Ash Creek, American Gulch, Mineral Creek, Rye Creek, Rock Creek, and their tributaries.
Soils	Riparian soils (supporting riparian vegetation), burned areas and granitic soils are especially sensitive to erosion. Fine textured soils are subject to compaction. Cross country travel can damage these sensitive soils.
Recreation Opportunity Spectrum (ROS)	ROS classes include primitive, semi-primitive non-motorized, semi-primitive motorized, rural, and roaded natural. Motorized routes are restricted in areas with ROS class of primitive and semi-primitive non-motorized.

<p>Rangelands</p>	<p>PRD has 18 grazing allotments (one of these is vacant). User-created routes and cross-country travel are impacting rangelands by causing loss of herbaceous groundcover, soil compaction, and accelerated erosion. Cross country travel creates a vector for noxious weed dispersal; currently most noxious weed populations are near roads. Permit holders are required to maintain range improvements such as: fences, stock tanks, troughs, and pipelines as a term and condition of the grazing permit. Existing roads and trails are used by permittees for managing livestock, such as placement of salt and for monitoring livestock dispersal. Permittees have permitted access.</p>
<p>Visual Quality Objective (VQO)</p>	<p>VQO classes include retention, partial retention, modification, and maximum modification. New roads can affect visual quality by detracting from the natural form and color of the surroundings. Improperly designed roads, specifically those with fresh cut and fill slopes, would notably reduce visual quality. Decommissioning roads, by contrast, may in the long term, restore visual quality as the unused road returns to its natural state. Visual quality will be addressed as new road construction, reconstruction, or decommissioning is proposed. Inability to perform maintenance on roads can result in visible erosion damage, which decreases visual quality within the road corridor.</p>

Pleasant Valley Ranger District

Table PVRD 3.1: Topics identified and considered by the Pleasant Valley RD ID Team in preparation for the roads and trails analysis.

<p>Management Goals considered</p>	<p>Protection of riparian areas. Compliance with Forest Plan (1985) and other management plans. Protection of all heritage resources. Provide for a variety of motorized and non-motorized activities. Provide a wide range of recreational opportunities. Protect and enhance scenic and aesthetic values. Maintain compliance with local, State, and Federal laws. Minimize impacts from Arizona’s rapidly increasing population. Minimize impacts on water and other sensitive resources. Take into consideration the foreseeable effects of changes to management of recreational opportunities on adjoining and other local public lands (e.g., if State Lands were to limit OHV access, the Tonto NF may see increased use on Forest lands; more specifically if State Lands limit OHV access).</p>
<p>Commercial Uses</p>	<p>Consider the effects of recommended actions on: range, special recreation permits (SRPs), road use permits, communication sites, mining operations, power lines (SRP and APS lines), outfitter guides, commercial filming, and jeep tours, etc.</p>
<p>Cultural Resources</p>	<p>A wide range of site types (i.e., prehistoric, historic, standing buildings, and ruins) are found throughout the Pleasant Valley RD. No designated traditional cultural properties (TCPs) have been identified yet (but undoubtedly exist). A wide range of site types are found all over the Pleasant Valley RD and are widely distributed across the Pleasant Valley RD, particularly along watercourses such as Cherry Creek, and are represented in every vegetation zone. Along major travel corridors throughout the Pleasant Valley RD and in proximity to communities, subdivision and in-holdings, the potential of route proliferation, and cultural resource and route conflict is more of a risk than in other areas.</p>
<p>Recreational Uses</p>	<p>The Pleasant Valley RD experiences a wide range of recreational uses. Motorized activities include motorcycles, ATVs, 4X4 and technical rock-crawling. Uses also include non-motorized activities such as hikers seeking solitude in wilderness areas and equestrian use (heavy mostly along the urban interface; private entry from private property). Dispersed recreation occurs throughout the Pleasant Valley RD. Hunting, shooting, fishing, hiking, photography, camping, birding, rock hounding, geo-caching, and bicycling (touring and mountain biking). Unauthorized landing area (air strip). Archaeological site exploration. Special use permits (SUP) - outfitter guides (motorized and non-motorized).</p>

Trends	Arizona has experienced significant population growth especially in the Phoenix metropolitan area. This growth is expanding the urban interface area into the Tonto NF and Pleasant Valley RD. Increasing levels of recreational use is occurring (e.g., campers, motorized recreation, and equestrian use and associated impacts). Misuse of forest resources is also occurring (route proliferation and illegal collection of Forest resources, such as lithics, wood, boulders, etc.). Shifting ethnic composition of recreational users and a change in demographic base is leading to larger family gatherings, more group activities, and a need for multi-lingual signage. Continuing need to educate visitors. Hotter and drier climate. Illegal outfitter/guide OHV operations are using the district.
Urban Interface Issues	Growing concern as population and number of houses on the boundary increase. “Backdoor effect” – adjoining private landowners want private trails onto the Tonto NF.
Wildlife	Game, non-game and special status species and management for all. AZGFD manages game populations. Habitat for species such as elk, deer, turkey, and black bear should be improved or maintained. Road densities are to be maintained below one mile per square mile in Management Area 5D (Forest Plan (1985) replacement page 159). Migratory birds and other wildlife associated with riparian zones are important. Most perennial streams have a native fish complex and Canyon Creek is managed as a catch and release trout fishery. Globe, Payson, and Pleasant Valley RDs have the only populations of Chiricahua leopard frogs on the Tonto NF. Threatened, Endangered, and Sensitive species unique to the District include Arizona bugbane, Chiricahua leopard frog, and western barking frog.
Riparian	The Forest Plan (1985) states that riparian areas are to be managed for riparian values. Areas of concern include those eligible for Wild, Scenic, and Recreational River designation. Potential riparian areas are found along portions of Canyon, Cherry, Spring, Workman, Parker, and Salome creeks. Additional riparian areas of concern with possible road impacts include Mule, Haigler, Gordon, Walnut, and Bryant creeks, Sevenmile Canyon, Reynolds Creek, and Rose Creek, among others.
Soils	Sonoran Desert granitic soils, riparian (supporting riparian vegetation) and burned areas are especially sensitive to erosion and fine textured soils are subject to compaction. Cross-country travel can damage these soil types.
Recreation Opportunity Spectrum (ROS)	ROS classes include primitive, semi-primitive non-motorized, semi-primitive and roaded natural. Motorized routes are restricted in areas with ROS class of primitive and semi-primitive non-motorized.
Visual Quality Objective (VQO)	VQO classes include preservation, retention, partial retention, modification, and maximum modification. New roads can affect visual quality by detracting from the natural form, line, and color of the surroundings. Improperly designed roads, specifically those with fresh cut and fill slopes, would notably reduce visual quality. Decommissioning roads, by contrast, may in the long term, restore visual quality as the unused road returns to its natural state. Visual quality will be addressed as new road construction, reconstruction, or decommissioning is proposed. Inability to perform maintenance on roads can result in visible erosion damage, which decreases visual quality within the road corridor.

Tonto Basin Ranger District**Table TBRD 3.1: Topics identified and considered by the Tonto Basin RD ID Team in preparation for the roads and trails analysis.**

Management Goals considered	Protection of Sonoran Desert, semi-desert grassland, chaparral, pine oak woodlands and riparian areas. Compliance with Forest Plan (1985) and other management plans. Protection of all heritage resources. Provide for a wide range of recreational opportunities including a variety of motorized and non-motorized activities. Protect and enhance scenic and aesthetic values. Maintain compliance with local, State, and Federal laws. Coordinate route recommendations and subsequent route designations to minimize conflicts and impacts to sensitive resources.
Commercial Uses	Consider the effects of recommended actions on: range, special recreation permits (SRPs), road use permits, communication sites, mining operations, apiary sites (none out currently), power lines (WAPA and APS lines), outfitter guides, reservoir marina facilities (commercial public service site), Salt River Project (SRP) dams and operations, as well as individual events such as bike races, fishing tournaments, commercial filming, jeep tours, etc.
Cultural Resources	A wide range of site types (e.g., prehistoric, historic, standing buildings, ruins) are found throughout the Tonto Basin RD.
Recreational Uses	The Tonto Basin RD experiences a variety of recreational uses. Motorized activities include water and land based motorized recreation including boating, motorcycles, ATVs, 4X4 and technical rock-crawling. Uses also include non-motorized activities, e.g., hikers seeking solitude in wilderness areas and equestrian (heavy mostly along the urban interface; private entry from private property). Water-based recreational use is popular along the river corridor and reservoirs. Dispersed recreation occurs throughout the Tonto Basin RD. Other uses include hunting, shooting, fishing, hiking, photography, camping, birding, rock hounding, geo-caching, bicycling (mostly touring and some mountain biking), archaeological site exploration, special use permits (SUP) - outfitter guides (motorized and non-motorized), fishing tournaments, and recreation events (races, etc.).
Trends	Increasing levels of recreational use such as camping, motorized recreation and equestrian use and associated impacts (e.g., route proliferation, illegal collection of Forest resources such as saguaros, wood, and boulders, etc.). Shifting ethnic composition of recreational users. Change in demographic base leading to larger family gatherings, more group activities and need for multi-lingual signage. Newly relocated individuals looking for recreation activities on the Tonto NF; greater number of first-time visitors (resulting in an increased need for interpretative and informational materials). Continuing need to educate visitors. Hotter and drier climate.
Urban Interface Issues	There are a limited number of private property boundaries on the Tonto Basin RD (communities of Tonto Basin, Roosevelt, Deer Creek, and Rye Creek).
Portal Access Points	State Highway (SH) 88 (Apache Trail) provides the greatest access to the Tonto Basin RD followed by SH 188, 87, and 288.

Wildlife	Arizona Game and Fish Department manages wildlife on the Tonto NF. Migratory birds of notable interest include various neo-tropical species and seasonal occupation by bald eagles around the reservoirs. Various special status species associated with riparian zones. Need to minimize impacts to various Threatened, Endangered, and Sensitive species throughout the Tonto Basin RD.
Riparian	Minimize impacts to riparian areas. Protection of riparian areas is to receive special consideration. Significant portions of the Biological Opinions (BOs) specifically address management objectives in riparian and upland watersheds. Approximately 3 percent of the Tonto Basin RD is riparian. Motorized use in riparian areas needs to be eliminated.
Soils	Sonoran Desert granitic soils are especially sensitive to erosion. Cross country travel in the Sonoran Desert can be easy due to the dispersed nature of the vegetation, if the terrain does not limit it. This can lead to route proliferation and resource damage. This problem is even more pronounced on recently burned lands because the barriers created by vegetation are removed. Riparian soils (supporting riparian vegetation) and burned areas are especially sensitive to erosion.
Recreation Opportunity Spectrum (ROS)	ROS classes include primitive, semi-primitive non-motorized, semi-primitive, and roaded natural. Motorized routes are restricted in areas with ROS class of primitive and semi-primitive non-motorized.
Visual Quality Objective (VQO)	VQO classes include preservation, retention, partial retention, modification, and maximum modification.

Pertinent Management Plans and Other Documents

A number of management plans, biological opinions, and environmental assessments were in development and so were considered as part of the TAP process. These planning activities may affect certain roads and trails by limiting or prohibiting motorized use based upon impacts and/or risks to sensitive resources or may enhance the need for motorized use on certain roads and trails based upon identified benefits/needs (e.g., access to permitted commercial facilities for maintenance). Documents/plans/projects pertaining to the each district are identified in table CCRD 3.2 through table TBRD 3.2.

Cave Creek Ranger District

Table CCRD 3.2: Pertinent Management Plans and Documents Identified by the ID Team

Project/Plan/Document:	Resource Regions Affected
Biological Opinion (BO)	For range management, the following Biological Opinions will be re-evaluated in the near future: Skeleton Ridge, Six Bar, and Red Creek. Most of the range allotments have BOs which are primarily tied to range management.
Environmental Assessments (EA)	Cartwright Allotment and three more allotments in 2009-2010 (combined into one EA). Camp Creek Recreation Residence Tract. Needle Rock Recreation Area. Comprehensive River Management Plan. Forestwide EA for noxious weeds.
Habitat Conservation Plans (HCP)	Horseshoe and Bartlett Habitat Conservation Plan

Globe Ranger District

Table GRD 3.2: Pertinent Management Plans and Documents Identified by the ID Team.

Project/Plan/Document:	Resource Regions Affected
Biological Opinion (BO)	Carlotta Mine Approx (1998) Regional programmatic for all Southwestern forest plans (1997, 2005)
Environmental Assessments (EA)	Forestwide EA for noxious weeds. Tonto National Forest Plan (LRMP); Upper Salt River Management Plan, Superstition Wilderness Plan

Mesa Ranger District

Table MRD 3.2: Pertinent Management Plans and Documents Identified by the ID Team.

Project/Plan/Document:	Resource Regions Affected
Biological Opinions (BO)	Cross F Allotment (Walnut Spring) and Sunflower Allotment (Mud Spring); Gila topminnow
Environmental Assessments (EA)	Sonoran Desert Trail System, Diamond Allotment, Sunflower Allotment, Millsite Allotment
Travel Management Plans/Documents	Mesa OHV Management Plan, Bulldog OHV Area, Rolls OHV Area

Payson Ranger District**Table PRD 3.2: Pertinent Management Plans and Documents Identified by the ID Team.**

Project/Plan/Document:	Resource Regions Affected
Environmental Assessment (EA)	Grazing Strategy and Associated Improvements for the Little Green Valley Grazing Complex (Decision 2005); 13 Ranch, Christopher Mountain/Ellinwood Allotments Analysis (Decision 2008); Pine/Hog Canyon Allotment Management Plan Revision (anticipated decision 2011)
Forestry/Fuels Management Projects	Lion, Christopher/Hunter, Pine/Strawberry, Payson and Verde Wildland Urban Interface EAs.

Pleasant Valley Ranger District**Table PVRD 3.2: Pertinent Management Plans and Documents Identified by the ID Team.**

Project/Plan/Document:	Resource Regions Affected
Biological Opinion (BO)	The Continued Implementation of the Land and Resource Management Plans or the Eleven National Forests and National Grasslands of the Southwestern Region (2-22-03-F-366) Red Lake Allotment (#22410-2007-F-0052) Allotment Management Plan for Buzzard Roost and Soldier Camp (#02-21-04-F-0273) Phase II Maintenance in Utility Corridors on Arizona Forests (#22410-2007-F-0365) Crouch Mesa allotment OW Ranch Fence project BO
Environmental Assessments (EA)	Cherry-Frio Allotment permit renewal EA Flying V and H Allotment permit renewal EA
Fire Management	Cheery Burn Chamberlain analysis

Tonto Basin Ranger District**Table TBRD 3.2: Pertinent Management Plans and Documents Identified by the ID Team.**

Project/Plan/Document:	Resource Regions Affected
Biological Opinion (BA)	Campaign Allotment, Tonto Basin Allotment, 7/K Allotment, Walnut Allotment, and Boneyback Allotment
Environmental Assessments (EA)	APS Mazatzal 345kV Substation located off of FR 184, APS Mt. Ord overhead 21 kV cable located off of FR 524, Recreation Residence Review (Crabtree Wash), Boney Back, Tonto Basin, 7/K, and Walnut Range/ Grazing permits, Campaign Allotment (in prep), Roosevelt Travel Management EA (draft)
Habitat Conservation Plans (HCP)	Roosevelt Lake Habitat Conservation Plan
Fire Management Project	Fire projects (on-going) on the District: Del Shay, Mt. Ord, Hackberry, Misc. brush piles and noxious weeds. All of these projects have approved NEPA and Rx burn plans.

Subregions by Ranger District

In order to effectively analyze a land area covering such a large geographic scale, each district was subdivided into subregions.

Cave Creek Ranger District

The Cave Creek RD (~1000 square miles) was subdivided into 13 subregions. Agency staff identified and considered the current uses, issues, trends, concerns, and management objectives (MO) of each subregion. The thirteen subregions are: Desert Vista, High Traffic Corridors, Low Traffic Motorized, St. Clair Permit Zone, Cave Creek Non-motorized Trail System, Non-designated Unroaded, Designated Roadless Areas, Motorized Use Restricted Area, Urban Interface, Heritage Gems, Mazatzal Wilderness, Verde River Scenic, and the Verde Wild River Corridor (map CCRD 3.1).

Desert Vista Subregion

The Desert Vista Subregion experiences a high level of motorized and equestrian recreational use. Geographically located on the southwestern edge of the Cave Creek RD, this subregion receives large numbers of visitors primarily from the Phoenix metropolitan area. Visitors participate in a variety of activities including motorcycle, OHV, UTV, equestrian, 4X4, jeep tours, and to a lesser extent camping, hunting, and mountain biking. This area contains high quality, unburned desert and Verde River Riparian habitat. The area supports desert tortoise and contains many wildlife waters. Archeological sites are found throughout the Desert Vista subregion.

Management goals and objectives are focused on minimizing impacts to the subregion's natural cultural and paleontological resources, preserving air and soil quality, managing the urban interface, and minimizing associated conflicts between visitor types and providing for a variety of recreational uses.

High Traffic Corridors Subregion

The routes that serve as the main arterials throughout the Cave Creek RD and that serve as “trunk lines” have been combined and delineated as the high traffic corridors subregion. The high traffic corridors are routes FR 24, 41, 269, 19, 205, 459, and 20. These corridors provide users access to water-based recreation (i.e., marinas), grazing allotments, private properties, hunting, motorcycle, 4X4, OHV, horseback riding, hiking, dispersed camping, target shooting, mining, and viewing historic and archeological sites.

Management goals and objectives are focused on minimizing impacts to the subregion's natural cultural and paleontological resources, preserving air (taking into account PM-10 concerns), and soil quality, providing for recreational uses and minimizing associated conflicts between visitor types.

Low Traffic Motorized Subregion

This project subregion covers a large area in the northwest region of the Cave Creek RD. It contains a variety of Threatened and Endangered (T & E) species, the Agua Fria grasslands, portions of the Verde River, and important antelope and riparian habitat. This subregion shares borders with BLM, Prescott NF, and State lands. Resource concerns include soil erosion, impacts to and protection of the Verde River and specifically minimizing the impacts of NFS Road 18 in

Red Creek with respect to wildlife species and riparian habitat. Additional concerns are outlined in the Verde River CRMP. Subregion uses include commercial uses such as grazing and mining and public recreational uses such as hunting, motorcycle, 4X4, OHV, horseback riding, hiking, dispersed camping, target shooting, and viewing historic and archeological sites.

Management goals and objectives are focused on minimizing impacts to sensitive resources, while providing adequate access that provides for a range of recreational and commercial users, eliminating motorized intrusions into non-motorized areas and minimizing route proliferation.

St. Clair Permit Zone Subregion

The St. Clair Permit Zone subregion is subject to *Special Order 12-209-R*, which was enacted after the Bart and St. Clair fires in 2005. This Special Order was enacted to protect and promote the restoration of burned Sonoran Desert. In accordance with this order, access points to the area are closed with fencing and gates. Opportunity exists to use this as a future pilot area for permitted access only.

Management goals and objectives are focused on maximizing compliance with *Special Order 12-2090R*, while it is in effect and minimizing impacts to sensitive resources.

Cave Creek Non-Motorized Trail System Subregion

This project subregion provides for the following uses: grazing allotment access, hunting, hiking, backpacking, camping, equestrian, mountain biking, and access to private property.

Management goals and objectives are focused on minimizing impacts to sensitive resources and conflicts between different visitor and user types, as well as minimizing conflicts with adjoining private landowners and providing for a well maintained trail system that recognizes adjoining land management/use may increase non-motorized recreation in this area.

Non-Designated Unroaded Subregion

This subregion provides access from the Sycamore area, as well as opportunities for hunting and crossing the river. This subregion is utilized for grazing, mining, and numerous recreational activities. Currently there is one seasonal closure for nesting bald eagles in this subregion.

Management goals and objectives include minimizing impacts to the subregions natural and cultural resources, specifically improving bald eagle nesting habitat, riparian habitat, and soil conditions by preventing increases in road densities within this area and minimizing route proliferation.

Designated Roadless Areas Subregion

This subregion includes Arnold Mesa, Lime Creek, and areas adjacent to the Mazatzal and Pine Mountain wildernesses. This subregion is predominantly utilized for grazing, mining, and access to private property.

Management goals and objectives are focused on minimizing the impacts on and preserving this area's natural and cultural resource values by decommissioning and obliterating unauthorized or unnecessary routes, while maintaining some access for visitors to enjoy the area's resources.

Motorized Use Restricted Area Subregion

This area is located in the southern-most portion of the Cave Creek RD and is adjacent to the Azatlan prehistoric site, Mesa RD, and private property. It is primarily utilized by hunters, OHV “rock crawlers,” and other OHV enthusiasts, including motorcycles.

Management goals and objectives are focused on minimizing OHV use along the river corridor, maintaining riparian health, minimizing disturbance to nesting eagles, maintaining high quality desert tortoise habitat, minimizing impacts to the Azatlan archeological site, and minimizing impacts to adjoining private property.

Urban Interface Subregion

This subregion is found along the western edge of the Cave Creek RD. This subregion provides private access into the forest. Access to archeological sites from adjacent private properties occurs as well. Predominant uses include grazing, hunting, 4X4, motorcycles, ATVs, equestrian, hiking, and fishing.

Management goals and objectives are focused on minimizing conflicts between private property owners and forest visitors, minimizing damage to small springs in the area, and minimizing impacts to archaeological resources.

Heritage Gems Subregion

This subregion is adjacent to the Fort McDowell Indian Reservation, the Agua Fria National Monument, and other areas within this subregion that are rich with cultural or “heritage” resources. The largest such area abuts the Agua Fria National Monument and shares an emphasis for the management, protection and interpretation of this resource. Another smaller area is known as Azatlan, which is the largest known Hohokam village. Primary uses include OHV, equestrian, hiking, camping, grazing, fishing access, and an airstrip (unauthorized), which is used by ultra-lights and model airplanes. Grazing and range improvements are a management emphasis in the Perry Mesa area.

Management goals and objectives are focused on maintaining air quality standards, preserving archeological sites, and minimizing impacts to sensitive resources.

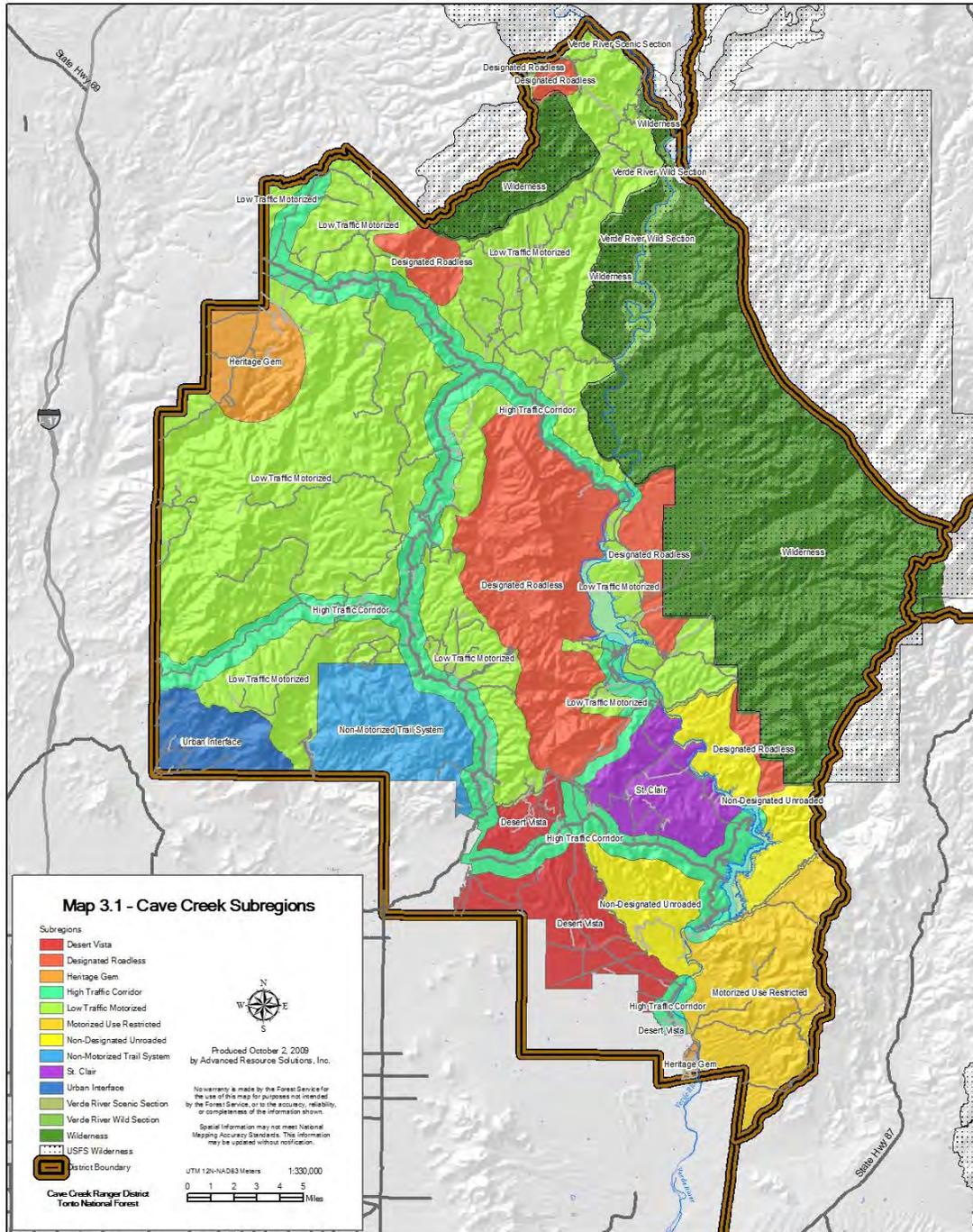
Mazatzal Wilderness Subregion

This subregion dominates the eastern edge of the CCRD. Predominant uses include grazing, hiking and hunting. Management objectives and goals include protecting the subregion’s natural and cultural resources while providing access for authorized wilderness uses.

Desired Conditions: Maintain wilderness values. Eliminate non-authorized motorized wilderness intrusions by implementing actions approved in the Verde River Comprehensive River Management Plan (CRMP).

Verde River Scenic and Verde River Wild Subregion

These subregions are delineated by the boundaries of the Verde Scenic River and the Verde Wild River boundaries. Management objectives and goals include protecting the subregion’s natural and cultural resources, while providing access for authorized wilderness uses and eliminating non-authorized motorized wilderness intrusions by implementing actions approved in the Verde River Comprehensive River Management Plan.



Map CCRD 3.1: Cave Creek Ranger District Route Evaluation Subregions

Globe Ranger District

The Globe RD (~450,000 acres) was sub-divided into three subregions. Agency staff identified and considered the current uses, issues, trends, concerns, and Management Objectives (MO) of each subregion. The three subregions are: the Thumb Region, the Gila Region and the Pinal Region (map GRD 3.1).

The Thumb Subregion

Current uses in the Thumb Subregion include both motorized and non-motorized activities. Non-motorized activities include hiking in the wilderness, white water rafting, fishing, equestrian, mining, camping, and bird watching. Motorized use, especially OHV use, is increasing every year. Permittees access grazing allotments and associated facilities. Land owners access private property inholdings. Utility facilities and associated operations in this subregion include those associated with communications, power, and gas lines.

Management objectives include enhancing hunter success, user safety, protecting erodible soils riparian areas (Upper Salt River, Ash Creek, etc.), and cultural and archeological sites. Other objectives include discouraging route proliferation, user conflicts, and the spread of noxious weeds. Wildlife objectives include protecting critical habitat for the Southwestern willow flycatcher and native fish species, minimizing disturbance to breeding bald eagles and other wildlife (Threatened, Endangered and Sensitive species). Recreation Opportunity Spectrum (ROS) classes include semi-primitive non-motorized, semi-primitive motorized, and roaded natural. The mesic portions of this subregion are potential candidates for implementing landscape level ecosystem restoration.

Gila Subregion

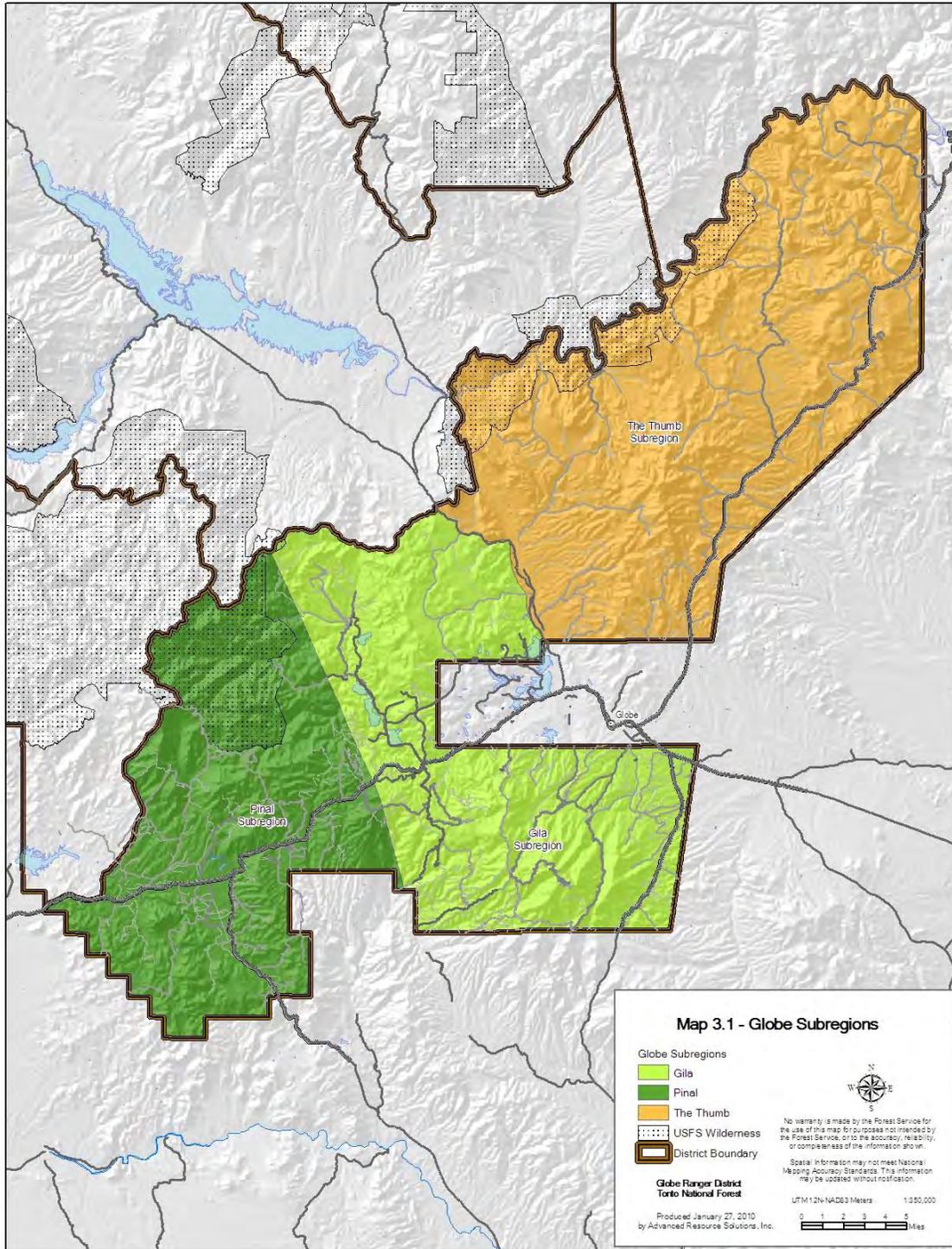
This subregion borders the towns of Globe and Miami. Recreational use in the area is increasing. Popular activities in this area include hiking, OHV, equestrian, camping, hunting, bird watching, mining, and mountain biking. This subregion provides access for grazing permittees, Indian reservations, and private inholdings. Outfitting guides depend upon the region for commercial purposes. Utilities in the area include gas and power lines and communication sites.

The management objectives in this subregion include promoting user safety, monitoring and managing for erosion concerns, protecting cultural and archeological sites, protecting riparian areas (especially Pinto Creek) and wildlife and their habitat (e.g., minimize disturbance to Mexican spotted owl, northern goshawk, and other species of concern). ROS for this area include semi-primitive non-motorized, roaded natural, and semi-primitive motorized.

Pinal Subregion

This subregion is a high intensity use area. Common uses include hiking, OHV, equestrian, camping, hunting, bird watching, rock climbing, mining, and mountain biking. This subregion provides access to wilderness, grazing permittees, and private inholdings.

Management objectives include protecting sensitive soils, sensitive plants (i.e., Arizona hedgehog cactus), and cultural sites, and discouraging wildlife disturbance and harassment (e.g., Sonoran desert tortoise, Gila monsters, and desert bighorn sheep, etc.). All riparian areas receive enhanced protection. Notable riparian areas include Arnett Creek, Telephone Canyon, and portions of Queen Creek, Whitfield Wash, and Devils Canyon. Arizona hedgehog cactus is listed as Threatened; therefore impacts to it and/or its habitat are strictly monitored.



Map GRD 3.1: Globe Ranger District Route Evaluation Subregions

Mesa Ranger District

The Mesa RD (~700 square miles) was sub-divided into 13 subregions. Agency staff identified and considered the significant current uses, issues, trends, concerns, and management objectives (MO) of each subregion. The thirteen subregions are: Sycamore, Sunflower, Bushnell, Four Peaks, The Rolls, Four Peaks Wilderness, Stewart Mountain, Hewitt, Usery, Bulldog, Lost Dutchman, Superstition Wilderness, and Fish Creek (map MRD 3.1).

Sycamore Subregion

The western end of the Sycamore Subregion borders the Ft. McDowell Reservation. Sycamore Subregion is in close proximity to the Phoenix metropolitan area and has become a destination for OHV enthusiasts, target shooting, and dispersed camping. With increasing use of the subregion, unauthorized user-created routes, parties, trash dumping, conflicting use patterns, and vandalism occurs. There is a high occurrence of human caused fires. Special use permits (SUP) for guided OHV tours occur in this subregion.

Management objectives for this subregion include managing for a variety of renewable natural resources with primary emphasis on improvement of wildlife habitat, livestock forage production, and dispersed recreation.

Sunflower Subregion

The Sunflower Subregion provides access to the Mazatzal Wilderness, contains a utility corridor, the Sunflower Administrative Site, Cross F Ranch, and several grazing allotments. The old Highway 87 traverses the subregion and is in the process of being reclaimed. Recreationists engage in motorized and non-motorized activities. This subregion is a popular hunting area and does not receive as much OHV traffic as the southern bounding Sycamore Subregion. FSR 393 is a popular route, allowing OHV access to Bartlett Lake on the Cave Creek RD. The National Scenic Trail (NST), Arizona Trail, traverses this subregion. Illegal fence cutting by motorized users has occurred to access the adjacent wilderness area.

Management emphasis for the Mazatzal Wilderness is to manage for wilderness values, while providing livestock grazing and recreation opportunities that are compatible with maintaining wilderness values and protecting resources. Management objectives for managing non-wilderness within the Sunflower Subregion include managing for a variety of renewable natural resources with primary emphasis on improvement of wildlife habitat, livestock forage production, and dispersed recreation. Wildlife species which merit attention include the Gila top minnow, desert pupfish, lowland leopard frog, common black hawk, longfin dace, desert sucker, Sonoran Desert tortoise, Maricopa leaf-nosed snake and the narrow-headed garter snake.

Bushnell Subregion

Throughout the last decade, Bushnell (Tanks) Subregion was increasingly used by OHV enthusiasts including rock crawling off FSR 524. Due to safety concerns, it is currently gated and used by non-motorized recreationists, including hunters. Other uses include grazing, a sheep driveway, and access for utilities including a fire lookout, U.S. Geological Survey gauging station, and communication sites. Some small scale mining is occurring (e.g., historic mining district) and the historic Reno Road is found here. The National Scenic Trail (NST), Arizona Trail, traverses this subregion.

Management objectives for this subregion include managing for a variety of renewable natural resources with primary emphasis on improvement of wildlife habitat, livestock forage production, dispersed recreation, maintaining user safety (e.g., flash floods occur in Sycamore Creek), promoting the restoration of habitat damaged during the Edge Fire (2005), and meeting Forest Plan objectives for the MSO PACs and the Sycamore Creek riparian area. Wildlife species which merit attention include the lowland leopard frog, common black hawk, longfin dace, Sonoran Desert tortoise, Maricopa leaf-nosed snake and narrow-headed garter snake.

Four Peaks Subregion

The Four Peaks Subregion bounds Four Peaks Wilderness and The Rolls Subregion to the south. Current uses include motorized and non-motorized recreation, grazing, and access to developed trailheads and to the Four Peaks Wilderness. Four-wheel drive enthusiasts enjoy scenic drives along route FSR 143 and FSR 11. There is a high occurrence of human caused fires. Special use permits (SUP) for guided OHV touring and some small scale mining occur in this subregion.

Management objectives for this subregion include managing for a variety of renewable natural resources with primary emphasis on improvement of wildlife habitat, livestock forage production, dispersed recreation, and the restoration of habitat damaged during the Edge Fire (2005). Wildlife species which merit attention include the longfin dace, lowland leopard frog, common black hawk, Sonoran Desert tortoise, Maricopa leaf-nosed snake, narrow headed garter snake, flannel bush, Gila topminnow, and desert pupfish.

The Rolls Subregion

The Rolls Subregion was developed for managed recreational backcountry OHV experiences. Over the last decade a tremendous increase in OHV activity occurred and the area has numerous user-created routes. Current uses also include non-motorized recreation such as target shooting, and grazing. Saguaro Lake access provides fishing and picnicking opportunities. There is a high occurrence of human caused fires. Special use permits (SUP) for guided OHV tours occur in this subregion. Visitors can access the Four Peaks Wilderness and developed trailheads. Saguaro Lake Marina and Saguaro Lake Ranch are accessed via this subregion.

Management objectives for this subregion include managing for a variety of renewable natural resources with primary emphasis on improvement of wildlife habitat, livestock forage production, dispersed recreation, and promoting the restoration of habitat damaged during the Peaks Fire (1994). Wildlife species which merit attention include the lowland leopard frog, Sonoran Desert tortoise, bald eagle, Harris' hawk and peregrine falcon. Eliminating the spread of invasive species (i.e., fountain grass) and enforcing the prohibition on target shooting are additional management objectives.

Four Peaks Wilderness Subregion

This subregion is within the Four Peaks Wilderness. Current uses are restricted to non-motorized activities, grazing, and mining. SUP for hiking tours occur in this subregion.

Management objectives are primarily focused on maintaining wilderness values, while providing livestock grazing and recreation opportunities that are compatible with maintaining wilderness values and protecting resources. An additional management goal includes promoting the restoration of habitat damaged during the 2005 Edge Fire.

Stewart Mountain Subregion

The west end of this subregion borders both the Ft. McDowell and Salt River Pima Indian reservations. Current uses include grazing, motorized and non-motorized recreation, and Lower Salt River access. The Lower Salt River is a developed recreation site and includes a commercial permit for visitors interested in „tubing’ the river. Fishing is popular and during the summer months recreational use is high. Along the north side of the river is a seasonal no public entry bald eagle closure.

