

**BIG BEND NATIONAL PARK
TEXAS**

**BACKCOUNTRY
MANAGEMENT PLAN**



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BIG BEND NATIONAL PARK TEXAS

Backcountry Management Plan

December, 1995

**Prepared by
BIG BEND NATIONAL PARK**

**With assistance from
SOUTHWEST REGIONAL OFFICE
Santa Fe, New Mexico**



**UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE**

1995

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I. INTRODUCTION

A. LOCATION OF THE PARK

Big Bend National Park is located in the southern tip of Brewster County, Texas, in a "Big Bend" of the Rio Grande (Figure 1). The United States/Mexico border and the states of Chihuahua and Coahuila form the southern boundary. Black Gap Wildlife Management Area, administered by the Texas Parks and Wildlife Department, is on the eastern park boundary. West of the park are the Arrow Investment Company (Lajitas) and Terlingua Ranch developments. Private ranchland lies along other portions of the boundary.

B. PURPOSE AND SIGNIFICANCE OF THE PARK

Big Bend National Park was established by an act of the 74th Congress (49 Stat. 393), on June 20, 1935. The Act stipulated that provisions of the National Park Service (NPS) Organic Act of August 25, 1916 (39 Stat. 535), apply:

...which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

Big Bend National Park is significant as the primary area of protected Chihuahuan Desert in the United States. Desert slopes, arroyos, hills, and flats support well-adapted native species and contain spectacular, sculpted landforms. The Chisos Mountains, a cooler, more moist topographic island, rise to 7,835 feet above sea level and are a refuge for woodland species. The Rio Grande flows through three major canyons and provides habitat for diverse populations of flora and fauna as it meanders through the desert.

Big Bend offers many recreational opportunities, including automobile touring, hiking, bicycling, horseback riding, and boating. It is a popular birdwatching area and offers opportunities for backcountry camping by vehicle or on foot.

Cultural resources of Big Bend represent 10,000 years of human history. Nine sites are on the National Register of Historic Sites and 15 are State Archeological Landmarks.

Few areas exceed Big Bend's value as an area for the protection and study of geologic and paleontological resources. Cretaceous and Tertiary fossils exist in variety and abundance.

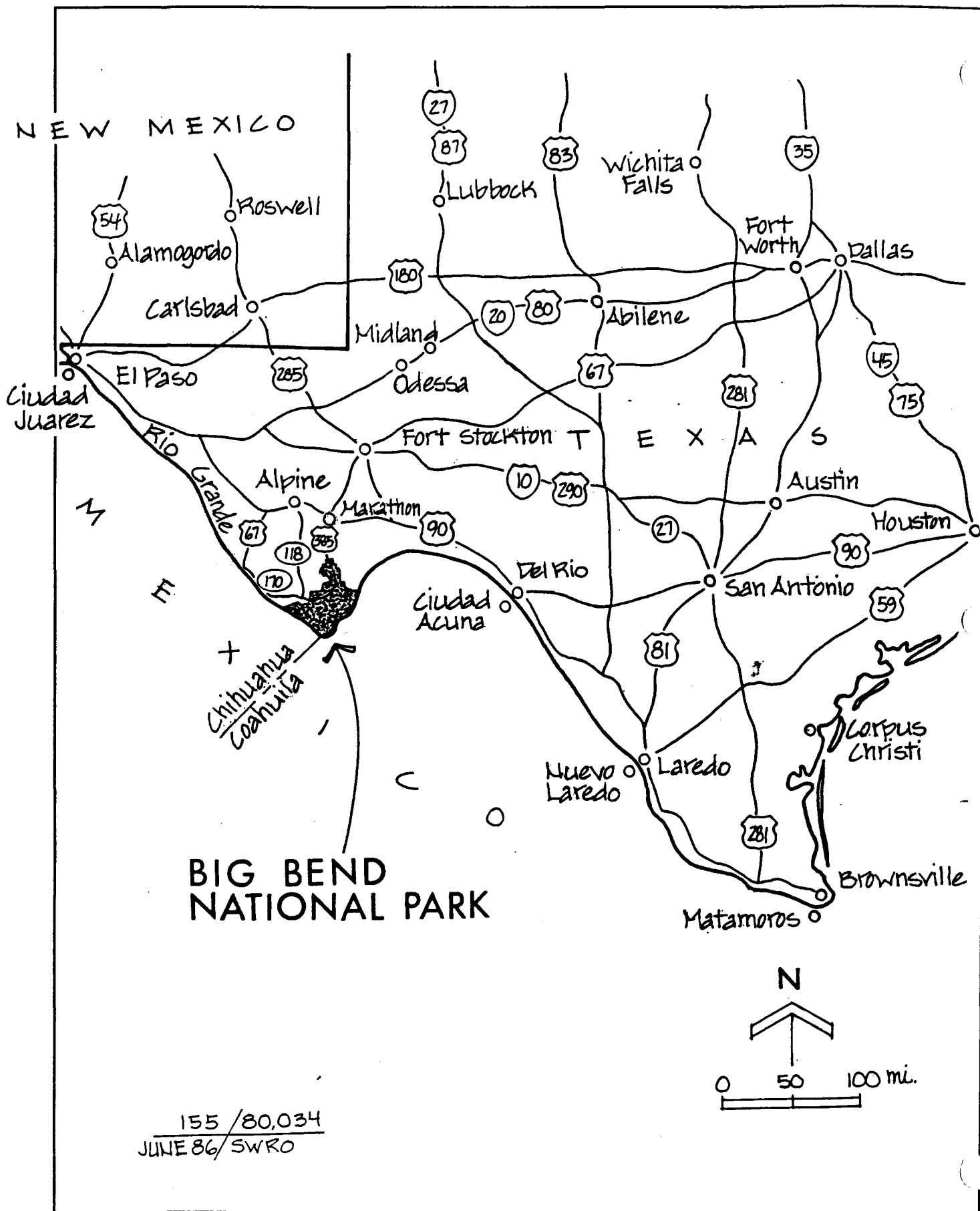


Figure 1: Big Bend National Park Vicinity Map

C. GOALS OF THE PLAN

The Big Bend *Backcountry Management Plan* is intended to serve the following purposes:

1. Describe strategies for meeting legislative and policy mandates to provide recreational opportunities and preserve natural and cultural resources of the park.
2. Provide for continuity of management through changes of park administration and staff.
3. Serve as a forum through which interested organizations, the public, and other agencies may review and provide comment upon proposed management actions.

D. OBJECTIVES OF THE PLAN

Serving the purposes outlined above, the following are objectives for accomplishing specific aspects of backcountry management.

1. Provide quality backcountry experiences for a broad spectrum of appropriate visitor activities.
2. Establish limits upon impacts resulting from backcountry use and administration in order to preserve the environmental integrity, solitude and primitiveness which users expect.
3. Provide for natural and cultural resource management which allows the function of natural processes and provides protection to sensitive resources.
4. Implement management as required by NPS policies regarding recommended and potential wilderness.
5. Provide a reasonable level of public safety, appropriate to use of undeveloped backcountry.
6. Encourage research which adds to an understanding of the park and its components and contributes to the body of knowledge required for effective management and protection of park resources.
7. Provide visitors the necessary information for successful backcountry experiences that maintain the integrity of park resources.

E. LEGISLATION AND POLICY

1. Establishing Legislation

All management, planning, and development decisions relating to Big Bend National Park backcountry must conform to provisions of the National Park Service Organic Act of 1916, as amended, the Establishment Authorization Legislation (Act of June 20, 1935, appended), and legislation relating to cession of exclusive jurisdiction by the State of Texas to the United States (State Act of May 12, 1939, appended).

2. Resource Protection Legislation

Decisions and actions must also comply with the Wilderness Act of 1964; the National Wild and Scenic Rivers Act of 1968, as amended; the National Environmental Policy Act of 1969; the Geothermal Steam Act of 1970; the Clean Air Act of 1972, as amended; the Clean Water Act of 1972, as amended; the Endangered Species Act of 1973, as amended; the Resource Conservation and Recovery Act of 1978; the Floodplain Management and Wetland Protection Executive Order of 1978; the Antiquities Act of 1906; the Historic Sites Act of 1935; the National Historic Preservation Act of 1966 and its compliance procedures, Executive Order 11593 of 1971; the Archeological and Historic Data Preservation Act of 1974; the Archeological Resources Protection Act of 1979, as amended; and the Native American Graves Protection and Repatriation Act of 1990.

3. Management Policies

NPS Management Policies (1988) clarifies and standardizes laws and directives under which the NPS has implementation responsibility. This plan serves to implement policies related to use and management of backcountry resources.

F. SUMMARY OF BACKCOUNTRY USE

1. Trails

Trail use includes day and overnight hiking on trails ranging from well-maintained to quite primitive. Overnight users may choose their own campsite (open camping) in most areas but must use designated campsites in the popular High Chisos area. A low to moderate amount of stock use occurs on most backcountry trails.

2. Off-Trail Use

Due to the open nature of much of Big Bend's backcountry, experienced backcountry travelers sometimes travel off established trails, depend upon map reading and outdoor skills for navigation, and may experience demanding conditions while exploring remote areas.

3. Backcountry Roads

Numerous unpaved roads allow motor vehicle travel, camping, and mountain bike touring. Designated backcountry campsites are provided along these routes (Figure 7). Maintenance levels range from automobile-accessible to roads requiring high clearance and 4-wheel drive.

4. Commercial and Special Use

Commercial organizations with written authorization from the National Park Service offer backcountry road tours, backpacking trips, bicycle touring, river trips, and horseback riding to those wishing guided backcountry experiences.

A variety of special uses are permitted after case-by-case assessment for appropriateness. In recent years, special uses have included weddings and religious activities.

5. Backcountry Use Trends

Figure 2 and Appendix A illustrate 10-year overnight backcountry use trends.

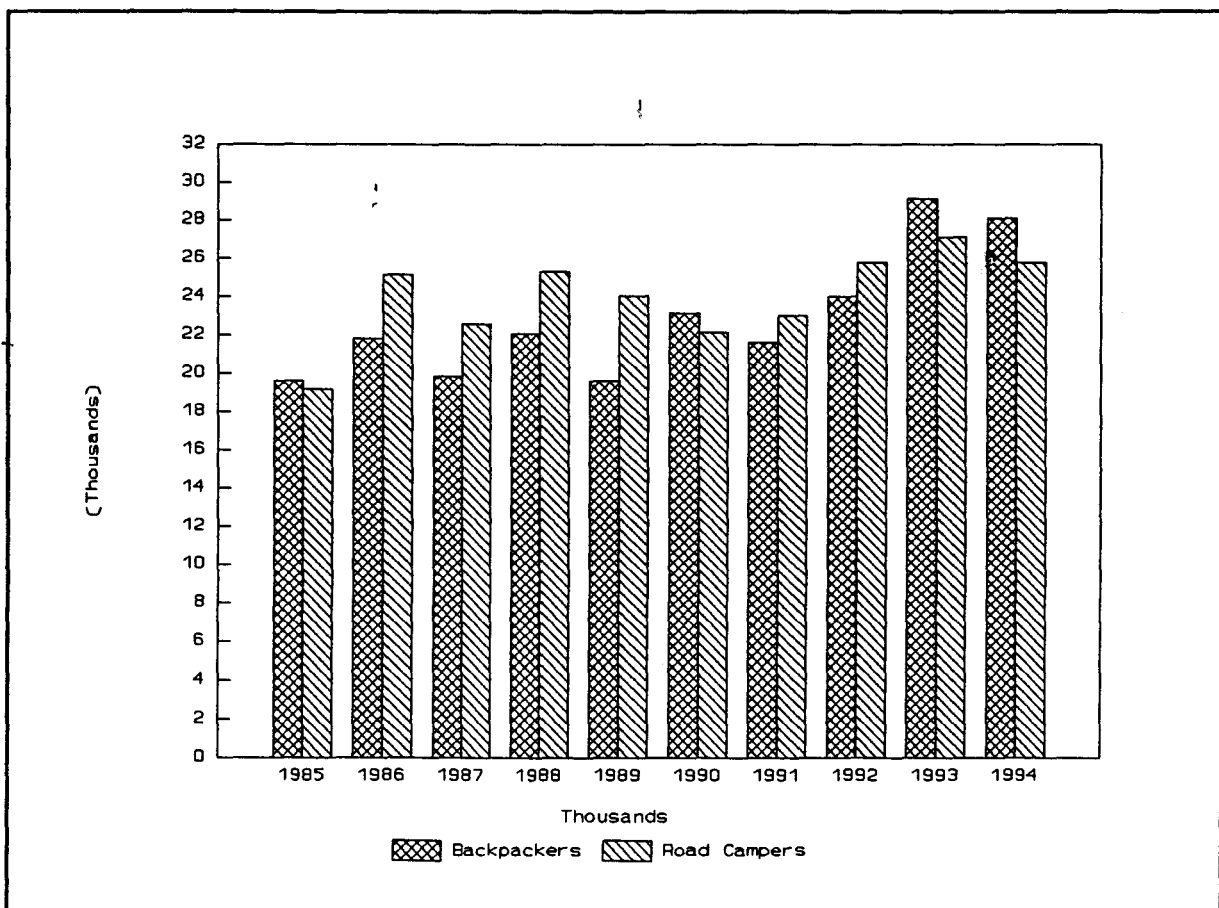


Figure 2: Backcountry Overnight Visitor Days, 1985 - 1994

II. GENERAL BACKCOUNTRY MANAGEMENT PRINCIPLES

A. DEFINITION

For the purpose of this plan, backcountry consists of those areas of the park administered by the National Park Service which are outside Development and Historic Zones and maintained roadway corridors. Unpaved (backcountry) roads primarily serve visitors seeking backcountry experiences. Accordingly, this plan includes management strategies for such routes.

B. RECOMMENDED WILDERNESS

The Wilderness Act of 1964 required all Federal land management agencies to examine their resources for possible wilderness classification.

In 1973, 533,900 acres (Figure 3) of roadless Big Bend backcountry were proposed to Congress for inclusion in the National Wilderness Preservation System (Big Bend National Park Wilderness Recommendation, USDI/NPS, 1973, amended 1978). Another 44,750 acres were recommended for potential wilderness addition. Park acreage not classified as proposed or potential wilderness (currently 222,513 acres) provide corridors for all existing visitor use developments, existing paved and unpaved roads, and non-wilderness backcountry. The proposal was eliminated from consideration in the 1978 National Parks Omnibus Bill, which established numerous wilderness areas throughout the national park system. Because the wilderness proposal was not considered by Congress, it officially remains recommended/potential wilderness.

The Wilderness Act and NPS policy require that recommended and potential wilderness be managed in a manner that maintains wilderness character and does not detract from its capacity to qualify for future wilderness designation. NPS policies for wilderness management apply equally to designated wilderness, potential wilderness, and recommended/study wilderness.

All visitor support developments, paved roads, and all but two percent of unpaved roads lie outside recommended wilderness. Potential wilderness areas meet wilderness conditions except for the existence of powerlines. Should these lines be relocated to road corridors, those areas would become eligible for designation as potential wilderness. None of the Rio Grande corridor is recommended wilderness. All existing backcountry development, including trails and campsites, are compatible with wilderness designation, as are traditional backcountry uses, including private and commercial stock use.

No conflict exists between existing backcountry facilities and requirements for wilderness designation or management. Non-wilderness tracts contain radio repeaters on Emory Peak and a cabin in Boot Canyon. A portable radio repeater is

located in recommended wilderness on Sue Peaks. Air quality monitoring instruments are located in non-wilderness backcountry near Panther Junction and at Grapevine Hills.

The following, from *NPS Management Policies*, describes general principles to be followed in management of Big Bend recommended/potential wilderness. Other aspects of the *Backcountry Management Plan* support implementation of these policies.

1. Management Facilities

- a. Decisions to construct or maintain an administrative facility in recommended and potential wilderness will be based primarily on whether such a facility is required to preserve wilderness character or values, or is essential to ensure public safety.
- b. Authorization for NPS administrative facilities located in recommended and potential wilderness will be limited to the types and minimum number essential to meet the minimum requirements for administration of the area.
- c. Facilities such as radio antennas and repeater sites may be placed in recommended and potential wilderness only if they constitute the minimum facility required to carry out essential administrative functions and are specifically authorized by the Regional Director.
- d. Management support structures and those associated with stock use, such as fences and corrals, may be placed in recommended and potential wilderness only if necessary to carry out wilderness management objectives.
- e. No permanent heliports, helipads, or airstrips will be allowed in recommended and potential wilderness. Temporary landing facilities may be used to meet the minimum requirements of emergency situations. Site improvements essential for safety during individual emergencies may be authorized and will be restored after the emergency has ended.
- f. Natural openings may be used for authorized non-emergency aircraft landings, but no site markings or improvements of any kind may be installed to support non-emergency aircraft use.
- g. Construction or reconstruction of shelters for public use will not be allowed, since recommended and potential wilderness users should be self-supporting in terms of shelter.
- h. Permanent roads will not be built or retained in recommended or potential wilderness.

- i. Campsites may be designated in recommended and potential wilderness if essential for resource protection and dispersal of use. Campsite facilities may include a campsite marker, a tent site, a food storage device, and a toilet, but only if determined by the Superintendent to be the minimum necessary for the health and safety of recommended and potential wilderness users and for the protection of resources and wilderness values.
- j. Only those signs necessary to protect recommended and potential wilderness resources or for public safety, such as signs identifying trails and distances, will be permitted.

2. Management Techniques

- a. Motorized equipment or mechanical transport are allowed only as necessary to meet minimum requirements for administration of the area, and in human health or safety emergencies.
- b. The NPS will select the minimum administrative practice or tool necessary to successfully and safely accomplish the management objective with the least adverse impact on wilderness character and resources (Appendix D). Decisions regarding administrative practices and use of equipment will be based upon this concept rather than economic efficiency or human convenience.

3. Monitoring of Resources

The conditions and long-term trends of recommended and potential wilderness resources will be monitored to reveal results of visitor use and management actions.

4. General Public Use

Park visitors must accept recommended and potential wilderness largely on its own terms, without modern facilities provided for their comfort or convenience. The NPS will not eliminate or unreasonably control risks that are normally associated with wilderness, but it will strive to provide users with general information concerning possible risks, recommended precautions, minimum-impact use ethics, and applicable restrictions and regulations.

C. NON-WILDERNESS BACKCOUNTRY

Of 222,513 Big Bend acres not recommended for wilderness designation, most are non-wilderness backcountry (Figure 3). While non-wilderness backcountry is not subject to such strenuous protective measures as is recommended and potential wilderness, NPS policies require careful consideration of potential backcountry

actions. This plan includes strategies designed to implement the following general principles, excerpted from *NPS Management Policies*:

1. Backcountry use will be managed to avoid unacceptable impacts on park resources or adverse effects on visitor enjoyment of appropriate recreational experiences.
2. The National Park Service will identify acceptable limits of impact, monitor backcountry use levels and resource conditions, and take prompt corrective action when unacceptable impacts occur.
3. The number and types of facilities to support (backcountry) visitor use...will be limited to the minimum necessary to achieve a park's backcountry management objectives and to provide for the health and safety of park visitors.

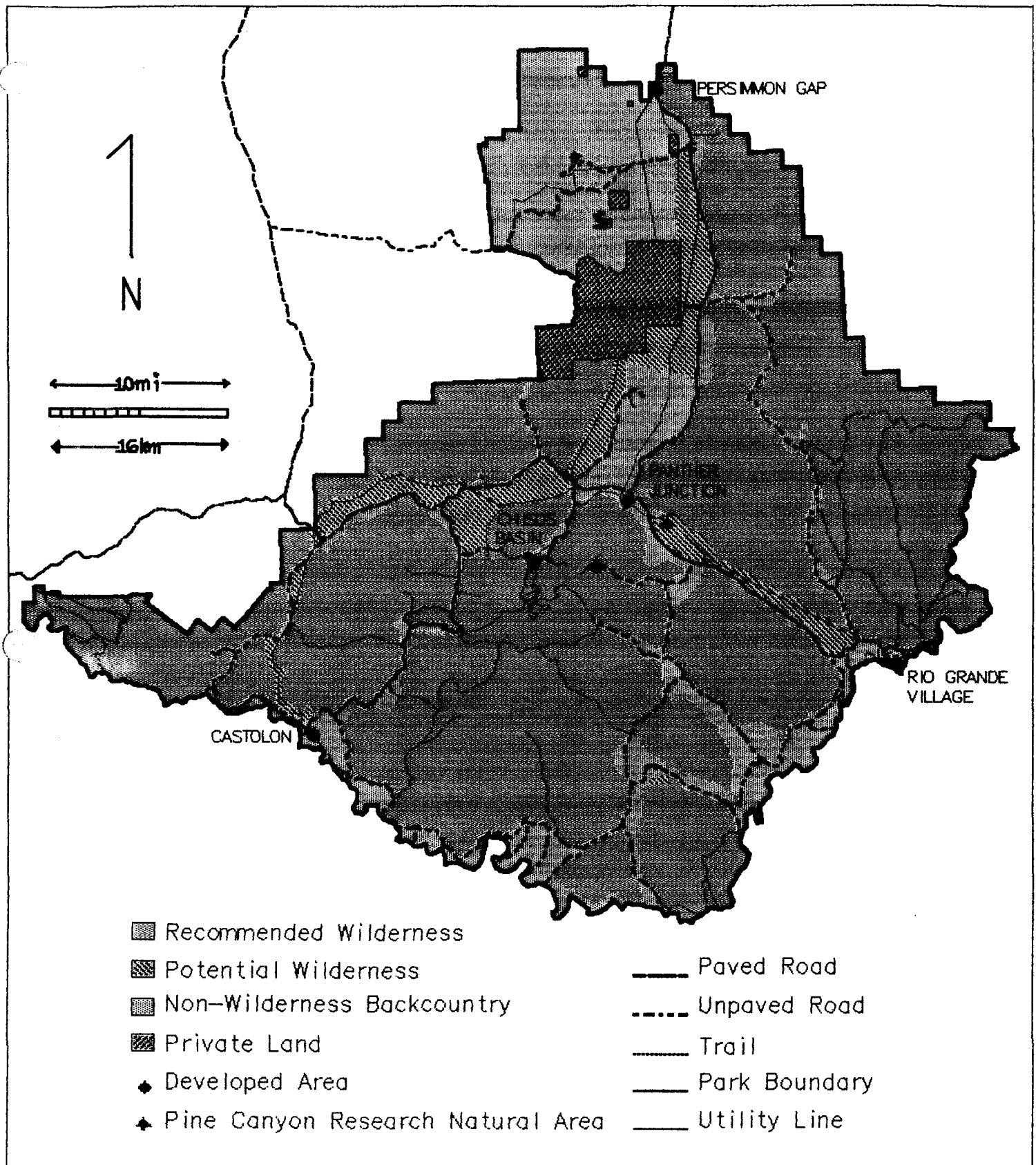


Figure 3: Recommended Wilderness, Potential Wilderness, and Non-Wilderness Backcountry Map

III. BACKCOUNTRY MANAGEMENT

A. USE AREAS AND MANAGEMENT LEVELS

1. Use Areas

Backcountry lands are divided into use areas (Figure 4) which serve as geographical units for visitor management. Use areas are identified by the name of a trail or prominent geographic feature found in the area. Codes representing use area names are used for permit issuing and tracking purposes (Table I).