Management emphasis for the Lower Salt, Saguaro, and Canyon Lakes Recreation Area is water-oriented developed and dispersed recreation. Management objectives for the remainder of the subregion include managing for a variety of renewable natural resources with primary emphasis on improvement of wildlife habitat, livestock forage production, and dispersed recreation. Another management goal is eliminating the spread of invasive species. Wildlife species which merit attention include the lowland leopard frog, Sonoran Desert tortoise, desert sucker, Gila chub, bald eagle, yellow-billed cuckoo and peregrine falcon.

Hewitt Subregion

Hewitt Subregion is on the southeast portion of the Mesa RD. A historic narrow-gauge railroad and a utility corridor pass through this area. A private ranch is surrounded by forest within this subregion. Hewitt includes many miles of level 2 roads with dispersed camping areas along the roads. Roads lead north to two Superstition Wilderness trailheads, and to the Globe RD boundary on the east. Primary recreation use includes OHV recreationists, hunters, and target shooters. Other uses include grazing and non-motorized recreation (access to the Superstition Wilderness). There is a high occurrence of vandalism to signs and fences, and human caused fires.

Management objectives for this subregion include managing for a variety of renewable natural resources with primary emphasis on improvement of wildlife habitat, livestock forage production, and dispersed recreation. Other management goals for the Hewitt Subregion include eliminating the spread of invasive species (tamarisk and buffelgrass); eliminating motorized excursions into wilderness; eliminating conflicts among users (i.e., grazing permittee fences have been cut and range improvements vandalized); and minimizing impacts to the following species: lowland leopard frog, Sonoran Desert tortoise, mapleleaf snapdragon, AZ hedgehog cactus, and Southwestern willow flycatcher (suitable, unoccupied habitat).

Usery Subregion

The west end of the subregion borders the Salt River Pima Reservation and BLM lands. The southern boundary borders county and private lands. Primary uses include non-motorized recreational activities for the public, particularly hiking and mountain biking, along with commercial, administrative, and permitted facilities access. Fence cutting is a common occurrence.

Management objectives for this subregion include managing for a variety of renewable natural resources with primary emphasis on improvement of wildlife habitat, livestock forage production, and dispersed recreation. Additional management goals include managing use to meet PM10 guidelines and to minimize adverse impacts to Sonoran Desert tortoise, Harris’ hawk, bald eagle and mapleleaf snapdragon.

Bulldog Subregion

The Bulldog Subregion is a permitted access area. Six staging areas exist with motorized trailheads and one trailhead exists for non-motorized access. OHV and equestrian activities are popular in the subregion. Some hunting, grazing, and mining continues in the area. Special use permits (SUP) for guided OHV touring occurs in this subregion.

Management objectives for this subregion include managing for a variety of renewable natural resources with primary emphasis on improvement of wildlife habitat, livestock forage production, and dispersed recreation. Additional management goals include providing safe recreational opportunities and minimizing user conflicts. In the Goldfield Roadless Area, road construction and reconstruction is prohibited. Wildlife species which merit attention include the lowland leopard frog, Sonoran Desert tortoise, bald eagle, peregrine falcon, Harris' hawk, Gila topminnow, Alamos deer vetch, and lobed fleabane. There is a bald eagle seasonal closure south of the Lower Salt River near Stewart Mountain Dam and Bulldog Cliffs.

Lost Dutchman Subregion

Current uses include mining, motorized and non-motorized recreation. Additionally users access the Lost Dutchman State Park and Superstition Wilderness via this subregion. The Salt River Project maintains access to a utility corridor.

Management objectives for this subregion include managing for a variety of renewable natural resources with primary emphasis on improvement of wildlife habitat, livestock forage production, and dispersed recreation. Other goals include effective enforcement of the dispersed camping closure. Wildlife species which merit attention include the Sonoran Desert tortoise, peregrine falcon, Alamos deer vetch, lobed fleabane and California flannel bush.

Superstition Wilderness Subregion

Common uses in the wilderness subregion include non-motorized recreation (hiking and equestrian use), including recreationists searching for the Lost Dutchman Mine. Two front-country trailheads (closest to the Phoenix metropolitan area), Peralta and Firstwater trailheads, receive more than 800 visits per weekend during the winter season.

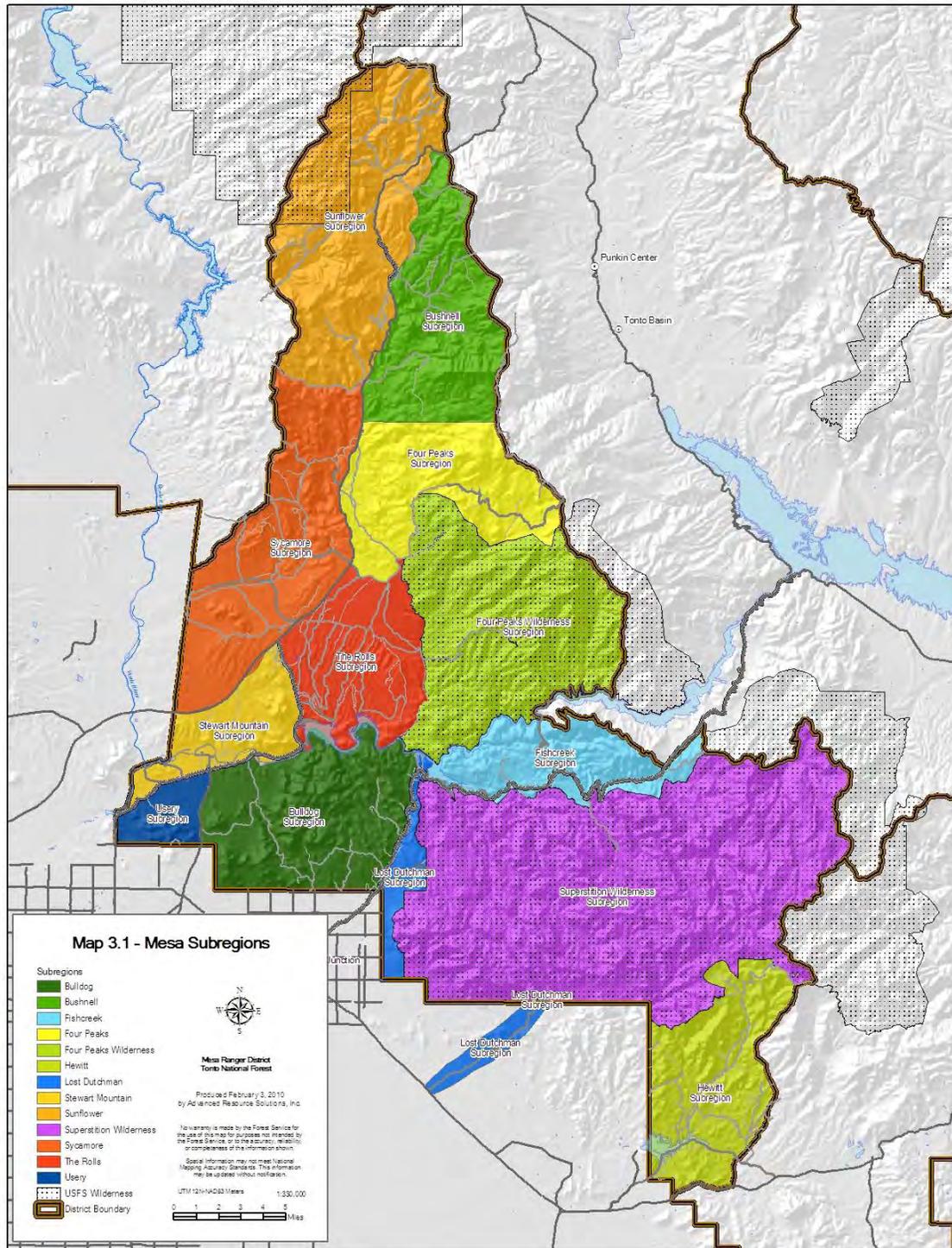
Management emphasis is to manage for wilderness values while providing livestock grazing and recreation opportunities that are compatible with maintaining wilderness values and protecting resources. Wildlife species which merit attention include the Sonoran Desert tortoise, peregrine falcon, longfin dace, lowland leopard frog, California flannel bush, Davidson sage, Fish Creek fleabane, mapleleaf snapdragon, and sweet acacia.

Fish Creek Subregion

Current uses include non-motorized and motorized recreation including OHV SUPs. In the Canyon Lake Recreation Area recreationists have access to a marina, boat ramps, a developed camp ground, fishing opportunities, and the Tortilla Flat SUP area. There is a high occurrence of human caused fires. The Four Peaks and Superstition wilderness areas share borders with this subregion. The Apache Trail and a utility corridor cross this subregion.

Management objectives for this subregion include managing for a variety of renewable natural resources with primary emphasis on improvement of wildlife habitat, livestock forage production, and dispersed recreation. An additional management goal is promoting a safe recreational

destination. Wildlife species which merit attention include the Sonoran Desert tortoise, peregrine falcon, longfin dace, lowland leopard frog, California flannel bush, Davidson sage, Fish Creek fleabane, mapleleaf snapdragon, sweet acacia, and Gila topminnow. Inventoried Roadless Areas (IRA) (Black Cross and Horse Mesa) are managed to maintain IRA characteristics.



Map MRD 3.1: Mesa Ranger District Route Evaluation Subregions

Payson Ranger District

The PRD (~700 square miles) was sub-divided into three subregions – the North, West, and Southeast subregions. Agency staff identified and considered the current uses, issues, trends, concerns, and management objectives (MO) of each subregion (map PRD 3.1).

*Management Objectives for all Subregions
Riparian areas*

One Forest Plan goal is “to improve and manage the included riparian areas (as defined by FSM 2526) to benefit riparian dependant resources” (Forest Plan Amendment 25, 2006). Obtaining desired conditions would benefit wildlife and fish that use riparian areas.

Desired wildlife conditions for PRD riparian areas are to:

- Maintain and improve channels and floodplains to provide habitat for species groups including native fish, amphibians, reptiles, and invertebrates.
- Provide high quality wildlife habitat around springs based on site potential.
- Maintain and improve riparian habitat for migratory and other birds.
- Provide water resources for other wildlife (e.g., drinking, bathing, and breeding).
- Provide and maintain riparian areas, where disturbance of wildlife is minimal and they can fully utilize the habitats.
- Increase the forested component of riparian habitats (U.S.F.S., 2005).

Ephemeral (dry washes) and intermittent streams (also called xeric riparian areas).

When functioning properly, dryland streams provide many of the same services as perennial riparian-wetland areas including wildlife habitat, movement/migration, and support for vegetative communities that provide wildlife services (Levick, et al., 2007).

Desired wildlife conditions for PRD ephemeral and intermittent stream areas are to:

- Maintain and improve channels and floodplains to provide habitat for species groups including amphibians, reptiles, and invertebrates.
- Maintain and improve channels, floodplains, and vegetation to provide input into downstream habitats (Levick, et al., 2007).
- Maintain or improve riparian and xeroriparian habitats for migratory and other birds.
- Provide water resources for other wildlife (e.g., drinking, bathing, and breeding).
- Provide and maintain natural vegetation in dry washes to improve habitat quality in these valuable habitats (Latta, et al., 1999).

Soil and Vegetation (uplands)

The desired soil and vegetation conditions include:

- Reducing current road system density to benefit soil, riparian, wetland condition, and water quality;
- Restricting cross country travel, so that travel off authorized routes will not occur;
- Improving soil and vegetative productivity and conditions by restricting and reducing cross country travel and dispersed camping.

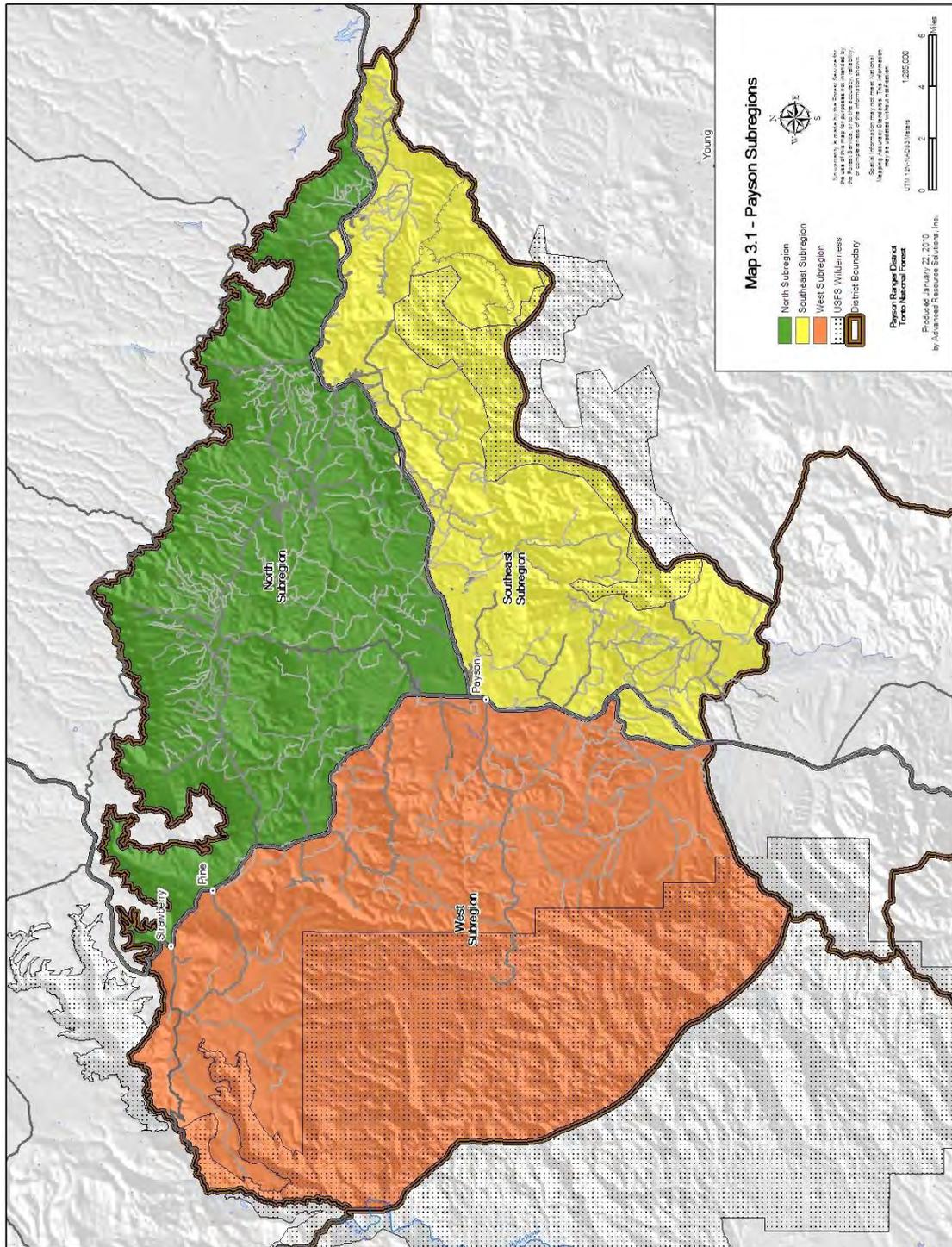
Desired wildlife conditions for PRD upland areas are to:

- Provide browse, forage, cover, and other habitat requirements for a variety of game and non-game wildlife species.

- Provide native vegetation for wildlife habitat that promotes wildlife species diversity, high habitat quality and can be fully utilized by the wildlife species present.
- Minimize habitat fragmentation.
- Minimize wildlife disturbance in important areas including breeding, wintering, gathering, and foraging areas.

Desired wildlife conditions for Payson RD special status species (appendix B) are to:

- Provide high quality essential habitats.
- Maintain or improve population numbers.
- Minimize the risk that land management activities will contribute to any sensitive species becoming federally listed.



Map PRD 3.1: Payson Ranger District Route Evaluation Subregions.

Pleasant Valley Ranger District

The Pleasant Valley RD (about 420,000 acres) was sub-divided into four subregions. Agency staff identified and considered the current uses, issues, trends, concerns, and management objectives (MO) of each subregion. The four subregions are: Northeast Corner Use Area 1, Southeast Corner Use Area 2, Southwest Corner Use Area 3, and Northwest Corner Use Area 4 (map PVRD 3.1).

*Northeast Corner Use Area Subregion 1
(Canyon Creek and Naegelin Canyon)*

Bisecting (north-south) this subregion is FR 512. It is the major commercial supply route into Young, AZ, and is a ML 4 road. OHV use on FR 512 is prolific and much of it involves non-street legal OHVs. Due to the elevation on the Mogollon Rim, snow causes many of the side roads to be closed between December 15th and March 31st. Problems (i.e., parked cars limiting snow plow access) exist due to visitors wanting to experience snow, especially along the first three miles of FR 512. These initial miles (north end) are on the Apache-Sitgreaves NFs. FR 512 and FR 202 provide access to a number of private parcels, ranches, and the community of Nail Ranch. The communities of Colcord Estates and Ponderosa Springs are surrounded by Forest Service lands and ML 1 logging roads, which are often accessed (unauthorized as motorized use on ML 1 roads is prohibited) by OHV users. A number of cattle allotments are found in this subregion. As the town of Young grows, it is anticipated that greater demands will be placed on FR 512 for commercial deliveries. An effort by the U.S. Forest Service, ADOT, and Federal Highways is underway to improve the road and increase access to PVRD's public lands. An ore body exists, which may be developed in the future. If ore extraction and mining associated activities increase in the future, congestion and conflicts between ore hauling operations and other users are anticipated along FR 512. The presence of large stands of ponderosa pine will require periodic vegetative treatment activities, thereby allowing temporary use of those routes currently maintained as ML 1 routes. Current issues and concerns related to recreational use are expected to intensify as improvements are made to FR 512.

Canyon Creek contains four developed campgrounds which are heavily used on the weekends from May through October. The Arizona Game and Fish Department manages the Canyon Creek Fish Hatchery under U.S. Forest Service special use permit. All of the roads in Canyon Creek are ML 3 roads and OHVs are required to be street legal. FR 109, 191, and 411 are ML 3 roads, but they lend themselves to OHV use.

Naegelin Canyon and most of the sub-region outside of Canyon Creek is heavily used by OHV users for sport sightseeing and hunting, as these areas sustain large populations of elk, mule deer, and turkey. Since the PVRD did not restrict cross country travel during the development of the Forest Plan, route proliferation on lands adjacent to the town of Young is an ongoing problem.

Management objectives include discouraging route proliferation and user conflicts, increasing user safety, monitoring and protecting erodible soils, preventing the spread of noxious weeds and protecting cultural and archeological sites as well as threatened species (Mexican spotted owl and Chiricahua leopard frog). VQOs are primarily partial retention and modification. Cross country travel restrictions need to be amended in the Forest Plan.

*Southeast Corner Use Area Subregion 2
(Cherry Creek Drainage)*

This subregion is dominated by the Cherry Creek drainage and FR 202 and 203. Both roads (predominately ML 2) are rough to travel and are used primarily by ranchers, hunters, and OHVs. The southern portion of the subregion is popular for hikers and amateur archaeologists. This subregion is commonly used to access the Sierra Ancha Wilderness. Maintaining FR 203 is challenging due to multiple drainages out of the Sierra Ancha Mountains. FR 203 receives a lot of OHV traffic originating from the south and connecting with State Hwy. 288. FR 202 services the Flying V Ranch and is used to transport cattle between ranches. FR 202 is also the major access to the 500 kV powerline that runs just east of the road. One other significant road is FR 54. Located south of Young, FR 54 provides access to a number of ranches. Use levels on FR 54 are expected to increase as Young grows.

The management objectives for Subregion 2 include monitoring and managing for erosion concerns, protecting cultural and archeological sites, protecting riparian areas, wildlife, and their habitat, discouraging route proliferation and managing for user safety (a number of old uranium mines and asbestos mines lie within this unit). Cheery Creek is an eligible Wild and Scenic River; therefore, it is managed to preserve Wild and Scenic River characteristics. The Recreation Opportunity Spectrum for this area is primarily semi-primitive and semi-primitive motorized. The primary VQOs in this subregion are partial retention, modification, and maximum modification. The Tonto NF is working on a management plan which may affect usage in the area.

*Southwest Corner Use Area Subregion 3
(Salome and Workman Creek)*

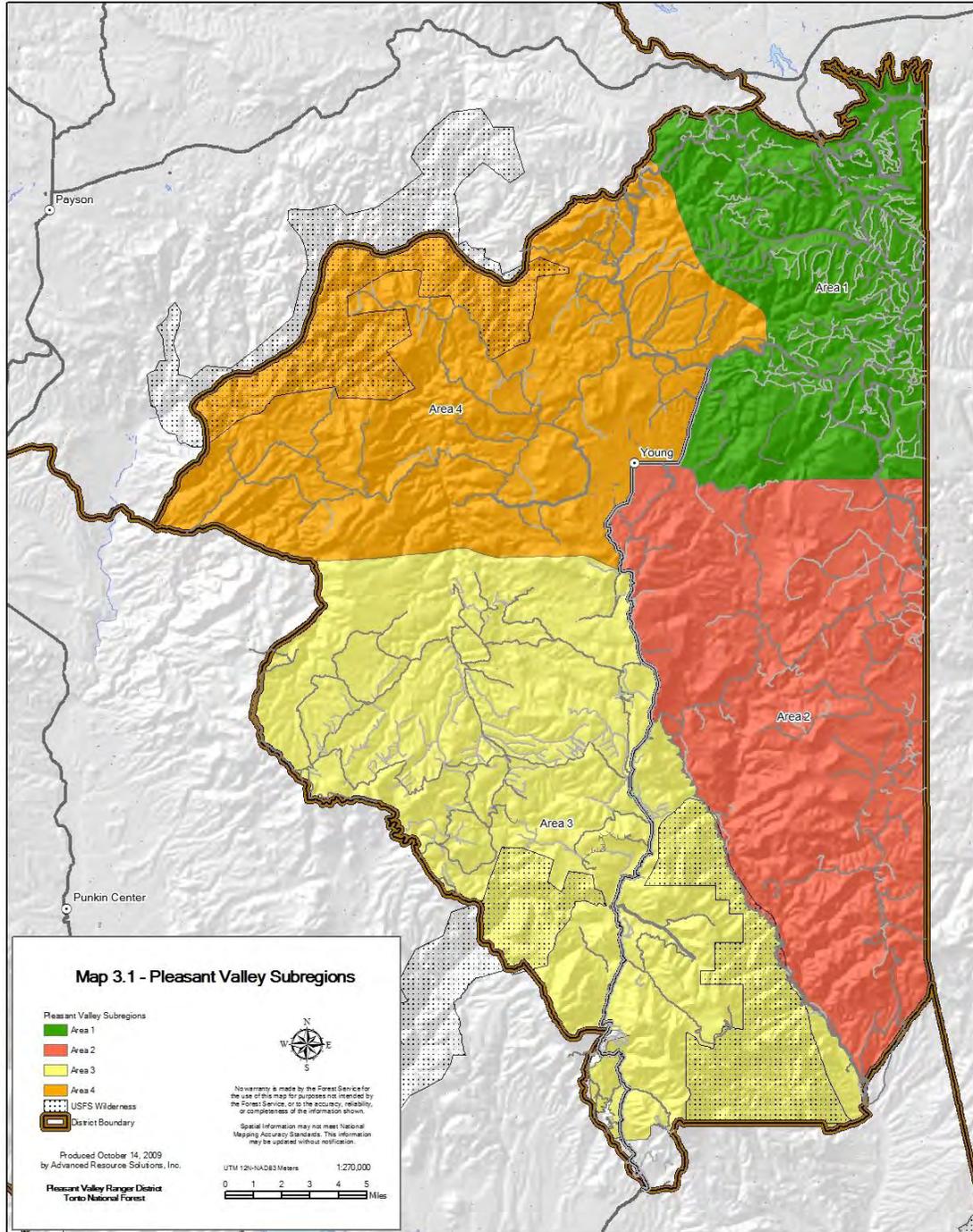
This subregion is dominated by State Highway 288 (SH 288). It separates the Sierra Ancha and Salome wilderness areas and portions of it are not paved. SH 288 is the major delivery route for United Parcel Service of America (UPS) and the United States Postal Service (USPS). A number of campgrounds and trailheads are adjacent to SH 288. The mining districts within the Sierra Ancha Mountains and those routes which connect them are popular with OHV users. Evidence of OHVs entering the Salome Wilderness is a major concern. SH 288 is commonly used by “non-licensed OHV” users moving between campgrounds and ML 2 roads where “non-licensed OHV” use is permissible. Traveling speeds have increased on SH 288 since ADOT upgraded its maintenance. Vast areas of remote and rugged terrain are accessed by FR 609 and are popular with OHV recreationists. This subregion contains a number of ranches, as well as the Rose Creek community development. The presence of old uranium mines presents a safety concern for forest visitors. The U.S. Forest Service has been working towards implementing Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) cleanup of the Workman Creek area, north and south. CERCLA clean up in the area may dictate the relocation of one of the popular OHV routes thereby limiting OHV recreation opportunities in the area. Mining interests continue with applications being filed to drill and explore for potential uranium deposits.

Management objectives include protecting sensitive soils, archaeological sites, and riparian areas, and discouraging wildlife disturbance and harassment (i.e., Mexican spotted owl (MSO) protected activity centers (PAC)). Workman Creek is under a Conservation Agreement with the USFWS. Workman and Salome creeks are eligible for Wild and Scenic River designation; therefore, management aims to maintain Wild and Scenic River characteristics. Primary VOQs are partial retention and modification.

*Northwest Corner Use Area Subregion 4
(Walnut Creek and Hellsgate Wilderness)*

This subregion encompasses most of the community of Young and some of the least visited areas on the PVRD. Accessing public lands from the town of Young itself is difficult, as there are currently no federal easements providing direct access. This subregion's western edge is bordered by the Hellsgate Wilderness. Recent permitted use of dozers to clean range livestock tanks has created opportunities for illegal entry into the designated wilderness. The area is remote and rugged and is used primarily by locals and hunters. Major commercial uses include ranching and fuel wood gathering.

Management objectives include protecting erodible soils, archeological sites, riparian areas, and discouraging disturbance to wildlife and their habitat (i.e., MSO PACs). Primary VQOs are partial retention, modification, and maximum modification. Spring Creek is an eligible Wild and Scenic River. Additional objectives include maximizing user safety (abandoned mines exist in this area with dangerous shafts and other mining debris), minimizing user conflict, and eliminating OHV encroachment into Hellsgate Wilderness.



Map PVRD 3.1: Pleasant Valley Ranger District Route Evaluation Subregions

Tonto Basin Ranger District

In order to effectively analyze a land area covering such a large geographic scale (~800 square miles), the TBRD was sub-divided into five subregions. Agency staff identified and considered the current uses, issues, trends, concerns, and management objectives (MO) of each subregion (map TBRD 3.1).

Subregion 1

Subregion 1 occupies the northern and northeastern portions of the TBRD. Visitors to this area participate in a variety of activities including motorcycle, OHV, UTV, equestrian, 4X4, jeep tours, camping, and hunting. Found within this subregion are the Rye Creek Ruins (a heritage gem) and a variety of threatened, endangered, and sensitive species, as well as critical habitats.

Management goals and objectives are focused on minimizing impacts to Southwestern willow flycatcher, protecting bald eagle nest sites, maintenance of a bald eagle seasonal closure area, and meeting management objectives for the yellow-billed cuckoo, Gila topminnow, Mexican gartersnake, and multiple Mexican spotted owl protected activity centers.

Subregion 2

Subregion 2 contains Roosevelt Lake and the area surrounding it. This subregion is in the middle of TBRD. It provide users access to twelve major recreation sites, water-based recreation (e.g., marinas), hunting, motorized recreation, and archeological site exploration.

Management goals and objectives include maintaining the areas visual resources and the integrity of every archeological site including Cline Terrace, a heritage gem. Additional goals include minimizing impacts to Southwestern willow flycatcher (occupied and critical habitat), limiting disturbance seasonally in bald eagle closure areas, and meeting management objectives for the yellow-billed cuckoo, Yuma clapper rail, razorback sucker (critical habitat), and Arizona Game and Fish goose closure area.

Subregion 3

This area is in the southeast of the TBRD. Uses include motorized (e.g., motorcycle, 4X4, and OHV), non-motorized (e.g., equestrian and hiking), hunting, mining, and historic and archeological site exploration. A number of private in-holdings are scattered throughout the subregion and the area is crossed by a utility corridor.

Management goals and objectives include limiting the spread of invasive plants and protecting the integrity of the numerous cultural sites. Maintain coordination with Arizona Game and Fish Gila topminnow and Rocky Mountain bighorn sheep introduction efforts.

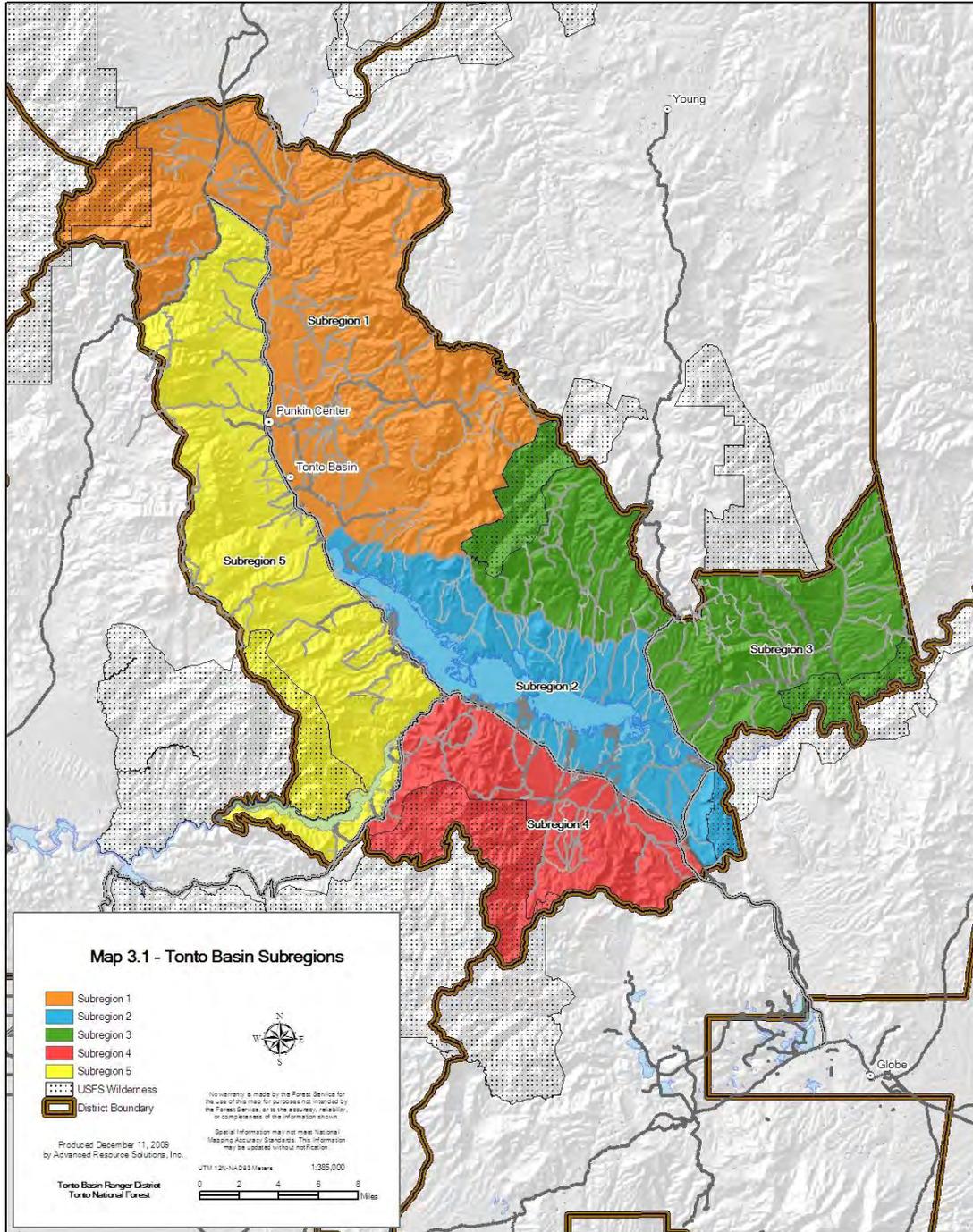
Subregion 4

This project subregion occupies the southernmost portion of the TBRD. Uses include motorized (e.g., motorcycle, 4X4, and OHV), non-motorized (e.g., equestrian and hiking), hunting, mining, and historic and archeological site exploration. A number of private in-holdings are scattered throughout the subregion. Utility uses include powerlines, an SRP substation and SRP dam operations.

Subregion 5

This project subregion extends from Apache Lake north along SH 188 to the junction of SH 87. It provides for water-based recreation, camping (i.e., developed and dispersed), motorized recreation (e.g., touring, motorcycle, OHV, and 4X4), hiking, shooting, wilderness access, and exploration of historic and archeological sites. Commercial operations are permitted on Apache Lake.

Management goals and objectives include limiting the spread of invasive plants and protecting the integrity of the numerous cultural sites. Maintain coordination with Arizona Game and Fish Gila topminnow introduction efforts. Continue to meet the objectives for MSO critical habitat and PACs, research natural areas, Three-bar Wildlife Area, bald eagle nest sites and traditional cultural property/sacred sites.



Map TBRD 3.1: Tonto Basin Ranger District Route Evaluation Subregions.

Management Considerations

Threatened and Endangered Species

A number of special status species occur on the Tonto NF. Species considered included those listed as endangered or threatened under the *Endangered Species Act* (e.g., Southwestern willow flycatcher, and bald eagle), species proposed for listing (no species occur on the Tonto NF that fall under this category), and candidate species (e.g., lowland leopard frog). Other special status species considered included those the U.S. Forest Service deems sensitive (e.g., reticulate Gila monster), plants with state status (e.g., Hohokam agave), and species the Arizona Game and Fish Department has listed as wildlife of special concern (e.g., Sonoran Desert tortoise). Appendix B - Special Status Species/Habitats contains those species the ID Team had knowledge of and/or data concerning known and potential habitat and/or species occurrences.

During route evaluations by the ID Team, potential impacts to these species and their habitats were identified. Identification ranged in scale from the landscape perspective for the entire planning area, to consideration of potential impacts within each subregion, to the focused analysis or consideration of impacts for each route on a route by route basis.

Access Considerations

The various visitor types (e.g., commercial, administrative, private property, economic, and recreational) to the Tonto NF depend upon the transportation system for access. Table 3.3 identifies pertinent access needs.

Table 3.3: Transportation System Access Needs

Maintain Access:	<ul style="list-style-type: none"> • To existing trailheads, equestrian staging areas, campgrounds, primitive campsites, and dispersed areas (i.e., non-motorized access points) • To private property in-holdings • To commercial, utility and administrative sites, mining claims, pipelines, utility towers, power lines, county flood warning gauges; precipitation gauges, etc. (e.g., FAA Facility, Humboldt communication sites). • To grazing allotment improvements (e.g., developed springs, windmills, water storage facilities, ranch sheds/houses, fence lines, gates, etc.). • To recreational facilities and permitted public uses (e.g., Camp Creek recreation area, Bull Dog OHV area, boat ramps, picnic areas, occupied lots). • Promote reasonable, well-planned access for wildlife related activities including hunting, fishing, bird watching, wildlife Photography, etc. (GRD) • To Reservation lands and traditional use areas (MRD) • To heritage sites and other special interest areas requiring monitoring (MRD)
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Special Management Areas

A variety of Special Management Areas exist on the Tonto NF. In these areas (table 3.4), motorized use is restricted to existing routes only.

Cave Creek Ranger District

Table CCRD 3.4: Special Management Areas Found in the Cave Creek Ranger District.

CCRD Special Management Areas	
Critical Habitat Designations	Razorback Sucker: Verde River downstream to Horseshoe Dam. SWIFL: East Verde downstream to Horseshoe Dam downstream four miles to gauge. Gila Chub – Silver Creek.
National Register of Historic Places Sites	Perry Mesa, Azatlan Ruin. Sears-Kay Ruin.
National Register of Historic Places District	Copper Creek Administrative Site (public access prohibited) and Verde River Sheep Bridge. Brazeletes Ruin.
Wild Rivers	Verde River section
Scenic Rivers	Verde River section
Wilderness	Pine Mountain and Mazatzal wildernesses
Important Bird Area (IBA)	Verde River, Cave Creek, Walnut Canyon and Seven Springs Wash.

Globe Ranger District

Table GRD 3.4: Special Management Areas Found in the Globe Ranger District.

GRD Special Management Areas	
Critical Habitat Designations	Southwestern willow flycatcher on Upper Salt River Razorback sucker, Upper Salt River Gila chub – Mineral Creek, Devil’s Canyon Mexican spotted owl – Portion of Pinal Mountains
Potential National Register of Historic Places Sites	The Globe Ranger District
Eligible for Potential Designation - Wild and Scenic Rivers	Upper Salt River
Wilderness	Upper Salt River, Superstition
Important Bird Area (IBA)	Arnett Creek/Boyce Thompson, near Superior.

Mesa Ranger District

Table MRD 3.4: Special Management Areas Found in the Mesa Ranger District.

MRD Special Management Areas	
Critical Habitat Designations	MSO critical habitat

MRD Special Management Areas	
National Register of Historic Places Sites	Boulder Canyon, Fish Creek, Lewis and Pranty Creek, and Willow Creek Bridges (SR88) Hieroglyphic Canyon Site (in wilderness) Skeleton Cave Site (in wilderness) Sunflower Ranger Station
Special Area	Saguaro Wild Burro Territory
Wild and Scenic Rivers	Salt River
Impaired Waters	Salt River, Queen Creek, Canyon Lake and Apache Lake are listed as impaired by ADEQ and will be on Arizona’s 2006/2008 303(d) List, once approved by EPA.
National Register of Historic Places District	Lower Salt River Multiple Resource Area (nominated)
Wilderness areas	Four Peaks, Superstition, Mazatzal
Important Bird Area (IBA)	Salt-Verde Ecosystem (Saguaro Lake north through the Mazatzal Wilderness)
Research Natural Area - 3E	Manage to provide opportunities for non-disruptive research and education.

Payson Ranger District

Table PRD 3.4: Special Management Areas Found in the Payson Ranger District.

PRD Special Management Areas	
Critical Habitat Designations	Mexican spotted owl, razorback sucker
Wild and Scenic Rivers	Verde River and Fossil Creek are both designated Wild and Scenic Rivers. Those eligible for Wild and Scenic River designation are Tonto Creek and the East Verde River.
Impaired Waters	East Verde River, Tonto Creek and Christopher Creek are listed as impaired by ADEQ and will be on Arizona’s 2006/2008 303(d) List, once approved by EPA.
Wilderness	Mazatzal and Hellsgate wilderness areas

Pleasant Valley Ranger District

Table PVRD 3.4: Special Management Areas Found in the Pleasant Valley Ranger District.

PVRD Special Management Areas	
Critical Habitat Designations	Mexican spotted owl
Potential National Register of Historic Places Sites	Sierra Ancha Research Station was constructed by the Civilian Conservation Corps (CCC) but has not yet been registered. Devil’s Chasm, Cold Spring, and Pueblo canyons along with numerous other sites throughout the district are eligible.
Eligible for Potential Designation - Wild and Scenic Rivers	Canyon Creek, Cheery Creek, Parker Creek, Salome Creek, Spring Creek, Tonto Creek, Workman Creek
Wilderness	Sierra Ancha Wilderness, Salome Wilderness, Hellsgate Wilderness

PVRD Special Management Areas	
Others	Mexican spotted owl protected activity centers (PAC), Northern goshawk post-fledging family areas, Chiricahua leopard frog Gentry Creek Management Area, American peregrine falcon breeding areas, Dupont Bald Eagle Breeding Area.