2. Management Levels

Each use area has a Management Level of either Threshold, Primitive, or Wild (Table I). Each level represents strategies intended to perpetuate distinct visitor experience opportunities with regard to primitiveness and solitude. These values will be maintained by management practices which meet, but do not exceed, prescribed levels of trail development, support facilities, signs, use levels, and use types.

a. Threshold

Threshold use areas will provide a backcountry experience characterized by a high level of trail development and high potential for the regular presence of other day and overnight visitors. Threshold areas may contain Major Use trails (Section III.D.2), designated campsites, and signing to meet the needs of novice hikers. Due to heavy hiker use and impacts to trails and resources, stock use is restricted in some areas (Section III.F).

b. Primitive

Primitive use areas will offer basic trails and navigational signing, yet will provide minimal evidence of human activity and a high potential for solitude. Minor Use and Primitive Use trails are provided. These trails are narrow and may include steep grades. Maintenance is limited to keeping the path visible and preventing resource impacts.

In the most remote areas, Primitive Use trails may not be easily discernable. Camping is open, and few other persons may be encountered except during high use seasons. Stock use is allowed on and off trail.

Table I: Backcountry Use Areas, Permit Codes, Management Levels, Capacities, and Camping Type

Use Area	Code	Management Level	Overnight Capacity	Camping Type
CHISOS				
North Chisos	C01	Threshold	0	No Camping
High Chisos	C02	Threshold	303	Designated
Lower Juniper	C03	Primitive	30	Open
Dodson	C04	Primitive	40	Open
Blue Creek	C05	Primitive	20	Open
Ward Spring	C06	Primitive	10	Open
Ash Spring	C07	Wild	40	Open
Wright Mt.	C08	Wild	30	Open
Hayes Ridge	C09	Wild	30	Open
SOUTH				
Mule Ears	S01	Threshold	18	Open
Upper Smoky	S02	Primitive	35	Open
Lower Smoky	S03	Primitive	40	Open
Dominguez	S04	Primitive	40	Open
Elephant Tusk	S05	Primitive	40	Open
Pettits	S06	Wild	25	Open
Mariscal Mt.	S07	Primitive	35	Open
Talley Mt.	S08	Wild	30	Open
Chilicotal	S09	Wild	50	Open
WEST				
Canyon Flag	W01	Primitive	20	Open
Bruja Cn.	W02	Wild	20	Open
Mariposa	W03	Primitive	20	Open
Canyon Rim	W04	Wild	20	Open
Terlingua Ck.	W05	Wild	30	Open
Chimneys	W06	Primitive	25	Open
Tule Mt.	W07	Wild	35	Open
Burro Mesa	W08	Primitive	0	No Camping
NORTH				
Slickrock	N01	Wild	60	Open
Paint Gap	N02	Wild	40	Open
Grapevine	N03	Primitive	40	Open
N. Rosillos	N04	*	35	Open
Nine Point	N05	*	35	Open
EAST				
Tornillo Ck.	E01	Wild	60	Open
Dagger Mt.	E02	Primitive	40	Open
Sue Peaks	E03	Wild	50	Open
Telephone Cn.	E04	Primitive	40	Open
Ore Terminal	E05	Primitive	45	Open
Strawhouse	E06	Primitive	45	Open
Arroyo Venado	E07	Wild	40	Open
Marufo Vega	E08	Primitive	40	Open
Total			1556	

* Undesignated until completion of North Rosillos Development Concept Plan

c. Wild

Wild use areas offer a wilderness experience free of human influence. No designated trails or route markings will exist. Paths may exist due to historic or temporary use, but are not maintained or marked, and should be restored to natural conditions where they contribute to resource damage or affect the natural scene. Hikers and horse users must depend upon backcountry skill and experience to locate and follow chosen routes. Camping is open within Wild areas, and users may expect to encounter few or no other persons. Stock use is allowed.

d. North Rosillos Addition

With implementation of this plan, the North Rosillos addition to the park, consisting of the North Rosillos and Nine Point use areas, is opened to limited overnight use. Overnight backpacking is instituted (Table I) and up to three backcountry road campsites (Section III.C.3) will be established along the North Rosillos Road. The North Rosillos and Nine Point use areas will not receive management designations until a more in-depth planning process, such as a Development Concept Plan, has been completed for the recently acquired property. No additional backcountry facilities, such as trails or new roads, will be developed until such planning is complete.

3. River Corridor

The Rio Grande corridor is used by private and commercial river parties and is subject to extensive trespass livestock impacts. Upstream influences on water quality and flow rate add complexity to river management.

A separate *River Use Management Plan*, when complete, will serve as an addendum to the *Backcountry Management Plan*. River use as addressed in this plan (Section IV) serves to maintain continuity until the *River Use Management Plan* is complete. For permit management purposes, use areas exist for river sections open to camping (Table VIII) in Big Bend National Park and the Rio Grande Wild and Scenic River.

B. USE LIMITS

1. Group and Party Size

- a. No overnight backcountry camping group or party will be larger than 15 persons except for river parties (Section IV.B.7) and users of backcountry road group sites (Table III).

- b. Overnight off-road backcountry camping groups larger than 15 will divide into two or more parties. These parties will not be permitted in the same use area nor in adjacent use areas for a given night. For the purpose of this requirement, adjacent use areas do not include those separated by paved or unpaved roads.
- c. Party size limits for designated campsites (High Chisos and backcountry road campsites) are established for each campsite (Tables II, III).
- d. Control Charts (Appendix E) will be kept at all times for all backcountry camping areas to ensure capacities are not exceeded (Section III.C.1).

2. Length of Visit

- a. An individual may spend no more than 28 nights camping in the backcountry per year. An exception exists for commercial and special use guides who accompany different groups.
- b. Use of a single backcountry campsite by an individual, group, or party will not exceed 14 nights per calendar year.

3. Closures and Use Restrictions

- a. In order to protect the integrity of certain vistas, water sources, historic and archeological features, or to reduce conflict between user groups, the following areas are closed to overnight backcountry camping:
 - Burro Mesa, above 3,400 feet elevation, for the purpose of archeological resource protection.
 - The North Chisos use area (Figure 5). The area is enclosed by a perimeter through Crown Mountain's highest points, to the south face of Casa Grande, to Ward Mountain summit; then north, making a 1/2-mile radius around Oak Spring and Cattail Falls; east along the north face of Pulliam Ridge at 5400 feet elevation, across Green Gulch to the west side of Smuggler's Gap; to the road terminus in Pine Canyon, to the eastern peak of Crown Mountain. This restriction preserves unmarred the natural vistas seen from the heavily traveled Green Gulch and Basin roads, the Basin development zone, and the popular Lost Mine and Window trails. The restriction also affords protection to the Pine Canyon Research Natural Area, Cattail Falls, and Oak Spring, which is the source of water for the Basin development.
 - Within 1/2-mile or within sight of development areas and paved or unpaved roads (Figure 4), to preserve natural vistas as seen from travel routes and high-use areas.

- Within 100 yards of any historic structure or archeological site, to minimize degradation of these features.
- Within 100 yards of any trail, to reduce visual impacts upon hikers.
- Within 100 yards of any water source, to reduce impact concentration and minimize contamination of water sources.
- Between Route 16 (Castolon to Santa Elena Canyon) and the Rio Grande, to preserve the natural vista as seen from Route 16.
- The river floodplain from 1/2-mile upstream of the mouth of Tornillo Creek to the Boquillas Canyon Trail terminus, to preserve the natural vista in this high-use area.
- A 1/2-mile radius around the refinery ruins of Mariscal Mine, to reduce impacts upon historic features.
- A 1/2-mile radius around the San Vicente river crossing, to prevent conflict between user groups.

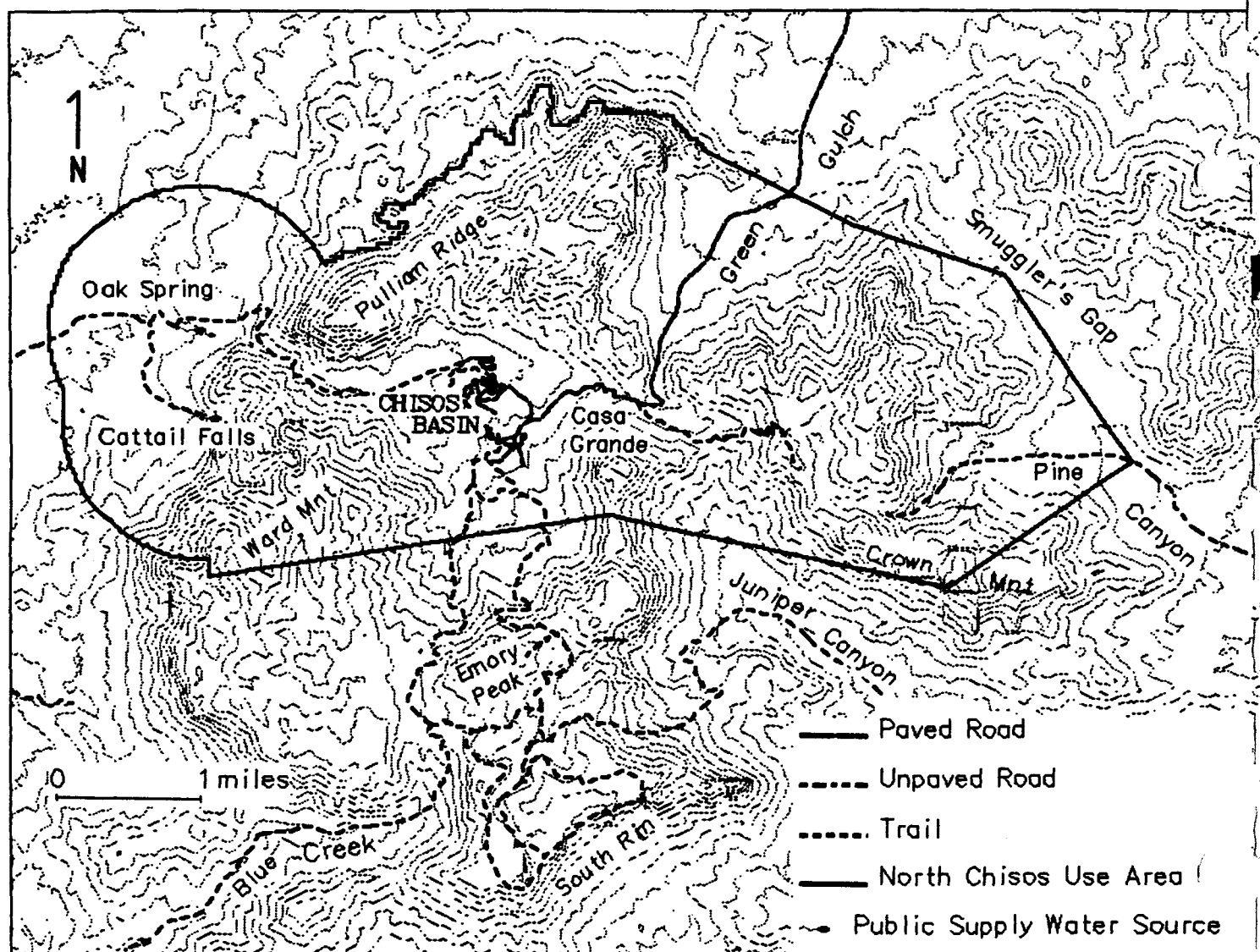


Figure 5: North Chisos Use Area Map

- b. The following areas are closed to public entry for protection of endangered peregrine falcons during their nesting season (February 1 through July 15). If monitoring determines there will be no peregrines nesting in a restricted area, the restriction will be lifted prior to July 15. If nesting is delayed, restrictions may be extended beyond July 15 on a site-specific basis.

- Casa Grande Peak, above 6,600 feet elevation
- Southeast Rim Trail from the Boot Canyon/South Rim junction to just north of campsite NE 4
- Mariscal Canyon Rim, west of Cross Canyon
- Within 1/4 mile of the Santa Elena Canyon rim and its extension to Bruja Canyon

4. Campfires

- a. Wood fires are not allowed in the park, except for areas of the Rio Grande floodplain open to camping. Such fires must be contained entirely within a firepan.
- b. Fuel for wood fires may be collected only from dead and down natural wood sources within areas of the Rio Grande floodplain open to camping.
- c. Charcoal fires in grills may be used in the backcountry only within the Rio Grande floodplain and at backcountry road campsites.
- d. Fire remains must be extinguished cold, then removed for disposal into a waste container. Non-floatable particles (ash) may be disposed of in the main river current of the Rio Grande.

C. OVERNIGHT CAMPING

1. Permit System

- a. Each group, party, or individual camping in the backcountry must possess a valid camping permit.
- b. Permits will be available at visitor centers during hours of operation and may be issued when necessary by NPS field staff. For visitor convenience, a permit station will be maintained at the Warnock Center (near Lajitas) for Santa Elena Canyon river users and overnight hikers using the Mesa de Anguila.

- c. Pending institution of a computerized permit system (Section III.C.2), permit issuance will be tracked by use of control charts (Appendix E). Control charts will be maintained at all times for all backcountry camping types except river use. Control charts for High Chisos use area designated campsites will be maintained at the Chisos Basin Visitor Center. Control charts for open camping use areas and backcountry road campsites will be maintained at the Panther Junction Visitor Center.

When issuing permits from the field or other visitor centers, issuers must contact staff at the appropriate visitor center to verify campsite availability and to record permit statistics.

- d. The Division of Interpretation and Visitor Services will maintain written standard operating procedures, to provide consistent permit issuance, control chart management, and other permit-related processes.
- e. Permits for backcountry designated campsites, open camping areas, and backcountry road campsites are issued on a first-come, first-served basis. The only exception is Grapevine Hills No. 1, a backcountry road campsite with corral, located at Government Spring. Reservations for Grapevine Hills No. 1 may be made up to 10 weeks in advance by phone or in person at the Panther Junction Visitor Center.

Backcountry users are eligible for a backcountry permit on the day prior to beginning their overnight visit. Until such time as computerization of the permit system is instituted, a separate permit must be issued for each overnight use type (i.e., backcountry road campsite, open camping, river use).

A permit may be issued in advance for any use type only if all prior nights are covered by permit for another use type. If a permittee breaks a trip with a night not under permit, another permit must be obtained prior to resuming the trip.

- f. Hikers and boaters traveling alone into the backcountry, particularly when visiting more remote areas of the park, will be asked to fill out a Solo Hiker or Boater Information Sheet (Appendix C) in addition to obtaining a permit. Such visitors will be strongly encouraged to provide solo hiker or boater information, but will not be denied a permit for refusing to complete the form.
- g. Backcountry overnight boaters and open campers will be issued a hiker/boater card to be placed on their vehicle dashboard. The card, indicating user name and activity type, assists patrol rangers investigating illegal camping, overdue hiker status, and possible vehicle abandonment.

This requirement may be suspended for periods of time or portions of the park, when the Chief, Division of Visitor and Resource Protection, determines it to be unnecessary or counterproductive to visitor safety.

- h. Use Areas are designated by name and are represented by 3-figure codes for permit issuance purposes (Table I and Figure 4 display use areas and corresponding codes).

The first figure of each use area code indicates which of five geographic sections of the park the use area is in. C indicates the Chisos geographic section. N includes the section north of Route 13 (west entrance road) and west of Route 11 (north entrance road). E includes the section east of Route 11 and north of Route 12 (Rio Grande Village road). S indicates the southern section, bounded by Route 15 (Castolon road) on the west and Route 12 on the east. W indicates the section west of Route 15.

The remaining code figures represent the specific use area within a geographic section. Numbering begins with the westernmost use area in the geographic section and increases to the east.

- i. Designated campsites in the High Chisos use area and along backcountry roads have 3-figure permit codes, representing individual campsite names and numbers (Tables II and III).

2. Permit Management Needs

Six to seven thousand handwritten camping and boating permits are issued annually. Handwritten control charts are used to determine when capacities are met. Personnel issuing permits must coordinate control by phone or radio. Analysis of visitor use data is not readily feasible due to the immense volume of information and a lack of computerization.

The Chief, Division of Interpretation and Visitor Services, will continue efforts to institute a computerized permit management system, networked to each park visitor center.

3. Designated Campsites

a. Purpose and Function

The use of designated campsites is for the purpose of limiting impact to previously disturbed areas and is appropriate in heavily used areas. Campsite designation is appropriate in Threshold use areas, but in Primitive and Wild use areas, the intended character of primitiveness and freedom is compromised by such developments.

Backcountry designated campsites exist in the High Chisos use area (Figure 6) and along backcountry roads (Figure 7). Designated campsites will be established in the Mule Ears use area in keeping with its Threshold designation.

b. Use Limits

- Vehicles and all camp accommodations such as tents and sleeping places must be maintained within the delineated perimeter of designated campsites.

- Users of designated campsites must vacate the campsite by 12:00 noon on the final day of a permitted visit.

c. Storage Requirements

Food products, flavored beverages, cooking utensils, garbage, food containers, and other aromatic products (including soap, toothpaste, sunscreen, deodorant, etc.) are attractions to bears and other wildlife and must be stored properly when not being prepared, used, or transported.

- Campers in the High Chisos use area must store the above-listed items inside a bearproof storage container provided at the designated campsite.

- Backcountry road campsite users must store the above-listed items inside a closed, locked, hard-topped, hard-sided vehicle or in a bearproof storage container where provided.

d. Administrative Responsibility

District Rangers have primary responsibility for managing backcountry road campsites and will coordinate actions described below, enlisting assistance from other divisions as required.

- Backcountry road campsites will be delineated so that visitors may clearly see designated parking areas and separate tent placement areas.

- Access roads and campsites will be provided with uniform identification signs.

- The Division of Facility Management will keep campsite access roads in 38compliance with maintenance standards (Section III.D.1).

- Rio Grande floods occasionally obscure or remove campsite markers and delineators. The Division of Facility Management will clear and re-open campsites and their access routes following flood events.

- Several designated backcountry road campsites share camping and parking areas. Concentration of use at joined campsites increases local trampling and human waste effects, and reduces the privacy of individual parties. Campers seek privacy by illegally placing tents or vehicles outside campsite boundaries, causing resource damage to spread.

New campsites will be established to separate joined campsites into an equal number of separate single-party campsites. The new campsites will be established in the general vicinity of existing locations. Overall campsite numbers and camper capacities will not be reduced.

Campsites to be separated are Nugent Mountain 1 and 2, Pine Canyon 2 and 3, Ernst Tinaja 1 and 2, Grapevine Hills 2 and 3, Croton Spring 1 and 2, and K-Bar 1 and 2. Two of the four campsites at Terlingua Abaja will be relocated out of the historic area.

- Campsites for groups of up to 20 persons exist at Nugent Mountain, K-Bar, Government Spring and Croton Spring. Group use will remain at Nugent Mountain, Government Spring and K-Bar. To protect local cultural resources, the existing Croton Spring campsite will be reduced in size and capacity to accommodate only a single party. Hannold Draw 1 will become a group campsite to compensate for the change at Croton Spring.

- Ernst Tinaja 2, Telephone Canyon 2, Pine Canyon 4, Juniper Canyon 2, Elephant Tusk 1, and Chimneys 1 campsites will be relocated to alleviate conflicts between campers and hikers, who frequently use the campsites for trailhead parking.

- Glenn Spring 1 campsite will be relocated east of Glenn Draw and outside the Glenn Spring historic area in order to improve user access and reduce impacts upon the historic area and spring environment.

- Up to three backcountry road campsites will be established along the North Rosillos road.

- Designated campsites will be established in the Mule Ears Use Area (Figure 4), to reduce impacts that threaten to excessively degrade local resources and aesthetic values.

e. Campsite Establishment and Closure

- If reasons for permanent closure or relocation of campsites other than described above occur, a project proposal will be prepared by staff seeking the action. If supported by the respective Division Chief, the proposal will receive internal staff review. The Environmental Compliance Specialist will coordinate required National Environmental Policy Act (NEPA) compliance steps, including natural and cultural resource

assessments. NEPA results, and staff and public (when appropriate) comment, will be considered by the Superintendent in making a final decision regarding the proposal.

Any permanent campsite closure will be accompanied by establishment of a new campsite, of equal capacity, located in the same general vicinity.

- Except in emergencies, temporary closures for safety or resource protection will only be instituted under order of the Superintendent. Such orders will be reviewed and updated every six months if extensions are necessary.
- If a natural event such as flood or fire destroys a campsite and it cannot be re-established, the area District Ranger will establish a replacement site through the compliance process described above. The replacement campsite will be located in the same general vicinity, have equal capacity, and be established within one year of the original campsite's destruction.

4. Open Camping

a. Purpose and Function

Designated campsites are not provided in open camping use areas. Users may camp at any appropriate location in the use area for which they are permitted. Open camping is the primary backcountry camping method outside the High Chisos use area. Backpackers in open camping use areas have a large degree of freedom in campsite selection and an excellent opportunity for solitude.

b. Visitor Responsibility

Campers visiting open camping use areas are responsible for understanding and adhering to regulations intended to protect resources and aesthetic qualities (Section III.B).