Tonto Basin Ranger District

Table TBRD 3.4: Special Management Areas Found in the Tonto Basin Ranger District.

TBRD Special Management Areas	
Critical Habitat Designations	Razorback sucker, Mexican spotted owl, Southwestern willow flycatcher
National Register of Historic Places Sites	Multiple
Heritage Gems	Cline Terrace, Rye Creek Ruin
Eligible for Potential Designation – Wild and Scenic Rivers	Salome Creek
Wilderness	Salome, Salt River Canyon, Four Peaks, Superstition, Sierra Ancha (adjacent), and Mazatzal Wilderness
Inventoried Roadless Area (IRA)	Boulder IRA, Horse Mesa IRA, Salome Wilderness Contiguous IRA, and Sierra Ancha Wilderness Contiguous IRA
NRA/ NWA	Buckhorn and Hauser Natural Research Areas. Three Bar Wildlife Area (Arizona Game and Fish)
Habitat Conservation Area	Salt River Project Roosevelt Lake Habitat Conservation Plan (HCP)

Unroaded Areas

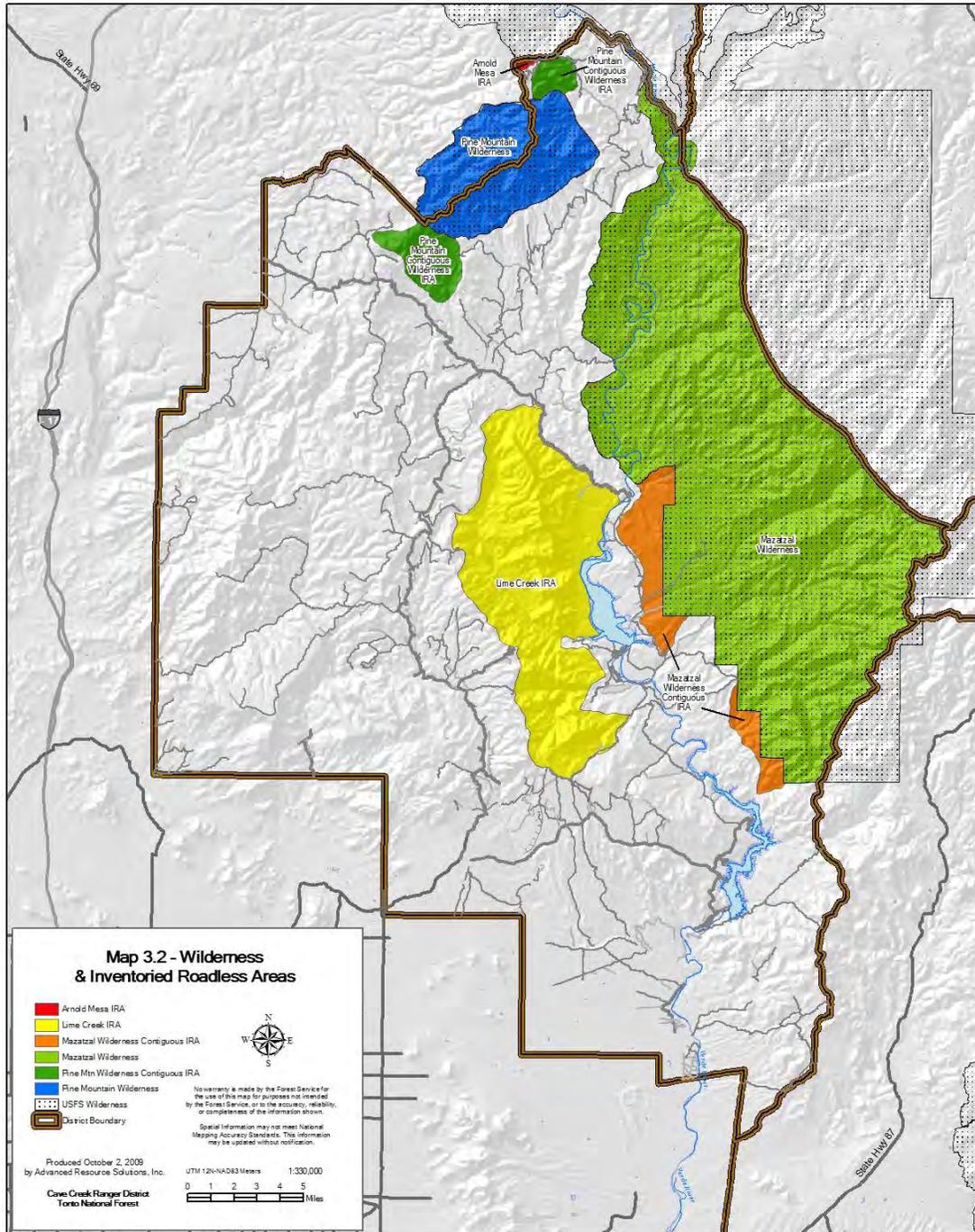
In the Tonto NF, Congressionally-designated areas exist (e.g., wilderness, Wild and Scenic River corridors) in which no new roads or motorized trails are to be built. Inventoried Roadless Areas (IRAs) have also been identified. There are currently no plans to build roads in these areas. These areas are identified at the forest level and by district in table 3.5 and tables CCRD 3.6 through TBRD 3.6, and on maps 3.2 – 3.X.

Table 3.5: Unroaded Areas within the Tonto NF

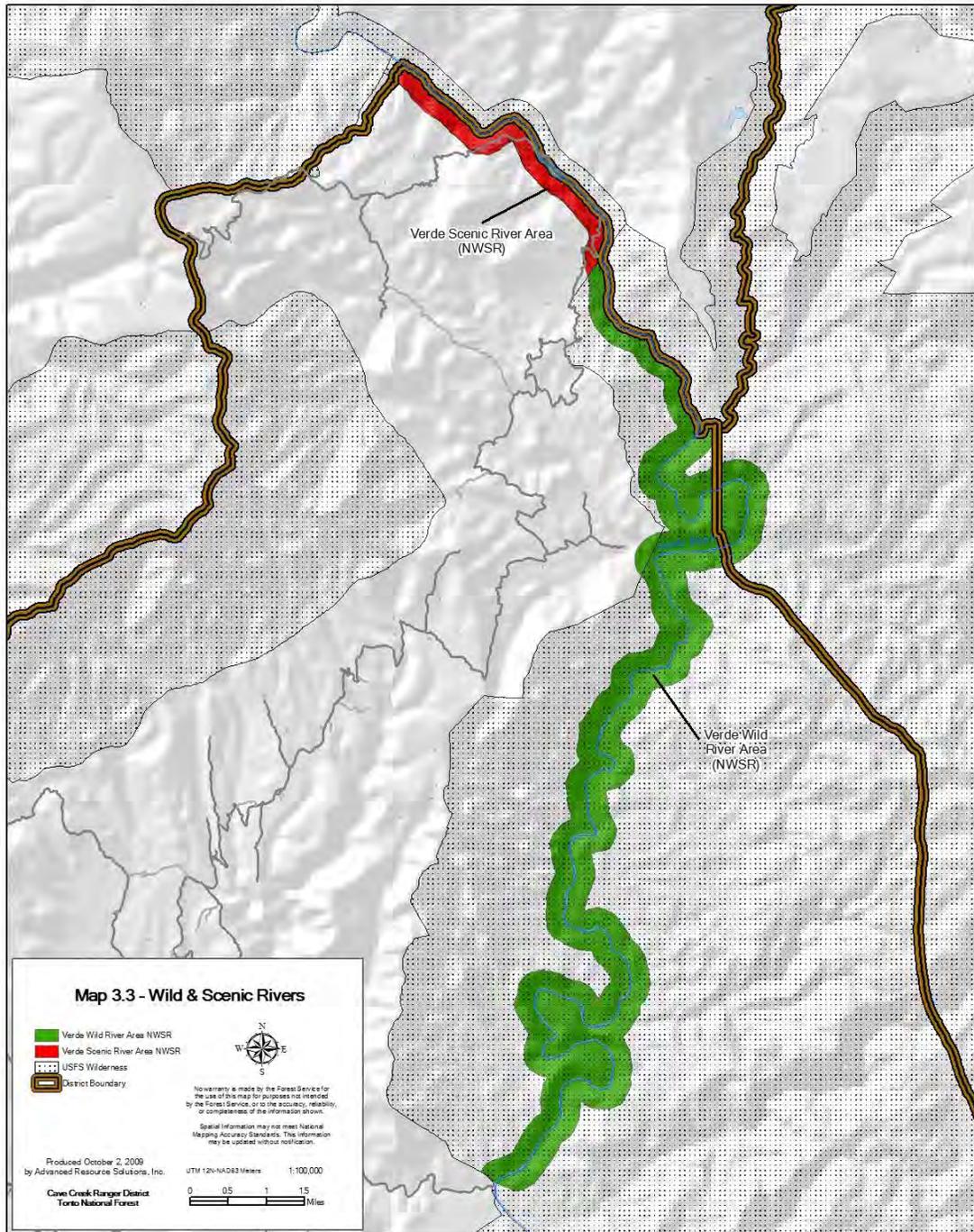
Area Type	Acres	Percent of total Forest (2,965,810 acres)
Wilderness Areas	589,272	20%
Wild and Scenic River Areas	9,765	< 1%
Research Natural Areas	1,555	< 1%
National Monument	1,107	< 1%
Inventoried Roadless Areas	169,717	6%
Total acres managed as unroaded	771,416	26%

Cave Creek Ranger District**Table CCRD 3.6: Unroaded Areas within the Cave Creek Ranger District**

Unroaded Areas	Acres	Percent of Total District (611,207 acres)
Mazatzal Wilderness	129,451	21%
Pine Mountain Wilderness	11,466	2%
Verde Scenic River Area NWSA	699	< 1%
Verde Wild River Area NWSA	6,272	1%
Arnold Mesa IRA	248	< 1%
Lime Creek IRA	42,563	7%
Mazatzal Wilderness Contiguous IRA	8,898	1%
Pine Mountain Wilderness Contiguous IRA	6,513	1%
Total acres managed as unroaded	206,110	34%



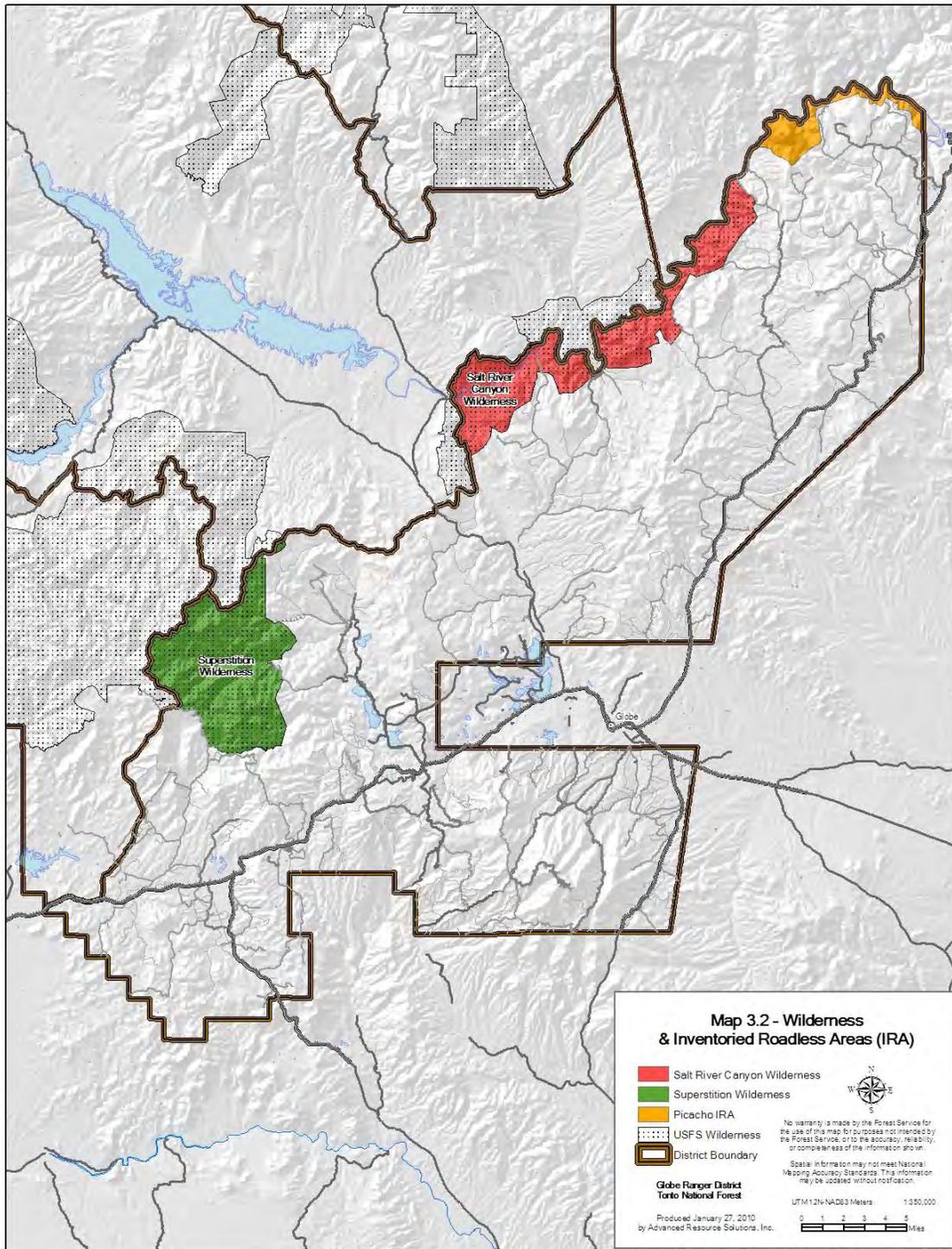
Map CCRD 3.2: Wilderness and Inventoried Roadless Areas



Map CCRD 3.3: Wild and Scenic River Areas

Globe Ranger District**Table GRD 3.6: Unroaded Areas within the Globe Ranger District.**

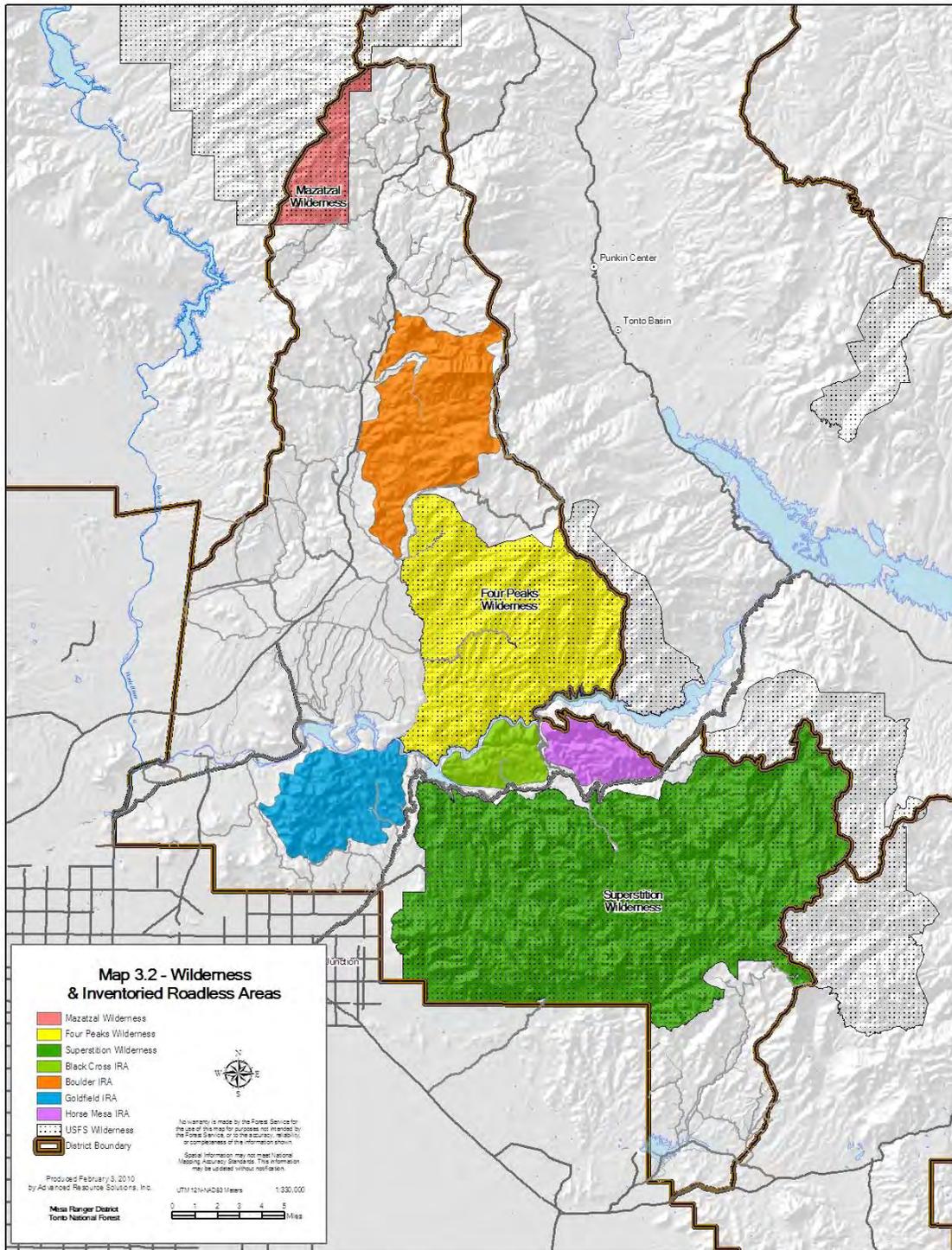
Unroaded Areas	Acres	Percent of Total District (471,083 acres)
Superstition Wilderness	23,894	5%
Upper Salt River Wilderness	21,023	4%
Picacho Inventoried Roadless Area (IRA)	4,927	1%
Total acres managed as unroaded	49,844	11%



Map GRD 3.2: Wilderness and Inventoried Roadless Areas (IRA)

Mesa Ranger District**Table MRD 3.6: Unroaded Areas within the Mesa Ranger District.**

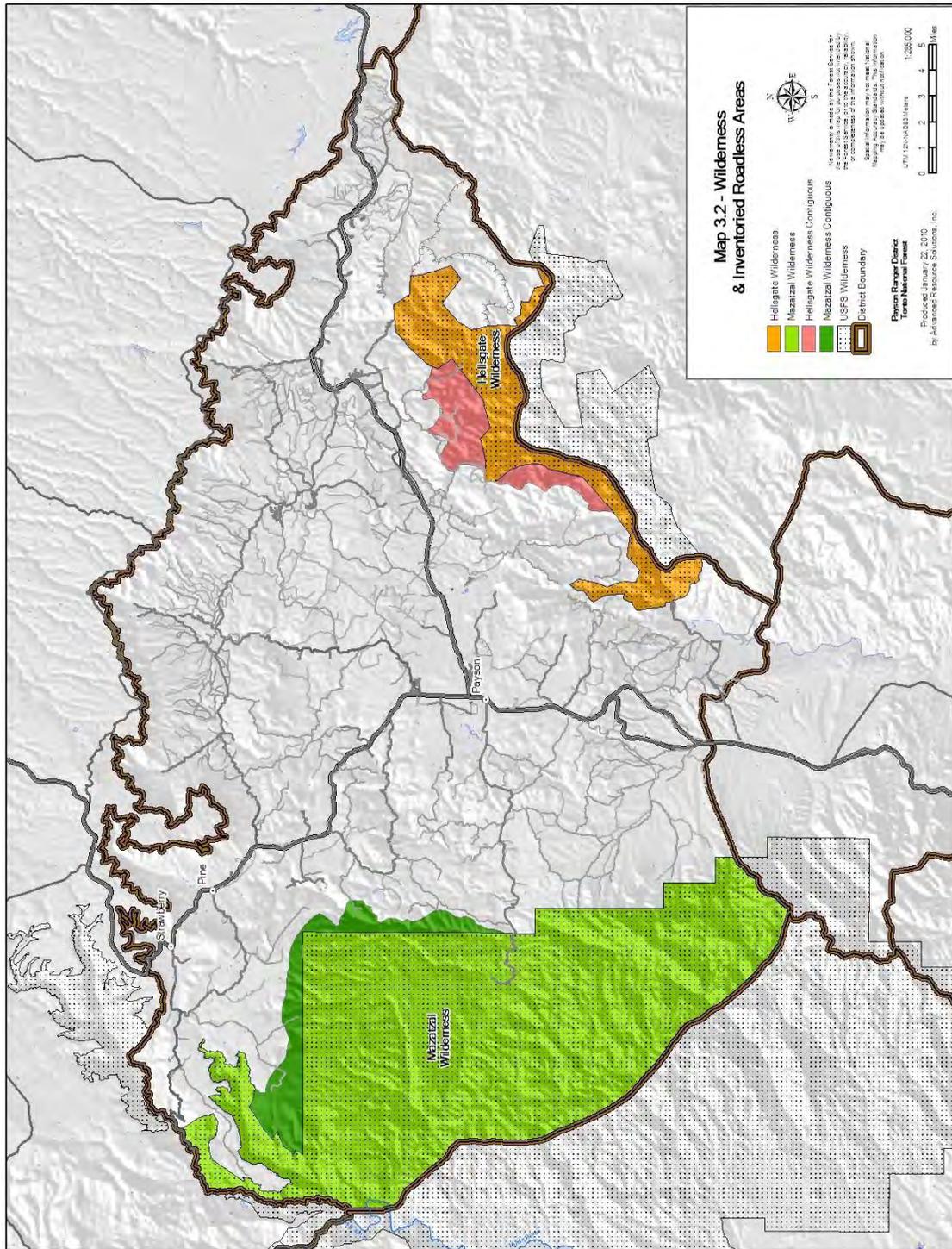
Unroaded Areas	Acres	Percent of Total District (444,483 acres)
Mazatzal Wilderness	8,270	2%
Four Peak Wilderness	48,516	11%
Superstition Wilderness	113,907	26%
Black Cross IRA	5,962	1%
Boulder IRA	25,894	6%
Goldfield IRA	15,245	3%
Horse Mesa IRA	6,584	1%
Total acres managed as unroaded	224,378	50%



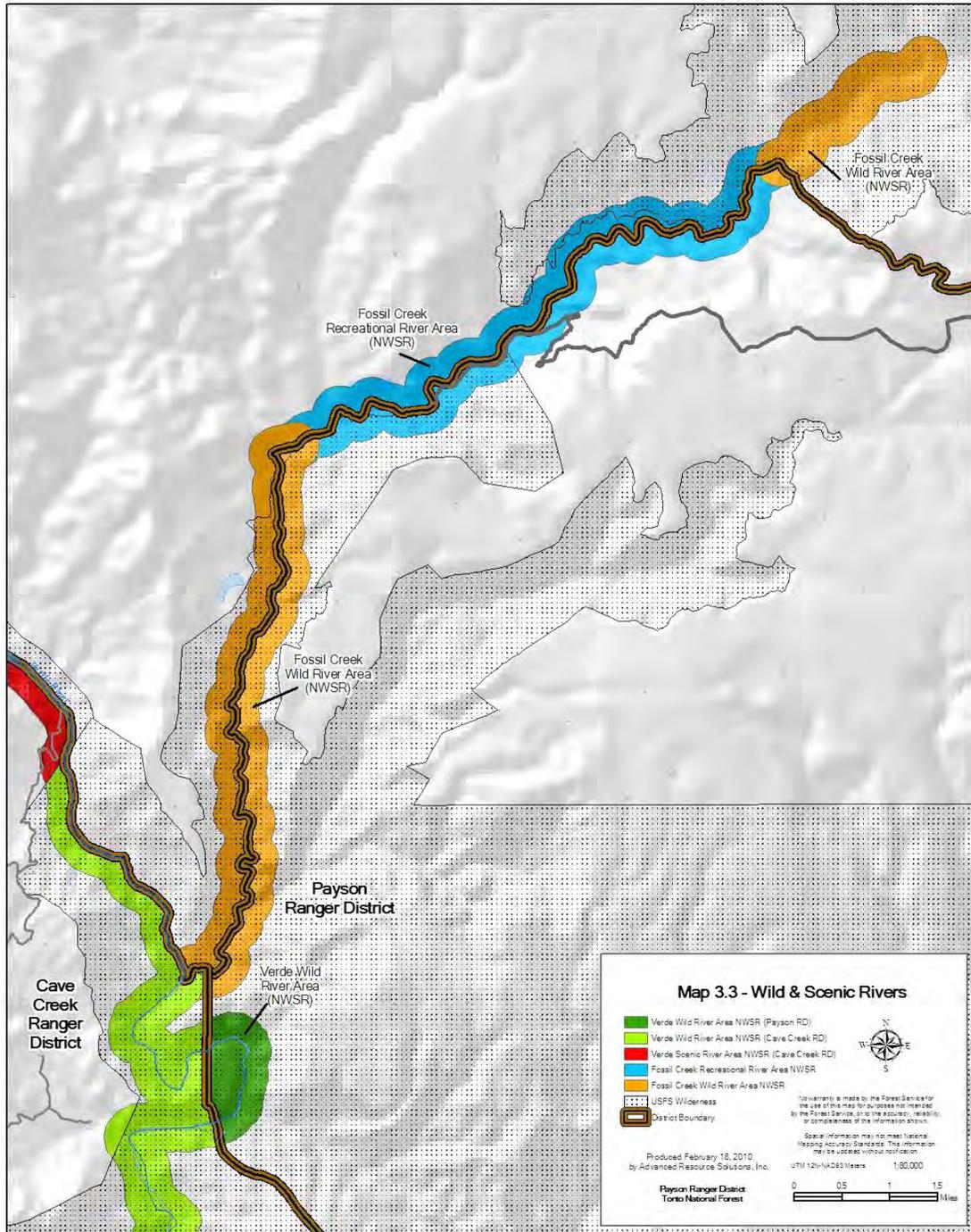
Map MRD 3.2: Wilderness and Inventoried Roadless Areas

Payson Ranger District**Table PRD 3.6: Unroaded Areas within the Payson Ranger District.**

Unroaded Areas	Acres	Percent of Total District (462,780 acres)
Mazatzal Wilderness	100,356	22%
Hellsgate Wilderness	17,494	4%
Mazatzal Wilderness Contiguous	8,079	2%
Hellsgate Wilderness Contiguous	6,165	1%
Verde River Area NWSR	474	< 1%
Fossil Creek River Area SWSR	2,320	1%
Total acres managed as unroaded	134,888	29%



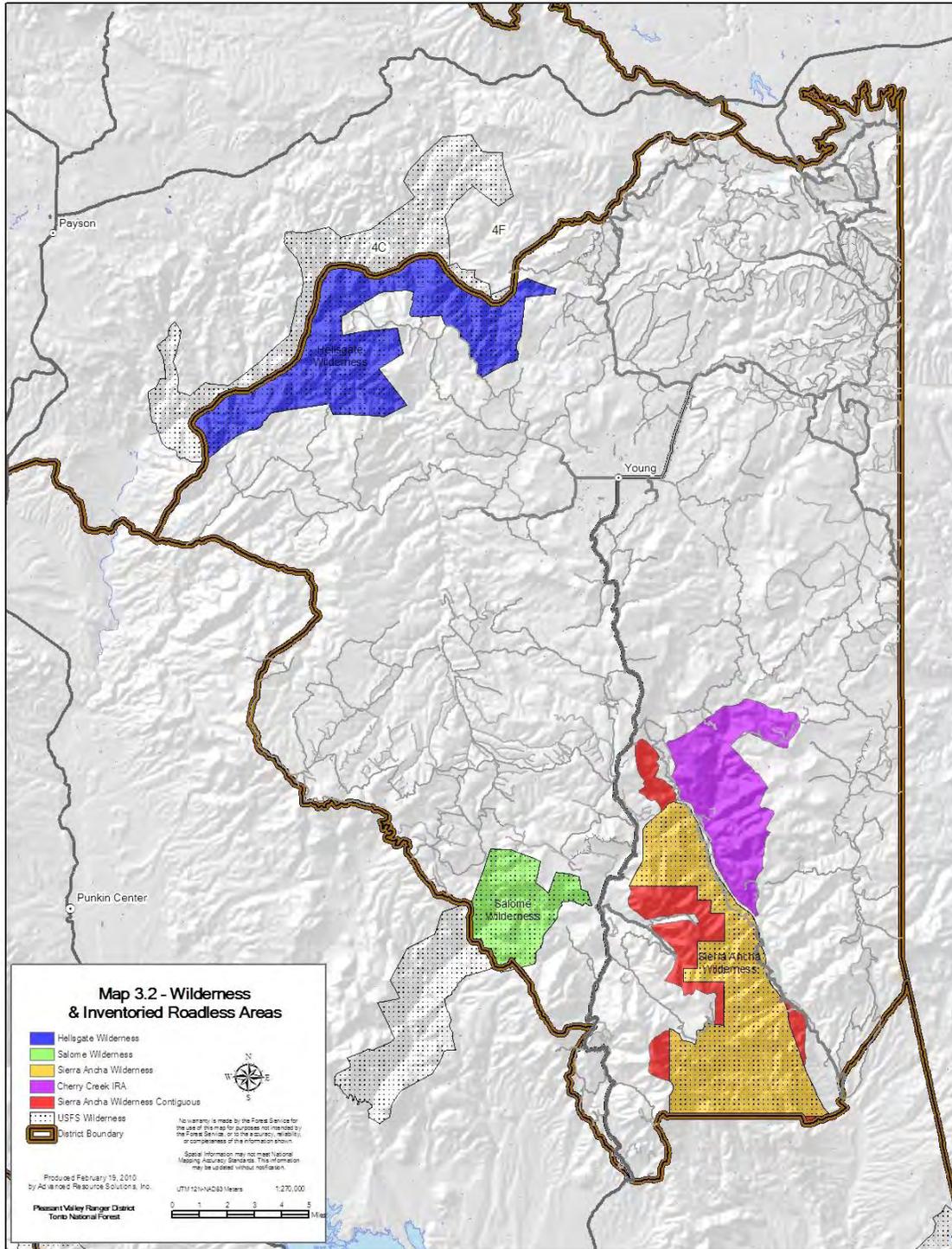
Map PRD 3.2: Wilderness and Inventoried Roadless Areas.



Map PRD 3.3: Wild and Scenic River Areas

Pleasant Valley Ranger District**Table PVRD 3.6: Unroaded Areas within the Pleasant Valley Ranger District.**

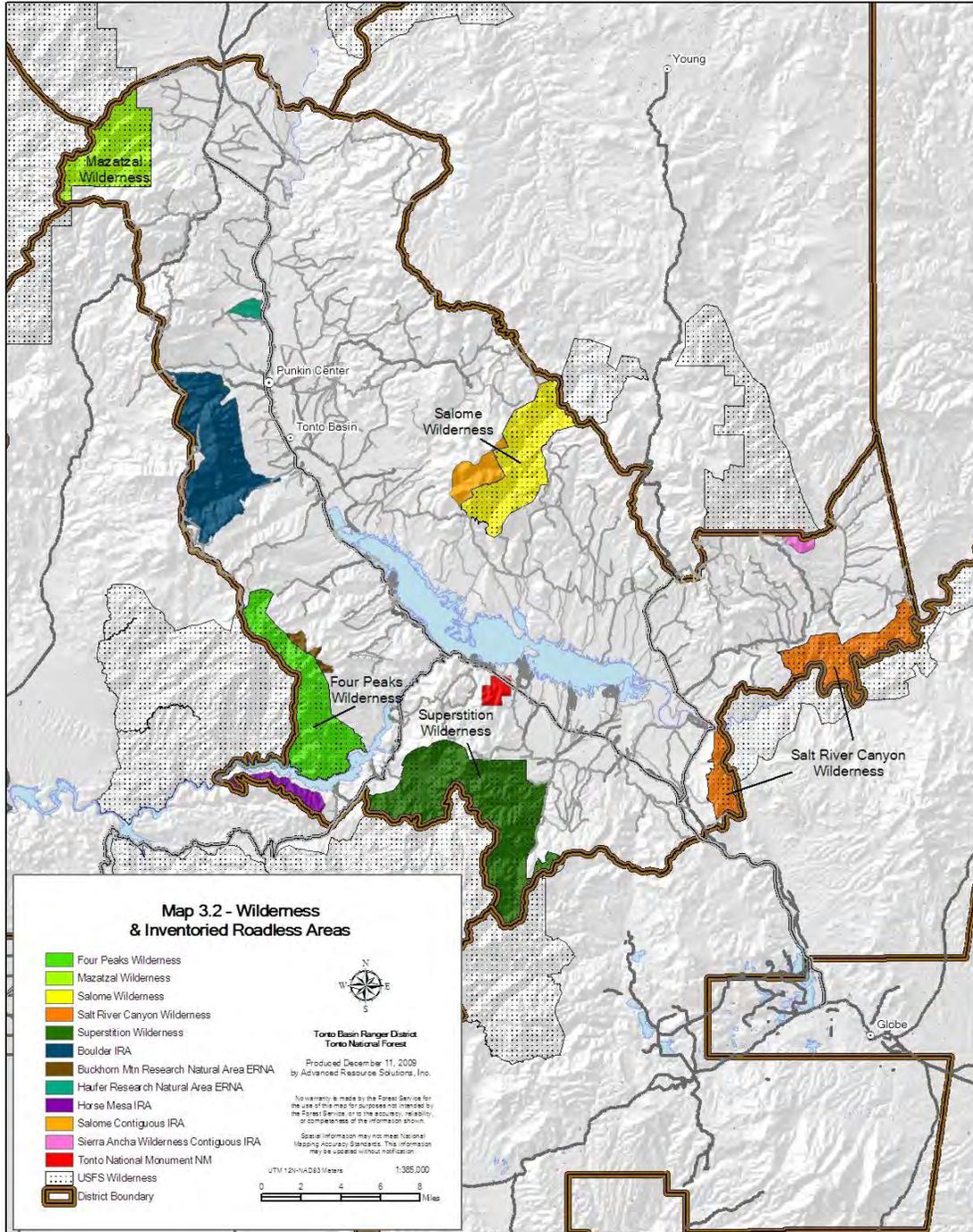
Unroaded Areas	Acres	Percent of Total District (436,871 acres)
Cherry Creek IRA	11,362	3%
Hellsgate Wilderness	19,903	5%
Salome Wilderness	7,217	2%
Sierra Ancha Wilderness	21,019	5%
Sierra Ancha Wilderness Contiguous IRA	7,053	2%
Total acres managed as unroaded	66,554	15%



Map PVRD 3.2: Wilderness and Inventoried Roadless Areas

Tonto Basin Ranger District**Table TBRD 3.6: Unroaded Areas within the Tonto Basin Ranger District.**

Unroaded Areas	Acres	Percent of Total District (539,386 acres)
Four Peaks Wilderness	12,283	2%
Mazatzal Wilderness	9,824	2%
Salt River Canyon Wilderness	11,027	2%
Salome Wilderness	11,298	2%
Superstition Wilderness	22,324	4%
Boulder IRA	14,408	3%
Buckhorn Mountain Research Natural Area ERNA	804	< 1%
Haufer Research Natural Area ERNA	751	< 1%
Horse Mesa IRA	2,200	< 1%
Salome Wilderness Contiguous IRA	2,929	1%
Sierra Ancha Wilderness Contiguous IRA	687	< 1%
Tonto National Monument NM	1,107	< 1%
Total acres managed as unroaded	89,642	17%



Map TBRD 3.2: Wilderness and Inventoried Roadless Areas

Road Related Issues

Throughout the TAP, feedback from various forest visitor groups, commercial users, cooperating agencies and the public was solicited and received. Additionally, during February and March of 2007, several public meetings occurred in response to the Tonto NF Plan Revision. Another public meeting was held in October of 2009 and the comments collected mirrored those collected during the 2007 meetings. Several recreation, motorized recreation management, and access concerns were brought forward through public comments as well as input from Forest Service personnel at these meetings and during the TAP. Public concerns were also captured during a series of public meetings held on the Tonto NF in response to the pending implementation of the Travel Management Rule. Additional public concerns were found in “Values, Attitudes, and Beliefs toward National Forest System Lands: The Tonto National Forest” (http://www.fs.fed.us/r3/tonto/plan-revision/documents/Tonto_ABV_Focus_Group_final-2006-09-25.pdf accessed on October 1, 2008).

Public Issues and Concerns

Key public comments from all ranger districts included:

- Increase the number of roads and trails
- Leave all roads open to motorized users and reopen any closed routes
- Decrease road density
- Minimize OHV impacts on forest resources
- Eliminate illegal use and forest resource damage by OHV users
- Improve road maintenance and signage
- Provide for a variety of route uses and skill levels

Mesa RD met with two volunteer working groups regarding the issues and over the time period shown in table MRD 3.7 below.

Table MRD 3.7: Summary of Public Involvement in Mesa RD Travel Analysis Process

Group	Dates	Concerns discussed
Friends of Sycamore	April 2004 - Tonto NF/Mesa RD first community meeting to discuss OHV concerns. May 2004 - First meeting of Friends of Sycamore (FOS) working group to help district map user-created routes wanted by OHV users. June 2004 – Sycamore zone boundaries established December 2004 – Friends of Sycamore final submission of GPS routes for possible inclusion into Mesa route system. May 2006 – Inventory of user-created routes complete May 2007 – FOS Sycamore Recommendations Report delivered to Mesa RD March 2008 – Discussions started on formation of volunteer organization to help implement future Travel Management (TM) decision.	
Tonto Recreation Alliance	September 2008 – Beginning of TRAL, Mesa volunteer organization to help implement TM. September 2008 – Booth at Lower Salt cleanup to advertise Friends of Sycamore, TRAL and the TM process June 2009 – Proposed Action discussed with TRAL, a few routes not included from original submission by FOS.	

Opportunities for future public input will be possible through future planning efforts and will be added to the collective information base to make informed travel management recommendations.

Other Management Concerns

Specific considerations addressed during the Route Evaluation Process are listed in appendix G. Broad scale issues considered during this TAP included:

- Sensitive Resource Considerations (Environmental Impacts)
 - Protect and minimize impacts to natural, cultural, and visual resources
 - Utilize recent, reliable biological data (e.g., Threatened, Endangered, and Sensitive species)
 - Consider Forest Service projects designed to help protect and recover Threatened, Endangered, and Sensitive species
 - Consider types and magnitude of impacts
 - Consider habitat fragmentation, route density, and ecosystem functionality
 - Minimize impacts to and maximize cultural and historic resource protection
 - Consider cumulative impacts (e.g., natural, cultural, and socio-economic)
- Access Considerations
 - Commercial, Administrative, Private Property and Economic (CAPE)
 - Administrative (e.g., law enforcement and compliance, monitoring, public safety, and maintenance costs, etc.)
 - Ranching
 - Mining
 - Utilities
 - Rights-of-way (ROW)
 - Private property access, in-holdings
 - Special uses
- Motorized Recreation
 - Route variety (variety of experiences for different levels of difficulty and different types of vehicles)
 - Recreation user conflicts
 - Safety
 - Intensity and season of use
 - Visitor experience vs. just transportation speed or efficiency (e.g., looping opportunities)

Chapter 4

Step 4: Assessing Benefits, Problems, and Risks

Purpose

The purpose of step four is to:

- Describe the analysis process
- Describe the criteria used to evaluate routes
- Describe the criteria used to rank risks and benefits
- Describe route scoring and rating
- Discuss the statistical distribution of risk and benefit assessment, and summarize recommendations for roads and motorized trails
- Recommend guidelines for mitigating road risks

The Analysis Process

The issues, considerations and objectives described in Step 3 were addressed by the ID Teams in the following assessment. In order to efficiently assess such a dynamic range of considerations, the ID Teams evaluated routes from multiple perspectives (fine scale route segments to coarse scale landscapes). The strength of this multi-scaled analysis (figure 4.1) is that it enabled both localized and landscape scale effects to be considered. This figure displays the collective reasoning carried out by the ID Teams, which led to individual route recommendations. Black circles represent landscape perspective considerations. White circles represent route level and/or localized perspective considerations. Gray circles represent multiple perspective considerations. An outcome is a recommendation for a minimum road system that maximizes resource benefits, while minimizing adverse environmental impacts/risks.