Table II: Designated Backcountry Trail Campsites, Site Codes, and Capacities

Name	Code	Capacity: Persons/ Tents	Name	Code	Capacity: Persons/ Tents
JUNIPER FLAT	JF1	4/1	NORTHEAST RIM	NE1	5/2
	JF2	6/3		NE2	6/2
	JF3	6/3		NE3	6/2
BOULDER MEADOW	BM1	4/2		NE4	10/5
	BM2	4/2		NE5	6/2
	BM3	4/2	SOUTHEAST RIM	SE1	6/2
	BM4	4/2		SE2	6/2
	BM5	6/2		SE3	10/5
PINNACLES	PI1	4/1		SE4	6/2
	PI2	6/2	SOUTHWEST RIM	SW1	6/2
	PI3	15/5		SW2	3/1
TOLL MOUNTAIN	TM1	4/1		SW3	10/4
EMORY PEAK	EP1	6/2		SW4	4/1
BOOT CANYON	BC1	6/2	BLUE CREEK	BL1	4/1
	BC2	12/5		BL2	4/1
	BC3	4/2	LAGUNA MEADOW	LM1	6/2
	BC4	6/2		LM2	10/5
COLIMA	CO1	15/5		LM3	6/2
	CO2	3/1		LM4	6/2
	CO3	4/2	LAGUNA WEST	LW1	4/2
JUNIPER CANYON	JC1	6/2		LW2	4/1
				LW3	4/1

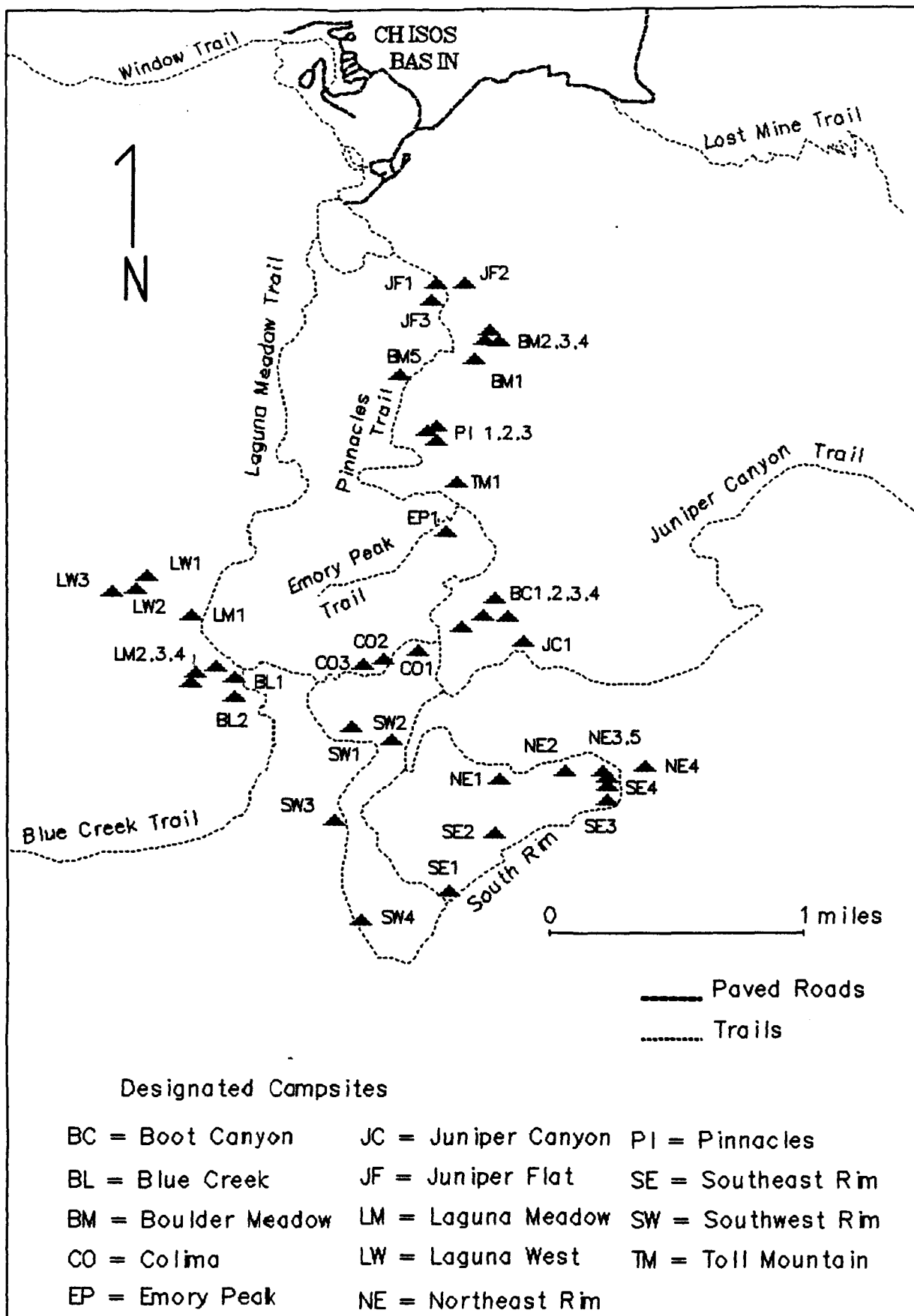


Figure 6: Designated Backcountry Trail Campsites Map - High Chisos Use Area

Table III: Backcountry Road Campsites, Road Maintenance Standards, Capacities for Vehicles, Persons, and Stock

Name, Code, *Road Access Standard, Vehicles/Persons, **Horses

GRAPEVINE HILLS	GH1	A	3/20	8	LOOP CAMP	LP1	HC	3/12	4
	GH2	A	2/6	4		LP2	HC	2/8	4
	GH3	A	2/6	4	JOHNSON'S RANCH	JR1	HC	2/10	4
	GH4	HC	2/6	N		JR2	HC	2/8	2
	GH5	HC	2/6	N	GAUGING STATION	GA1	HC	1/6	N
PAINT GAP	PG1	A	1/4	2		BD1	HC	2/10	N
	PG2	A	2/6	N	BLACK DIKE	BA1	HC	2/10	4
	PG3	A	1/4	N	BUENOS AIRES	BA2	4X4	1/6	6
	PG4	HC	2/6	N		TA1	HC	2/8	2
CROTON SPRING	CS1	A	2/6	2	TERLINGUA	TA2	HC	2/8	4
	CS2	A	2/6	4	ABAJA	TA3	HC	2/8	2
K-BAR	KB1	A	2/6	4		TA4	HC	2/8	4
	KB2	A	2/6	4		CH1	HC	1/6	N
or group			3/20	6	CHIMNEYS	NM1	HC	2/6	4
HANNOLD DRAW	HD1	A	3/20	8	NUGENT MOUNTAIN	NM2	HC	2/6	4
NINE-POINT DRAW	NP1	A	2/8	6	or group of			3/20	6
					PINE CANYON	PC1	HC	2/6	4
GRAVEL PIT	GP1	HC	2/10	4		PC2	HC	2/6	4
	GP2	HC	2/10	6		PC3	HC	1/4	N
	GP3	HC	2/12	N		PC4	HC	2/6	N
	GP4	HC	3/15	N	RICE TANK	RT1	HC	2/6	N
LA CLOCHA	LC1	HC	2/10	N		RT2	HC	2/6	N
	LC2	HC	2/8	2	JUNIPER CANYON	JC1	4X4	1/4	N
SOLIS	SO1	HC	2/12	N		JC2	4X4	1/4	4
	SO2	HC	3/15	N	GLENN SPRING	GS1	4X4	2/8	N
	SO3	HC	3/15	N		GS2	HC	2/8	4
	SO4	HC	2/12	6	CANDELILLA	CA1	HC	2/8	N
FRESNO ELEPHANT TUSK	FR1	HC	2/8	N	ERNST TINAJA	ET1	HC	2/10	N
						ET2	HC	2/10	N
TALLEY	EL1	4X4	1/6	N	LA NORIA	LA1	HC	1/6	N
	TY1	HC	2/8	N		LA2	HC	1/6	N
	TY2	HC	2/8	N	ERNST BASIN	EB1	4X4	2/12	N
	TY3	HC	3/12	N	WILLOW TANK	WT1	4X4	1/8	2
	TY4	HC	2/8	4	TELEPHONE CANYON	TC1	4X4	1/6	N
WOODSONS	WO1	HC	2/8	N		TC2	4X4	2/12	4
	WO2	HC	3/12	N	ROY'S PEAK	RP1	4X4	2/6	N
DOMINGUEZ TRAILHEAD	DT1	HC	2/8	4	MCKINNEY SPRING	MS1	HC	2/6	4
JEWELS CAMP	JE1	HC	2/8	4					
	JE2	HC	3/12	4					

* A=All Vehicles, HC=High Clearance, 4x4=High Clearance and Four-Wheel Drive

** N=No Horses Allowed

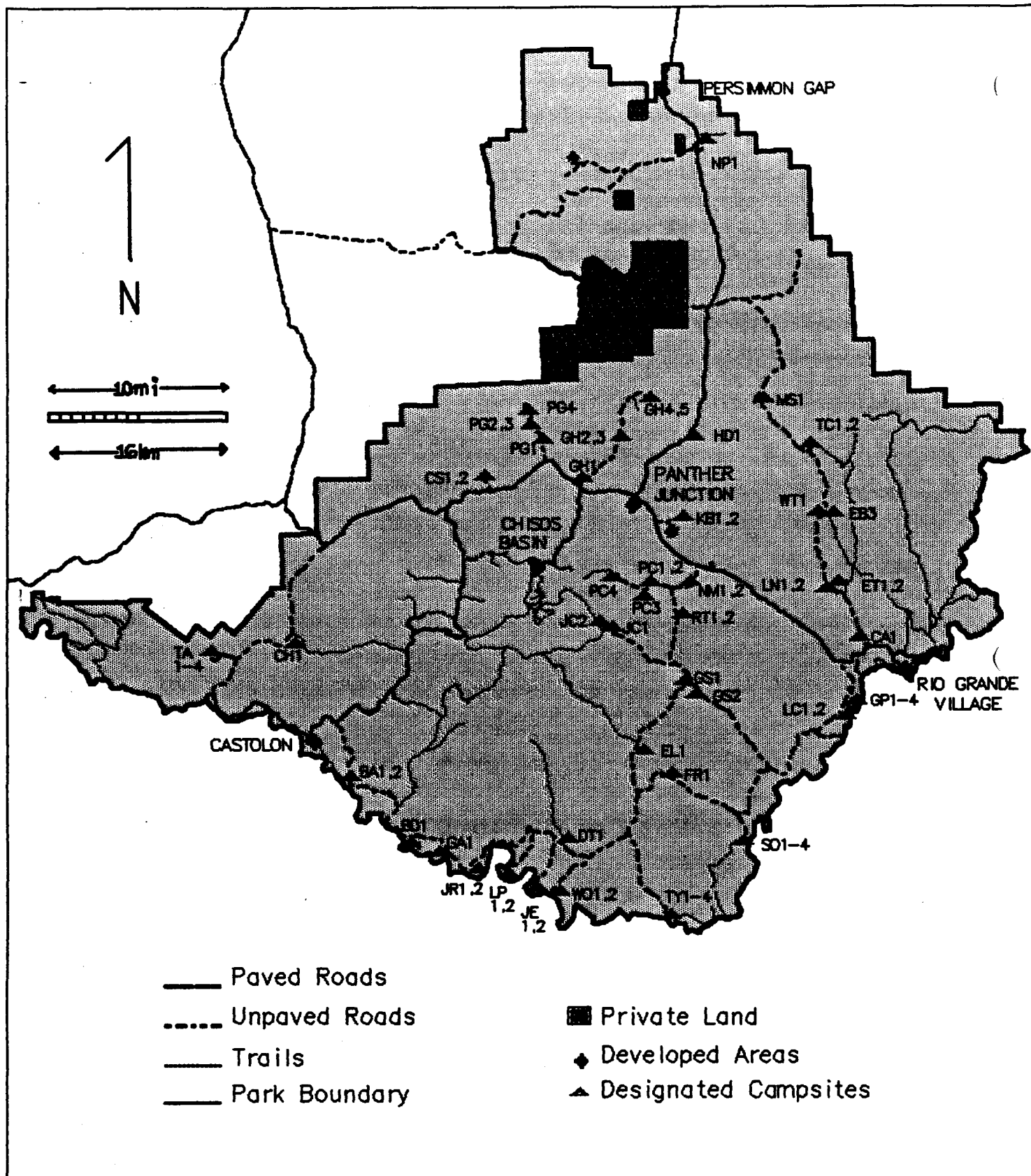


Figure 7: Backcountry Road Designated Campsites, Site Codes Map

D. PUBLIC ACCESS

1. Backcountry Road System

a. Inventory

Table IV lists roads providing backcountry access. All are unpaved. Maintenance Standards are denoted by the type of vehicle the specific road will accommodate when the standard is met. Weather conditions may temporarily cause road conditions to deteriorate.

b. Maintenance Standards

Backcountry roads will receive maintenance as needed to meet standards at least twice annually. The Black Gap Road, which connects the Glenn Spring Road with the River Road west of Mariscal, will continue being a 4-wheel drive only, unmaintained road. Roads classified for all vehicles will receive more frequent maintenance. Wet weather may cause significant road damage, and temporary road closures may be required for visitor safety and resource protection.