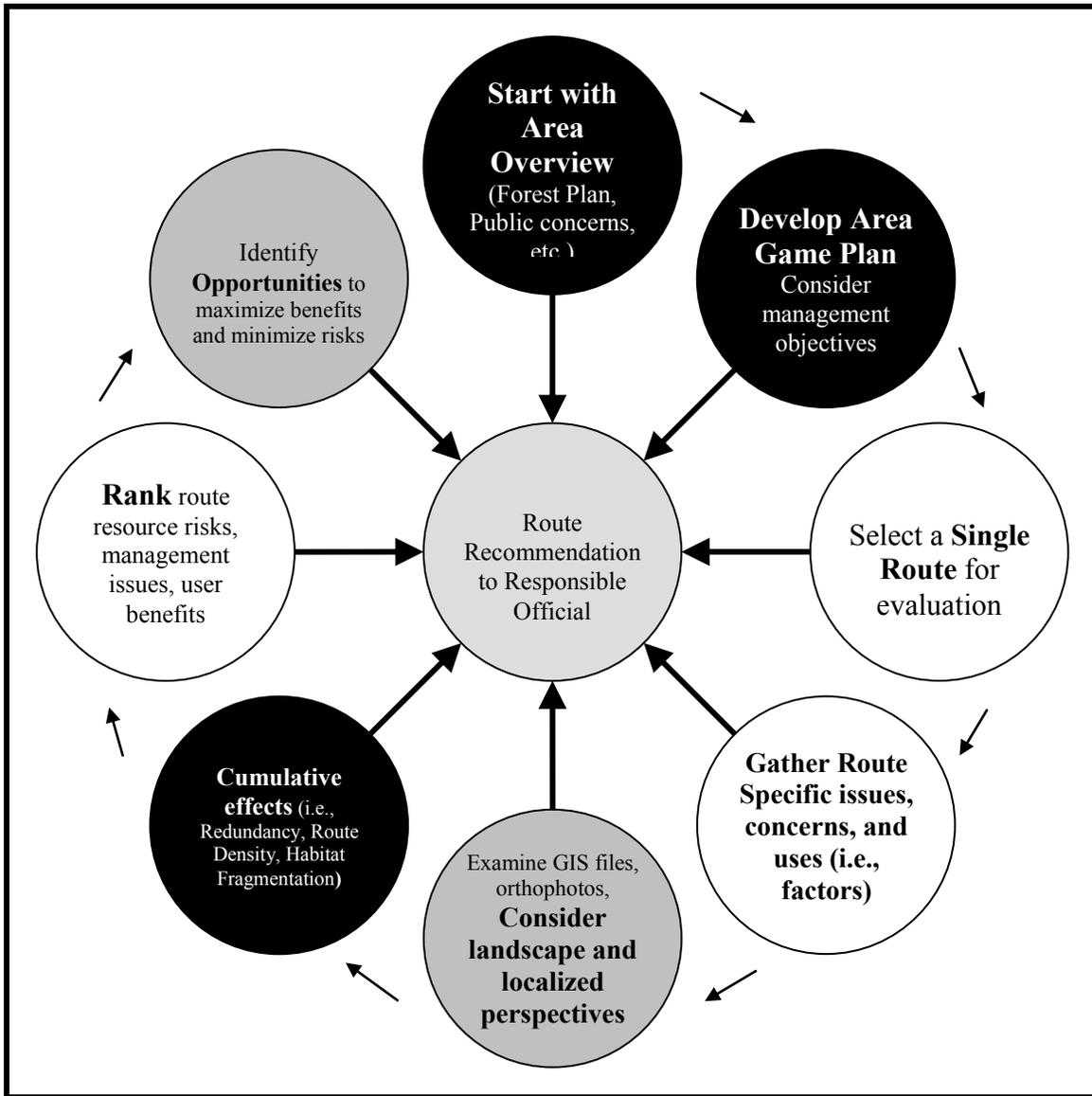


Figure 4.1: A Multiple Perspective Analysis.

Recommendations and road specific information identified by the ID Team are captured in the route reports (appendix L). Evaluations followed a systematic approach. For each road, ID Team specialists discussed detailed resource data (i.e., risks and benefits, potential and known) derived from their professional knowledge, public input, agency reports, GIS data, and orthophotos on hand during the road evaluations. A comprehensive menu of screening questions and factors (appendix G) guided the data collection process.

The ID Team then made recommendations for minimizing adverse environmental impacts and risks, while maintaining public and administrative access as appropriate. Some of these

recommendations identify opportunities for resource mitigation⁵, monitoring and/or maintenance. The route reports capture approximately both the scale (e.g., from individual routes to landscape perspective) and extent of the discussion engaged in by the ID Team during the route evaluation process (e.g., potential sensitive resource impacts, proximity of a route to a nesting raptor, types of commercial and public uses).

Criteria Used to Evaluate Routes

The ID Team considered the various concerns and uses associated with each district (see district subregion discussions in chapter 3). These discussions assessed the benefits and risks associated with the current National Forest transportation system in order to acquire a broad “landscape” scale perspective. Topics of discussion included: ecosystem functions and processes; watersheds, riparian areas, and water quality; economics; specific wildlife concerns and the health of wildlife habitat; timber; mining, and range uses; public transportation; administrative uses; fuels management concerns, compliance, maintenance, monitoring, and fire prevention and control; visual quality objectives; recreation; and social issues (see Appendix F: Risk Value Assessment). This broad, ecosystem scale analysis was then narrowed and focused on a road-by-road basis to capture fine scale specificity.

For instance, seasonally prohibiting vehicle access to or through a known pronghorn fawning ground during the fawning season minimizes the risk of impacts, while meeting some of the access needs of various users. This scenario of minimizing risks to the pronghorn would be captured in the ID Team’s recommended management action as a form of “limit” or use restriction. Specifically, the ID Team would recommend that the route be managed to only allow public access on that route in the area of fawning concern to those seasons in which risks (e.g., fawning impacts) are not a concern.

Landscape level impacts or the cumulative effect of multiple routes in an area were also considered as part of each route recommendation, with the ultimate goal of minimizing impacts to sensitive resources. Some of these landscape factors considered by the ID Team included:

- Proximity to other routes
- Route redundancy
- The cumulative effect of routes on habitat health [e.g., route density, habitat fragmentation, the size and distribution of sensitive resources relative to routes (e.g., consideration of both site specific and polygon data, e.g., movement corridors, reproductive areas)]
- Various route restrictions (e.g., season of use restrictions)
- The effect of specific route recommendations on neighboring routes
- Current and future (expected) route use
- Opportunities to maximize benefits and minimize risks

⁵ Mitigation includes: (a) Avoiding the impact altogether by not taking a certain action or parts of an action. (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation. (c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment. (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action. (e) Compensating for the impact by replacing or providing substitute resources or environments. (CEQ: 43 FR 56003, Nov. 29, 1978 Part 1508 Sec. 1508.20 Mitigation).

Risk-Benefit Ranking

On each district, the ID Team reviewed and evaluated up to 300 factors for each route (refer to Appendix G: Route Evaluation Screening Questions for each ranger district). Factors are attributes (e.g., risks, benefits, and uses) associated with a particular route. Those factors relevant to a particular route, as well as the ID Team recommendations, are recorded in the route reports (appendix L). All factors were ranked with risk and benefit values of very high (VH), high (H), medium (M), or low (L) based upon each factor's level of influence concerning route recommendations (see specific assessment criteria in the following tables and appendix K). The various combinations of factors possible for any individual route required careful consideration and deliberation by the ID Team prior to suggesting a route recommendation. Professional judgment was used to rank particular factors by considering how influential a particular risk factor would be in restricting access to a route (i.e., route leads through a cultural site ranked very high risk) and how influential a particular benefit factor would be in maintaining user access (i.e., route with a right of way ranked very high benefit).

Figure 4.2 generalizes the route evaluation process. A continuum exists between open and decommissioned routes. Routes determined to have many risks and few benefits (e.g., Route A) typically gravitated towards the recommendation of decommission. Conversely, routes determined to have many benefits and few risks (e.g., Route B) typically gravitated towards the recommendation of "open." Routes which have similar risk and benefit ranks typically gravitated towards a recommendation, which limited access or types of use. Imposing limits or management measures provide opportunities to maximize benefits and minimize risks for those routes which have similar levels of risks and benefits.

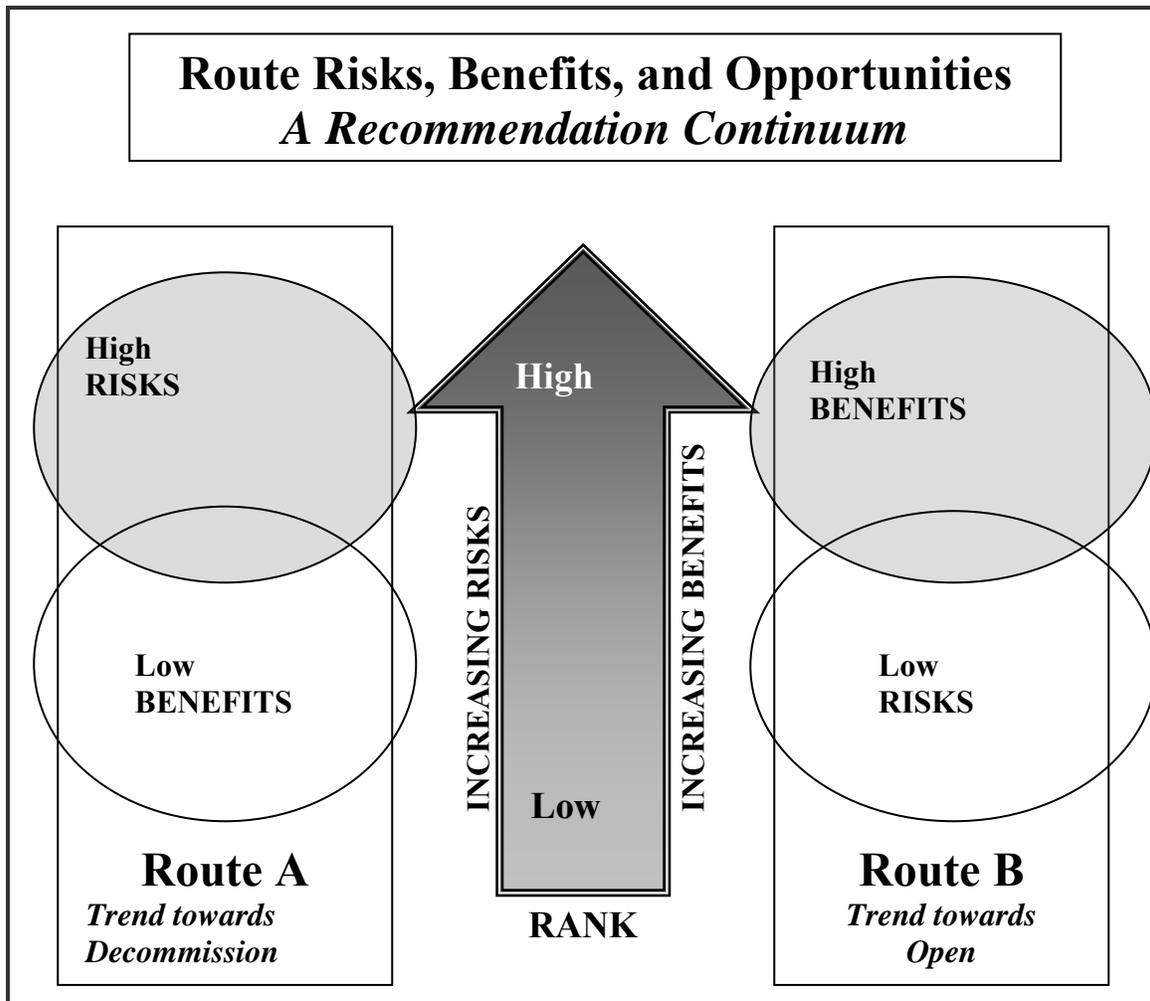


Figure 4.2: Recommendation Continuum.

As illustrated in figure 4.2, those routes evaluated with a predominance of factors identified as posing potential resource risk prompted the ID Team to propose route recommendations to minimize resource risk (i.e., restrict access); routes evaluated with a predominance of factors considered beneficial prompted the ID Team to propose recommendations to maintain user access. Some factors influenced the ID Teams route recommendations more than other factors.

Risk and benefit criteria and categories were developed through careful consideration of issues identified in Step 3 as well as the suggested resource questions for roads analysis described in FS-643 *Roads Analysis: Informing Decisions about Managing the National Forest Transportation System*. For example, risk factors considered during the analysis included concerns such as where a road was located in relation to:

- a cultural site or area
- threatened, endangered, and sensitive species habitat
- impaired waters
- streams and riparian areas
- areas of highly erodible soils
- Wilderness and other specially designated areas

Chapter 4 – Step 4: Assessing Benefits, Problems, & Risks

Risk factors also included items such as:

- If a route created a hazard,
- If a route was a public safety concern,
- If the route was created through proliferation,
- If the route contributed to air quality concerns,
- If the route contributed to illegal activities.

Benefit factors considered during analysis included concerns such as if a road provided access to:

- Private property
- Other land jurisdictions
- Active mines
- Range/ranch activities
- Rights-of-way or utilities
- Administrative uses (e.g., monitoring sites, weather stations, wildlife catchment)
- Camping
- Interpretive sites
- Picnic areas
- Escape for wildland fires

Benefit factors also included items such as:

- Firewood gathering,
- hiking,
- birding,
- boating,
- hunting,
- sightseeing.

Appendix K provides a detailed list of risk and benefit factors considered for each ranger district and how each factor was ranked as very high (VH), high (H), medium (M), and low (L).

Scoring and Rating

Risk and benefit factors were scored based on the ranking as very high (VH), high (H), medium (M), and low (L) and the use level or impact for each factor. Scores ranged from 4 points for factors ranked Very High to 1 point for factors ranked Low (table 4.1). Greater point values coincide with greater beneficial use levels (e.g., primary access). Likewise, where potential impacts are direct, scores/points are greatest. Points are reduced where use level or impacts are not primary or direct.

Table 4.1: Route Factor Rank Scores.

Factor Rank	Use Level / Impact		
	Primary/Direct	Secondary/ Indirect	Tertiary Use
Very High (VH)	4 points	3 points	2 points
High (H)	3 points	2 points	1 points
Medium (M)	2 points	1 points	1 points
Low (L)	1 points	1 points	1 points

The example in tables 4.2 - 4.4 (following) displays how factors specific to an example route (Route No. 0001 Sample) were ranked and scored and how the ID Team could then arrive at a recommendation for a route. Table 4.2 first provides an example of how specific uses or impacts are assigned a risk/benefit ranking of very high, high, medium, or low.

Table 4.2: Route No. 0001 Sample - Factor Ranking.

Uses/Impacts	Specifics	Use Level/ Impact	Risk	Benefit
Land Access	Tribal Nation Land Access	Primary		VH
Range	Tank, Trough Access	Primary		H
Air Quality	PM10 Non-Attainment Area - In or Through	Direct	H	
Ephemeral Stream	Cross	Direct	L	
Recreation Opportunity Spectrum (ROS)	Semi-primitive non-motorized		L	
Soils	Areas of Highly Erosive Soils	Direct	H	
Soils	Areas of Moderately Erosive Soils	Direct	M	
Sonoran Desert Tortoise	Occupied Habitat - In or Through (DVT, below 3500')	Direct	H	
Upland Wildlife Species	MIS Species - In or Through Habitat	Direct	L	
Vegetation	Sonoran Desert – Unburned		L	
Modified 4WD		Primary		M
UTVs		Secondary		L
ATV		Primary		L
Motorcycle Use				L
Hunting				M

Table 4.3 illustrates how the ranked factors are scored. The ranking is from table 4.1 (previous). Each time a very high, high, medium, or low ranking occurs, it is counted. The total number of very high marks for risks is entered in the Count of Risk Factors column and the total number of very high marks for benefits is entered in the Count of Benefit Factors column. This is repeated for high, medium, and low rankings. The count of factors is then multiplied by the points associated with each ranking and use level/impact (e.g., four points are added each time a very high primary/direct ranking is counted, while two points are added each time a very high secondary/indirect ranking is counted). The points are then totaled for a final risk/benefit score for each route.

Table 4.3: Route No. 0001 Sample Factor Scoring.

Rank/ Use Level or Impact	Points	Count of Risk Factors	Risk Score	Count of Benefit Factors	Benefit Score
Very High (VH) – Primary/Direct	4	0	0	1	4
High (H) - Primary/Direct	3	3	9	1	3
Medium (M) - Primary/Direct	2	1	2	2	4
Low (L) – Secondary	1	4	4	3	3
Total			15		14
Overall Route Ranking Score			29		

Summary risk-benefit ranks for each route were then established from the total number of scored factors identified per route. In this example for Route No. 0001 Sample, the total risk score is 15, the total benefit score is 14 and the overall ranking score is 29.

Next, percentages for the risk and benefit scores were generated. Table 4.4 continues the Route No. 0001 Sample to show how risk and benefit scores were tallied and overall route ranks were established. The „Score’ column values are carried from the total risk and benefit scores in table 4.3 (previous). The percentage of risk ranking was calculated by taking the risk score (15 points) divided by the total route ranking score (29 points), for a route risk percentage ranking of 52 percent. This process is repeated to calculate the route benefit percentage.

Table 4.4: Route No. 0001 Sample Route Ranking.

	Score	Percent
Risk	15	52%
Benefit	14	48%
Total	29	100%

The overall route risk/benefit ranking is then determined by these percentages (see table 4.5: Risk-Benefit Ranking Scheme). These percentages led to three route rank possibilities: 1) high risk, low benefit; 2) medium risk, medium benefit; or 3) low risk, high benefit. For Route No. 0001 Sample, the overall route rank is medium risk and medium benefit because both the 52 percent risk ranking and the 48 percent benefit ranking fall within the range of medium ranking (33.4 to 66.7 percent).

Table 4.5: Risk-Benefit Ranking Scheme

Route Risk/Benefit Ranking Scheme	
Percentage Range	Overall Rank
0 to 33.3%	Low
33.4 to 66.6 %	Medium
66.7 to 100%	High

Route rankings were used as a guide in the recommendation continuum for Route Risks, Benefits, and Opportunities (figure 4.2, previous) to identify the types and magnitude of any benefits or risks associated with a particular route. This guidance becomes **part** of the recommendation for each route and helps to identify opportunities for maximizing benefits and minimizing risks. A complete inventory of routes and their associated Risk-Benefit assessment can be found in appendix H.

Table 4.6 illustrates how route rankings suggest possible route recommendations. Variation may exist between two routes’ recommendations with apparently similar summary risk and benefit factors. This variation between two routes with similar risks and benefits, but different route management recommendations is likely due to the fact that the ID Team took into account cumulative effects of neighboring routes prior to making a recommendation. Therefore, for two essentially identical routes going to the same destination with the same risks and benefits the ID Team might have recommended that one route be decommissioned and that the other route remain open with some form of mitigation.

Table 4.6: Route Recommendation Matrix.

Risk	Benefit	Likely Recommendations*
High	Low	Decommission, Mitigate
Medium	Medium	Mitigate
Low	High	Maintain, Mitigate where necessary

*Matrix recommendations are route specific. ID Team recommendations consider route specific and landscape considerations (i.e., neighboring routes, route redundancy, route density, etc.) therefore the recommendations of the ID Team may deviate from the „Likely Recommendations’ illustrated in this matrix.

Statistical Distribution of Risk and Benefit Assessment by Route Maintenance Level

This section summarizes the risk-benefit analysis of the route recommendations suggested by the ID Teams. The information is summarized for the Tonto NF as a whole, and then by district. Due to the large geographical scale of the forest, a map of route recommendations for the entire forest is not presented because it would be illegible. Instead, route recommendation maps are shown following each district discussion.

As discussed in the previous section, the summarized risk-benefit values are used in the following tables (tables 4.7 to 4.14) to present the recommendations of the ID Teams. The total existing mileage for type of route analyzed (ML 1, ML 2, ML 3-5, decommissioned, converted, and unauthorized) are first broken into their risk-benefit categories (high, low, and medium) as determined by the ID Teams. The tables then categorize the recommended changes in maintenance level or type to the current road system by total mileage.

Reported numbers have been rounded and are approximate due to minor Geographic Information System (GIS) data discrepancies. As a result, mileages reported in this document may vary slightly.

Tonto National Forest Summary

Approximately 8 percent (451 miles) of the 5,411 miles of routes evaluated on the Tonto NF fall into the high risk, low benefit category, 68 percent (3,675 miles) ranked medium risk and medium benefit, and approximately 24 percent (1,285 miles) of routes ranked high benefit and low risk.

Table 4.7: Summary Risk-Benefit Matrix for all Routes Evaluated During the Route Evaluation Process on the Tonto NF

Routes Evaluated		
Rank		Miles*
Risk	Benefit	
High	Low	451
Medium	Medium	3,675
Low	High	1,285

*Mileages derived from current (October 2, 2009) GIS data.

Tonto NF Roads – Current Maintenance Level 1 (Roads closed to motorized travel for at least one year at a time)

Currently there are 1,668.2 miles of ML 1 roads identified by the Tonto NF (table 4.8). The ID Team generally recommended providing enhanced access to those routes ranked high benefit and generally recommended some form of restricted access for some routes ranked medium or low benefit.

Over 8 percent (140.7 miles) of ML 1 roads fall into the high risk, low benefit category. Of these roads, 6.5 miles were recommended to be opened and maintained for high clearance vehicles and 2.4 miles were recommended to be available for motorized trails. Almost 62 miles were recommended to remain closed to general public motorized travel, but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF. The remaining miles in this risk/benefit category were recommended to remain unavailable for motorized travel and become either non-motorized trails (4.3 miles) or decommissioned (65.8 miles).

Almost 75 percent (1,249.8 miles) of the ML 1 roads ranked medium risk and medium benefit. Of these roads, about one-tenth of a mile was recommended to be opened and maintained for passenger vehicles. Over 336 miles were recommended to be opened and maintained for high clearance vehicles and 22.4 miles were recommended to be available for motorized trails. Over 688 miles were recommended to remain closed to general public motorized travel, but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF. The remaining miles in this medium risk/benefit category were recommended to remain unavailable for motorized travel and become either non-motorized trails (23 miles) or decommissioned (178.8 miles).

Approximately 17 percent (277.6 miles) of the ML 1 routes ranked low risk, high benefit. Of these roads, 79.4 miles were recommended to be opened and maintained for high clearance vehicles, and 3.7 miles were recommended to be available for motorized trails. Almost 179 miles were recommended to remain closed to general public motorized travel, but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private

property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF. The remaining miles in this low risk/high benefit category were recommended to remain unavailable for motorized travel and become either non-motorized trails (2.7 miles) or decommissioned (13.2 miles).

Table 4.8: Tonto NF Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Maintenance Level (ML) 1 Roads

Ranking		Route Miles		Recommended changes to current Maintenance Level 1 (Closed) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low	140.7	8.4%	0.0	6.5	2.4	61.8	4.3	65.8
Med	Med	1,249.8	74.9%	0.1	336.7	22.4	688.8	23.0	178.8
Low	High	277.6	16.6%	0.0	79.4	3.7	178.6	2.7	13.2
Total Miles		1,668.2	100.0%	0.1	343.3	28.5	929.1	30.0	257.7
Percent				0.0%	20.6%	1.7%	55.7%	1.8%	15.4%

* Mileages derived from current GIS data (January, 2010)

Tonto NF Roads- Current Maintenance Level 2 (Roads managed for high clearance vehicles)

Maintenance level 2 roads are the most prevalent (2,257.8 miles) on the Tonto NF. The recommendations of the ID Team are presented in table 4.9.

Just over 1 percent (26.4 miles) of these routes ranked high risk, low benefit. Of these roads, 13.2 miles were recommended to remain open for high clearance vehicles and 2.9 miles were recommended for conversion to motorized trails. Just over 1 mile was recommended to become closed to general public motorized travel, but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF. Almost 9 miles were recommended to become unavailable for motorized travel and decommissioned.

The majority of these roads, almost 70 percent or 1,586.6 miles, are ranked medium risk, medium benefit. Of these roads, 11.8 miles were recommended to become maintained for passenger cars; 1,363.7 miles were recommended to remain open for high clearance vehicles; and 10.0 miles were recommended to be converted to motorized trails. Just over 127 miles were recommended to become closed to general public motorized travel, but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF. The remaining miles in this medium risk/benefit category were recommended to become unavailable for motorized travel as either non-motorized trails (9.9 miles) or decommissioned (63.6 miles).

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Approximately 28 percent (644.9 miles) ranked low risk, high benefit. Of these roads, 4.6 miles were recommended to become maintained for passenger cars and 593.7 miles were recommended to remain open for high clearance vehicles. Less than 1 mile was recommended to be converted to a motorized trail. Almost 32 miles were recommended to become closed to general public motorized travel, but were also determined to be necessary for administrative use purposes. The remaining miles in this low risk/high benefit category were recommended to become unavailable for motorized travel as either non-motorized trails (12.7 miles) or decommissioned (82.5 miles).

Table 4.9: Tonto NF Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Roads- ML 2

Ranking		Route Miles		Recommended changes to current Maintenance Level 2 (High Clearance) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles (no change)	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low	26.4	1.2%		13.2	2.9	1.2		8.8
Med	Med	1,586.6	70.3%	11.8	1,363.7	10.0	127.4	9.9	63.6
Low	High	644.9	28.6%	4.6	593.7	0.5	32.2	2.8	10.1
Total Miles		2,257.8	100.0%	16.4	1,971.1	13.2	161.8	12.7	82.5
Percent				0.7%	87.3%	0.6%	7.2%	0.6%	3.7%

* Mileages derived from current GIS data (January, 2010).

Tonto NF Roads – Current Maintenance Level 3, 4, and 5 (Roads managed for passenger car travel)

Maintenance Levels 3, 4, and 5 roads are maintained for a varying degree of passenger comfort; therefore, roads of this maintenance class are usually amongst the most frequently maintained roads on U.S. Forest Service Lands. These roads are also the most expensive to maintain.

There are 607.3 miles of ML 3-5 roads on the Tonto NF. The recommendations of the ID Team are presented in table 4.10.

Of the 607.3 total miles less than 1 percent, or 4 miles, were ranked high risk, low benefit. Of these roads, 2 miles were recommended to remain open for passenger cars. Less than 1 mile was recommended to become closed to general public motorized travel; but was also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Less than 1 mile was recommended to become closed to general public motorized travel and decommissioned.

About 60 percent (364.4 miles) were ranked medium risk, medium benefit. Of these roads, 288 miles were recommended to remain open for passenger cars and 58.4 miles were recommended to become maintained for high clearance vehicles (ML 2). Almost 15 miles were recommended to become closed to general public motorized travel; but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring

sites, or wildlife waters. Less than 2 miles were recommended to become closed to general public motorized travel and decommissioned.

Approximately 39 percent (238.8 miles) were ranked low risk, high benefit. Of these roads, 223.9 miles were recommended to remain open for passenger cars and 68.2 miles were recommended to become maintained for high clearance vehicles (ML 2). Two miles were recommended for conversion to motorized trails. Almost 20 miles were recommended to become closed to general public motorized travel; but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Less than 3 miles were recommended to become closed to general public motorized travel and decommissioned.

Table 4.10: Tonto NF Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Roads- ML 3-5

Ranking		Route Miles		Recommended changes to current Maintenance Level 3-5 (Passenger Vehicle) Roads by miles*						
Risk	Benefit	Total Miles	Relative Percent	Passenger Car (no change)	High Clearance Vehicles	Motorized Trail	Administrative Only	Non-Motorized Trail	Decommission	
High	Low	4.0	0.7%	2	0	0	0.7	0	0.8	
Med	Med	364.4	60.0%	288	58.4	0	15.3	0	1.8	
Low	High	238.8	39.3%	223.9	9.9	2	3.2	0	0	
Total Miles		607.3	100.0%	513.9	68.3	2	19.8	0	2.6	
Percent				84.6%	11.2%	0.3%	3.3%	0.0%	0.4%	

* Mileages derived from current GIS data (January, 2010).

Tonto NF Roads – Decommissioned (Roads unavailable for motorized travel)

A number of roads were evaluated that are currently identified in Infra as decommissioned. These roads were evaluated for one or more reasons that warrant consideration, such as a request to rehabilitate a road by potential users. On the Tonto NF, 262.6 miles of decommissioned roads were evaluated. The recommendations of the ID Team are presented in table 4.11.

Almost 27 percent (71.7 miles) of these roads ranked high risk, low benefit. Of these roads, 0.4 miles were recommended to become available for high clearance vehicles (ML 2). Just over 3 miles were recommended to become closed to general public motorized travel; but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of this road would require written authorization from the Tonto NF. The remaining miles in this risk/benefit category were recommended to remain unavailable for motorized travel as decommissioned roads (68.2 miles).

Nearly 62 percent of decommissioned roads (162.6 miles) ranked medium risk, medium benefit. Of these roads, 18.4 miles were recommended to become available for high clearance vehicles (ML 2) and 16.7 miles were recommended for motorized trails. Over 36 miles were recommended to become closed to general public motorized travel, but were also determined to

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be necessary for administrative use purposes. The remaining miles in this risk/benefit category were recommended to remain unavailable for motorized travel as non-motorized trails (10.6 miles) or decommissioned roads (80.5 miles).

Approximately 11 percent (28.3 miles) of decommissioned roads ranked low risk, high benefit. Of these roads, 6.6 miles were recommended to become available for high clearance vehicles (ML 2) and 1.9 miles were recommended for motorized trails. Over 3 miles were recommended to become closed to general public motorized travel, but were also determined to be necessary for administrative use purposes. The remaining miles in this risk/benefit category were recommended to remain unavailable for motorized travel as non-motorized trails (5.5 miles) or decommissioned roads (10.7 miles).

Table 4.11: Tonto NF Roads Risk and Benefit Matrix and Recommendations for Decommissioned Roads

Ranking		Route Miles		Recommended changes to current Decommissioned (Closed) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission (no change)
High	Low	71.7	27.3%	0	0.4	0	3.1	0	68.2
Med	Med	162.6	61.9%	0	18.4	16.7	36.6	10.6	80.5
Low	High	28.3	10.8%	0	6.6	1.9	3.6	5.5	10.7
Total Miles		262.6	100%	0	25.4	18.6	43.3	16.1	159.3
Percent				0%	9.7%	7.1%	16.5%	6.1%	60.7%

* Mileages derived from current GIS data (January, 2010).

Tonto NF Roads – Converted Use (Roads converted for use other than motorized travel)

Approximately 30 miles of converted roads were identified on the Tonto NF (table 4.12). Approximately 15 percent (4.8 miles) of these routes ranked high risk and low benefit. Of these roads, 2.5 miles were recommended to be added to the transportation system and as motorized trails. The remaining miles in this high risk/low benefit category were recommended to remain non-motorized trails (1.7 miles) or become decommissioned roads (0.6 miles).

Just over 34 percent (10.4 miles) of converted routes ranked medium risk, medium benefit. Of these roads, 4.2 miles were recommended to become closed to general public motorized travel but were also determined to be necessary for administrative use purposes. The remaining miles in this risk/benefit category were recommended to remain unavailable for motorized travel as non-motorized trails (4.2 miles) or decommissioned roads (7.2 miles).

No converted routes were ranked as low risk, high benefit.

Table 4.12: Tonto NF Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Roads currently identified in Infra as Converted

Ranking		Route Miles		Recommended changes to current Converted Use (Trails) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail (no change)	Decommission
High	Low	4.8	15.9%	0	0	2.5	0	1.7	0.6
Med	Med	10.4	34.4%	0	0	0	4.2	7.2	0
Low	High	0	0.0%	0	0	14	0	0	0
Total Miles		30.2	100.0%	0	0	16.5	4.2	8.9	0.6
Percent				0.0%	0.0%	54.6%	13.9%	29.5%	2.0%

* Mileages derived from current GIS data (January, 2010).

Tonto NF Routes – Unauthorized (Routes that are not NFS roads or trails)

The ID Team analyzed some unauthorized routes. These unauthorized routes were evaluated for one or more reasons that warrant consideration, such as identification by the ID Team of administrative or commercial uses or by the public for recreational uses. Some of these routes were recommended by the ID Team for decommissioning due to resource damage and other concerns, but the ID Team also acknowledged that other unauthorized routes may warrant inclusion into the minimum road system (appendix I). Adding any of these routes to the system will require additional resources, because these routes are not currently maintained. On the Tonto NF, 587.3 miles of unauthorized routes were evaluated. The recommendations of the ID Team for unauthorized routes are summarized in table 4.13.

Analysis of unauthorized routes resulted in approximately 35 percent (204.4 miles) of these routes ranked high risk and low benefit. Of these roads, 16.2 miles were recommended to be added to the transportation system and maintained for high clearance vehicles (ML 2) and 71.4 miles were recommended for motorized trails. The remaining miles in this high risk/low benefit category were recommended to be added to the system and made unavailable for motorized travel as either non-motorized trails (26 miles) or decommissioned roads (91.4 miles).

Just over 51 percent (300.2 miles) of unauthorized routes ranked medium risk, medium benefit. Of these roads, less than half a mile was recommended to be added to the transportation system and maintained for passenger vehicles; 90.5 miles were recommended to be added to the transportation system and maintained for high clearance vehicles; and 58.6 miles were recommended as motorized trails. Just 15 miles were recommended to be added to the system as an administrative use road, necessary for management actions such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. The remaining miles in this medium risk/benefit category were recommended to added to the system and made unavailable for motorized travel as either non-motorized trails (29.7 miles) or decommissioned roads (106.7 miles).

Just over 14 percent (82.7 miles) of unauthorized routes ranked low risk, high benefit. Of these roads, 1.4 miles were recommended to be added to the transportation system and maintained for

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passenger vehicles; 38.6 miles were recommended to be added to the transportation system and maintained for high clearance vehicles; and 13.7 miles were recommended as motorized trails. Almost 5 miles were recommended to be added to the system as administrative use roads. The remaining miles in this low risk/high benefit category were recommended to added to the system and made unavailable for motorized travel as either non-motorized trails (13.6 miles) or decommissioned roads (9.7 miles).

Table 4.13: Tonto NF Roads Risk and Benefit Matrix and Recommendations for Unauthorized Routes

Ranking		Route Miles		Recommended changes to identified Unauthorized Routes by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low	204.4	34.8%	0	16.2	71.4	0	26	91.4
Med	Med	300.2	51.1%	0.3	90.5	58.6	15.2	29.7	106.7
Low	High	82.7	14.1%	1.4	38.6	13.7	4.9	13.6	9.7
Total Miles		587.3	100.0%	1.7	145.2	143.8	20.1	69.3	207.7
Percent				0.3%	24.7%	24.5%	3.4%	11.8%	35.4%

* Mileages derived from current GIS data (January, 2010).

Tonto NF Recommendations Summary for Roads and Motorized Trails⁶

The recommendations of the ID Team for all routes are summarized in table 4.14.

Table 4.14: ID Team Route Management Recommendations Summary for All Routes Evaluated During the Travel Analysis Process for Tonto NF.

ID Team Route Management Recommendation	Miles*	Relative Percentage
Passenger Car	532	10%
High Clearance	2,631	49%
Motorized Trail	223	4%
Administrative Use Only	1,180	22%
Converted Use (Non-motorized Trail)	138	3%
Decommissioned	711	13%
TOTAL	5,415	100%

* Mileages derived from current GIS data (January, 2010).

⁶ The existing motorized road and trail information for the analysis was derived from Infra Objective Road Maintenance Level data.

Cave Creek Ranger District

Approximately 18 percent (169 miles) of the 933 miles of routes evaluated on the CCRD fall into the high risk, low benefit category, 52 percent (485 miles) ranked medium risk and medium benefit, and approximately 30 percent (278 miles) of routes ranked high benefit and low risk.

Table CCRD 4.6: Summary Risk-Benefit Matrix for all Routes Evaluated During the Route Evaluation Process on CCRD

Routes Evaluated		
Rank		Miles*
Risk	Benefit	
High	Low	169
Medium	Medium	485
Low	High	278

*Mileages derived from current (October 2, 2009) GIS data.

Specific recommendations for routes analyzed in the TAP are shown in tables CCRD 4.7 through 4.13 below. They are categorized first by their existing maintenance level or route type, and then by their risk-benefit ranking.

CCRD Roads: Current Maintenance Level 1 (Roads closed to motorized travel for at least one year at a time)

Currently there are 117.3 miles of ML 1 roads identified by the Cave Creek RD (table CCRD 4.7). The ID Team generally recommended providing enhanced access to those routes ranked high benefit and generally recommended some form of restricted access for some routes ranked medium or low benefit.

Over 10 percent (12.1 miles) of ML 1 roads fall into the high risk, low benefit category. Of these roads, 0.8 miles were recommended to be opened and maintained for high clearance vehicles and 2.4 miles were recommended to be available for motorized trails. The remaining miles in this risk/benefit category were recommended to remain unavailable for motorized travel and become either non-motorized trails (0.3 miles) or decommissioned (8.7 miles).

Just over 65 percent (76.6 miles) of the ML 1 roads ranked medium risk and medium benefit. Of these roads, 28.2 miles were recommended to be opened and maintained for high clearance vehicles and 1.2 miles were recommended to be available for motorized trails. Nine miles were recommended to remain closed to general public motorized travel, but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF. The remaining miles in this medium risk/benefit category were recommended to remain unavailable for motorized travel and become either non-motorized trails (15.3 miles) or decommissioned (22.9 miles).

Approximately 24 percent (28.5 miles) of the ML 1 routes ranked low risk, high benefit. Of these roads, 13.7 miles were recommended to be opened and maintained for high clearance vehicles, and 0 miles were recommended to be available for motorized trails. Almost 7 miles were recommended to remain closed to general public motorized travel; but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written

authorization from the Tonto NF. The remaining miles in this low risk/high benefit category were recommended to remain unavailable for motorized travel and become either non-motorized trails (2.7 miles) or decommissioned (5.4 miles).

Table CCRD 4.7: Cave Creek RD Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Maintenance Level (ML) 1 Roads

Ranking		Route Miles		Recommended changes to current Maintenance Level 1 (Closed) Roads by Miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low	12.1	10.3%		0.8	2.4		0.3	8.7
Med	Med	76.6	65.3%		28.2	1.2	9.0	15.3	22.9
Low	High	28.5	24.3%		13.7		6.8	2.7	5.4
Total Miles		117.3	100%	0.0	42.7	3.6	15.7	18.3	36.9
Percent				0%	36.4%	3.1%	13.4%	15.6%	31.5%

* Mileages derived from current GIS data (January, 2010).

CCRD Roads- Current Maintenance Level 2 (Roads managed for high clearance vehicles)

Maintenance level 2 roads are the most prevalent (415.4 miles on the CCRD). The recommendations of the ID Team are presented in table CCRD 4.8.

Less than 1 percent (3.0 miles) of these routes ranked high risk, low benefit. Of these roads, 2.3 miles were recommended to remain open for high clearance vehicles and 0.7 miles were recommended to become unavailable for motorized travel and decommissioned.

The majority of these roads, almost 59 percent or 243.6 miles, ranked medium risk, medium benefit. Of these roads, 10.9 miles were recommended to become maintained for passenger cars; 170.8 miles were recommended to remain open for high clearance vehicles; and 2.6 miles were recommended to become motorized trails. Just over 28 miles were recommended to become closed to general public motorized travel; but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF. The remaining miles in this medium risk/benefit category were recommended to become unavailable for motorized travel as either non-motorized trails (9.9 miles) or decommissioned (21.1 miles).

Approximately 41 percent (168.8 miles) ranked low risk, high benefit. Of these roads, 151.3 miles were recommended to remain open for high clearance vehicles. Almost 10 miles were recommended to become closed to general public motorized travel, but were also determined to be necessary for administrative use purposes. The remaining miles in this low risk/high benefit category were recommended to become unavailable for motorized travel as either non-motorized trails (2.8 miles) or decommissioned (5.1 miles).

Table CCRD 4.8: Cave Creek RD Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Roads- ML 2.

Ranking		Route Miles		Recommended changes to current Maintenance Level 2 (High Clearance) Roads by Miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles (no change)	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low	3.0	0.7%	2.3					0.7
Med	Med	243.6	58.7%	10.9	170.8	2.6	28.3	9.9	21.1
Low	High	168.8	40.6%	151.3			9.6	2.8	5.1
Total Miles		415.4	100%	10.9	324.4	2.6	37.9	12.7	26.9
Percent				2.6%	78.1%	0.6%	9.1%	3.1%	6.5%

* Mileages derived from current GIS data (January, 2010).

CCRD Roads- Current Maintenance Level 3, 4, and 5 (Roads managed for passenger car travel)

Maintenance Level 3, 4, and 5 roads are maintained for a varying degree of passenger comfort; therefore roads of this maintenance class are usually amongst the most frequently maintained roads on U.S. Forest Service lands. These roads are also the most expensive to maintain.

Primary access to and across the Cave Creek RD is provided by ML 3 and 4 roads, totaling 102.2 miles. No ML 5 roads, which provided the highest degree of passenger comfort, exist on the district. The recommendations of the ID Team are presented in table CCRD 4.9.

There were no routes that ranked high risk, low benefit.

Of the 102.2 total miles, just under 43 percent (43.8 miles) were ranked medium risk, medium benefit. Of these roads, 28.5 miles were recommended to remain open for passenger cars and 12.5 miles were recommended to become maintained for high clearance vehicles (ML 2). Almost 3 miles were recommended to become closed to general public motorized travel; but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters.

Approximately 57 percent (58.3 miles) were ranked low risk, high benefit. Of these roads, 56 miles were recommended to remain open for passenger cars and 2.3 miles were recommended to become maintained for high clearance vehicles (ML 2).

No roads in these maintenance levels were recommended for motorized trails or to be closed to motorized travel, as either non-motorized trails or decommissioned roads.

Table CCRD 4.9: Cave Creek RD Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Roads - ML 3 & 4

Ranking		Route Miles		Recommended changes to current Maintenance Level 3-4 (Passenger Vehicle) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car (no change)	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low								
Med	Med	43.8	42.9%	28.5	12.5		2.8		
Low	High	58.3	57.1%	56.0	2.3				
Total Miles		102.2	100%	84.5	14.9	0.0	2.8	0.0	0.0
Percent				82.7%	14.6%	0%	2.7%	0%	0%

* Mileages derived from current GIS data (January, 2010).

CCRD Roads- Decommissioned (Roads unavailable for motorized travel)

A number of roads were evaluated that are currently identified in Infra as decommissioned. These roads were evaluated for one or more reasons that warrant consideration, such as a request to rehabilitate a road by potential users. On the Cave Creek RD, 37.6 miles of decommissioned roads were evaluated. The recommendations of the ID Team are presented in table CCRD 4.10.

Almost 31 percent (11.6 miles) of these roads ranked high risk, low benefit. Of these roads, 0.4 miles were recommended to become available for high clearance vehicles (ML 2). The remaining miles in this risk/benefit category were recommended to remain unavailable for motorized travel as decommissioned roads (11.2 miles).

Nearly 51 percent of decommissioned roads (19.1 miles) ranked medium risk, medium benefit. Of these roads, 1.9 miles were recommended to become available for high clearance vehicles (ML 2) and 2.6 miles were recommended for motorized trails. Just under half of a mile was recommended to become closed to general public motorized travel; but was also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of this road would require written authorization from the Tonto NF. The remaining miles in this risk/benefit category were recommended to remain unavailable for motorized travel as non-motorized trails (2.9 miles) or decommissioned roads (11.5 miles).

Approximately 19 percent (6.9 miles) of decommissioned roads ranked low risk, high benefit. All of these roads were recommended to remain unavailable for motorized travel as non-motorized trails (5.5 miles) or decommissioned roads (1.4 miles).

Table CCRD 4.10: Cave Creek RD Roads Risk and Benefit Matrix and Recommendations for Decommissioned Roads

Ranking		Route Miles		Recommended changes to current Decommissioned (Closed) Roads by Miles*								
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission (no change)			
High	Low	11.6	30.9%	0.4					11.2			
Med	Med	19.1	50.6%	1.9					2.6	0.3	2.9	11.5
Low	High	6.9	18.5%						5.5	1.4		
Total Miles		37.6	100%	0	2.3	2.6	0.3	8.4	24.1			
Percent				0%	6.0%	6.9%	0.7%	22.4%	64.0%			

* Mileages derived from current GIS data (January, 2010).

CCRD Roads- Converted Use (Roads converted for use other than motorized travel)

Approximately 3 miles of converted roads were identified on the Cave Creek RD (table CCRD 4.11). All of these routes were ranked high risk and low benefit. Of these, 2.5 miles were recommended to become motorized trails while 0.6 miles were recommended to become closed to motorized travel and decommissioned.

Table CCRD 4.11: Cave Creek RD Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Roads currently identified in Infra as Converted

Ranking		Route Miles		Recommended changes to current Converted Use (trails) Roads by Miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail (no change)	Decommission
High	Low	3.1	100.0%	2.5					0.6
Med	Med								
Low	High								
Total Miles		3.1	100.0%	0	0	2.5	0	0	0.6
Percent				0%	0%	80.0%	0%	0%	20.0%

* Mileages derived from current GIS data (January, 2010).

CCRD Routes- Unauthorized (Routes that are not NFS roads or trails)

The ID Team analyzed some unauthorized routes. These unauthorized routes were evaluated for one or more reasons that warrant consideration, such as identification by the ID Team of administrative or commercial uses or by the public for recreational uses. Some of these routes were recommended by the ID Team for decommissioning due to resource damage and other concerns, but the ID Team also acknowledged that other unauthorized routes may warrant inclusion into the minimum road system (appendix I). Adding any of these routes to the system will require additional resources because these routes are not currently maintained. On the Cave

Cave Creek RD, 256.7 miles of unauthorized routes were evaluated. The recommendations of the ID Team for unauthorized routes are presented in table CCRD 4.12.

Analysis of unauthorized routes resulted in approximately 54 percent (139.3 miles) of these routes ranked high risk and low benefit. Of these roads, 13.8 miles were recommended to be added to the transportation system and maintained for high clearance vehicles (ML 2) and 28.1 miles were recommended for motorized trails. The remaining miles in this high risk/low benefit category were recommended to be added to the system and made unavailable for motorized travel as either non-motorized trails (26 miles) or decommissioned roads (71.4 miles).

Less than 40 percent (101.6 miles) of unauthorized routes ranked medium risk, medium benefit. Of these roads, less than half a mile was recommended to be added to the transportation system and maintained for passenger vehicles, 20.4 miles were recommended to be added to the transportation system and maintained for high clearance vehicles, and 2.6 miles were recommended as motorized trails. Just over half a mile was recommended to be added to the system as an administrative use road, necessary for management actions such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of this road would require written authorization from the Tonto NF. The remaining miles in this medium risk/benefit category were recommended to be added to the system and made unavailable for motorized travel as either non-motorized trails (24.7 miles) or decommissioned roads (52.9 miles).

Just over 6 percent (15.8 miles) of unauthorized routes ranked low risk, high benefit. Of these roads, 0.6 miles were recommended to be added to the transportation system and maintained for passenger vehicles, 0.8 miles were recommended to be added to the transportation system and maintained for high clearance vehicles, and 0 miles were recommended as motorized trails. Just over one mile was recommended to be added to the system as an administrative use road. The remaining miles in this low risk/high benefit category were recommended to be added to the system and made unavailable for motorized travel as either non-motorized trails (11.9 miles) or decommissioned roads (1.1 miles).

Table CCRD 4.12: Cave Creek RD Roads Risk and Benefit Matrix and Recommendations for Unauthorized Routes

Ranking		Route Miles		Recommended changes to identified Unauthorized Routes by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low	139.3	54.3%		13.8	28.1		26.0	71.4
Med	Med	101.6	39.6%	0.3	20.4	2.6	0.6	24.7	52.9
Low	High	15.8	6.2%	0.6	0.8		1.3	11.9	1.1
Total Miles		256.7	100.0%	0.9	35.1	30.7	1.9	62.6	125.4
Percent				0.3%	13.7%	12.0%	0.7%	24.4%	48.8%

* Mileages derived from current GIS data (January, 2010).

CCRD Recommendations Summary for Roads and Motorized Trails⁷

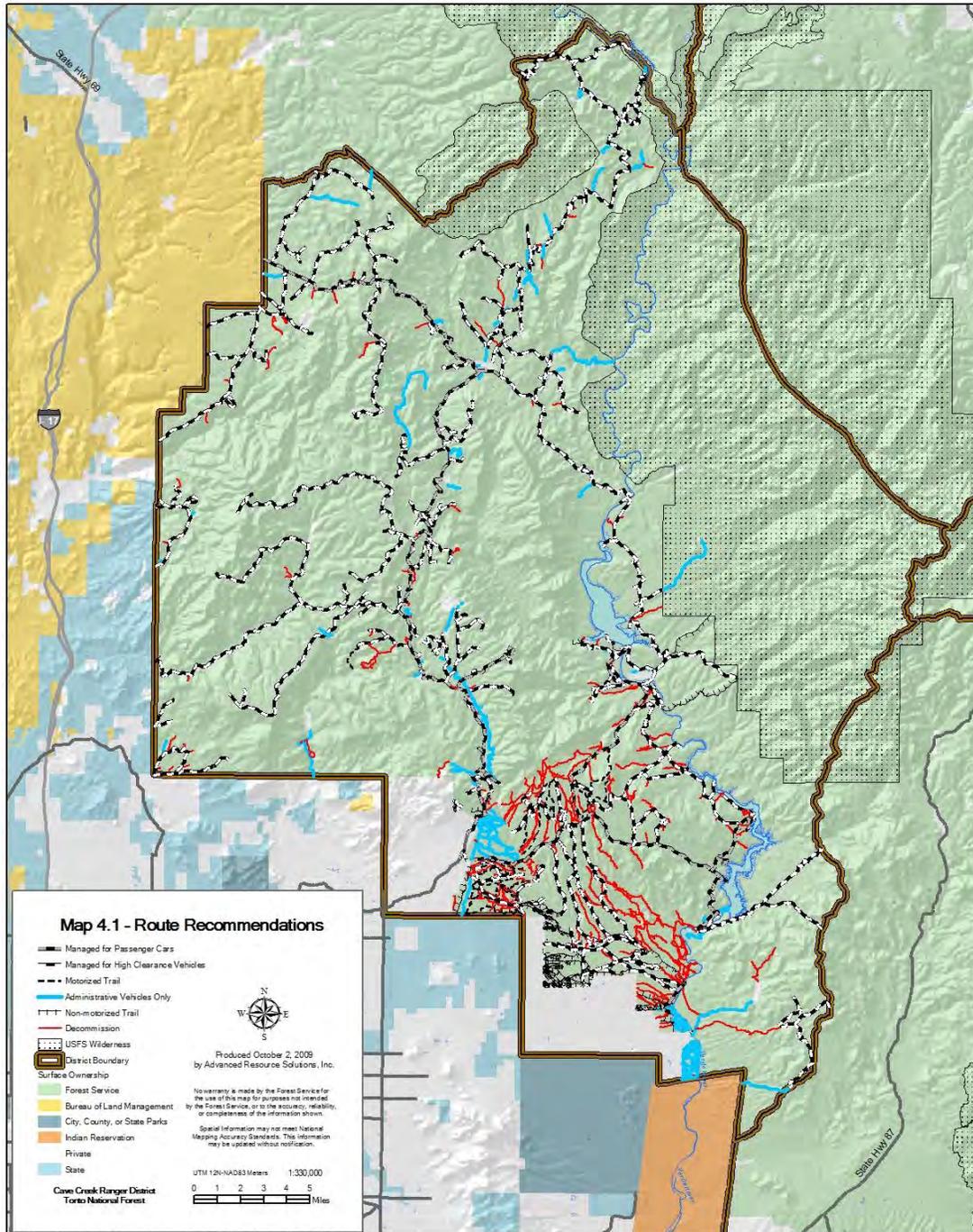
The recommendations of the ID Team for routes are summarized in table CCRD 4.13 and shown in map CCRD 4.1 below.

Table CCRD 4.13: ID Team Route Management Recommendations Summary for All Routes Evaluated During the Travel Analysis Process for Cave Creek RD.

ID Team Route Management Recommendation	Miles*	Relative Percentage
Passenger Car	96	10%
High Clearance	419	45%
Motorized Trail	42	5%
Administrative Use Only	59	6%
Converted Use (Non-motorized Trail)	102	11%
Decommissioned	214	23%
Total	932	100%

* Mileages derived from current GIS data (January, 2010).

⁷ The existing motorized road and trail information for the analysis was derived from Infra Objective Road Maintenance Level data.



Map CCRD 4.1: Cave Creek RD ID Team Route Recommendations

Globe Ranger District

Approximately 5 percent (45 miles) of the 888 miles of routes evaluated on the Globe RD fall into the high risk, low benefit category, 68 percent (602 miles) ranked medium risk and medium benefit, and approximately 27 percent (240 miles) of routes ranked low risk and high benefit (table GRD 4.6).

Table GRD 4.6: Globe RD Summary Risk-Benefit Matrix for all Routes Evaluated During the Route Evaluation Process

Routes Evaluated		
Rank		Miles*
Risk	Benefit	
High	Low	45
Medium	Medium	602
Low	High	240

*Mileages derived from current (October 2, 2009) GIS data.

Specific recommendations for routes analyzed in the TAP are shown in tables GRD 4.7 through 4.13 below. They are categorized first by their existing maintenance level or route type, and then by their risk-benefit ranking.

GRD Roads- Current Maintenance Level 1 (Roads closed to motorized travel for at least one year at a time)

Currently there are 443.6 miles of ML 1 roads identified by the Globe RD (table GRD 4.7). The ID Team generally recommended providing enhanced access to those routes ranked high benefit and generally recommended some form of restricted access for some routes ranked medium or low benefit.

Over 8 percent (37.0 miles) of ML 1 roads fall into the high risk, low benefit category. All of these roads were recommended to remain closed to general public motorized travel; but they were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF.

Just over 67 percent (298.2 miles) of the ML 1 roads ranked medium risk and medium benefit. Of these roads, 8.3 miles were recommended to be opened and maintained for high clearance vehicles. Almost 290 miles were recommended to remain closed to general public motorized travel, but were also determined to be necessary for administrative use purposes. The remaining miles in this medium risk/benefit category were recommended to remain unavailable for motorized travel and decommissioned (0.2 miles).

Approximately 24 percent (108.4 miles) of the ML 1 routes ranked low risk, high benefit. Of these roads, 11 miles were recommended to be opened and maintained for high clearance vehicles. The remaining 97.4 miles were recommended to remain closed to general public motorized travel; but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF.

Table GRD 4.7: Globe RD Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Maintenance Level (ML) 1 Roads.

Ranking		Route Miles		Recommended changes to current Maintenance Level 1 (Closed) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low	37.0	8.3%				37.0		
Med	Med	298.2	67.2%		8.3		289.7		0.2
Low	High	108.4	24.4%		11.0		97.4		
Total Miles		443.6	100%	0	19.3	0	424.1	0	0.2
Percent				0%	4.4%	0%	95.6%	0%	0%

* Mileages derived from current GIS data (January, 2010).

GRD Roads- Current Maintenance Level 2 (Roads managed for high clearance vehicles)

On the Globe RD, roads of this maintenance level are the most prevalent (355.7 miles). The recommendations of the ID Team are presented in table GRD 4.8.

Less than 2 percent (5.8 miles) of these routes ranked high risk, low benefit. Of these roads, 5 miles were recommended to remain open for high clearance vehicles and 0.8 miles were recommended to become unavailable for motorized travel and decommissioned.

The majority of these roads, almost 73 percent or 258.9 miles, ranked medium risk, medium benefit. Of these roads, 245.1 miles were recommended to remain open for high clearance vehicles. Almost 13 miles were recommended to become closed to general public motorized travel; but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF. The remaining miles in this medium risk/benefit category were recommended to become unavailable for motorized travel and decommissioned (0.6 miles).

Approximately 25 percent (91.1 miles) ranked low risk, high benefit. Of these roads, 84.3 miles were recommended to remain open for high clearance vehicles. Almost 7 miles were recommended to become closed to general public motorized travel but were also determined to be necessary for administrative use purposes.

Table 4.8: GRD Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Roads- ML 2

Ranking		Route Miles		Recommended changes to current Maintenance Level 2 (High Clearance) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles (no change)	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low	5.8	1.6%	5.0					0.8
Med	Med	258.9	72.8%	245.1			13.1	0.6	
Low	High	91.1	25.6%	84.3			6.8		
Total Miles		355.7	100%	0	334.4	0	19.9	0	1.4
Percent				0%	94.0%	0%	5.6%	0%	0.4%

* Mileages derived from current GIS data (January 2010)

GRD Roads- Current Maintenance Level 3, 4, and 5 (Roads managed for passenger car travel)

Maintenance Level 3, 4, and 5 roads are maintained for a varying degree of passenger comfort. Therefore roads of this maintenance class are usually amongst the most frequently maintained roads on U.S. Forest Service lands. These roads are also the most expensive to maintain.

Primary access to and across the Globe RD is provided by ML 3 roads, totaling 81.2 miles. No ML 4 or 5 roads, which provided the higher degrees of passenger comfort, exist on the district. The recommendations of the ID Team are presented in table GRD 4.9.

Less than 1 mile (0.2 percent) was ranked high risk, low benefit. It was recommended that this road become closed to general public motorized travel, but was also determined to be necessary for administrative use purposes.

Just over 50 percent (40.8 miles) were ranked medium risk, medium benefit. Of these roads, 24 miles were recommended to remain open for passenger cars and 15.9 miles were recommended to become maintained for high clearance vehicles (ML 2). About 0.3 miles were recommended to become closed to general public motorized travel; but were also determined to be necessary for administrative use purposes and 0.6 miles were recommended to become closed to general public motorized travel and decommissioned.

Approximately 50 percent (40.2 miles) were ranked low risk, high benefit. Of these roads, 40.1 miles were recommended to remain open for passenger cars and 0.6 miles were recommended to become closed to general public motorized travel, but were also determined to be necessary for administrative use purposes (ML 2).

Table GRD 4.9: Globe RD Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Roads- ML 3

Ranking		Route Miles		Recommended changes to current Maintenance Level 3 (Passenger Vehicle) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car (no change)	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low	0.2	0.2%				0.2		
Med	Med	40.8	50.2%	24.0	15.9		0.3		0.6
Low	High	40.2	49.5%	40.1			0.1		
Total Miles		81.2	100%	64.1	15.9	0	0.6	0	0.6
Percent				78.9%	19.6%	0%	0.7%	0%	0.7%

* Mileages derived from current GIS data (January, 2010).

GRD Roads- Decommissioned (Roads unavailable for motorized travel)

A number of roads were evaluated that are currently identified in Infra as decommissioned. These roads were evaluated for one or more reasons that warrant consideration, such as a request to rehabilitate a road by potential users. On the Globe RD, 2 miles of decommissioned roads were evaluated. The recommendations of the ID Team are presented in table GRD 4.10.

Almost 20 percent (0.4 miles) of these roads ranked high risk, low benefit and were recommended to remain unavailable for motorized travel as decommissioned roads.

Nearly 50 percent of decommissioned roads (1 mile) ranked medium risk, medium benefit. Of these roads, 0.2 miles were recommended to become closed to general public motorized travel; but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of this road would require written authorization from the Tonto NF. The remaining miles in this risk/benefit category were recommended to remain unavailable for motorized travel and decommissioned roads (0.8 miles).

Approximately 30 percent (0.6 miles) of decommissioned roads ranked low risk, high benefit. All of these roads were recommended to remain unavailable for motorized travel and decommissioned.

Table GRD 4.10: Globe RD Roads Risk and Benefit Matrix and Recommendations for Decommissioned Roads

Ranking		Route Miles		Recommended changes to current Decommissioned (Closed) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission (no change)
High	Low	0.4	20.0%						0.4
Med	Med	1.0	50.0%				0.2		0.8
Low	High	0.6	30.0%						0.6
Total Miles		2.0	100%	0	0	0	0.2	0	1.8
Percent				0%	0%	0%	10%	0%	90%

* Mileages derived from current GIS data (January, 2010).

GRD Roads- Converted Use (Roads converted for use other than motorized travel)

Approximately 2 miles of converted roads were identified on the Globe RD (table GRD 4.11). All of these routes were ranked high risk and low benefit and were recommended to remain unavailable for motorized travel as non-motorized trails

Table GRD 4.11: Globe RD Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Roads currently identified in Infra as Converted

Ranking		Route Miles		Recommended changes to current Converted Use (trails) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail (no change)	Decommission
High	Low	1.7	100%					1.7	
Med	Med								
Low	High								
Total Miles		1.7	100%	0	0	0	0	1.7	0
Percent				0%	0%	0%	0%	100%	0%

* Mileages derived from current GIS data (January, 2010).

GRD Routes- Unauthorized (Routes that are not NFS roads or trails)

The ID Team analyzed some unauthorized routes. These unauthorized routes were evaluated for one or more reasons that warrant consideration, such as identification by the ID Team of administrative or commercial uses or by the public for recreational uses. Some of these routes were recommended by the ID Team for decommissioning due to resource damage and other concerns, but the ID Team also acknowledged that other unauthorized routes may warrant inclusion into the minimum road system (appendix I). Adding any of these routes to the system

will require additional resources, because these routes are not currently maintained. On the Globe RD, 2.8 miles of unauthorized routes were evaluated. The recommendations of the ID Team for unauthorized routes are presented in table GRD 4.12. All of these routes ranked medium risk, medium benefit, and were recommended to be added to the transportation system and maintained for high clearance vehicles.

Table GRD 4.12: Globe RD Roads Risk and Benefit Matrix and Recommendations for Unauthorized Routes

Ranking		Route Miles		Recommended changes to identified Unauthorized Routes by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low								
Med	Med	2.8	100%		2.8				
Low	High								
Total Miles		2.8	100%	0	2.8	0	0	0	0
Percent				0%	100%	0%	0%	0%	0%

* Mileages derived from current GIS data (January 2010)

GRD Recommendations Summary for Roads and Motorized Trails⁸

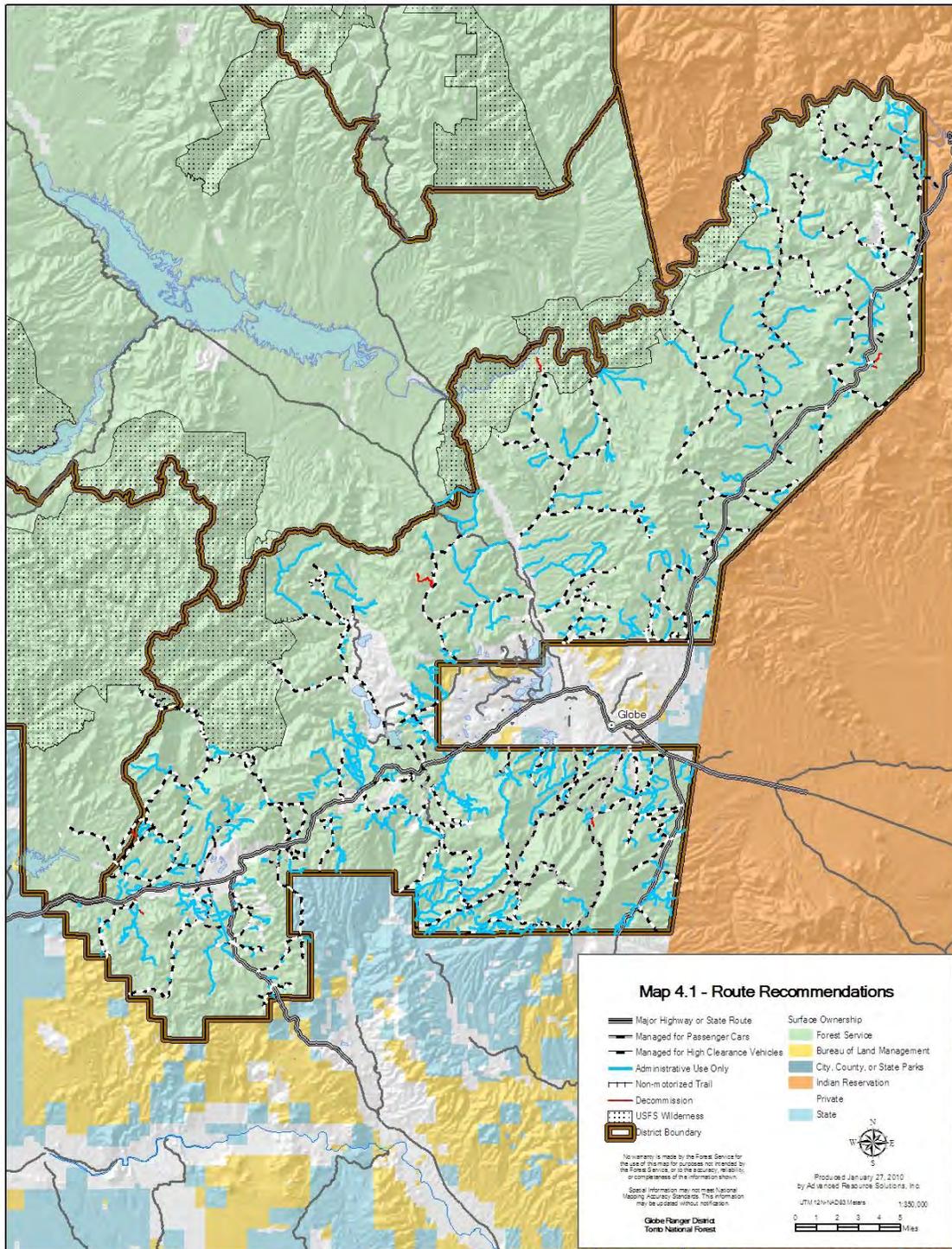
The recommendations of the ID Team are summarized in table GRD 4.13 and shown in map GRD 4.1 below.

Table GRD 4.13: ID Team Route Management Recommendations Summary for All Routes Evaluated During the Travel Analysis Process for Globe RD

ID Team Route Management Recommendation	Miles*	Relative Percentage
Passenger Car	64	7%
High Clearance	372	42%
Administrative Use Only	445	50%
Converted Use (Non-motorized Trail)	2	< 1%
Decommissioned	3	< 1%
Total	886	100%

* Mileages derived from current GIS data (January, 2010).

⁸ The existing motorized road and trail information for the analysis was derived from Infra Objective Road Maintenance Level data.



Map GRD 4.1: Globe RD ID Team Route Recommendations

Mesa Ranger District

Approximately 17 percent (113 miles) of the 675 miles of routes evaluated on the MRD fall into the high risk, low benefit category, 64 percent (435 miles) ranked medium risk and medium benefit, and approximately 19 percent (127 miles) of routes ranked low risk and high benefit (table MRD 4.6).

Table MRD 4.6: Mesa RD Summary Risk-Benefit Matrix for all Routes Evaluated During the Route Evaluation Process

Routes Evaluated		
Rank		Miles*
Risk	Benefit	
High	Low	113
Medium	Medium	435
Low	High	127

*Mileages derived from current (October 2, 2009) GIS data.

Specific recommendations for routes analyzed in the TAP are shown in tables MRD 4.7 through MRD 4.12 below. They are categorized first by their existing maintenance level or route type, and then by their risk-benefit ranking.

MRD Roads- Current Maintenance Level 1 (Roads closed to motorized travel for at least one year at a time)

Currently there are 142 miles of ML 1 roads identified by the Mesa RD (table MRD 4.7). The ID Team generally recommended providing enhanced access to those routes ranked high benefit and generally recommended some form of restricted access for some routes ranked medium or low benefit.

About 19 percent (28 miles) of ML 1 roads fall into the high risk, low benefit category. About 1 mile was recommended to be opened and maintained for high clearance vehicles. About 2 miles were recommended to remain closed to general public motorized travel; but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF. The remaining miles in this category were recommended to remain unavailable for motorized travel as either non-motorized trails (4 miles) or decommissioned roads (21 miles).

About 62 percent (89 miles) of the ML 1 roads ranked medium risk and medium benefit. Of these roads, 17 miles were recommended to be opened and maintained for high clearance vehicles. About 30 miles were recommended to remain closed to general public motorized travel, but were also determined to be necessary for administrative use purposes. The remaining miles in this medium risk/benefit category were recommended to remain unavailable for motorized travel as either non-motorized trails (5 miles) or decommissioned (37 miles).

Approximately 18 percent (25 miles) of the ML 1 routes ranked low risk, high benefit. Of these roads, 8 miles were recommended to be opened and maintained for high clearance vehicles and 2 miles were recommended to be opened and available as motorized trails. About 10 miles were recommended to remain closed to general public motorized travel; but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property,

monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF. The remaining 5 miles were recommended to remain closed to general public motorized travel and decommissioned.

Table MRD 4.7: Mesa RD Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Maintenance Level (ML) 1 Roads

Ranking		Route Miles		Recommended changes to current Maintenance Level 1 (Closed) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low	28	19%		1		2	4	21
Med	Med	89	62%		17		30	5	37
Low	High	25	18%		8	2	10		5
Total Miles		142	100%	0	26	2	42	9	63
Percent				0%	18%	2%	29%	6%	45%

* Mileages derived from current GIS data (January, 2010).

MRD Roads- Current Maintenance Level 2 (Roads managed for high clearance vehicles)

On the Mesa RD, roads of this maintenance level are the most prevalent (260 miles). The recommendations of the ID Team are presented in table MRD 4.8.

About 2 percent (6 miles) of these routes ranked high risk, low benefit. Of these roads, 0.5 miles were recommended to remain open for high clearance vehicles and 0.2 miles were recommended to be opened for motorized trails. About 1 mile was recommended to become closed to general public motorized travel, but was also determined to be necessary for administrative use purposes. Four miles were recommended to become unavailable for motorized travel and decommissioned.

The majority of ML 2 roads, almost 66 percent or 171 miles, ranked medium risk, medium benefit. Of these roads, 120 miles were recommended to remain open for high clearance vehicles and 1 mile was recommended to be opened for motorized trails. About 42 miles were recommended to become closed to general public motorized travel; but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF. The remaining miles in this medium risk/benefit category were recommended to become unavailable for motorized travel and decommissioned (8 miles).

Approximately 32 percent (83 miles) ranked low risk, high benefit. Of these roads, 2 miles were recommended to be maintained for passenger vehicles and 68 miles were recommended to remain open for high clearance vehicles. Eleven miles were recommended to become closed to general public motorized travel, but were also determined to be necessary for administrative use purposes. The remaining miles in this medium risk/benefit category were recommended to become unavailable for motorized travel and decommissioned (1 mile).

Table MRD 4.8: Mesa RD Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Roads- ML 2

Ranking		Route Miles		Recommended changes to current Maintenance Level 2 (High Clearance) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles (no change)	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low	6	2%		0.5	0.2	1		4
Med	Med	171	66%		120	1	42		8
Low	High	83	32%	2	68		11		1
Total Miles		260	100%	2	189	1	55		13
Percent				1%	73%	<1%	21%		5%

* Mileages derived from current GIS data (January, 2010).

MRD Roads- Current Maintenance Level 3, 4, and 5 (Roads managed for passenger car travel)

Maintenance Level 3, 4, and 5 roads are maintained for a varying degree of passenger comfort. Therefore roads of this maintenance class are usually amongst the most frequently maintained roads on U.S. Forest Service lands. These roads are also the most expensive to maintain.

Primary access to and across the Mesa RD is provided by ML 3-5 roads, totaling 76 miles. The recommendations of the ID Team are presented in table MRD 4.9.

Three miles (3 percent) was ranked high risk, low benefit. It was recommended that 2 miles remain open for passenger cars. Less than 1 mile was recommended to become closed to general public motorized travel, but was also determined to be necessary for administrative use purposes and less than one 1 mile was recommended to become closed to general public motorized travel and decommissioned.

About 77 percent (59 miles) were ranked medium risk, medium benefit. Of these roads, 43 miles were recommended to remain open for passenger cars and 11 miles were recommended to become maintained for high clearance vehicles (ML 2). About 4 miles were recommended to become closed to general public motorized travel, but were also determined to be necessary for administrative use purposes.

Approximately 20 percent (15 miles) were ranked low risk, high benefit. Of these roads, 13 miles were recommended to remain open for passenger cars, 0.1 mile was recommended to become maintained for high clearance vehicles (ML 2), and 2 miles were recommended to become motorized trails. Less than 1 mile was recommended to become closed to general public motorized travel, but was also determined to be necessary for administrative use purposes (ML 2).

Table MRD 4.9: Mesa RD Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Roads - ML 3-5

Ranking		Route Miles		Recommended changes to current Maintenance Level 3-5 (Passenger Vehicle) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car (no change)	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low	3	3%	2			0.2		0.3
Med	Med	59	77%	43	11		4		
Low	High	15	20%	13	0.1	2	0.2		
Total Miles		77	100%	58	11	2	5		0.3
Percent				76%	15%	2%	6%		<1%

* Mileages derived from current GIS data (January 2010)

MRD Roads- Decommissioned (Roads unavailable for motorized travel)

A number of roads were evaluated that are currently identified in Infra as decommissioned. These roads were evaluated for one or more reasons that warrant consideration, such as a request to rehabilitate a road by potential users. On the Mesa RD, 2 miles of decommissioned roads were evaluated. The recommendations of the ID Team are presented in table MRD 4.10.

Almost 46 percent (22 miles) of these roads ranked high risk, low benefit, and were recommended to remain unavailable for motorized travel as decommissioned roads.

Nearly 54 percent of decommissioned roads (27 miles) ranked medium risk, medium benefit. Of these roads, 2 miles were recommended to become closed to general public motorized travel; but was also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of this road would require written authorization from the Tonto NF. The remaining miles in this risk/benefit category were recommended to remain unavailable for motorized travel and decommissioned (23 miles).

None of the decommissioned roads ranked low risk, high benefit.

Table MRD 4.10: Mesa RD Roads Risk and Benefit Matrix and Recommendations for Decommissioned Roads

Ranking		Route Miles		Recommended changes to current Decommissioned (Closed) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission (no change)
High	Low	22	46%						22
Med	Med	27	54%		2		2		23
Low	High								
Total Miles		49	100%	0	2	0	2	0	45
Percent				0%	4%	0%	4%	0%	92%

* Mileages derived from current GIS data (January, 2010).

MRD Roads- Converted Use (Roads converted for use other than motorized travel)

No converted use roads were re-evaluated on the MRD.

MRD Routes- Unauthorized (Routes that are not NFS roads or trails)

The ID Team analyzed some unauthorized routes. These unauthorized routes were evaluated for one or more reasons that warrant consideration, such as identification by the ID Team of administrative or commercial uses or by the public for recreational uses. Some of these routes were recommended by the ID Team for decommissioning due to resource damage and other concerns, but the ID Team also acknowledged that other unauthorized routes may warrant inclusion into the minimum road system (appendix I). Adding any of these routes to the system will require additional resources, because these routes are not currently maintained. On the Mesa RD, 148 miles of unauthorized routes were evaluated. The recommendations of the ID Team for unauthorized routes are presented in table MRD 4.11.

Analysis of unauthorized routes resulted in approximately 37 percent (54 miles) of these routes ranked high risk and low benefit. Of these roads, 0.6 miles were recommended to be added to the transportation system and maintained for high clearance vehicles (ML 2) and 38 miles were recommended for motorized trails. The remaining miles in this high risk/low benefit category were recommended to be added to the system and made unavailable for motorized travel as decommissioned roads (16 miles).

About 61 percent (90 miles) of unauthorized routes ranked medium risk, medium benefit. Of these roads, 36 miles were recommended to be added to the transportation system and maintained for high clearance vehicles and 22 miles were recommended as motorized trails. Less than one mile was recommended to be added to the system and made unavailable for motorized travel as an administrative use road, necessary for management actions such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of this road would require written authorization from the Tonto NF. The remaining miles in this medium risk/benefit category were recommended to be added to the system and made unavailable for motorized travel as either non-motorized trails (5 miles) or decommissioned roads (27 miles).

About 2 percent (4 miles) of unauthorized routes ranked low risk, high benefit. Of these roads, less than one mile was recommended to be added to the transportation system and maintained for passenger vehicles, 0.5 miles were recommended to be added to the transportation system and maintained for high clearance vehicles, and 2 miles were recommended as motorized trails. The remaining miles in this low risk/high benefit category were recommended to be added to the system and made unavailable for motorized travel as decommissioned roads (0.1 mile).

Table MRD 4.11: Mesa RD Roads Risk and Benefit Matrix and Recommendations for Unauthorized Routes

Ranking		Route Miles		Recommended changes to identified Unauthorized Routes by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low	54	37%		0.6	38			16
Med	Med	90	61%		36	22	0.8	5	27
Low	High	4	2%	0.8	0.5	2			0.1
Total Miles		148	100%	0.8	37	62	0.8	5	43
Percent				<1%	25%	42%	<1%	3%	29%

* Mileages derived from current GIS data (January, 2010).