Table IV: Backcountry Roads, Maintenance Standards

Road Name	Maintenance Standard
Black Gap	High Clearance Four-Wheel Drive Only (not maintained)
Croton Springs	All Vehicles
Dagger Flat	All Vehicles
Dugout Wells	All Vehicles
Glenn Spring	High Clearance
Grapevine Hills	All Vehicles to Campsite GH3, Then High Clearance
North Rosillos	High Clearance (maintained by Brewster County)
Juniper Canyon	High Clearance
Maverick	High Clearance
Old Ore	High Clearance Four-Wheel Drive
Paint Gap	All Vehicles to Campsite PG3, Then High Clearance
Pine Canyon	High Clearance
River Road (and spurs)	High Clearance
Terlingua Abaja	High Clearance

c. Road Condition Reporting

All employees will report changes in road conditions to the park Dispatch Office. The Dispatch Office will serve as an information center regarding road conditions. An updated road condition report will be produced daily and made available to park visitors.

2. Trail System

a. Description

The park contains approximately 200 miles of trail. Hiking, including single day and overnight trips, is a primary visitor use activity. Trails include interpretive, self-guided trails; horse use trails; and trails accessible to mobility-impaired visitors. Trail development and maintenance levels vary according to their classification. Classifications include Major Use, Minor Use, and Primitive Use. Each trail classification is described in the *National Park Service Trails Management Handbook*.

Table V: List of Major Use Trails, Mileage

Trail	Length (miles one-way)
Basin Loop	1.2
Blue Creek Ranch Historical Trail	0.4
Boot Canyon	1.7
Boquillas Canyon	0.7
Chihuahuan Desert Nature Trail	0.5
Colima	0.8
East Rim	3.3
Emory Peak	1.0
Hot Springs Historical Trail	0.7
Laguna Meadow	3.3
Lost Mine	2.4
Pinnacles	4.0
Rio Grande Village Nature Trail	0.7
Sam Nail Ranch Historical Trail	0.3
Santa Elena Canyon	0.8
South Rim	2.1
Tuff Canyon	0.3
Window	2.6
Window View	0.3
Total	27.1

b. Wilderness Character

Other than campsites, trails are the only permanent developments normally allowed in recommended wilderness areas of the park (Figure 3). A variety of backcountry hiking experiences will be offered through the Big Bend trail management program. Trail classifications are to be consistent with Management Levels (Section III.A.2) prescribing the type of experience to be provided in each use area.

- In order to maintain areas of trackless wilderness, trails or marked routes will not be established or maintained in use areas designated Wild (Figure 4).
- The construction of one new trail will be considered. The trail would follow the old River Road route east from Castolon 3.5 miles to Buenos Aires. Complete resource assessments and adherence to environmental compliance requirements under the National Environmental Policy Act will be implemented prior to final approval of trail construction.

Table VI: List of Minor Use Trails, Mileage

Trail	Length (miles one-way)
Blue Creek	5.5
Burro Mesa Pouroff (lower)	0.8
Burro Mesa Pouroff (upper)	1.8
Burro Spring	1.1
Cattail Falls	1.3
Chimneys	7.5
Dodson	11.1
Daniels Ranch to Hot Springs	3.0
Dog Canyon	1.9
Ernst Tinaja	0.5
Grapevine Hills	1.0
Juniper Canyon	6.2
Marufo Vega	5.2
(to Rio Grande via north fork)	
Mule Ears	3.3
Oak Spring	2.2
Ore Terminal	4.0
Pine Canyon	1.9
Smoky Creek North	8.5
Total	66.8

c. Inventory

● Major Use Trails

Major Use trails (Table V) are well-marked, well-traveled, and represent the highest level of construction and maintenance. The majority of hiking traffic occurs on Major Use trails. These trails may include improvements such as water diversions, boardwalks, retaining walls, and bridges as required to withstand heavy visitor use. Signs (Section III.H) will be adequate to guide inexperienced hikers to their destinations.

● Minor Use Trails

Minor Use trails (Table VI) are constructed to a less-developed standard than Major Use trails. They are narrower and include steeper grades and significantly fewer constructed components such as steps and walls.

Minor Use trails may be self-evident or have intermittent markers to guide hikers. Basic navigational signs will be present, but interpretive displays will not be installed. Minor Use trails receive moderate use in comparison to Major Use trails and are lightly maintained. Users of Minor Use trails should have at least moderate desert hiking experience and should be prepared for sometimes strenuous conditions.

Table VII: List of Primitive Use Trails, Mileage

Trail	Length (miles one-way)
Apache Canyon	5.0
Dominguez Spring	7.0
Elephant Tusk	8.0
Ernst Basin Complex	16.6
Mariscal Cross Canyon	7.0
Mariscal Rim	3.3
Mesa de Anguila Complex	20.0
Smoky Creek South	6.8
Strawhouse	14.0
Telephone Canyon (to park boundary)	16.2
Ward Spring	1.4
	<hr/>
Total	105.3

- **Primitive Use Trails**

Primitive Use trails (Table VII) have virtually no constructed enhancements and are sometimes difficult to follow. Most are former pack trail routes which traverse remote, seldom-visited areas. Primitive Use trails are recommended for experienced hikers only. Steep, rugged conditions exist along many of these trails and map reading may be required to locate or negotiate routes in more remote locations.

- **Other Routes**

There are numerous routes which provide cross-country desert hiking opportunities to destinations of interest. These routes provide off-trail hiking experiences and will not receive maintenance, marking, or signs.

d. **Maintenance Standards**

- **Major Use Trails:**

Maintained for high use, the walking surface is kept fairly even and free of larger rocks. Water bars are kept clean and functional to prevent erosion. Fallen trees blocking the trail are removed as soon as practical. Brush is cut to a width of four feet and height of eight feet. Signs will identify destinations, junctions, and distances. Meeting this standard normally requires repeated effort throughout the year.

- **Minor Use Trails:**

Maintenance will be limited to keeping a clearly visible route and preventing unnecessary resource damage caused by runoff and erosion. Brush cutting, drainage improvement, and resource damage repair will be applied as necessary, but maintenance will not be for the purpose of creating a highly developed or less physically demanding route. Signs will be limited to those essential for marking routes and identifying junctions. Maintenance will be applied as needed to maintain the standard.

- **Primitive Use Trails**

Primitive Use trails may not receive maintenance over lengthy periods. Maintenance will be restricted to the correction of resource damaging conditions and trimming vegetation to keep the route at least minimally visible. Map use may be required to follow more remote portions of primitive use trails. Interval markers may be used to mark an otherwise unidentifiable path.

e. Environmental Compliance

As required under the National Environmental Policy Act, proposed disturbances such as significant trail rehabilitation, trail re-routing, and opening of new fill material source pits must be assessed with regard to natural and cultural resource impacts. The Trail Supervisor will initiate proposals for such action through the park's Environmental Compliance Process. Prior to implementation of the proposal, the Environmental Compliance Specialist will arrange appropriate cultural and natural resource assessments, document findings and decisions, and seek public review of the proposed action when appropriate.

f. Methods and Techniques

- Motorized material transport equipment will not be used in maintenance of backcountry trails within recommended wilderness. Mechanized equipment such as power rock drills and chainsaws may be used in recommended wilderness only when they constitute the minimum tool required to effectively meet the maintenance standard (see Minimum Tool Decision Flow-Chart, Appendix D). Such equipment will be used only when standard muffling devices are properly functioning.
- Material source pits used by the NPS or contractors will be contoured and revegetated as part of each project.

E. VISITORS WITH DISABILITIES

1. Mandate

The Rehabilitation Act of 1973 (amended 1978) states: "no otherwise qualified handicapped individual ... shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity."

2. Wheelchairs

Manual and motorized wheelchairs are allowed, on and off trail, provided the wheelchair is "designed solely for and used by a mobility impaired person for locomotion that is both capable of and suitable for use in indoor pedestrian settings" (*Title 36, Code of Federal Regulations*, sec. 1.4).

3. Existing Conditions

Although river boating and horseback riding make portions of Big Bend accessible to visitors with disabilities, relatively little access has been provided

for mobility-impaired persons wishing to enter the backcountry under their own power.

- The following describes trails that meet Federal Accessibility Standards for mobility-impaired access.

Window View Trail: Located in the Chisos Basin, this trail meets Uniform Federal Accessibility Standards for mobility-impaired access. This 1/4-mile paved loop has rest benches and includes a vista of the Window and the lower desert. A brochure box and trail markers are suitable for wheelchair users.

Rio Grande Village Nature Trail: The wheelchair accessible portion of this trail is a 250-foot boardwalk beginning on the east side of the Rio Grande Village campground. The brochure box is high, yet markers are convenient along the route.

- The following describes trails that do not meet Federal Accessibility Standards for mobility-impaired access, but may be suitable for persons using wheelchairs.

Panther Path: This 5-foot wide, 1/16-mile gravel loop at the Panther Junction Visitor Center includes a usable brochure box, is barrier free, and is negotiable by many people who use wheelchairs.

Dugout Wells and the Chihuahuan Desert Nature Trail: This 1/2-mile trail starts opposite the accessible Dugout Wells Picnic Area and winds through the local desert environment. Interpretive signs are somewhat high for most wheelchair users. The trail is unpaved, generally firm when dry, narrow in places, and has several steep sections where assistance is useful.

- The Division of Facility Management will modify all nature trail signs and brochure boxes to accommodate wheelchair users.

4. Backcountry Road Camping

Most backcountry road campsites are level and have hard, pebbly surfaces. Some may be suitable for mobility-impaired individuals and wheelchair users. Toilet facilities are planned for some sites (Section III.P.2).

5. Staff Responsibility

Mobility-impaired persons and other visitors with disabilities will not be excluded from strenuous backcountry ventures. Visitor contact personnel must be prepared to give accurate, thorough information, even if special means of communication are necessary.

F. HORSE AND PACK ANIMAL USE

1. Definition

Title 36, Code of Federal Regulations, defines "pack animals" as "horses, burros, mules, or other hoofed mammals when designated as pack animals by the Superintendent." For the purpose of this plan, the term "stock" holds the same definition. All stock and pack animal references also apply to llamas.

2. General Regulations

a. Restricted Areas

Stock use in the following areas is prohibited, except for certain administrative uses (Section III.F.5):

- The High Chisos use area (Figure 4), except for the Laguna Meadow and Southwest Rim trails to the Southwest Rim hitch rack, and the Blue Creek Trail.
- The North Chisos use area (Figure 5). The Lost Mine and Window trails are within this use area.
- All nature trails.
- On paved roadways and their shoulders, except for necessary crossing. Stock may be used on backcountry roads.
- Within 1/2-mile of any development zone, except when using the Laguna Meadow trail for access to the South Rim or Blue Creek trails.
- Within developed or backcountry road campsites, except those designated for stock use (Table III).

b. Resource Protection

- Allowing stock to graze or browse in the park, or picketing stock to plants subject to grazing, is prohibited. All stock feed must be provided from sources outside the park.
- Keeping a stock animal in the vicinity of natural water sources longer than is necessary to satisfy immediate drinking needs of the animal is prohibited.

c. **Sanitation**

Stock users must clean manure, feed remnants, and bedding material from designated backcountry road campsites before departure. Such waste must be removed from the park.

d. **Safety**

- Stock loading and unloading locations should be selected with respect for onlooker, passersby, and animal safety.