MRD Recommendations Summary for Roads and Motorized Trails⁹

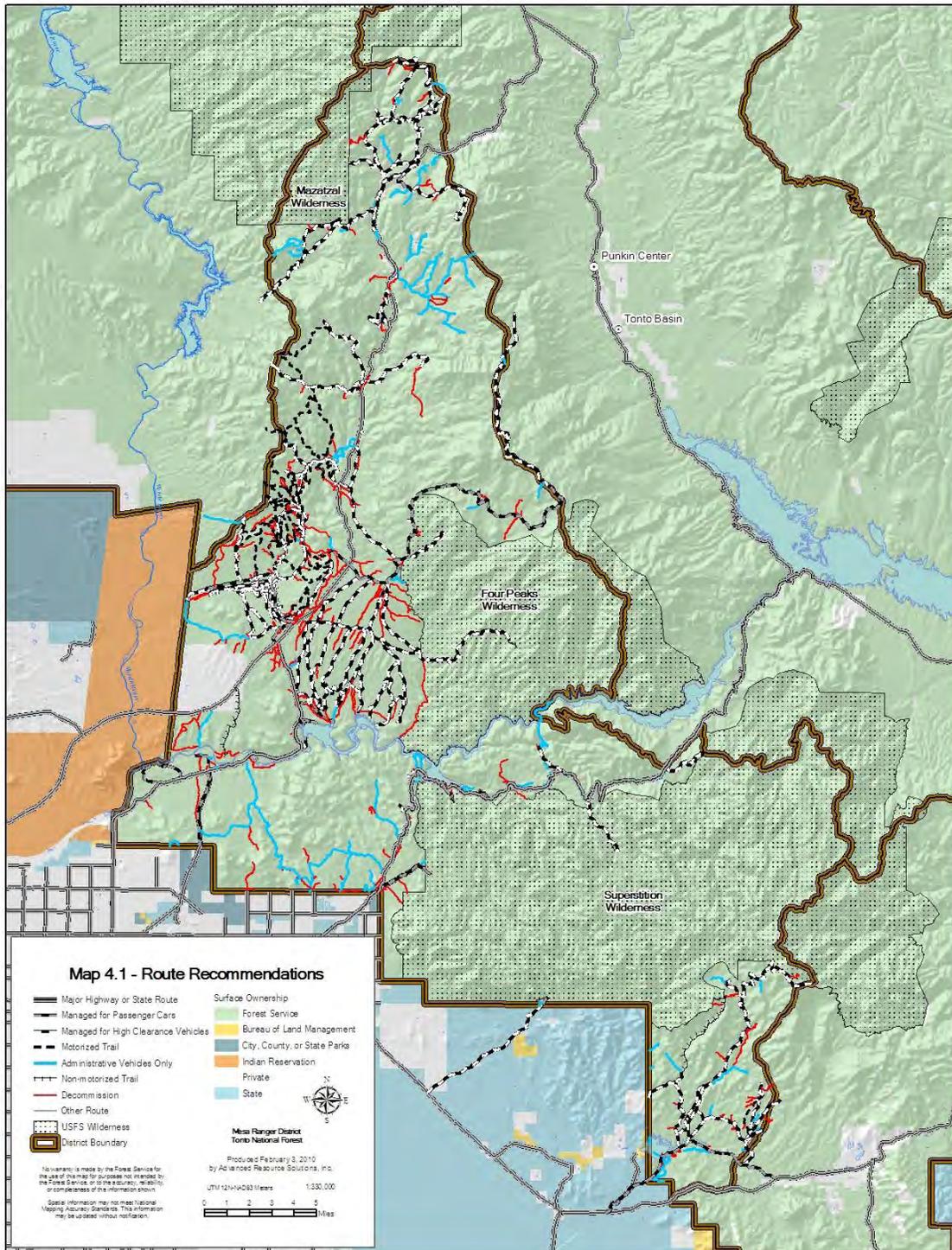
The recommendations of the ID Team are summarized in table MRD 4.12 and shown in map MRD 4.1 below.

Table MRD 4.12: ID Team Route Management Recommendations Summary for All Routes Evaluated During the Travel Analysis Process for Mesa RD

ID Team Route Management Recommendation	Miles*	Relative Percentage
Passenger Car	61	9%
High Clearance	264	39%
Motorized Trail	67	10%
Administrative Use Only	105	16%
Converted Use (Non-motorized Trail)	14	2%
Decommissioned	164	24%
Total	675	100%

* Mileages derived from current GIS data (January, 2010).

⁹ The existing motorized road and trail information for the analysis was derived from Infra Objective Road Maintenance Level data.



Map MRD 4.1: Mesa RD ID Team Route Recommendations

Payson Ranger District

Approximately 2 percent (14 miles) of the 894 miles of routes evaluated on the PRD fall into the high risk, low benefit category, 80 percent (719 miles) ranked medium risk and medium benefit, and approximately 18 percent (160 miles) of routes ranked high benefit and low risk table PRD 4.6.

Table PRD 4.6: Payson RD Summary Risk-Benefit Matrix for all routes evaluated during the route evaluation process.

Routes Evaluated		
Rank		Miles*
Risk	Benefit	
High	Low	14
Medium	Medium	719
Low	High	160

*Mileages derived from current GIS data (January, 2010).

Specific recommendations for the existing roads are shown in tables PRD 4.7 through PRD 4.13 below and are summarized by maintenance and route types based on their risk/benefit ranking.

PRD Roads- Current Maintenance Level 1 (Roads closed to motorized travel for at least one year at a time)

Currently there are 359.9 miles of ML 1 roads identified by the Payson RD. The ID Team generally recommended providing enhanced access to those routes ranked high benefit and generally recommended some form of restricted access for routes ranked medium or low benefit.

Over 2 percent (7.6 miles) of ML 1 roads fall into the high risk, low benefit category. Of these roads, 4.6 miles were recommended to be opened and maintained for high clearance vehicles. Less than 1 mile was recommended to remain closed to general public motorized travel; but was also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF. The remaining miles in this medium risk/benefit category were recommended to remain unavailable for motorized travel as decommissioned (2.4 miles).

About 80 percent (287.8 miles) of the ML 1 roads ranked medium risk and medium benefit. Of these roads, 138.7 miles were recommended to be opened and maintained for high clearance vehicles and 6.1 miles were recommended to be available for motorized trails (table PRD 4.7). Just over 136 miles were recommended to remain closed to general public motorized travel, but were also determined to be necessary for administrative use purposes. The remaining miles in this medium risk/benefit category were recommended to remain unavailable for motorized travel as decommissioned (6.6 miles).

Approximately 18 percent (64.5 miles) of the ML 1 routes ranked low risk, high benefit. Of these roads, 23.1 miles were recommended to be opened and maintained for high clearance vehicles. About 41 miles were recommended to remain closed to general public motorized travel; but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF. The remaining miles in this low risk/high

benefit category were recommended to remain unavailable for motorized travel as decommissioned (0.4 miles).

Table PRD 4.7: Payson RD Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Maintenance Level (ML) 1 Roads

Ranking		Route Miles		Recommended changes to current Maintenance Level 1 (Closed) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low	7.6	2.1%		4.6		0.6		2.4
Med	Med	287.8	80.0%		138.7	6.1	136.4		6.6
Low	High	64.5	17.9%		23.1		41.0		0.4
Total Miles		359.9	100%	0	166.4	6.1	178	0	9.4
Percent				0%	46.2%	1.7%	49.5%	0%	2.6%

* Mileages derived from current GIS data (January 2010).

PRD Roads- Current Maintenance Level 2 (Roads managed for high clearance vehicles)

On the Payson RD, roads of this maintenance level comprise 290.0 miles. The recommendations of the ID Team are presented in table PRD 4.8. Less than 1 percent (2.3 miles) of these routes ranked high risk, low benefit. Of these roads, all were recommended to remain open for high clearance vehicles. Almost 79 percent, (230.5 miles) ranked medium risk and medium benefit. All of these roads were recommended to remain open for high clearance vehicles.

Approximately 20 percent (58.1 miles) ranked low risk, high benefit. Of these roads, 57.3 miles were recommended to remain open for high clearance vehicles, and 0.5 miles were recommended to become motorized trails. The remaining miles in this low risk/high benefit category were recommended to become unavailable for motorized travel and decommissioned (0.3 miles).

Table PRD 4.8: Payson RD Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Roads- ML 2

Ranking		Route Miles		Recommended changes to current Maintenance Level 2 (High Clearance) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles (no change)	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low	2.3	0.8%	2.3					
Med	Med	230.5	79.2%	230.5					
Low	High	58.1	20.0%		57.3	0.5			0.3
Total Miles		290.9	100%	0	290.1	0.5	0	0	0.3
Percent				0%	99.7%	0.2%	0%	0%	0.1%

* Mileages derived from current GIS data (January, 2010).

PRD Roads- Current Maintenance Level 3, 4, and 5 (Roads managed for passenger car travel)

Maintenance Level 3, 4, and 5 roads are maintained for a varying degree of passenger comfort. Therefore roads of this maintenance class are usually amongst the most frequently maintained roads on U.S. Forest Service lands. These roads are also the most expensive to maintain.

ML 3 and 4 provide users primary access to and across the Payson RD, totaling 139.7 miles. The district does not currently have any maintenance level 5 roads. The recommendations of the ID Team are presented in table PRD 4.9.

No roads ranked high risk and low benefit.

About 93 percent (129.5 miles) were ranked medium risk, medium benefit. Of these roads, 113.3 miles were recommended to remain open for passenger cars and 10.1 miles were recommended to become maintained for high clearance vehicles (ML 2). Over 5 miles were recommended to become closed to general public motorized travel but were also determined to be necessary for administrative use purposes and 0.6 miles were recommended for decommissioning.

Approximately 7 percent (10.2 miles) were ranked low risk, high benefit. All of these roads were recommended to remain open for passenger cars.

Table PRD 4.9: Payson RD Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Roads- ML 3 & 4

Ranking		Route Miles		Recommended changes to current Maintenance Level 3-4 (Passenger Vehicle) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car (no change)	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low								
Med	Med	129.5	92.7%	113.3	10.1		5.5		0.6
Low	High	10.2	7.3%	10.2					
Total Miles		139.7	100%	123.5	10.1	0	5.5	0	0.6
Percent				88.4%	7.2%	0%	3.9%	0%	0.4%

* Mileages derived from current GIS data (January, 2010).

PRD Roads- Decommissioned (Roads unavailable for motorized travel)

A number of roads were evaluated that are currently identified in Infra as decommissioned. These roads were evaluated for one or more reasons that warrant consideration, such as a request to rehabilitate a road by potential users.

On the Payson RD, 72.7 miles of decommissioned roads were evaluated. The recommendations of the ID Team are presented in table PRD 4.10. Almost 4 percent (2.7 miles) of these roads ranked high risk, low benefit. All of these roads were recommended to remain unavailable for motorized travel as decommissioned roads.

Just over 83 percent of decommissioned roads (60.5 miles) ranked medium risk, medium benefit. Of these roads, 11.1 miles were recommended to become available for high clearance vehicles (ML 2) and 0.8 miles were recommended for motorized trails. Over 24 miles were recommended to become closed to general public motorized travel; but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of this road would require written authorization from the Tonto NF. The remaining miles in this risk/benefit category were recommended to remain unavailable for motorized travel as either non-motorized trails (7.7 miles) or decommissioned roads (16.4 miles).

Approximately 13 percent (9.5 miles) of decommissioned roads ranked low risk, high benefit. Of these roads, 5.2 miles were recommended to become available for high clearance vehicles (ML 2). Almost two miles were recommended to become closed to general public motorized travel, but was also determined to be necessary for administrative use purposes. The remaining roads were recommended to remain unavailable for motorized travel and decommissioned (2.5 miles).

Table PRD 4.10: Payson RD Roads Risk and Benefit Matrix and Recommendations for Decommissioned Roads

Ranking		Route Miles		Recommended changes to current Decommissioned (Closed) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission (no change)
High	Low	2.7	3.7%						2.7
Med	Med	60.5	83.2%		11.1	0.8	24.5	7.7	16.4
Low	High	9.5	13.1%		5.2		1.8		2.5
Total Miles		72.7	100%	0	16.3	0.8	26.3	7.7	21.6
Percent				0%	22.4%	1.1%	36.2%	10.6%	29.7%

* Mileages derived from current GIS data (January, 2010).

PRD Roads- Converted Use (Roads converted for use other than motorized travel)

Approximately 15 miles of converted roads were identified on the Payson RD (table PRD 4.11). About one mile (7 percent) was ranked medium risk and medium benefit and was recommended to remain as non-motorized trails. The remaining 15 miles were ranked as low risk and high benefit. Fourteen miles were recommended to become available for motorized travel as motorized trails and one mile was recommended to remain unavailable for motorized travel as a non-motorized trail.

Table PRD 4.11: Payson RD Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Roads currently identified in Infra as Converted

Ranking		Route Miles		Recommended changes to current Converted Use (trails) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail (no change)	Decommission
High	Low								
Med	Med							1.0	
Low	High					14.0			
Total Miles		15.0	100%	0	0	14.0	0	1.0	0
Percent				0%	0%	93.3%	0%	6.7%	0%

* Mileages derived from current GIS data (January, 2010).

PRD Routes- Unauthorized (Routes that are not NFS roads or trails)

The ID Team analyzed some unauthorized routes. These unauthorized routes were evaluated for one or more reasons that warrant consideration, such as identification by the ID Team of administrative or commercial uses or by the public for recreational uses. Some of these routes were recommended by the ID Team for decommissioning due to resource damage and other concerns, but the ID Team also acknowledged that other unauthorized routes may warrant

inclusion into the minimum road system (appendix I). Adding any of these routes to the system will require additional resources because these routes are not currently maintained.

On the Payson RD, 14.8 miles of unauthorized routes were evaluated. The recommendations of the ID Team for unauthorized routes are presented in tables PRD 4.12.

Analysis of unauthorized routes resulted in approximately 12 percent (1.7 miles) of these routes ranked high risk and low benefit. All of these roads were recommended to be added to the transportation system and maintained for high clearance vehicles (ML 2).

Almost 63 percent (79.4 miles) of unauthorized routes ranked medium risk, medium benefit. Of these roads, 3.0 miles were recommended to be added to the transportation system and maintained for high clearance vehicles and 6.2 miles were recommended as motorized trails. Less than one mile was recommended to be added to the system and made unavailable for motorized travel as an administrative use road, necessary for management actions such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of this road would require written authorization from the Tonto NF. The remaining miles in this medium risk/benefit category were recommended to be added to the system and made unavailable for motorized travel as decommissioned roads (9.3 miles).

About 26 percent (3.8 miles) of unauthorized routes ranked low risk, high benefit. Of these roads, 1.3 miles were recommended to be added to the transportation system and maintained for high clearance vehicles, and 2.5 miles were recommended as motorized trails. The remaining miles in this low risk/high benefit category were recommended to be added to the system and made unavailable for motorized travel as decommissioned roads (14.8 miles).

Table PRD 4.12: Payson RD Roads Risk and Benefit Matrix and Recommendations for Unauthorized Routes

Ranking		Route Miles		Recommended changes to identified Unauthorized Routes by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low	1.7	11.5%		1.7				
Med	Med	9.3	62.8%		3.0	6.2	0.1		
Low	High	3.8	25.7%		1.3	2.5			
Total Miles		14.8	100%	0	6.0	8.7	0.1	0	0
Percent				0%	40.5%	58.8%	0.7%	0%	0%

* Mileages derived from current GIS data (January, 2010).

PRD Recommendations Summary for Roads and Motorized Trails¹⁰

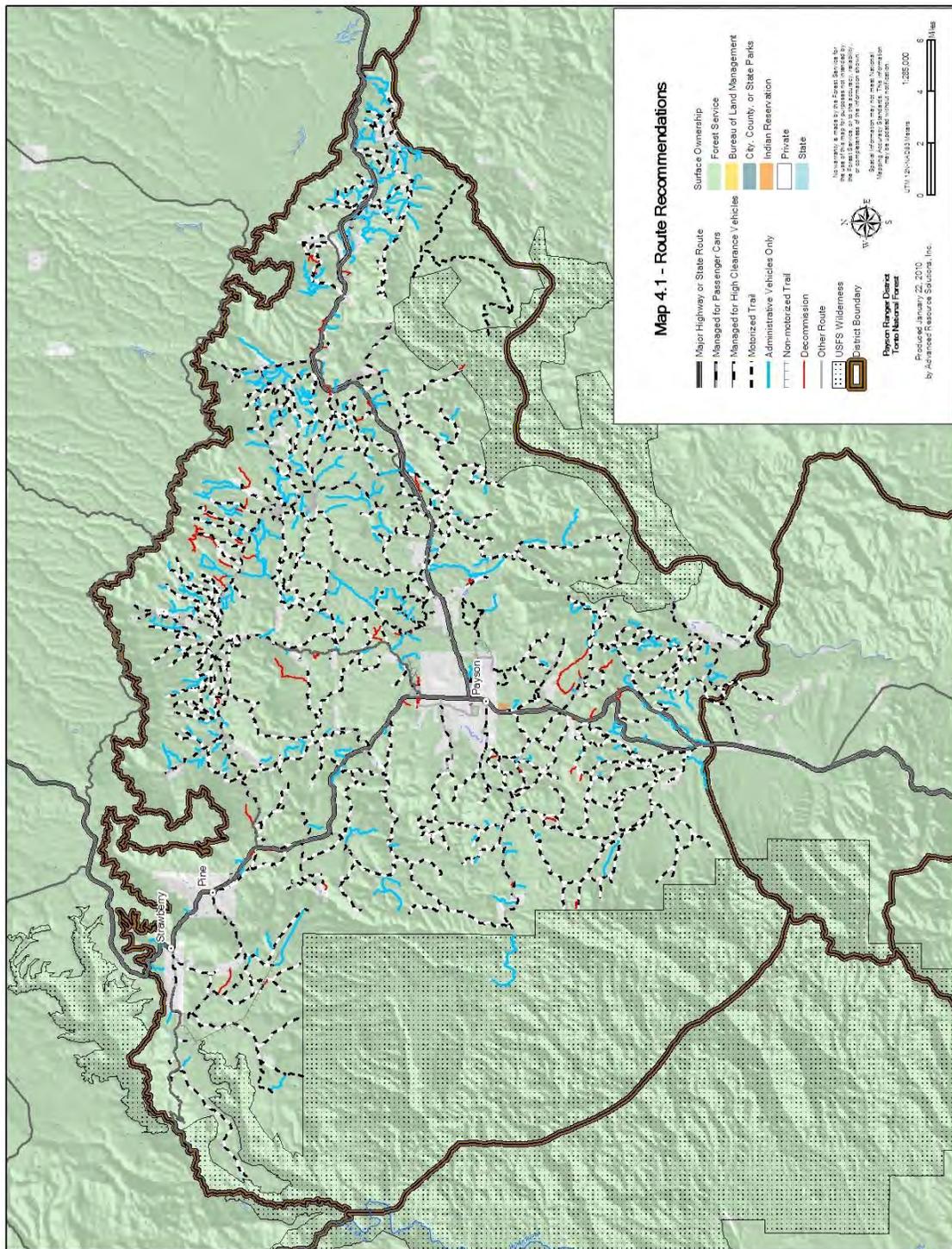
The recommendations of the ID Team are summarized in table PRD 4.13 and shown in map PRD 4.1 below.

Table PRD 4.13: ID Team Route Management Recommendations Summary for All Routes Evaluated During the Travel Analysis Process for Payson RD

ID Team Route Management Recommendation	Miles*	Relative Percentage
Passenger Car	124	14%
High Clearance	489	55%
Motorized Trail	30	3%
Administrative Use Only	210	23%
Converted Use (Non-motorized Trail)	9	1%
Decommissioned	33	4%
Total	895	100%

* Mileages derived from current GIS data (January, 2010).

¹⁰ Currently there are no routes managed as motorized trails on the Payson RD.



Map PRD 4.1: Payson RD ID Team Route Recommendations

Pleasant Valley Ranger District

Approximately 21 percent (79 miles) of the 1,130 miles of routes evaluated on the Pleasant Valley RD fall into the high risk, low benefit category, 55 percent (733 miles) ranked medium risk and medium benefit, and approximately 24 percent (318 miles) of routes ranked high benefit and low risk (table PVRD 4.6).

Table PVRD 4.6: Pleasant Valley RD Summary Risk-Benefit Matrix for all routes evaluated during the route evaluation process.

Routes Evaluated		
Rank		Miles*
Risk	Benefit	
High	Low	79
Medium	Medium	733
Low	High	318

*Mileages derived from current GIS data (January, 2010).

Specific recommendations for the existing roads are shown in tables PVRD 4.7 through PVRD 4.13 below and summarized by maintenance and route types based on their risk/benefit ranking.

PVRD Roads- Current Maintenance Level 1 (Roads closed to motorized travel for at least one year at a time)

Currently there are 359 miles of ML 1 roads identified by the Pleasant Valley RD. The ID Team generally recommended providing enhanced access to those routes ranked high benefit and generally recommended some form of restricted access for routes ranked medium or low benefit.

Over 13 percent (47.8 miles) of ML 1 roads fall into the high risk, low benefit category. All of these roads were recommended to remain unavailable for motorized travel and become administrative use only (14.3 miles) or decommissioned (33.5 miles).

Almost 79 percent (282.6 miles) of the ML 1 roads ranked medium risk and medium benefit. Of these roads, 71.8 miles were recommended to be opened and maintained for high clearance vehicles and 15.1 miles were recommended to be available for motorized trails (table PVRD 4.7). Just over 86 miles were recommended to remain closed to general public motorized travel; but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF. The remaining miles in this medium risk/benefit category were recommended to remain unavailable for motorized travel and become either non-motorized trails (2.7 miles) or decommissioned (106.9 miles).

Approximately 8 percent (28.6 miles) of the ML 1 routes ranked low risk, high benefit. Of these roads, 17.1 miles were recommended to be opened and maintained for high clearance vehicles and 1.7 miles were recommended to be available for motorized trails. Almost 8 miles were recommended to remain closed to general public motorized travel; but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF. The remaining miles in this low risk/high benefit category were

recommended to remain unavailable for motorized travel and become decommissioned (1.5 miles).

Table PVRD 4.7: Pleasant Valley RD Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Maintenance Level (ML) 1 Roads

Ranking		Route Miles		Recommended changes to current Maintenance Level 1 (Closed) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low	47.8	13.3%				14.3		33.5
Med	Med	282.6	78.7%		71.8	15.1	86.1	2.7	106.9
Low	High	28.6	8.0%		17.1	1.7	8.2		1.5
Total Miles		359.0	100%	0	88.9	16.8	108.6	2.7	141.9
Percent				0%	24.8%	4.7%	30.2%	0.8%	39.5%

* Mileages derived from current GIS data (January, 2010).

PVRD Roads- Current Maintenance Level 2 (Roads managed for high clearance vehicles)

On the Pleasant Valley RD, roads of this maintenance level are the most prevalent with 463.5 miles. The recommendations of the ID Team are presented in table PVRD 4.8.

Just over 1 percent (5.7 miles) of these routes ranked high risk, low benefit. Of these roads, 0.3 miles were recommended to remain open for high clearance vehicles, 2.7 miles were recommended to become motorized trails, and 2.7 miles were recommended for decommissioning.

The majority of routes, almost 62 percent or 285.9 miles, ranked medium risk, medium benefit. Of these roads, 0.3 miles were recommended to become maintained for passenger cars, 254.1 miles were recommended to remain open for high clearance vehicles, and 6.4 miles were recommended to become motorized trails. Just over 14 miles were recommended to become closed to general public motorized travel; but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF. The remaining miles in this medium risk/benefit category were recommended to become unavailable for motorized travel and decommissioned (10.4 miles).

Approximately 37 percent (171.9 miles) ranked low risk, high benefit. Of these roads, 0.8 miles were recommended to become maintained for passenger cars, 420.5 miles were recommended to remain open for high clearance vehicles, and 9.1 miles were recommended to become motorized trails. Almost 17 miles were recommended to become closed to general public motorized travel, but were also determined to be necessary for administrative use purposes. The remaining miles in this low risk/high benefit category were recommended to become unavailable for motorized travel and decommissioned (16.2 miles).

Table PVRD 4.8: Pleasant Valley RD Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Roads - ML 2

Ranking		Route Miles		Recommended changes to current Maintenance Level 2 (High Clearance) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles (no change)	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low	5.7	1.2%	0.3		2.7			2.7
Med	Med	285.9	61.7%	0.3	254.1	6.4	14.6		10.4
Low	High	171.9	37.1%	0.5	166.1		2.2		3.1
Total Miles		463.5	100%	0.8	420.5	9.1	16.8	0.0	16.2
Percent				0.2%	90.7%	2.0%	3.6%	0.0%	3.5%

* Mileages derived from current GIS data (January, 2010).

PVRD Roads- Current Maintenance Level 3, 4, and 5 (Roads managed for passenger car travel)

Maintenance Level 3, 4, and 5 roads are maintained for a varying degree of passenger comfort. Therefore roads of this maintenance class are usually amongst the most frequently maintained roads on U.S. Forest Service lands. These roads are also the most expensive to maintain. These roads provide users primary access to and across the Pleasant Valley RD, totaling 86.1 miles. The recommendations of the ID Team are presented in table PVRD 4.9.

There was 0.5 miles that ranked high risk, low benefit and were recommended for decommissioning.

About 40 percent (34.4 miles) were ranked medium risk, medium benefit. Of these roads, 27.6 miles were recommended to remain open for passenger cars and 4.8 miles were recommended to become maintained for high clearance vehicles (ML 2). Almost 2 miles were recommended to become closed to general public motorized travel; but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF.

Approximately 60 percent (51.2 miles) were ranked low risk, high benefit. Of these roads, 43.8 miles were recommended to remain open for passenger cars, 6.4 miles were recommended to become maintained for high clearance vehicles (ML 2) and 0.5 miles were recommended to become unavailable for motorized travel and decommissioned. Three miles were recommended to become unavailable for motorized travel but also deemed necessary for administrative use purposes.

No roads in these maintenance levels were recommended for motorized trails.

Table PVRD 4.9: Pleasant Valley RD Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Roads - ML 3-5

Ranking		Route Miles		Recommended changes to current Maintenance Level 3-5 (Passenger Vehicle) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car (no change)	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low	0.5	0.5%						0.5
Med	Med	34.4	40.0%	27.6	4.8		2.1		
Low	High	51.2	59.5%	43.8	6.4		0.9		
Total Miles		86.1	100%	71.4	11.2	0.0	3.0	0.0	0.5
Percent				83.0%	13.0%	0.0%	3.5%	0.0%	0.5%

* Mileages derived from current GIS data (January, 2010).

PVRD Roads- Decommissioned (Roads unavailable for motorized travel)

A number of roads were evaluated that are currently identified in Infra as decommissioned. These roads were evaluated for one or more reasons that warrant consideration, such as a request to rehabilitate a road by potential users. On the Pleasant Valley RD, 73.1 miles of decommissioned roads were evaluated. The recommendations of the ID Team are presented in table PVRD 4.10.

Almost 30 percent (22.2 miles) of these roads ranked high risk, low benefit. Of these roads, 3.1 miles were recommended to remain unavailable for motorized travel as administrative use only roads or as decommissioned roads (19.1 miles).

Just over 57 percent of decommissioned roads (41.9 miles) ranked medium risk, medium benefit. Of these roads, 3.4 miles were recommended to become available for high clearance vehicles (ML 2) and 13.3 miles were recommended for motorized trails. About 5 miles were recommended to become closed to general public motorized travel; but was also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF. The remaining miles in this risk/benefit category were recommended to remain unavailable for motorized travel and decommissioned (20.0 miles).

Approximately 12 percent (9.0 miles) of decommissioned roads ranked low risk, high benefit. Of these roads, 1.4 miles were recommended to become available for high clearance vehicles (ML 2) and 1.9 miles were recommended for motorized trails. Almost two miles were recommended to become closed to general public motorized travel, but were also determined to be necessary for administrative use purposes. The remaining roads were recommended to remain unavailable for motorized travel and decommissioned (3.9 miles).

Table PVRD 4.10: Pleasant Valley RD Roads Risk and Benefit Matrix and Recommendations for Decommissioned Roads

Ranking		Route Miles		Recommended changes to current Decommissioned (Closed) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission (no change)
High	Low	22.2	30.3%				3.1		19.1
Med	Med	41.9	57.4%		3.4	13.3	5.3		20.0
Low	High	9.0	12.3%		1.4	1.9	1.8		3.9
Total Miles		73.1	100%	0.0	4.8	15.2	10.2	0.0	42.9
Percent				0.0%	6.6%	20.8%	13.9%	0.0%	58.7%

* Mileages derived from current GIS data (January, 2010).

PVRD Roads- Converted Use (Roads converted for use other than motorized travel)

Approximately 8.8 miles of converted roads were identified on the Pleasant Valley RD (table PVRD 4.11). All of these roads were ranked medium risk and medium benefit. Of these, 4.2 miles were recommended to become administrative use only roads while 4.6 miles were recommended to remain non-motorized trails.

Table PVRD 4.11: Pleasant Valley RD Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Roads currently identified in Infra as Converted

Ranking		Route Miles		Recommended changes to current Converted Use (trails) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail (no change)	Decommission
High	Low	0.0	0.0%						
Med	Med	8.8	100%				4.2	4.6	
Low	High	0.0	0.0%						
Total Miles		8.8	100%	0.0	0.0	0.0	4.2	4.6	0.0
Percent				0.0%	0.0%	0.0%	48.0%	52.0%	0.0%

* Mileages derived from current GIS data (January, 2010).

PVRD Routes- Unauthorized (Routes that are not NFS roads or trails)

The ID Team analyzed some unauthorized routes. These unauthorized routes were evaluated for one or more reasons that warrant consideration, such as identification by the ID Team of administrative or commercial uses or by the public for recreational uses. Some of these routes were recommended by the ID Team for decommissioning due to resource damage and other concerns, but the ID Team also acknowledged that other unauthorized routes may warrant

inclusion into the minimum road system (appendix I). Adding any of these routes to the system will require additional resources because these routes are not currently maintained. On the PVRD, 140.2 miles of unauthorized routes were evaluated. The recommendations of the ID Team are presented in tables PVRD 4.12 and PVRD 4.13.

Analysis of unauthorized routes resulted in approximately 2 percent (3.3 miles) of these routes ranked high risk and low benefit. Of these roads, less than a tenth of a mile was recommended to be added to the transportation system and maintained for high clearance vehicles (ML 2) and 1.6 miles were recommended for motorized trails. The remaining miles in this high risk/low benefit category were recommended to be added to the system and made unavailable for motorized travel as decommissioned roads (1.6 miles).

Almost 57 percent (79.4 miles) of unauthorized routes ranked medium risk, medium benefit. Of these roads, 20.1 miles were recommended to be added to the transportation system and maintained for high clearance vehicles and 27.8 miles were recommended as motorized trails. About 11 miles were recommended to be added to the system and made unavailable for motorized travel as an administrative use road, necessary for management actions such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF. The remaining miles in this medium risk/benefit category were recommended to be added to the system and made unavailable for motorized travel as decommissioned roads (20.4 miles).

About 41 percent (57.5 miles) of unauthorized routes ranked low risk, high benefit. Of these roads, 35.9 miles were recommended to be added to the transportation system and maintained for high clearance vehicles, and 9.2 miles were recommended as motorized trails. About 3.5 miles were recommended to be added to the system and made unavailable for motorized travel as administrative use roads. The remaining miles in this low risk/high benefit category were recommended to added to the system and made unavailable for motorized travel as either non-motorized trails (1.7 miles) or decommissioned roads (7.1 miles).

Table PVRD 4.12: Pleasant Valley RD Roads Risk and Benefit Matrix and Recommendations for Unauthorized Routes

Ranking		Route Miles		Recommended changes to identified Unauthorized Routes by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low	3.3	2.3%		>0.1	1.6			1.6
Med	Med	79.4	56.7%		20.1	27.8	11.2		20.4
Low	High	57.5	41.0%		35.9	9.2	3.5	1.7	7.1
Total Miles		140.2	100%	0.0	56.0	38.7	14.7	1.7	29.1
Percent				0.0%	40.0%	27.6%	10.5%	1.2%	20.8%

* Mileages derived from current GIS data (January, 2010).

PVRD Recommendations Summary for Roads and Motorized Trails¹¹

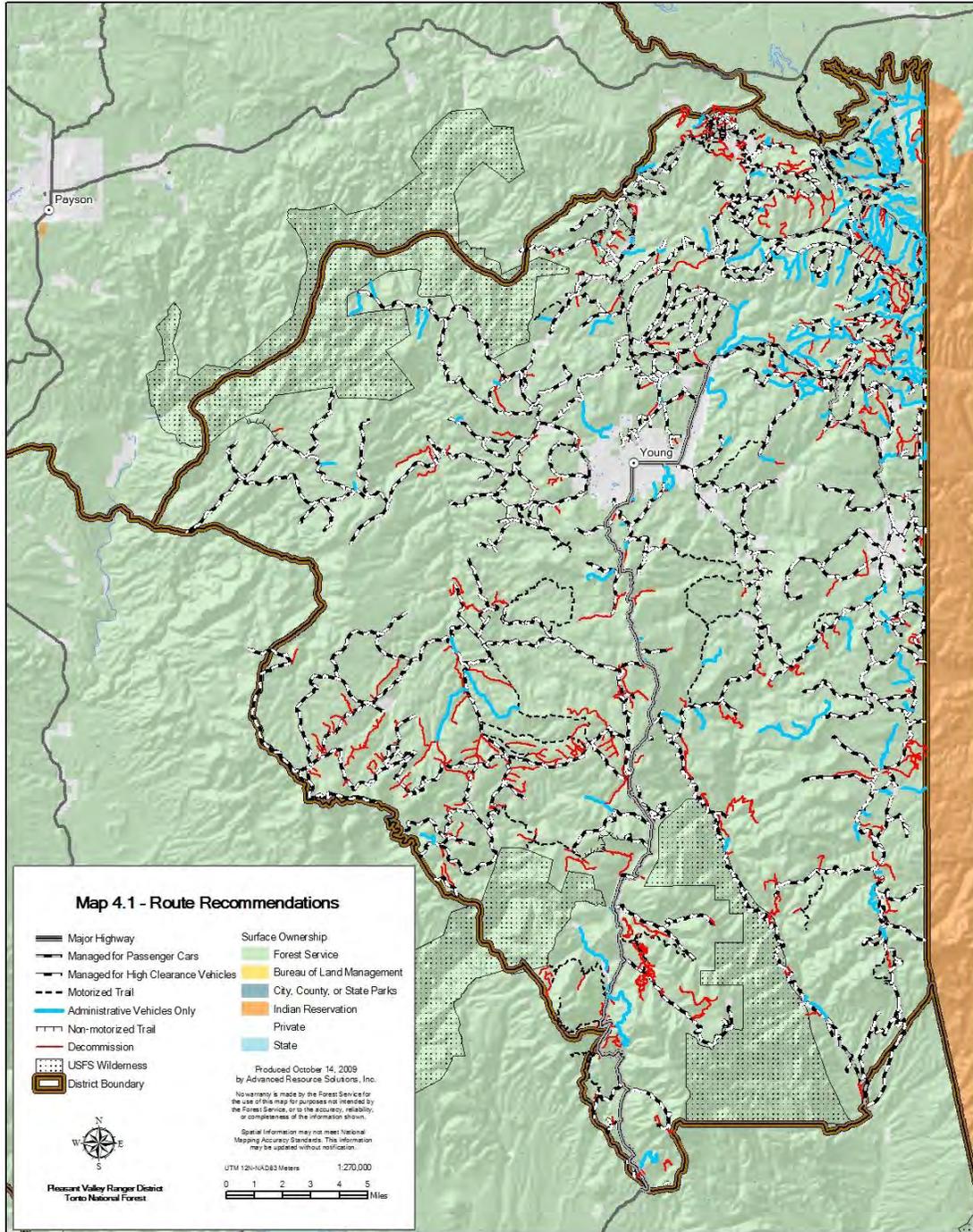
The recommendations of the ID Team are summarized in table PVRD 4.13 and shown in map PVRD 4.1 below.

Table PVRD 4.13: ID Team Route Management Recommendations Summary for All Routes Evaluated During the Travel Analysis Process for Pleasant Valley RD

ID Team Route Management Recommendation	Miles*	Relative Percentage
Passenger Car	72	6%
High Clearance	581	51%
Motorized Trail	80	7%
Administrative Use Only	158	14%
Converted Use (Non-motorized Trail)	9	1%
Decommissioned	231	20%
Total	1,131	100%

* Mileages derived from current GIS data (January, 2010).

¹¹ Currently there are no routes managed as motorized trails on the Pleasant Valley RD.



Map PVRD 4.1: Pleasant Valley RD ID Team Route Recommendations

Tonto Basin Ranger District

Approximately 4 percent (31 miles) of the 894 miles of routes evaluated on the Tonto Basin RD fall into the high risk, low benefit category, 78 percent (701 miles) ranked medium risk and medium benefit, and approximately 18 percent (162 miles) of routes ranked high benefit and low risk (table TBRD 4.6).

Table TBRD 4.6: Tonto Basin RD Summary Risk-Benefit Matrix for all Routes Evaluated During the Route Evaluation Process.

Routes Evaluated		
Rank		Miles*
Risk	Benefit	
High	Low	31
Medium	Medium	701
Low	High	162

*Mileages derived from current GIS data (January, 2010)

Specific recommendations for the existing roads are shown in tables TBRD 4.7 through TBRD 4.13 below and summarized by maintenance and route types based on their risk/benefit ranking.

TBRD Roads- Current Maintenance Level 1 (Roads closed to motorized travel for at least one year at a time)

Currently there are 246.4 miles of ML 1 roads identified on the Tonto Basin RD. The ID Team generally recommended providing enhanced access to those routes ranked high benefit and generally recommended some form of restricted access for some routes ranked medium or low benefit (table TBRD 4.7).

Over 3 percent (8.2 miles) of ML 1 roads on the Tonto Basin RD fall into the high risk, low benefit category. Of these roads, 0.1 mile was recommended to be opened and maintained for high clearance vehicles. Almost 8 miles were recommended to remain closed to general public motorized travel, but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF. The remaining miles in this risk/benefit category were recommended to remain unavailable for motorized travel and decommissioned (0.2 miles).

Almost 88 percent (215.6 miles) of the ML 1 roads ranked medium risk and medium benefit. Of these roads, 0.1 mile was recommended to be opened and maintained for passenger vehicles and 72.7 miles were recommended to be opened and maintained for high clearance vehicles. Almost 138 miles were recommended to remain closed to general public motorized travel, but were also determined to be necessary for administrative use purposes. The remaining miles in this medium risk/benefit category were recommended to remain unavailable for motorized travel and become decommissioned (5.2 miles).

Approximately 9 percent (22.6 miles) of the ML 1 routes ranked low risk, high benefit. Of these roads, 6.5 miles were recommended to be opened and maintained for high clearance vehicles. Almost 15 miles were recommended to remain closed to general public motorized travel, but were also determined to be necessary for administrative use purposes. The remaining miles in this

low risk/high benefit category were recommended to remain unavailable for motorized travel and become decommissioned (0.9 miles).

Table TBRD 4.7: Tonto Basin RD Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Maintenance Level (ML) 1 Roads

Ranking		Route Miles		Recommended changes to current Maintenance Level 1 (Closed) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low	8.2	3.3%		0.1		7.9		0.2
Med	Med	215.6	87.5%	0.1	72.7		137.6		5.2
Low	High	22.6	9.2%		6.5		15.2		0.9
Total Miles		246.4	100%	0.1	0.0	0.0	160.7	0.0	6.3
Percent				0.0%	32.2%	0.0%	65.2%	0.0%	2.6%

*Mileages derived from current GIS data (January, 2010).

TBRD Roads- Current Maintenance Level 2 (Roads managed for high clearance vehicles)

On the Tonto Basin RD, roads of this maintenance level are the most prevalent (472.3 miles). The recommendations of the ID Team are presented in table TBRD 4.8.

Less than 1 percent (3.6 miles) of these routes ranked high risk, low benefit. Of these roads, 2.8 miles were recommended to remain open for high clearance vehicles, 0.2 miles were recommended to become closed to general public motorized travel, but were also determined to be necessary for administrative use purposes, and 0.6 miles were recommended to become unavailable for motorized travel and decommissioned.

The majority of routes, 84 percent or 396.7 miles, ranked medium risk and medium benefit. Of these roads, 0.6 miles were recommended to become maintained for passenger cars and 343.2 miles were recommended to remain open for high clearance vehicles. About 29 miles were recommended to become closed to general public motorized travel; but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF. The remaining miles in this medium risk/benefit category were recommended to become unavailable for motorized travel and decommissioned (23.5 miles).

Approximately 15 percent (72 miles) ranked low risk, high benefit. Of these roads, 2.1 miles were recommended to become maintained for passenger cars and 412.7 miles were recommended to remain open for high clearance vehicles. Almost 32 miles were recommended to become closed to general public motorized travel, but were also determined to be necessary for administrative use purposes. The remaining miles in this low risk/high benefit category were recommended to become unavailable for motorized travel and decommissioned (24.7 miles).

Table TBRD 4.8: Tonto Basin RD Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Roads - ML 2

Ranking		Route Miles		Recommended changes to current Maintenance Level 2 (High Clearance) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles (no change)	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low	3.6	0.8%		2.8		0.2		0.6
Med	Med	396.7	84.0%	0.6	343.2		29.4		23.5
Low	High	72	15.2%	2.1	66.7		2.6		0.6
Total Miles		472.3	100%	2.7	412.7	0.0	32.2	0.0	24.7
Percent				0.6%	87.4%	0.0%	6.8%	0.0%	5.2%

* Mileages derived from current GIS data (January, 2010).

TBRD Roads- Current Maintenance Level 3, 4, and 5 (Roads managed for passenger car travel)

Maintenance Level 3, 4, and 5 roads are maintained for a varying degree of passenger comfort. Therefore roads of this maintenance class are usually amongst the most frequently maintained roads on U.S. Forest Service lands. These roads are also the most expensive to maintain. These roads provide users primary access to and across the Tonto Basin RD, totaling 121.1 miles. The recommendations of the ID Team are presented in table TBRD 4.9.

There was 0.3 miles that ranked high risk, low benefit and were recommended to become unavailable for general public motorized travel; but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF.

About 47 percent (56.9 miles) were ranked medium risk, medium benefit. Of these roads, 51.6 miles were recommended to remain open for passenger cars and 4.1 miles were recommended to become maintained for high clearance vehicles (ML 2). Almost half a mile was recommended to become closed to general public motorized travel, but was also determined to be necessary for administrative use purposes, and almost half a mile was recommended for decommissioning.

Approximately 53 percent (63.9 miles) were ranked low risk, high benefit. Of these roads, 60.8 miles were recommended to remain open for passenger cars, 1.1 miles were recommended to become maintained for high clearance vehicles (ML 2), 2.9 miles were recommended to become unavailable for general public motorized travel as administrative use only (ML 2) roads, and 0.6 mile was recommended for decommissioning.

No roads in these maintenance levels were recommended for motorized trails.

Table TBRD 4.9: Tonto Basin RD Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Roads- ML 3-5

Ranking		Route Miles		Recommended changes to current Maintenance Level 3-5 (Passenger Vehicle) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car (no change)	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low	0.3	0.2%				0.3		
Med	Med	56.9	47.0%	51.6	4.1		0.6		0.6
Low	High	63.9	52.8%	60.8	1.1		2.0		
Total Miles		121.1	100%	112.4	5.2		2.9		0.6
Percent				92.8%	4.3%		2.4%		0.5%

* Mileages derived from current GIS data (January, 2010).

TBRD Roads- Decommissioned (Roads unavailable for motorized travel)

A number of roads were evaluated that are currently identified in Infra as decommissioned. These roads were evaluated for one or more reasons that warrant consideration, such as a request to rehabilitate a road by potential users. On the Tonto Basin RD, 28.2 miles of decommissioned roads were evaluated. The recommendations of the ID Team are presented in table TBRD 4.10.

Almost 45 percent (12.8 miles) of these roads ranked high risk, low benefit. All of these roads were recommended to remain unavailable for motorized travel and decommissioned.

Just over 46 percent of decommissioned roads (13.1 miles) ranked medium risk, medium benefit. Of these roads, 4.3 miles were recommended to become closed to general public motorized travel; but were also determined to be necessary for administrative use purposes, such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF. The remaining miles in this risk/benefit category were recommended to remain unavailable for motorized travel and decommissioned (8.8 miles).

Approximately 8 percent (2.3 miles) of decommissioned roads ranked low risk, high benefit. All of these roads were recommended to remain unavailable for motorized travel and decommissioned.

Table TBRD 4.10: Tonto Basin RD Roads Risk and Benefit Matrix and Recommendations for Decommissioned Roads

Ranking		Route Miles		Recommended changes to current Decommissioned (Closed) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission (no change)
High	Low	12.8	45.4%						12.8
Med	Med	13.1	46.5%				4.3		8.8
Low	High	2.3	8.2%						2.3
Total Miles		28.2	100%	0.0	0.0	0.0	4.3	0.0	23.9
Percent				0.0%	0.0%	0.0%	15.2%	0.0%	84.8%

* Mileages derived from current GIS data (January, 2010).

TBRD Roads- Converted Use (Roads converted for use other than motorized travel)

On the Tonto Basin RD there is only one converted use (non-motorized trail) road. It is less than 2 miles long and was identified as medium risk and benefit through the evaluation process (table TBRD 4.11). The ID Team recommends that this route remain a non-motorized trail.

Table TBRD 4.11: Tonto Basin RD Roads Risk and Benefit Matrix and Recommendations for Existing National Forest System Roads currently identified in Infra as Converted

Ranking		Route Miles		Recommended changes to current Converted Use (trails) Roads by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail (no change)	Decommission
High	Low								
Med	Med	1.6	100%					1.6	
Low	High								
Total Miles		1.6	100%	0	0	0	0	1.6	0
Percent				0%	0%	0%	0%	100%	0%

* Mileages derived from current GIS data (January 2010)

TBRD Routes - Unauthorized (Routes that are not NFS roads or trails)

The ID Team analyzed some unauthorized routes. These unauthorized routes were evaluated for one or more reasons that warrant consideration, such as identification by the ID Team of administrative or commercial uses or by the public for recreational uses. Some of these routes were recommended by the ID Team for decommissioning due to resource damage and other concerns, but the ID Team also acknowledged that other unauthorized routes may warrant inclusion into the minimum road system (appendix I). Adding any of these routes to the system will require additional resources because these routes are not currently maintained.

On the TBRD, 24.8 miles of unauthorized routes were evaluated. The recommendations of the ID Team for unauthorized routes are presented in table TBRD 4.12.

Analysis of unauthorized routes resulted in approximately 25 percent (6.1 miles) of these routes ranked high risk and low benefit. Of these roads, 3.7 miles were recommended to be added to the transportation system as motorized trails. The remaining miles in this high risk/low benefit category were recommended to be added to the system and made unavailable for motorized travel as decommissioned roads (2.4 miles).

Almost 69 percent (17.1 miles) of unauthorized routes ranked medium risk, medium benefit. Of these roads, 8.2 miles were recommended to be added to the transportation system and maintained for high clearance vehicles. About 2.5 miles were recommended to be added to the system and made unavailable for motorized travel as administrative use roads, necessary for management actions such as accessing ranching facilities, private property, monitoring sites, or wildlife waters. Motorized use of these roads would require written authorization from the Tonto NF. The remaining miles in this medium risk/benefit category were recommended to be added to the system and made unavailable for motorized travel as decommissioned roads (6.4 miles).

About 7 percent (1.6 miles) of unauthorized routes ranked low risk, high benefit. Of these roads, about a tenth of a mile was recommended to be added to the transportation system and maintained for high clearance vehicles. About a tenth of a mile was recommended to be added to the system and made unavailable for motorized travel as an administrative use road. The remaining miles in this low risk/high benefit category were recommended to be added to the system and made unavailable for motorized travel as decommissioned roads (1.4 miles).

Table TBRD 4.12: Tonto Basin RD Roads Risk and Benefit Matrix and Recommendations for Unauthorized Routes

Ranking		Route Miles		Recommended changes to identified Unauthorized Routes by miles*					
Risk	Benefit	Total Miles	Relative Percent	Passenger Car	High Clearance Vehicles	Motorized Trail	Administrative Vehicles Only	Non-Motorized Trail	Decommission
High	Low	6.1	24.6%			3.7			2.4
Med	Med	17.1	69.0%		8.2**		2.5		6.4
Low	High	1.6	6.5%		0.1		0.1		1.4
Total Miles		24.8	100%	0.0	8.3	3.7	2.6	0.0	10.2
Percent				0.0%	33.5%	14.9%	10.5%	0.0%	41.1%

* Mileages derived from current GIS data (January, 2010).

**One route totaling 1 mile in length is a proposed new route (new construction). It is included in the medium risk, medium benefit row and recommended open for high clearance vehicles.

TBRD Recommendations Summary for Roads and Motorized Trails¹²

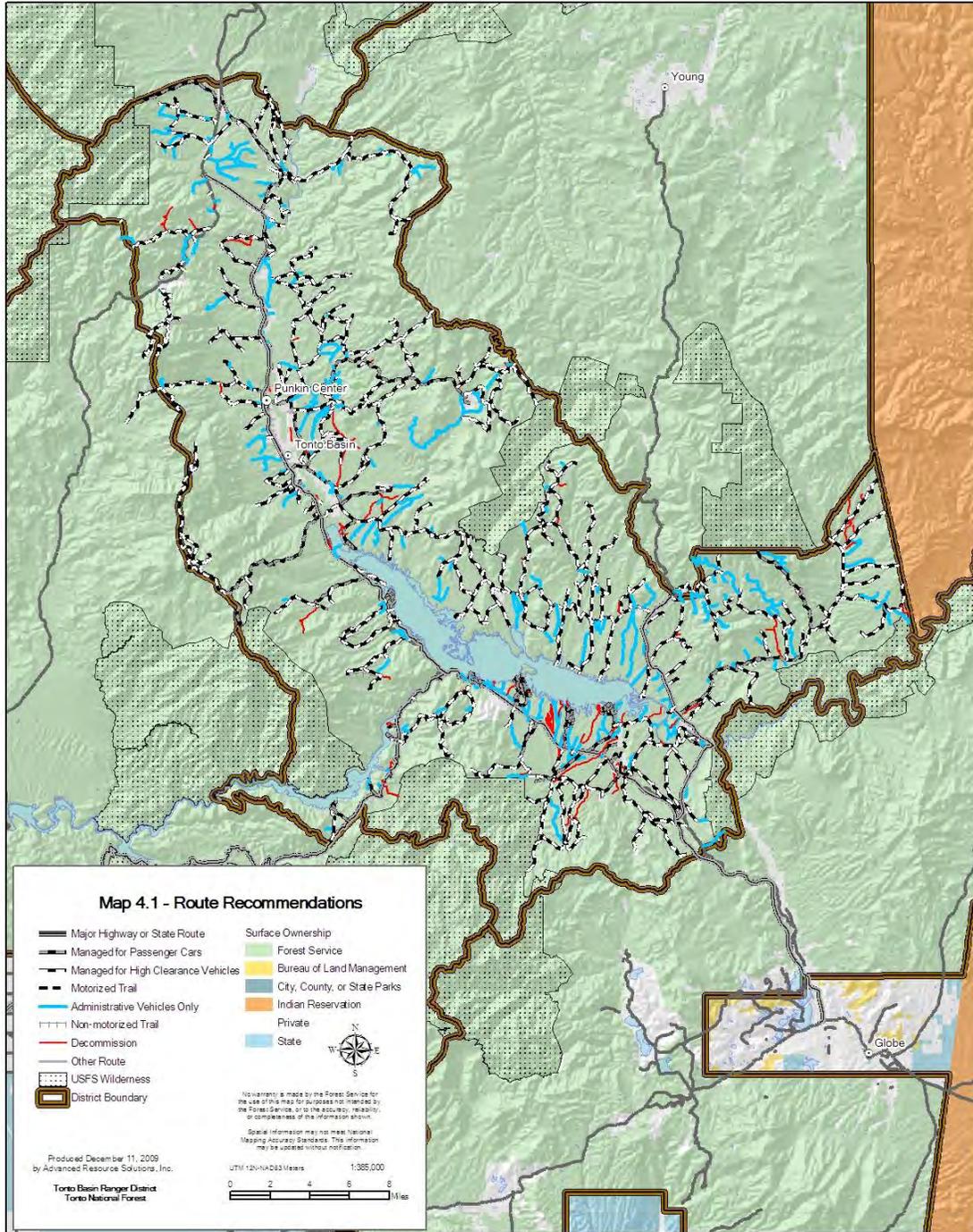
The recommendations of the ID Team are summarized in table TBRD 4.13 and shown in map TBRD 4.1 below.

Table TBRD 4.13: ID Team Route Management Recommendations Summary for All Routes Evaluated During the Travel Analysis Process for Tonto Basin RD

ID Team Route Management Recommendation	Miles*	Relative Percentage
Passenger Car	115	13%
High Clearance	506	56%
Motorized Trail	4	0%
Administrative Use Only	203	23%
Converted Use (Non-motorized Trail)	2	< 1%
Decommissioned	66	7%
Total	896	100%

* Mileages derived from current GIS data (January, 2010).

¹² The existing motorized road and trail information for the analysis was derived from Infra Objective Road Maintenance Level data.



Map TBRD 4.1: Tonto Basin RD ID Team Route Recommendations

Recommended Guidelines for Mitigating Road Risks_____

Recommended guidelines for mitigating the resource risks associated with the transportation system are listed below. This recommended guidance applies to all decisions concerning new roads, road segment relocations, and road maintenance and management.

Road Location (i.e., recommended new roads or recommendations of relocation of segments of existing roads):

- Locate roads to reduce road grade, cut slopes, and fill slopes
- Avoid weak geological formations, sensitive resources, streams, and floodplains

Road Design Elements:

- Plan adequate drainage features
- Armor drainage structures
- Stabilize road surfaces
- Mitigate for erosion on freshly exposed back/fill slopes
- Design road and stream crossings to reduce/eliminate erosion potential

Road Management

- Close or seasonally restrict user access to minimize adverse impacts to sensitive resources, habitat, or wildlife
- Monitor for invasive plants and noxious weeds
- Incorporate invasive plants and noxious weeds prevention and control into road maintenance
- Close or restrict user access on roads subject to resource damage during wet periods
- Utilize various recommended limitations/restrictions to protect forest resources and/or minimize conflicts between users:
 - Limit to non-motorized access
 - Limit user type (i.e., administrative only)
 - Limit vehicle size (i.e., motorcycle or <50")
 - Limit seasonal use (i.e., closed during bald eagle breeding season)

Chapter 5

Step 5: The Minimum Road System

Purpose

The purpose of this step is to:

- Identify the minimum road system
- Discuss budgetary needs of maintaining the minimum road system

Identifying the Minimum Road System (MRS)

The Rule mandates the Tonto NF identify the minimum road system;

36 CFR 212.5 (b): The minimum road system

This portion of the Rule directs the Tonto NF to identify a minimum road system.

...the responsible official must identify the minimum road system needed for safe and efficient travel and for administration, utilization, and protection of National Forest System lands. In determining the minimum road system, the responsible official must incorporate a science-based roads analysis at the appropriate scale and, to the degree practicable, involve a broad spectrum of interested and affected citizens, other state and federal agencies, and tribal governments. The minimum system is the road system determined to be needed to meet resource and other management objectives adopted in the relevant land and resource management plan (36 CFR part 219), to meet applicable statutory and regulatory requirements, to reflect long-term funding expectations, to ensure that the identified system minimizes adverse environmental impacts associated with road construction, reconstruction, decommissioning, and maintenance.

As is evident in the following passage it is up to the responsible official to balance a variety of considerations in designating a transportation system.

The responsible official shall consider effects on National Forest System natural and cultural resources, public safety, provision of recreational opportunities, access needs, conflicts among uses of National Forest System lands, the need for maintenance and administration of roads, trails, and areas that would arise if the uses under consideration are designated; and the availability of resources for that maintenance and administration (36 CFR 212.55).

It is for this reason that the ID Team recommends that the Minimum Road System (MRS) includes some routes that are currently not a part of the Infra database. During the NEPA process routes may be added, deleted or restricted (e.g., by user type, vehicle type, season of use, etc.).

Tonto National Forest

Not taking into account those routes recommended to become available for motorized trails, the ID Teams have recommended a minimum road system (appendix I), which totals approximately 4,425 miles. About 3,166 miles are recommended to be managed as roads open for public motorized use (ML 2-5) and 1,259 miles are recommended as closed to general public use, but necessary for administrative use on the district (table 5.1).

Table 5.1: Minimum Road System (Roads Only).

ID Team Recommendation	Route Miles	Percent of Transportation system
Open Roads (ML 2-5)	3,166	72%
Administrative Use (ML 2)	1,259	28%
Total	4,425	100%

In addition to the roads identified above, motorized trails were included in the minimum road system in order to meet resource and other management objectives. Of the 263 miles of decommissioned roads evaluated in this process, almost 19 miles are recommended to become motorized trails. Of the 30 miles of converted roads evaluated during the TAP, over 16 miles are recommended to become motorized trails. Of the 587 miles of unauthorized motorized routes evaluated during the TAP, almost 144 miles are recommended to become motorized trails. In addition, 28 miles of existing closed (ML 1) roads, 13 miles of existing high clearance vehicle (ML 2) roads, and 2 miles of existing passenger vehicle (ML 3-5) roads are recommended to be converted to motorized trails. When motorized trails are added to the minimum road system, the entire transportation system for the Tonto NF is comprised of about 3,166 miles of roads open to motorized use, 1,259 miles of administrative use only roads, and 223 miles of motorized trails, for a total minimum route system of about 4,648 miles (table 5.2).

Table 5.2: Minimum Road System with Trails.

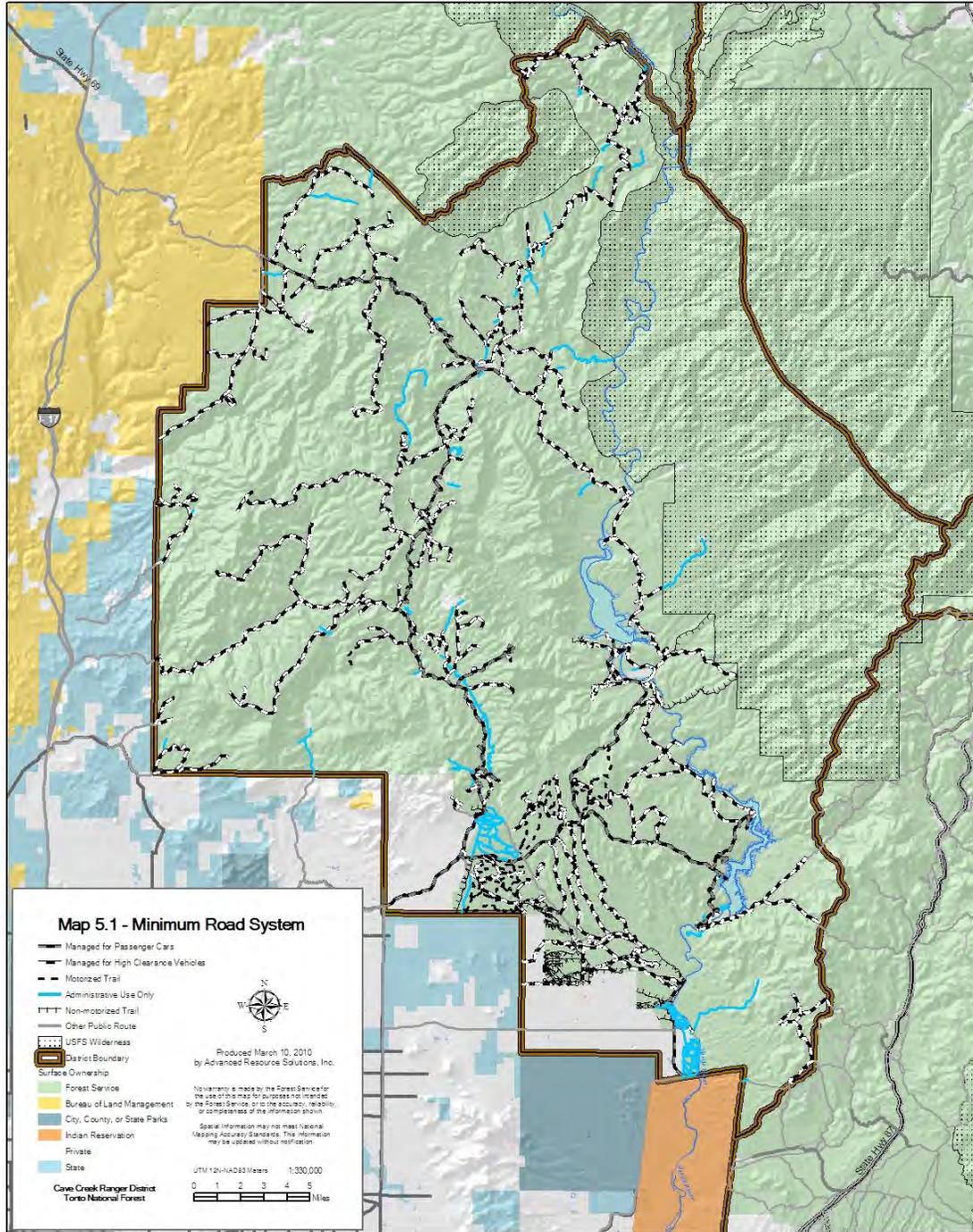
ID Team Recommendation	Route Miles	Percent of Transportation system
Open Roads (ML 2-5)	3,166	68%
Administrative Use (ML 2)	1,259	27%
Motorized Trails	223	5%
Total	4,648	100%

Cave Creek Ranger District

Not taking into account those routes recommended being available for motorized trails, the Cave Creek RD ID Team has recommended a minimum road system (appendix I), which totals approximately 575 miles (map CCRD 5.1). About 516 miles are recommended to be managed as roads open for public motorized use (ML 2-5) and 59 miles are recommended as closed to general public use, but necessary for administrative use on the district (ML 2).

Table CCRD 5.1: Minimum Road System (Roads Only).

ID Team Recommendation	Route Miles	Percent of Transportation system
Open Roads (ML 2-5)	516	90%
Administrative Use (ML 2)	59	10%
Total	575	100%



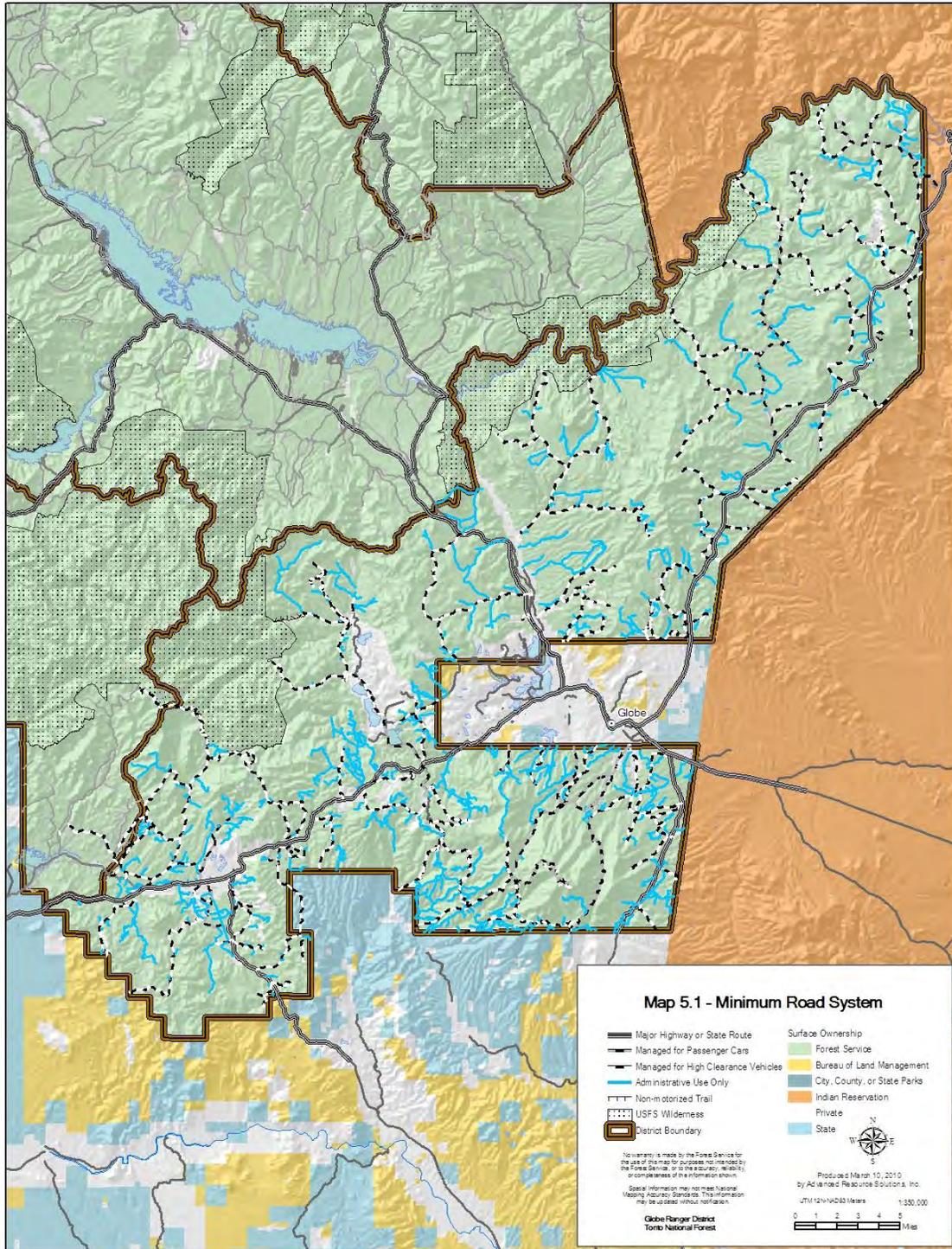
Map CCRD 5.1: Cave Creek RD Recommended Minimum Road System

Globe Ranger District

The Globe RD ID Team recommended a Minimum Road System (appendix I), which totals about 882 miles (map GRD 5.1). Specifically, 437 miles are recommended to be managed as roads open for public use (ML 2-4) and 445 miles will be roads closed to the public, but necessary for administrative use (ML 2) (table GRD 5.1). No motorized trails were identified as part of the MRS for this district.

Table GRD 5.1: Minimum Road System (Roads Only).

ID Team Recommendation	Route Miles	Percent of Transportation system
Open Roads (ML 2-5)	437	50%
Administrative Use (ML 2)	445	50%
Total	882	100%



Map GRD 5.1: Globe RD Recommended Minimum Road System

Mesa Ranger District

Not taking into account those routes recommended becoming available for motorized trails, the Mesa RD ID Team has recommended a minimum road system (appendix I), which totals approximately 430 miles (map MRD 5.1). About 325 miles are recommended to be managed as roads open for public motorized use (ML 2-5) and 105 miles are recommended as closed to general public use, but necessary for administrative use on the district (table MRD 5.1).

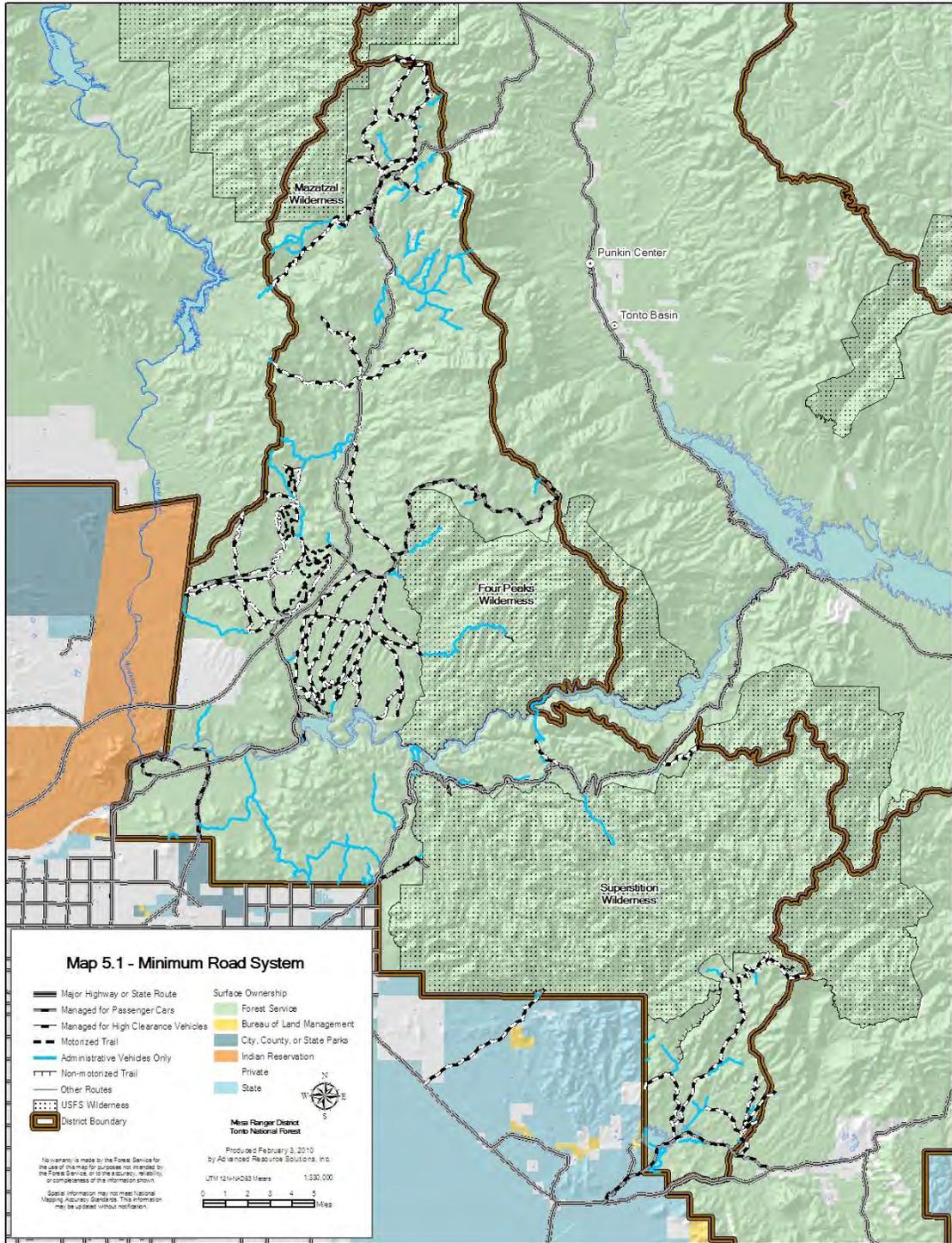
Table MRD 5.1: Minimum Road System (Roads Only).

ID Team Recommendation	Route Miles	Percent of Transportation system
Open Roads (ML 2-5)	325	76%
Administrative Use (ML 2)	105	24%
Total	430	100%

In addition to the roads identified above, motorized trails were included in the minimum road system in order to meet resource and other management objectives. Of the 27 miles of decommissioned roads evaluated in this process, 0 miles are recommended to become motorized trails. Of the 148 miles of unauthorized motorized routes evaluated during the TAP, 62 miles are recommended to become motorized trails. In addition, 2 miles of existing closed (ML 1) roads, 1 mile of existing high clearance vehicle (ML 2) roads, and 2 miles of existing passenger vehicle roads (ML 3-5) are recommended to be converted to motorized trails. When motorized trails are added to the minimum road system, the entire transportation system for the MRD is comprised of about 325 miles of roads open to motorized use, 105 miles of administrative use only roads, and 67 miles of motorized trails, for a total minimum route system of about 497 miles (table MRD 5.2).

Table MRD 5.2: Minimum Road System with Trails.

ID Team Recommendation	Route Miles	Percent of Transportation system
Open Roads (ML 2-5)	325	65
Administrative Use (ML 2)	105	21
Motorized Trails	67	14
Total	497	100



Map MRD 5.1: Mesa RD Recommended Minimum Road System

Payson Ranger District

Not taking into account those routes recommended becoming available for motorized trails; the PRD ID Team has recommended a minimum road system (appendix I), which totals approximately 823 miles (map PRD 5.1). About 613 miles are recommended to be managed as roads open for public motorized use (ML 2-5) and about 210 miles are recommended as closed to general public use, but necessary for administrative use on the district (table PRD 5.1).

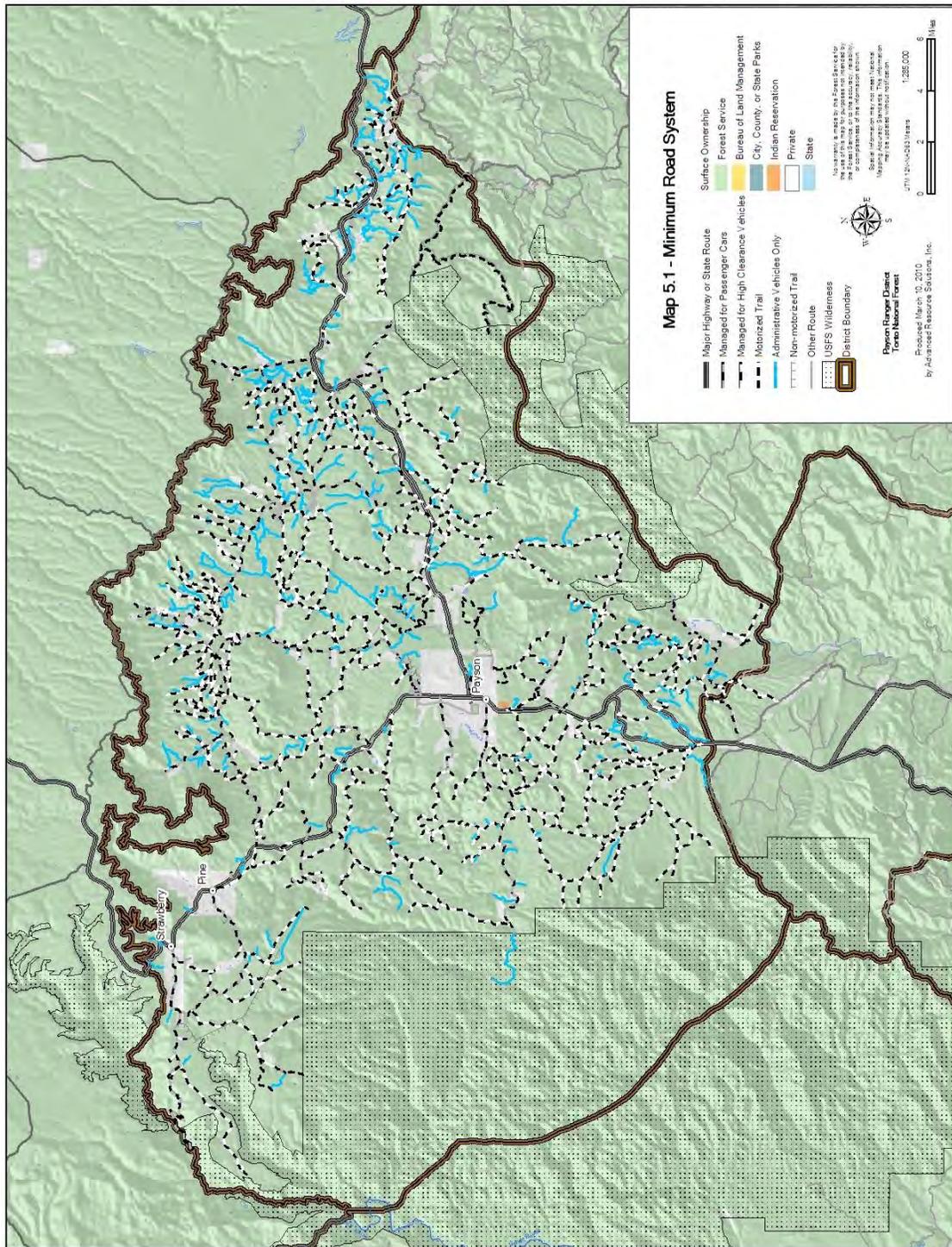
Table PRD 5.1: Minimum Road System (Roads Only).

ID Team Recommendation	Route Miles	Percent of Transportation system
Open Roads (ML 2-5)	613	75%
Administrative Use (ML 2)	210	25%
Total	823	100%

In addition to the roads identified above, motorized trails were included in the minimum road system in order to meet resource and other management objectives. Of the 72.7 miles of decommissioned roads evaluated in this process, 0.8 miles are recommended to become motorized trails. Of the 15 miles of converted roads evaluated during the TAP, 14 miles are recommended to become motorized trails. Of the 14.8 miles of unauthorized motorized routes evaluated during the TAP, 8.7 miles are recommended to become motorized trails. In addition, 6.1 miles of existing closed (ML 1) roads and 0.5 miles of existing high clearance vehicle (ML 2) roads are recommended to be converted to motorized trails. When motorized trails are added to the minimum road system, the entire transportation system for the Payson RD is comprised of about 612 miles of roads open to motorized use, 210 miles of administrative use only roads, and 30 miles of motorized trails, for a total minimum route system of about 852 miles (table PRD 5.2).

Table PRD 5.2: Minimum Road System with Trails.

ID Team Recommendation	Route Miles	Percent of Transportation system
Open Roads (ML 2-5)	613	72%
Administrative Use (ML 2)	210	25%
Motorized Trails	30	3%
Total	853	100%



Map PRD 5.1: Payson RD Recommended Minimum Road System

Pleasant Valley Ranger District

Not taking into account those routes recommended to be available for motorized trails, the Pleasant Valley RD ID Team has recommended a minimum road system (appendix I), which totals approximately 891 miles (map PVRD 5.1). About 654 miles are recommended to be managed as roads open for public motorized use (ML 2-5) and approximately 237 miles are recommended as closed to general public use, but necessary for administrative use on the district (table PVRD 5.1).