- Stock must be brought to a slow walk when meeting persons on foot. For the safety of both rider and hiker, hikers should stand off the trail when meeting stock.

e. **International Border Crossings**

With or without riders, stock animals are not permitted to cross the U.S./Mexico international border.

3. Stock Use Assessment

The Chisos Remuda, historically the sole provider of commercial horseback riding opportunities, ceased operation in 1994 due to economic considerations. Stock-related resource impacts in the geographically restricted and ecologically unique mountain environment, visitor use conflicts on heavily used trails, and trail maintenance expense have made stock use, particularly in the mountains, a subject of continuing concern.

The NPS will conduct a stock use assessment to consider long-term options for stock use in the park. The assessment will consider ecological, aesthetic, economic, and social factors in determining whether, where, and to what extent commercial horseback riding opportunities will be offered in the future. The assessment will also produce guidance for private, special use, and administrative stock use.

4. Private Stock Use

Use of private stock has traditionally been available in all lower park elevations, and on Chisos Mountains trails upon which commercial horse rides were offered. Pending completion of the Stock Use Assessment, private stock may be used in the Chisos Mountains on the Laguna Meadow and South Rim trails to the South Rim hitch rack, on the Blue Creek trail, and in all lower elevations meeting the requirements of general stock use regulations (above).

a. Permits

Prior to using stock in the park, private parties must obtain a free backcountry permit. Permits will be issued at all visitor centers during open hours.

b. Use Limits

Private stock-use parties are limited to no more than 10 animals per group or party. Those wishing to use more animals for special purposes may apply to the Superintendent for a Special Use Permit (Section III.R).

c. Backcountry Road Campsite Use

- The Grapevine Hills No. 1 backcountry road campsite (Table III) at Government Spring includes a corral for visitor stock use. The campsite is easily accessible to vehicles with trailers. Reservations may be made by stock users up to 10 weeks in advance by contacting the Division of Interpretation and Visitor Services. If a reservation holder has not obtained a permit for the site by 6:00 p.m. of the first night reserved, the reservation will be cancelled.

- Other backcountry road campsites of adequate size and located away from sensitive resources are open to camping with stock. Capacities are assigned for each campsite (Table III). Access road conditions are highly variable (Table III).

- When using backcountry road campsites, stock users must maintain all vehicles, trailers, stock, cooking areas, and sleeping areas within the delineated campsite perimeter.

- Stock kept at backcountry road campsites must be under physical confinement (on tight picket, in stock trailer, in portable corral, etc.) at all times.

5. Administrative Operations

a. The Chief, Division of Facility Management and the Chief, Division of Visitor and Resource Protection will appoint a Stock Use coordinator for each division. Stock Use Coordinators will oversee administrative stock use within each division.

b. NPS and cooperating personnel will adhere to general horse use requirements, except in emergencies and the following cases:

- Stock will be used on a trail closed to stock use only when maintenance, patrol, or other essential purposes require their use.

- When accompanied by stock, personnel using Boot Cabin will travel to and from the cabin via the Laguna Meadow, South Rim, and Colima trails.

- c. Feed grains cause park-wide impacts by becoming sources of exotic plants and non-natural wildlife food, particularly for brown-headed cowbirds (Section III.F.6.c) and black bears. Therefore, only grains that have been processed to crack seed coats will be used in administrative livestock operations.
- d. NPS-owned stock may be used only by those employees authorized to do so by the appropriate Stock Use Coordinator.
- e. Administrative stock use will be recorded for inclusion in stock-use assessments.

6. Stock Use Impact Mitigation and Assessment

a. Physical Trail Impacts

The Trail Supervisor will assess trails for eroded, muddy, or poor surface conditions resulting from horse use. Trail stabilization, drainage, route modification, or other treatments will be applied to alleviate excessive degradation.

b. Exotic Plant Species Introduction

The Division of Science and Resource Management will sponsor an inventory of livestock-related, non-native plant species. If stock-related exotic species existence, quantity, and survivability is significant, mitigation measures will be implemented to eradicate and prevent further introduction of such species.

c. Endangered Species Protection

Brown-headed cowbirds lay eggs in nests of other birds. The parasitized species rear cowbird young at the expense of their own offspring. Such parasitism has contributed significantly to the endangerment of black-capped vireos and other, primarily passerine, species.

Vegetative changes due to agricultural, commercial, and residential development have benefitted cowbirds throughout their range. Disturbed environments such as park developments and roads are attractive as cowbird habitat. Cowbirds feed upon seed grain, plant material, and insects associated with stock operations.

The Division of Science and Resource Management will, in consultation with the U.S. Fish and Wildlife Service, sponsor a parasitism rate study of

black-capped vireo nests in Big Bend. If the rate of parasitism by brown-headed cowbirds is found to be significant, the NPS will institute policies to reduce the value of private, NPS, and commercial (should they exist) stock as cowbird food sources.

7. Trespass Livestock

a. Existing Conditions

Trespass livestock impacts include grazing, trail-making, increased erosion, and contamination by manure. In addition to ecological impacts, livestock and their effects reduce the aesthetic attractiveness of river corridor campsites. These impacts make trespass livestock one of the most damaging influences upon park resources.

b. Trespass Livestock Control Guidelines

- For specific policies regarding control of trespass livestock, refer to the Trespass Livestock Control Guidelines, available in the office of the Chief, Division of Visitor and Resource Protection.
- The Chief, Division of Visitor and Resource Protection, will update and implement the Trespass Livestock Control Guidelines as needed.

c. General Staff Responsibility

Park Rangers will include livestock sightings in patrol reports. Other staff will report sightings to the Dispatch Office for transmittal to the appropriate District Ranger.

G. MECHANICAL TRANSPORTATION

1. Bicycles

Big Bend's scenic vistas, numerous backcountry roads, and mild weather during much of the year create excellent opportunities for seeing the park via bicycle. While off-road use of bicycles is not allowed, unpaved roads (Figure 4), which generally require the use of mountain bikes, offer routes with a diversity of lengths and difficulty levels.

2. Other Mechanical Transportation

Mechanical means of transportation, regardless of power source, are allowed only on roads open to public vehicle traffic. An exception exists for persons requiring the use of wheelchairs (Section III.E.2).

- a. Fixed-wing aircraft and helicopters may take off and land in the park only for limited administrative purposes and in emergencies (Section III.N).
- b. Sport activities that employ mechanical transportation and place park values second to the sport itself, or are significant visual intrusions upon the natural scene, such as hang gliding and parachuting, are not permitted in the park.
- c. Use of mechanical transportation on backcountry roads for organized races or competitions with purposes not related to park values, is not permitted.
- d. Motor vehicles and motor vehicle operators using backcountry roads must conform to State of Texas regulations for public road use.

H. SIGNS

1. Sign Plan

The Chief, Division of Facility Management, will maintain and update the Big Bend National Park Sign Plan, which details parkwide standards for signs, including those used in backcountry. All backcountry signs will conform to the approved sign plan.

2. Construction and Maintenance

The Trail Supervisor will maintain signs for backcountry trails and associated campsites. The Roads Supervisor will maintain signs placed along backcountry roads and at backcountry road campsites. Exceptions are: emergency signs for visitor safety purposes, which are the responsibility of the Division of Visitor and Resource Protection; and signs placed for essential natural or cultural resource protection, for which the Division of Science and Resource Management is responsible.

To have signs replaced or repaired, staff must submit a Work Request Order to the Division of Facility Management.

3. New Signs

Staff requests for new backcountry signs must be submitted to the park Sign Committee for review and approval recommendation.

4. Sign Requirements

Major Use trails (Table V) will have signs at trail junctions that indicate destinations, directions, and distances. Small, minimally intrusive signs containing interpretive messages may be provided regarding park issues of major significance only.

Signs along Minor Use (Table VI) and Primitive Use (Table VII) trails should not detract from the primitive nature of those areas, but will give adequate information for visitors to find their way. Interpretive or other signs will not be placed in Minor Use and Primitive Use areas except for essential resource protection or safety purposes.

Signs will not be placed in wild use areas except for essential resource protection or safety purposes.

I. NATURAL AND CULTURAL RESOURCES

A large number of natural and cultural resource issues, including exotic species, ecological restoration, pollution, historic preservation, and research needs must be addressed in order to fully understand and protect backcountry resources. Refer to the park's *Resource Management Plan* for a complete list, with descriptions of natural and cultural resource issues. The following sections address only those issues directly related to visitor use and broad management programs.

1. Resource Protection

Excerpted from *Title 36, Code of Federal Regulations (CFR)*, the following resource regulations provide for preservation and protection of park resources. For a complete listing of resource protection regulations, refer to the CFR.

- a. Possessing, destroying, injuring, defacing, removing, digging, or disturbing plants, animals, fossils, minerals, or other natural features is prohibited.
- b. Possessing, destroying, injuring, defacing, removing, digging, or disturbing a structure or its furnishings or fixtures, or other cultural or archeological resources is prohibited.

2. Natural Resources

a. Personal Consumption of Edible Fruits

No fruits, nuts, berries, edible plants, or edible plant parts may be collected, even for personal consumption, without an approved resource activity permit (Section III.J.1).

b. Endangered and Threatened Species

- The Division of Science and Resource Management will develop action plans for monitoring and protecting endangered species populations occurring within the park. A compilation of Federally listed endangered and threatened species and species under consideration for protected status (U.S. Fish and Wildlife Service Categories I and II) is available from the Division of Science and Resource Management.
- Human use of certain areas or habitats may be restricted by the Superintendent for protection of endangered species. Notice of such restrictions will be made in advance when possible, as part of an approved action plan.
- Prior to implementing any proposed management action with the potential to disturb endangered, threatened, or candidate species, a biological assessment of the subject area will be performed. Proposed actions will be considered in light of survey results.
- Park management will consult the U.S. Fish and Wildlife Service regarding proposed actions which may affect any endangered species, as required under Section 7 of the Endangered Species Act.

c. Mountain Lions

An important component of the Big Bend ecological system, mountain lions are also a potential threat to human safety in some areas of the park. Attacks resulting in human injury and numerous incidents of aggressive behavior by lions have occurred in the park.

- A Mountain Lion Management Plan will be developed by the Division of Science and Resource Management.
- Existing lion/human conflict prevention programs, which emphasize visitor education, visitor behavior, observation reporting, and staff response readiness will continue.

d. Black Bear

Black bears were extirpated prior to park establishment. In recent years, however, a small black bear population has become reestablished in the Chisos Mountains. Bears have begun seeking foods associated with visitors, vehicles, and waste containers.

In order to maintain a wild bear population, prevent human injury, and minimize property damage, the park will implement the following programs in areas of the park frequented by bears.

- Provide education and interpretation regarding proper visitor behavior in bear habitat.
- Provide adequate bear-proof storage containers at all designated campsites.
- Secure all waste storage facilities from bear entry.
- Establish and maintain staff capacity to enforce regulations for proper human behavior.
- Establish and maintain staff capacity to capture, mark, monitor, and transport bears as required.
- Perform research necessary to understand Big Bend bear ecology and to gain the knowledge required for successful, sustained co-existence of bears and humans.

A Bear Management Plan, addressing specifics for implementing the above goals, will be developed by the Division of Science and Resource Management.

3. Cultural Resources

Numerous and extensive cultural resources exist in Big Bend backcountry, including prehistoric and historic archeological sites and historic structures and ruins.