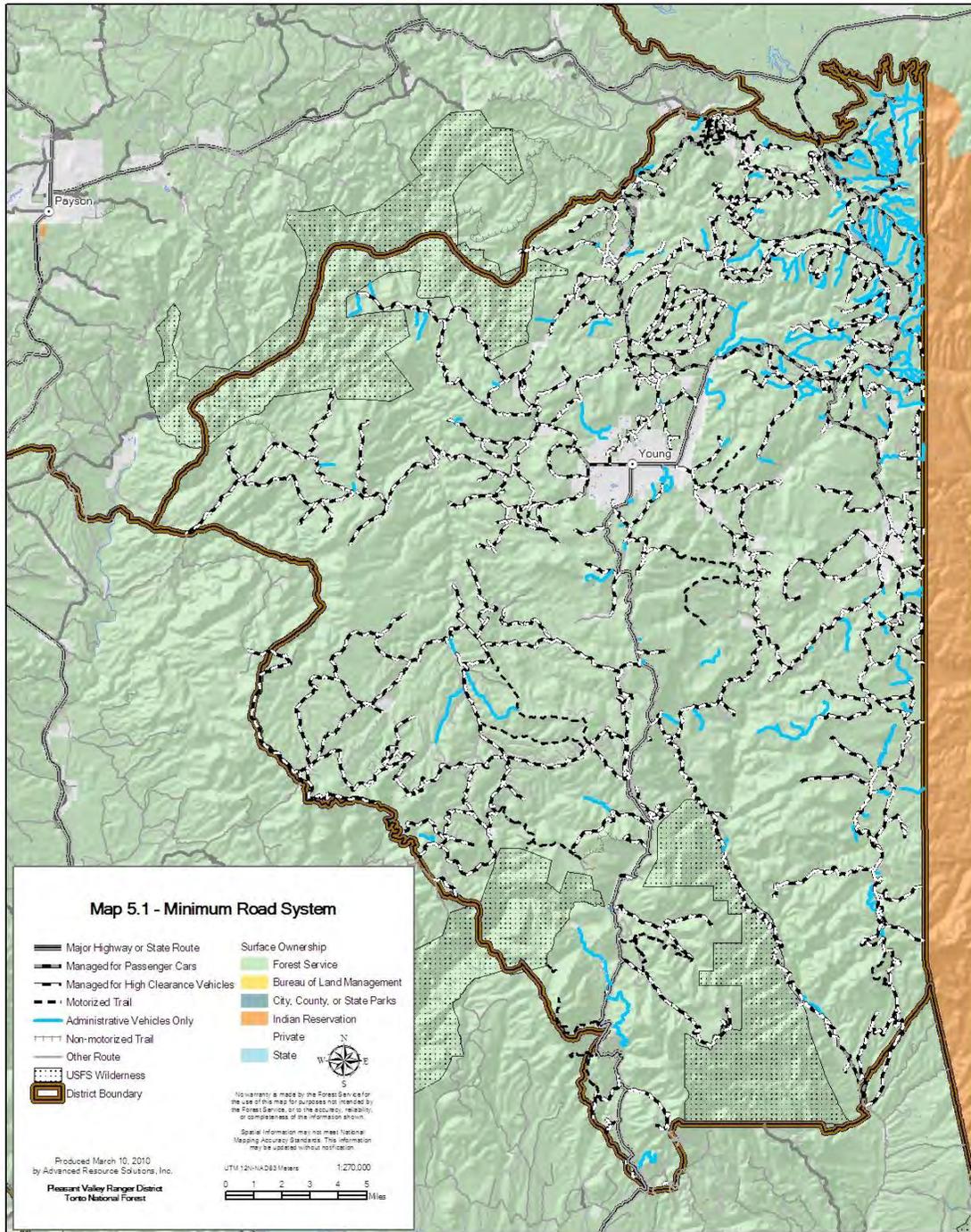
Table PVRD 5.1: Minimum Road System (Roads Only).

ID Team Recommendation	Route Miles	Percent of Transportation system
Open Roads (ML 2-5)	654	73%
Administrative Use (ML 2)	237	27%
Total	891	100%

In addition to the roads identified above, motorized trails were included in the minimum road system in order to meet resource and other management objectives. Of the 73.1 miles of decommissioned roads evaluated in this process, 15.2 miles are recommended to become motorized trails. Of the 8.8 miles of converted roads evaluated during the TAP, 0 miles are recommended to become motorized trails. Of the 140.2 miles of unauthorized motorized routes evaluated during the TAP, 38.7 miles are recommended to become motorized trails. In addition, 16.8 miles of existing closed (ML 1) roads and 9.1 miles of existing high clearance vehicle (ML 2) roads are recommended to be converted to motorized trails (map PVRD 5.1). When motorized trails are added to the minimum road system, the entire transportation system for the Pleasant Valley RD is comprised of about 654 miles of roads open to motorized use, 237 miles of administrative use only roads, and 80 miles of motorized trails, for a total minimum route system of about 971 miles (table PVRD 5.2).

Table PVRD 5.2: Minimum Road System with Trails.

ID Team Recommendation	Route Miles	Percent of Transportation system
Open Roads (ML 2-5)	654	67%
Administrative Use (ML 2)	237	24%
Motorized Trails	80	8%
Total	971	100%



Map PVRD 5.1: Pleasant Valley RD Recommended Minimum Road System

Tonto Basin Ranger District

Not taking into account those routes recommended being available for motorized trails, the Tonto Basin RD ID Team recommended a Minimum Road System (appendix I), which totals approximately 824 miles (map TBRD 5.1). About 621 miles are recommended to be managed as roads open for public motorized use (ML 2-5) and 203 miles are recommended as closed to general public use, but necessary for administrative use on the district (table TBRD 5.1).

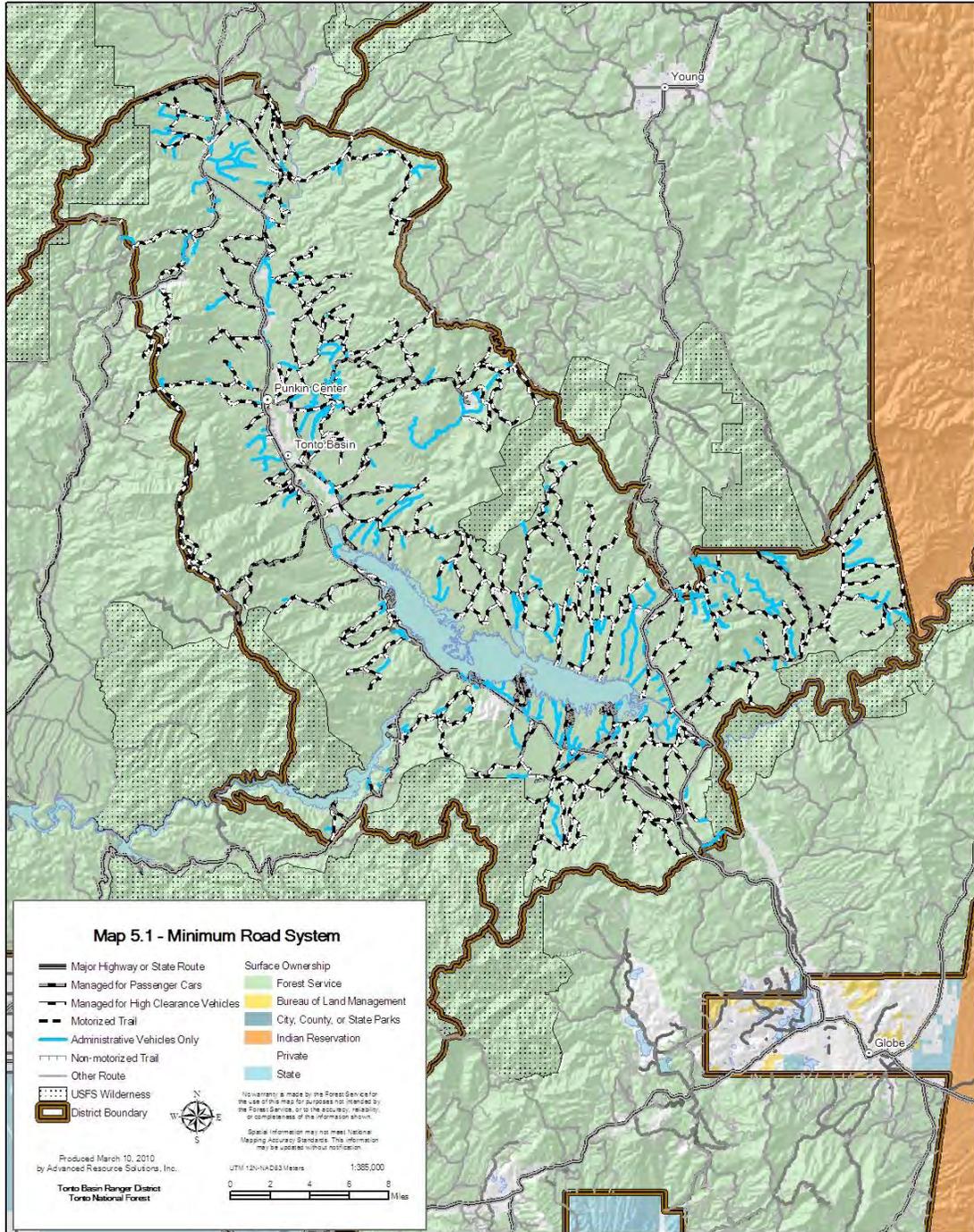
Table TBRD 5.1: Minimum Road System (Roads Only).

ID Team Recommendation	Route Miles	Percent of Transportation system
Open Roads (ML 2-5)	621	75%
Administrative Use (ML 2)	203	25%
Total	824	100%

In addition to the roads identified above, motorized trails were included in the minimum road system in order to meet resource and other management objectives. Almost 4 miles are recommended to be added to the transportation system as motorized trails available for vehicles 50 inches wide or less. Of the 24.8 miles of converted roads evaluated during the TAP, about 4 miles are recommended to become motorized trails. When motorized trails are added to the minimum road system, the entire transportation system for the TBRD is comprised of about 621 miles of roads open to motorized use, 203 miles of administrative use only roads, and 4 miles of motorized trails, for a total minimum route system of about 828 miles (table TBRD 5.2).

Table TBRD 5.2: Minimum Road System with Trails.

ID Team Recommendation	Route Miles	Percent of Transportation system
Open Roads (ML 2-5)	621	75%
Administrative Use (ML 2)	203	25%
Motorized Trails	4	> 1%
Total	828	



Map TBRD 5.1: Tonto Basin RD Recommended Minimum Road System

Budgetary Needs of Maintaining the Minimum Road System

Table 5.3 presents the total miles of roads and approximate annual maintenance budgetary needs for the Tonto NF, and compares it to the budget for the recommended minimum road system. Currently, the road system budget is insufficient for optimal maintenance of the entire Tonto NF road network (per information obtained from Tonto NF Supervisor's Office including documents, analysis worksheets, i.e., Southwestern Region Fiscal Year 2006 Budget Estimator and Supervisor's Office staff communication).

Because the Tonto NF does not currently have any motorized trails, there is no existing budget data for the per mile annual maintenance needs on the forest. As a result, no cost analysis was performed for maintenance on recommended motorized trails (223 miles) in this TAP. This does not preclude a cost analysis in other NEPA documents.

In addition, the forest recognized that there is a potential cost associated with closing, decommissioning, and converting the use of a road; however, these costs vary drastically depending on each road's specific site. For example, some roads may be closed to motor vehicles through natural revegetation of the land resulting in little-to-no cost for road closure. Other roads may require berms, fencing, gates, or heavy equipment for closure, all of which would require varying amount of funding. Sufficient data does not exist, which would allow the forest to determine an average cost for closing roads. By definition, decommissioned roads and ML 1 roads have little-to-no annual maintenance costs and so it is assumed for the purposes of this TAP that the total cost per mile for ML 1 roads, decommissioned roads, and converted use roads is \$0.

Table 5.3 shows that the current annual maintenance needs for the forest exceed \$7.7 million. Annual maintenance needs (table 5.4) for the recommended minimum road system exceed \$10.1 million, a difference of approximately \$2.4 million.

Table 5.3: Road Management Maintenance Costs (obtained from Tonto NF Engineering Department's Transportation Atlas) for Existing Roads

ML	Annual Maintenance Needs per mile (July 2006)	Tonto NF Existing Mileage	Total Cost
5	\$12,303	50	\$ 615,150
4	\$ 9,029	137	\$1,236,973
3	\$ 3,357	460	\$1,544,220
2	\$ 1,949	2,258	\$4,400,842
1	-	1,668	-
Decommission	-	218	-
Converted Use	-	29	-
Total	-	4,820	\$7,797,185

Note: Mileages derived from current GIS data (January, 2010).

Table 5.4: Road Management Maintenance Costs (obtained from Tonto NF Engineering Department's Transportation Atlas) for the Recommended Minimum Road System

ML	Annual Maintenance Needs per mile (July 2006)	Tonto NF Recommended Mileage	Total Cost
5	\$12,303	33	\$ 405,999
4	\$ 9,029	120	\$ 1,083,480
3	\$ 3,357	379	\$ 1,272,303
2	\$ 1,949	2,631	\$ 5,127,819
2 (Administrative Use Only)	\$ 1,949	1,180	\$ 2,299,820
1	-	0	-
Decommission	-	711	-
Converted Use	-	138	-
Total	-	5,192	\$10,189,421

Insufficient Resources for Route Maintenance:

If the current budget is insufficient for optimal route network maintenance, additional funds may need to be obtained or strategies implemented, which would reduce the level of road maintenance costs. Some possible strategies include:

- Closing or decommissioning roads;
- Converting open and/or closed roads to motorized trails or hiking trails;
- Transferring jurisdiction to other maintenance entities;
- Decreasing maintenance levels on roads;
- Decreasing route maintenance frequency;
- Researching and employing methods to decrease road maintenance costs; and
- Combinations of the above strategies.

Chapter 6

Step 6: Summary

Purpose

The purpose of this step is to summarize the key findings of the analysis.

Key Findings of the Analysis

The ID Teams evaluated a total of 4,762 routes totaling 5,413 miles for the Tonto NF, broken into districts as depicted in table 6.1. Reported numbers have been rounded and are approximate due to minor Geographic Information System (GIS) data discrepancies. As a result, mileages reported in this document may vary slightly.

Table 6.1: Current Transportation System Evaluated for Travel Management

District	# of Routes Evaluated	Miles of Each Route Type Evaluated						Total
		ML 1	ML 2	ML 3-5	Decommissioned	Converted	Unauthorized	
CCRD	809	117	415	102	38	3	257	932
GRD	753	444	356	81	2	0	5	888
MRD	574	142	260	76	49	0	148	675
PRD	829	360	291	140	73	15	15	894
PVRD	1,088	359	464	86	73	9	140	1,130
TBRD	709	246	472	121	28	2	25	894
Tonto NF Totals	4,762	1,668	2,258	606	218	29	590	5,413

The ID Team considered the various concerns and uses associated with each district (see district subregion discussions in chapter 3). These discussions assessed the benefits and risks associated with the current National Forest transportation system. The routes depicted above were ranked by risk and benefit. On each district, the ID Team reviewed and evaluated up to 300 factors (e.g., risks, benefits, and uses) for each route (refer to appendix G- route evaluation screening questions for each district).

All factors were ranked with risk and benefit values of Very High (VH), High (H), Medium (M), or Low (L). A summary of miles for each risk-benefit category are depicted in table 6.2. A complete inventory of routes and their associated Risk-Benefit assessment can be found in appendix H. Appendix K provides a detailed list of risk and benefit factors considered for each district.

Table 6.2: Summary Risk-Benefit Matrix for all routes evaluated during the route evaluation process on the Tonto NF.

District	Ranking (by mileage)		
	High Risk – Low Benefit	Medium Risk – Medium Benefit	Low Risk – High Benefit
CCRD	169	485	279
GRD	45	602	240
MRD	113	435	127
PRD	14	719	160
PVRD	79	733	318
TBRD	31	701	162
Tonto NF Totals	451	3,675	1,286
Percentage of 5,413 miles	8%	68%	24%

Route rankings provide guidance which becomes **part** of the recommendation for each route and helps to identify opportunities for maximizing benefits and minimizing risks. A summary of the mileage for the current transportation system analyzed on the Tonto NF and the recommended minimum road system is provided in table 6.3. This information is then broken down into districts and discussed in more detail in tables CCRD 6.1 to TBRD 6.1 following.

Table 6.3: Transportation System Analyzed on the Tonto NF.

Routes by Type	Current Miles	Percent of Total Miles	Recommended Miles	Percent of Total Miles
Closed (ML 1)	1,668	31%	0	0%
High Clearance Vehicles (ML 2)	2,258	42%	2,631	49%
Passenger Cars (ML 3-5)	606	11%	532	10%
Motorized Trails	0	0%	223	4%
Administrative Use (ML 2, access by written authorization only)	0	0%	1,180	22%
Decommissioned	218	4%	711	13%
Converted Use (e.g., non-motorized trails)	29	1%	138	3%
Unauthorized Motorized Routes	590	11%	Not Applicable	Not Applicable
Total	5,413	100%	5,415	100%

Cave Creek Ranger District

The current Cave Creek RD transportation system consists of 634.9 miles of National Forest System roads maintained at levels 1-4. In addition to analyzing these system roads, the CCRD ID Team also analyzed 297.4 miles of converted use roads, decommissioned roads, and unauthorized motorized routes, for a total of 932.3 miles or routes analyzed on the Cave Creek RD (see table CCRD 6.1).

Table CCRD 6.1: Current Transportation System Analyzed on the Cave Creek Ranger District.

Routes by Type	Current Miles	Percent of Total Miles	Recommended Miles	Percent of Total Miles
Closed (ML 1)	117	13%	0	0%
High Clearance Vehicles (ML 2)	415	45%	419	45%
Passenger Cars (ML 3-4)	102	11%	96	10%
Motorized Trails	0	0%	42	5%
Administrative Use (ML 2, access by written authorization only)	0	0%	59	6%
Decommissioned	38	4%	214	23%
Converted Use (e.g., non-motorized trails)	3	0%	102	11%
Unauthorized Motorized Routes	257	28%	Not Applicable	Not Applicable
Total	932	100%	932	100%

Although this table shows zero miles of roads closed to motorized travel, this is not an accurate reflection of the number of miles actually unavailable for public motorized travel. This is because miles of roads “closed” to motorized use were captured in other road maintenance or road type categories, such as decommissioned, and administrative or converted use. When decommissioned, administrative use, and converted use mileages are totaled, there are approximately 374.6 miles of roads unavailable to public motorized travel with 315.9 miles completely closed to motor vehicles as decommissioned or converted roads. Additionally, some of these ML 1 roads were considered administrative use only prior to the TAP. They were classified as an objective maintenance level 1 road prior to the *Travel Management Rule*. With regional guidance, it was determined that the operational maintenance level should be used to classify roads (not the objective maintenance level). As a result, the Tonto NF was required to change objective maintenance levels to correspond with operational maintenance levels, which was an administrative database change.

Through this TAP, the Cave Creek RD ID Team recommends 55 percent (516 miles) of the total routes analyzed (including unauthorized routes) be maintained for use by high clearance and/or passenger vehicles (ML 2-5). These roads would require some form of management strategy, such as maintenance, mitigation, or adaptive management monitoring in order to move towards the desired effect of minimizing or preventing potential resource risks or minimizing known risks (impacts). Of the 516 miles, 96 miles (10 percent of the system) are recommended as suitable for passenger cars (ML3-4) and 419 miles (45 percent of the system) are recommended as suitable for high clearance vehicles (ML 2). This is a net increase of about 4 miles of ML 2 roads from the current condition and a net decrease of almost 6 miles in ML 3-4 roads.

The ID Team recommends 11 percent (102 miles) of the routes analyzed be made unavailable for motorized use and converted to non-motorized trails, that 6 percent (59 miles) be available for administrative use only (closed to motor vehicle use without written authorization), and 23 percent (214 miles) be decommissioned. This is a net increase of 99 miles of roads converted to another use, 59 miles of administrative roads, and 176 miles of decommissioned roads. When

Chapter 6 – Step 6: Summary

taking into account existing closed roads (117 miles), this means that a total of 217 additional miles of roads are unavailable for public motorized travel. However, it is important to note that the majority of the roads recommended for conversion to another use or for decommissioning stem from the analysis of unauthorized routes.

The ID Team recommends that approximately 5 percent (42 miles) of the analyzed routes be managed as motorized trails, a net increase of 42 miles.

A summary of roads and trails open for motorized travel is shown in table CCRD 6.2. A complete list of these routes can be found in appendix I (ID Team recommended minimum road system).

Table CCRD 6.2: Summary Recommendations for Open NFS Roads and Trails on Cave Creek RD

Recommended ML	Miles	Percent of Total
Managed for High Clearance Vehicles (ML 2)	415	75%
Managed for Passenger Level Vehicles (ML 3-4)	96	17%
Motorized Trail	42	8%
Grand Total	553	100%

* Mileages derived from current GIS data (January, 2010).

Globe Ranger District

The current Globe RD transportation system consists of about 881 miles of National Forest System roads maintained at levels 1-3. In addition to analyzing these system roads, the ID Team also analyzed 257 miles of converted use roads, decommissioned roads, and unauthorized motorized routes, for a total of about 889 miles or routes analyzed on the Globe RD (table GRD 6.1).

Table GRD 6.1: Current Transportation System Analyzed on the Globe Ranger District.

Routes by Type	Current Miles	Percent of Total Miles	Recommended Miles	Percent of Total Miles
Closed (ML 1)	444	50%	0	0%
High Clearance Vehicles (ML 2)	356	40%	372	42%
Passenger Cars (ML 3-5)	81	9%	64	7%
Motorized Trails	0	0%	0	0%
Administrative Use (ML 2, access by written authorization only)	0	0%	445	50%
Decommissioned	2	0%	3	0%
Converted Use (e.g., non-motorized trails)	2	0%	2	0%
Unauthorized Motorized Routes	5	1%	Not Applicable	Not Applicable
Total	889	100%	886	100%

Although this table shows 0 miles of roads closed to motorized travel, this is not an accurate reflection of the number of miles actually unavailable for public motorized travel. This is because miles of roads “closed” to motorized use were captured in other road maintenance or road type categories, such as decommissioned, and administrative or converted use. When decommissioned, administrative use, and converted use mileages are totaled, there are approximately 450 miles of roads unavailable to public motorized travel with 5 miles completely closed to motor vehicles as decommissioned or converted roads. Additionally, some of these ML 1 roads were considered administrative use only prior to the TAP. They were classified as an objective maintenance level 1 road prior to the *Travel Management Rule*. With regional guidance, it was determined that the operational maintenance level should be used to classify roads (not the objective maintenance level). As a result, the Tonto NF was required to change objective maintenance levels to correspond with operational maintenance levels, which was an administrative database change.

Through this TAP, the Globe RD ID Team recommends 42 percent (372 miles) of the total routes analyzed (including unauthorized routes) be maintained for use by high clearance and/or passenger vehicles (ML 2-5). These roads would require some form of management strategy, such as maintenance, mitigation or adaptive management monitoring, in order to move towards the desired effect of minimizing or preventing potential resource risks or minimizing known risks (impacts). Of the 372 miles, 64 miles (7 percent) are recommended as suitable for passenger cars (ML3-4) and 372 miles (42 percent) are recommended as suitable for high clearance vehicles (ML 2). This is a net increase of about 16 miles of ML 2 roads from the current condition and a net decrease of about 17 miles in ML 3-4 roads.

The ID Team recommends no changes to the 2 miles of converted (e.g., to non-motorized trails) routes. The ID Team recommends that 50 percent (44.5 miles) be available for administrative use only (closed to motor vehicle use without written authorization), and less than 1 percent (3 miles) be decommissioned. This is a net increase of 445 miles of administrative roads, and approximately 1 mile of decommissioned roads. When taking into account existing closed roads (444 miles), this means that a total of about 2 additional miles of roads are unavailable for public motorized travel.

The ID Team does not recommend any motorized trails. A summary of roads and trails open for motorized travel is shown in table GRD 6.2. A complete list of these routes can be found in appendix I (ID Team recommended minimum road system).

Table GRD 6.2: Summary Recommendations for Open NFS Roads and Trails on Globe RD

Recommended Management Level	Miles	Percent of Total
Managed for Passenger Level Vehicles	64	15%
Managed for High Clearance Vehicles	372	85%
Motorized Trail	0	0%
Grand Total	436	100.0%

* Mileages derived from current GIS data (January, 2010).

Mesa Ranger District

The current Mesa RD transportation system consists of 478 miles of National Forest System roads maintained at levels 1-4. In addition to analyzing these system roads, the ID Team also analyzed 197 miles of converted use roads, decommissioned roads, and unauthorized motorized routes, for a total of 675 miles or routes analyzed (table MRD 6.1).

Table MRD 6.1: Current Transportation System Analyzed on the Mesa RD.

Routes by Type	Current Miles	Percent of Total Miles	Recommended Miles	Percent of Total Miles
Closed (ML 1)	142	21%	0	0%
High Clearance Vehicles (ML 2)	260	39%	264	39%
Passenger Cars (ML 3-5)	76	11%	61	9%
Motorized Trails	0	0%	67	0%
Administrative Use (ML 2, access by written authorization only)	0	0%	105	16%
Decommissioned	49	7%	164	24%
Converted Use (e.g., non-motorized trails)	0	0%	14	2%
Unauthorized Motorized Routes	148	22%	Not Applicable	Not Applicable
Total	675	100%	675	100%

Although this table shows 0 miles of roads closed to motorized travel, this is not an accurate reflection of the number of miles actually unavailable for public motorized travel. This is because miles of roads “closed” to motorized use were captured in other road maintenance or road type categories, such as decommissioned, and administrative or converted use. When decommissioned, administrative use, and converted use mileages are totaled, there are approximately 283 miles of roads unavailable to public motorized travel with 178 miles completely closed to motor vehicles as decommissioned or converted roads. The majority of these routes (63 miles or 35 percent) were ML 1 roads recommended for decommissioning.

Additionally, some of these ML 1 roads were considered administrative use only prior to the TAP. They were classified as an objective maintenance level 1 road prior to the *Travel Management Rule*. With regional guidance, it was determined that the operational maintenance level should be used to classify roads (not the objective maintenance level). As a result, the Tonto NF was required to change objective maintenance levels to correspond with operational maintenance levels, which was an administrative database change.

Through this TAP, the Mesa RD ID Team recommends 48 percent (325 miles) of the total routes analyzed (including unauthorized routes) be maintained for use by high clearance and/or passenger vehicles (ML 2-5). These roads would require some form of management strategy, such as maintenance, mitigation or adaptive management monitoring, in order to move towards the desired effect of minimizing or preventing potential resource risks or minimizing known risks (impacts). Of the 325 miles, 61 miles (39 percent) are recommended as suitable for passenger cars (ML3-5) and 264 miles (39 percent) are recommended as suitable for high clearance vehicles

(ML 2). This is a net increase of about 4 miles of ML 2 roads from the current condition and a net decrease of almost 15 miles in ML 3-5 roads.

The ID Team recommends 2 percent (14 miles) of the routes analyzed be converted (e.g., to non-motorized trails), that 16 percent (105 miles) be available for administrative use only (closed to motor vehicle use without written authorization), and 24 percent (164 miles) be decommissioned. This is a net increase of 14 miles of roads converted to another use, 105 miles of administrative roads, and 115 miles of decommissioned roads. When taking into account existing closed roads (142 miles), this means that a total of 141 additional miles of roads are unavailable for public motorized travel. However, it is important to note that the roads recommended for conversion to another use or for decommissioning stem from the analysis of unauthorized routes.

The ID Team recommends that approximately 10 percent (67 miles) of the analyzed routes be managed as motorized trails, a net increase of 67 miles. A summary of roads and trails open for motorized travel is shown in table MRD 6.2. A complete list of these routes can be found in appendix I (ID Team recommended minimum road system).

Table MRD 6.2: Summary Recommendations for Open NFS Roads and Trails on Mesa RD

Recommended Management Level	Miles	Percent of Total
Managed for Passenger Level Vehicles	61	16 %
Managed for High Clearance Vehicles	264	67 %
Motorized Trail	67	17 %
Grand Total	392	100 %

* Mileages derived from current GIS data (January, 2010).

Payson Ranger District

The current Payson RD transportation system consists of 791 miles of National Forest System roads maintained at levels 1-5. In addition to analyzing these system roads, the ID Team also analyzed 103 miles of converted use roads, decommissioned roads, and unauthorized motorized routes, for a total of 894 miles or routes analyzed (table PRD 6.1).

Table PRD 6.1: Current Transportation System Analyzed on the Payson RD.

Routes by Type	Current Miles	Percent of Total Miles	Recommended Miles	Percent of Total Miles
Closed (ML 1)	360	40%	0	0%
High Clearance Vehicles (ML 2)	291	33%	489	55%
Passenger Cars (ML 3-5)	140	16%	124	14%
Motorized Trails	0	0%	30	3%
Administrative Use (ML 2, access by written authorization only)	0	0%	210	23%
Decommissioned	73	8%	33	4%
Converted Use (e.g., non-motorized trails)	15	2%	9	1%
Unauthorized Motorized Routes	15	2%	Not Applicable	Not Applicable
Total	894	100%	895	100%

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Although this table shows 0 miles of roads closed to motorized travel, this is not an accurate reflection of the number of miles actually unavailable for public motorized travel. This is because miles of roads “closed” to motorized use were captured in other road maintenance or road type categories, such as decommissioned, and administrative or converted use. When decommissioned, administrative use, and converted use mileages are totaled, there are approximately 252 miles of roads unavailable to public motorized travel with 42 miles completely closed to motor vehicles as decommissioned or converted roads. The majority of ML 1 roads (178 miles or 50 percent) were recommended for administrative use only. This is because some of these ML 1 roads were considered administrative use only prior to the TAP. They were classified as an objective maintenance level 1 road prior to the *Travel Management Rule*. With regional guidance, it was determined that the operational maintenance level should be used to classify roads (not the objective maintenance level). As a result, the Tonto NF was required to change objective maintenance levels to correspond with operational maintenance levels, which was an administrative database change.

Through this TAP, the Payson RD ID Team recommends 68 percent (613 miles) of the total routes analyzed (including unauthorized routes) be maintained for use by high clearance and/or passenger vehicles (ML 2-5). These roads would require some form of management strategy, such as maintenance, mitigation or adaptive management monitoring, in order to move towards the desired effect of minimizing or preventing potential resource risks or minimizing known risks (impacts). Of the 613 miles, 124 miles (14 percent) are recommended as suitable for passenger cars (ML3-5) and 489 miles (55 percent) are recommended as suitable for high clearance vehicles (ML 2). This is a net increase of about 198 miles of ML 2 roads from the current condition and a net decrease of almost 16 miles in ML 3-5 roads.

The ID Team recommends 1 percent (9 miles) of the routes analyzed be converted (e.g., to non-motorized trails), that 23 percent (210 miles) be available for administrative use only (closed to motor vehicle use without written authorization), and 4 percent (33 miles) be decommissioned. This is a net decrease of 6 miles of roads converted to another use, a net increase of 210 miles of administrative roads, and a net decrease of 40 miles of decommissioned roads. When taking into account existing closed roads (360 miles), this means that an additional 108 of roads would be available for public motorized travel.

The ID Team recommends that approximately 3 percent (30 miles) of the analyzed routes be managed as motorized trails, a net increase of 30 miles. A summary of roads and trails open for motorized travel is shown in table PRD 6.2. A complete list of these routes can be found in appendix I; ID Team recommended minimum road system.

Table PRD 6.2: Summary Recommendations for Open NFS Roads and Trails on Payson RD

Recommended Management Level	Miles	Percent of Total
Managed for Passenger Level Vehicles	124	19%
Managed for High Clearance Vehicles	489	76%
Motorized Trail	30	5%
Grand Total	643	100%

* Mileages derived from current GIS data (January, 2010).

Pleasant Valley Ranger District

The current Pleasant Valley RD transportation system consists of 909 miles of National Forest System roads categorized by Maintenance Level (ML 1-5). In addition to analyzing these system roads, the ID Team also analyzed 222 miles of motorized trails, decommissioned routes, and unauthorized motorized routes, for a total of 1,131 miles or routes analyzed (table PVRD 6.1).

Table PVRD 6.1: Current Transportation System Analyzed on the Pleasant Valley RD.

Routes by Type	Current Miles	Percent of Total Miles	Recommended Miles	Percent of Total Miles
Closed (ML 1)	359	32%	0	0%
High Clearance Vehicles (ML 2)	464	41%	581	51%
Passenger Cars (ML 3-5)	86	8%	72	6%
Motorized Trails	0	0%	80	7%
Administrative Use (ML 2, access by written authorization only)	0	0%	158	14%
Decommissioned	73	6%	231	20%
Converted Use (e.g., non-motorized trails)	9	1%	9	1%
Unauthorized Motorized Routes	140	12%	Not Applicable	Not Applicable
Total	1,131	100%	1,131	100%

Although this table shows 0 miles of roads closed to motorized travel, this is not an accurate reflection of the number of miles actually unavailable for public motorized travel. This is because miles of roads “closed” to motorized use were captured in other road maintenance or road type categories, such as decommissioned, and administrative or converted use. When decommissioned, administrative use, and converted use mileages are totaled, there are approximately 398 miles of roads unavailable to public motorized travel with 240 miles completely closed to motor vehicles as decommissioned or converted roads. The majority of ML 1 roads (142 miles or 40 percent) were recommended for decommissioning.

Additionally, some of these ML 1 roads were considered administrative use only prior to the TAP. They were classified as an objective maintenance level 1 road prior to the *Travel Management Rule*. With regional guidance, it was determined that the operational maintenance level should be used to classify roads (not the objective maintenance level). As a result, the Tonto NF was required to change objective maintenance levels to correspond with operational maintenance levels, which was an administrative database change.

Through this TAP, the Pleasant Valley RD ID Team recommends 58 percent (653 miles) of the total routes analyzed (including unauthorized routes) be maintained for use by high clearance and/or passenger vehicles (ML 2-5). These roads would require some form of management strategy, such as maintenance, mitigation or adaptive management monitoring, in order to move towards the desired effect of minimizing or preventing potential resource risks or minimizing known risks (impacts). Of the 653 miles, 72 miles (6 percent) are recommended as suitable for passenger cars (ML3-5) and 581 miles (51 percent) are recommended as suitable for high clearance vehicles (ML 2). This is a net increase of about 117 miles of ML 2 roads from the current condition and a net decrease of 14 miles in ML 3-5 roads.

Chapter 6 – Step 6: Summary

The ID Team recommends approximately 1 percent (9 miles) of the routes analyzed be converted (e.g., to non-motorized trails), that less than 14 percent (158 miles) be available for administrative use only (closed to motor vehicle use without written authorization), and less than 20 percent (231 miles) be decommissioned. This is no change in the miles of roads converted to another use. There is a net increase of 158 miles of administrative roads and 158 miles of decommissioned roads. When taking into account existing closed roads (359 miles), this means that a total of 39 additional miles of roads are unavailable for public motorized travel. However, it is important to note that roads recommended for conversion to another use or for decommissioning include the analysis of unauthorized routes.

The ID Team recommends that approximately 8 percent (80 miles) of the analyzed routes be managed as motorized trails, a net increase of 80 miles. A summary of roads and trails open for motorized travel is shown in table PVRD 6.2. A complete list of these routes can be found in appendix I; ID Team recommended minimum road system.

Table PVRD 6.2: Summary Recommendations for Open NFS Roads and Trails on Pleasant Valley RD

Recommended Management Level	Miles	Percent of Total
Managed for Passenger Level Vehicles	72	10%
Managed for High Clearance Vehicles	581	79%
Motorized Trail	80	11%
Grand Total	733	100%

* Mileages derived from current GIS data (January, 2010).

Tonto Basin Ranger District

The current transportation system consists of 839 miles of National Forest System roads categorized by Maintenance Level (ML 1-5). In addition to analyzing these system roads, the Tonto Basin ID Team also analyzed 55 miles of motorized trails, decommissioned routes, and unauthorized motorized routes for a total of 984 miles or routes analyzed (table TBRD 6.1).

Table TBRD 6.1: Current Transportation System Analyzed on the Tonto Basin RD.

Routes by Type	Current Miles	Percent of Total Miles	Recommended Miles	Percent of Total Miles
Closed (ML 1)	246	28%	0	0%
High Clearance Vehicles (ML 2)	472	53%	506	56%
Passenger Cars (ML 3-5)	121	14%	115	13%
Motorized Trails	0	0%	4	0%
Administrative Use (ML2, access by written authorization only)	0	0%	203	23%
Decommissioned	28	3%	66	7%
Converted Use (e.g., non-motorized trails)	2	0%	2	0%
Unauthorized Motorized Routes	25	3%	Not Applicable	Not Applicable
Total	894	100%	896	100%

Although this table shows 0 miles of roads closed to motorized travel, this is not an accurate reflection of the number of miles actually unavailable for public motorized travel. This is because miles of roads “closed” to motorized use were captured in other road maintenance or road type categories, such as decommissioned, and administrative or converted use. When decommissioned, administrative use, and converted use mileages are totaled, there are approximately 271 miles of roads unavailable to public motorized travel with 68 miles completely closed to motor vehicles as decommissioned or converted roads. The majority of ML 1 roads (161 miles or 65 percent) were recommended for decommissioning. Additionally, some of these ML 1 roads were considered administrative use only prior to the TAP. They were classified as an objective maintenance level 1 road prior to the *Travel Management Rule*. With regional guidance, it was determined that the operational maintenance level should be used to classify roads (not the objective maintenance level). As a result, the Tonto NF was required to change objective maintenance levels to correspond with operational maintenance levels, which was an administrative database change.

Through this TAP, the Tonto Basin RD ID Team recommends 69 percent (621 miles) of the total routes analyzed (including unauthorized routes) be maintained for use by high clearance and/or passenger vehicles (ML 2-5). These roads would require some form of management strategy, such as maintenance, mitigation or adaptive management monitoring, in order to move towards the desired effect of minimizing or preventing potential resource risks or minimizing known risks (impacts). Of the 621 miles, 115 miles (13 percent) are recommended as suitable for passenger cars (ML3-5) and 506 miles (56 percent) are recommended as suitable for high clearance vehicles (ML 2). This is a net increase of about 34 miles of ML 2 roads from the current condition and a net decrease of 6 miles in ML 3-5 roads.

The ID Team recommends no change in the 2 miles of converted (e.g., to non-motorized trails) roads. The team recommends that 23 percent (203 miles) be available for administrative use only (closed to motor vehicle use without written authorization) and 7 percent (66 miles) be decommissioned. This is a net increase of 203 miles of administrative roads and 38 miles of decommissioned roads. When taking into account existing closed roads (246 miles), this means that a total of 23 additional miles of roads are unavailable for public motorized travel. However, it is important to note that roads recommended for conversion to another use or for decommissioning include the analysis of unauthorized routes.

The ID Team recommends that less than 1 percent (4 miles) of the analyzed routes be managed as motorized trails, a net increase of 4 miles. A summary of roads and trails open for motorized travel is shown in table TBRD 6.2. A complete list of these routes can be found in appendix I; ID Team recommended minimum road system.

Table TBRD 6.2: Summary Recommendations for Open NFS Roads & Trails on Tonto Basin RD

Recommended Management Level	Miles	Percent of Total
Managed for Passenger Level Vehicles	115	18%
Managed for High Clearance Vehicles	506	81%
Motorized Trail	4	0%
Grand Total	625	100%

* Mileages derived from current GIS data (January, 2010).

Chapter 6 – Step 6: Summary

In conclusion, a summary of changes in road maintenance levels from the current condition to the recommended minimum road system for the entire Tonto NF is presented in table 6.4. The total recommended mileage for the Tonto NF includes the 590 miles of unauthorized routes analyzed in the TAP.

Table 6.4: Summary of Mileage Change Recommendations for the Tonto NF

Routes by Type	Current Miles	Recommended Miles	Difference in Miles (Recommended – Current)
Closed (ML 1)	1,688	0	-1,688
High Clearance Vehicles (ML 2)	2,258	2,631	373
Passenger Cars (ML 3-5)	606	532	-74
Motorized Trails	0	223	223
Administrative Use (ML 2, access by written authorization only)	0	1,180	1,180
Decommissioned	218	711	493
Converted Use (e.g., non-motorized trails)	29	138	109
Total	4,799	5,415	616

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