- a. Management of archeological resources must be guided by a philosophy best described in *NPS Cultural Resource Management Guidelines*:

...these are irreplaceable resources which cannot be duplicated elsewhere, and...the park is a sanctuary for the protection of these sites... These sites should not be sacrificed to development, and scientific evaluation must be carefully planned.

Cultural resource protection measures are prescribed in portions of this plan covering camping regulations, use restrictions, and resource protection.

- b. Clearance

Prior to implementing any proposed management action with the potential to disturb archeological or historic features, a cultural resource survey will be performed in the subject area. Proposed actions will be considered in light of survey results.

The NPS will adhere to requirements of the Native American Graves Protection and Repatriation Act of 1990 regarding disposition of burials and associated objects found through administrative or other means.

c. **Monitoring and Documentation**

Executive Order 11593 (1971) established procedures for complying with the National Historic Preservation Act of 1966, and requires that archeological sites on Federal lands be located and inventoried. Park management will continue to pursue the means to survey and document unrecorded archeological and historic sites, and to develop programs for monitoring human impact upon such sites.

J. RESEARCH AND MONITORING

1. Research

Park management will encourage use of Big Bend National Park as a preserve for research which increases understanding of park resources and contributes to the knowledge required for informed decision-making.

Any researcher working in Big Bend National Park must have a current Resource Activity Permit, signed by the Superintendent. In order to obtain a permit, an application must be submitted to the Division of Science and Resource Management, where it will be reviewed for compliance with Federal regulations and NPS policy.

2. Resource Monitoring

While resource monitoring of many types is needed for proper park management, the purpose of this section addresses monitoring of visitor use impact only. Refer to the park *Resource Management Plan* for details of other resource monitoring programs and needs.

Little visitor impact monitoring has occurred in the park. Baseline documentation of backcountry campsite impacts have been made, but cyclic monitoring programs which identify change in camping, road, trail, and other impacts over time are not in place.

- a. The Division of Science and Resource Management will coordinate efforts to develop monitoring programs for all significant use types.
- b. Park Management will seek to implement a program which determines acceptable impact limits, monitors change over time, and provides action to prevent impacts from exceeding established limits.

K. FIRE MANAGEMENT

1. Wildland Fire Management

The Chief, Division of Visitor and Resource Protection, will periodically update the park *Fire Management Plan*, which serves as an addendum to the *Backcountry Management Plan*, and addresses wildland fire management programs and responsibilities. The plan will include fire management strategies appropriate under National Park Service policies regarding backcountry natural zones and recommended/potential wilderness.

2. Prevention of Human-Caused Fires

a. Campfires

- Open wood fires and ground fires (Section III.B.4) are prohibited in most of the backcountry due to risk of wildfire, fire scars, and impacts of wood collection. Gas stoves are recommended. Wood fires are allowed only in Rio Grande floodplain areas open to camping, and then only in firepans. Charcoal grills may be used only in the river floodplain, in backcountry road campsites, and in developed campgrounds and picnic areas. For details of backcountry campfire use, see Section III.B.4.

b. Cigarette Smoking

- Hikers must use caution when smoking to prevent dropping ash or embers that might ignite a wildfire. Cigarette butts are trash and must be packed out of the backcountry for proper disposal.
- The Superintendent may institute backcountry smoking bans as required during high fire risk periods.

L. TECHNICAL ROCK CLIMBING

1. Definition

Technical rock climbing is any activity involving the use of rope in ascending, traversing, or descending rock. Included under this definition is canyoneering. Canyoneering involves use of technical equipment to overcome pouroffs, boulders, and similar obstacles to passage along canyon bottoms.

2. Administration

- a. The Chief, Division of Visitor and Resource Protection, will appoint a Climbing Coordinator. The Climbing Coordinator will serve as the park's primary contact for recreational climbing activity.

- b. The Climbing Coordinator will maintain contact with local and regional climbing organizations for the purpose of obtaining climbing constituency review of existing and proposed climbing policy.
- c. The Chief, Division of Visitor and Resource Protection, will appoint a Search and Rescue Coordinator. The Search and Rescue Coordinator will coordinate technical aspects of climbing related to search and rescue.

3. Regulations

Under authority granted by *Title 36, Code of Federal Regulations*, to preserve park resources and provide for appropriate enjoyment of the park, the following apply:

- a. Technical rock climbing is prohibited on archeological or cultural resources such as rockshelters and petroglyph or pictograph sites.
- b. The rock faces of Casa Grande Peak are closed to climbing.
- c. Use of electric drills for placing expansion bolts is prohibited.
- d. Proposals for establishing new routes that require drilling for bolt placement must be submitted to the Climbing Coordinator at least one month in advance of the proposed climb. Proposals will be reviewed by the Climbing Coordinator with respect to appropriateness and impacts.
- e. Use of hand-operated drills for placement of expansion bolts is allowed only with written approval of the Superintendent.
- f. Because oil-based pigments and binding agents can permanently stain rock, only white chalk without additives may be used.
- g. Climbers must remove all webbing from each climbing route upon conclusion of the climb.
- h. The Superintendent may restrict access to any area of the park for resource protection purposes as the need arises. The following areas are closed to climbing from February 1 through July 15 annually to protect nesting sites of the endangered peregrine falcon:
 - Santa Elena Canyon, from 1/2-mile upstream to 1/2-mile downstream of the Rock Slide.
 - Mariscal Canyon, from 1/2-mile upstream to 1/2-mile downstream of the Tight Squeeze.

- The South Rim, Crown Mountain, Lost Mine Peak, the Pinnacles, and Toll Mountain in the Chisos Range.
- Any area within 1/2-mile of a known peregrine falcon nesting site.

Restrictions will be lifted prior to July 15 at locations where monitoring demonstrates that nesting activity will not occur for the year.

4. Interpretation

A brochure will be developed by the Division of Interpretation and Visitor Services to provide information concerning suggested climbing areas, safety concerns, and applicable rules and regulations.

5. Safety Considerations

In Big Bend National Park, areas with sturdy rock are limited. Much of Big Bend's igneous and limestone rock is unstable. Additionally, remote climbing locales and weather extremes contribute to making safety a paramount concern.

6. Climbing Locations

Most climbing in the park occurs at Indian Head Mountain. Access to Indian Head is via private land near Study Butte. It is the climber's responsibility to obtain permission from appropriate landowners for entry onto private land. Other areas where climbing occurs include, but are not limited to: Grapevine Hills, Appetite Peak, Santa Elena Canyon, and the Red Rocks area of Blue Creek Canyon.

M. INTERPRETATION AND VISITOR INFORMATION

1. Visitor Information

The Division of Interpretation and Visitor Services will disseminate necessary backcountry information to those planning backcountry visits. Common methods include: publications, bulletin board notices, announcements at interpretive programs, and postings at trailheads. The Public Information Officer will generate media releases regarding backcountry information needed by visitors prior to their arrival.

2. Visitor Contact Personnel Orientation

The Chief, Division of Interpretation and Visitor Services, will require the following basic orientation hikes or drives of all employees expected to provide backcountry information to visitors.

- a. Lost Mine Trail
- b. Pine Canyon Trail
- c. South Rim, visiting designated backcountry campsites in the High Chisos
- d. Mule Ear Spring
- e. Santa Elena and Boquillas Canyon Trails
- f. Rio Grande Village Nature Trail
- g. Old Ore and Glenn Spring roads, visiting designated backcountry road campsites and Ernst Tinaja

3. Entrance Stations

The park will continue operation of entrance stations. Entrance stations contribute to the dissimulation of information necessary for the proper use of backcountry resources.

N. AIRCRAFT

The following, excerpted from *NPS Management Policies*, will guide administrative aircraft use and NPS response to aircraft use originating elsewhere:

The National Park Service will strive to preserve the natural quiet and the natural sounds associated with the physical and biological resources of the parks. Activities causing excessive or unnecessary unnatural sounds in and adjacent to parks, including low-elevation aircraft overflights, will be monitored, and action will be taken to prevent or minimize unnatural sounds...

1. Aviation Management Plan

For complete information regarding aircraft use, standards, and regulations, refer to the park *Aviation Management Plan*. The park Aviation Management Officer is responsible for plan updates.

2. Regulations and Recommendations

- The Federal Aviation Administration (FAA) minimum flight elevation recommendation for all aircraft above "Noise-Sensitive Areas," including National Parks, is 2,000 feet vertically or horizontally from surface features.
- The FAA minimum flight elevation regulation for fixed-wing aircraft above human habitations and developments is 500 feet above ground level and 1,000 feet above congested areas.
- Under FAA regulations, rotary-winged aircraft (helicopters) do not have minimum elevation regulations, but must maintain a "safe" height above persons and human developments.

- Sensitive nesting areas are marked on Sectional Aeronautical Charts (El Paso Section) and add emphasis for protection of endangered peregrine falcons.

3. Military Aircraft

A low-level military training route exists over the northern portion of the park. Military training activity is restricted to the area north of Panther Junction. It is common for visitors in the northern portion of the park to see and hear evidence of this activity. Refer to the FAA El Paso sectional aeronautical chart for training route boundaries.

Military operations other than training occasionally occur over the park.

4. Administrative Uses

Park management will minimize aircraft use due to its damaging impact upon qualities of primitiveness, solitude, quiet, and natural sounds. Except in emergencies, aircraft will not operate within 2,000 feet of sensitive peregrine falcon nesting areas between February 1 and July 15.

5. Reporting and Documentation

When aircraft use is observed in apparent violation of recommendations or regulations, it should be immediately reported, with documentation, to the park Dispatch Office. Reports will be recorded and forwarded to the park Aviation Management Officer for follow-up.

Pertinent documentation includes craft type, color, size, numbers, direction of travel, and estimated height above ground level (or distance from nearest terrain).

0. PETS

1. Definition

As described in *Title 36, Code of Federal Regulations*, a pet means: "a dog, cat, or any animal that has been domesticated."

2. General Regulations

- a. Pets may not be possessed and are not allowed in backcountry areas which are not open to motor vehicles.
- b. Pets are allowed on backcountry roads and in backcountry road campsites.

- c. Backcountry road campsite users must keep pets within the perimeter of the designated campsite or on roadways giving access to such campsites.
- d. Pets must be under physical restraint at all times and may not be kept on a leash greater than six feet in length.
- e. Owners may not leave a tied pet unattended.

3. Exceptions

- a. Guide dogs accompanying visually impaired persons, or hearing ear dogs accompanying hearing impaired persons, are allowed in all backcountry areas not closed to the public.
- b. Dogs may be used throughout the backcountry by administrative personnel when required for the performance of official duties.

P. WASTE MANAGEMENT

1. Trash

All trash must be packed out of the backcountry and disposed of in an appropriate waste container.

2. Human Waste

The following rules are to prevent spread of disease, bacteriological contamination, and aesthetic degradation.

a. General Backcountry Users

- Backcountry users must locate latrines at least 1/4-mile from any water source and 100 yards away from any campsite, trail, or archeological site.
- Latrines must be at least six inches deep. Backcountry users will be encouraged to carry a trowel or shovel for digging latrines. The Concessions Management Specialist will seek to ensure trowels are available for purchase at concession stores in the park.
- Toilet paper must be carried out of the backcountry as trash. Burning of toilet paper is prohibited due to risk of wildfire. Backcountry users will be reminded by permit issuers to carry plastic bags for use in carrying out toilet paper.

b. High Chisos use area

- There are three pit toilet locations in the High Chisos area: Boot Cabin, Boot Canyon campsites, and near campsite SW4 on the Southwest Rim. Backcountry visitors will be encouraged to use such toilet facilities when possible.
- Health and contamination risks inherent to ground-hole pit toilets make them poor alternatives for human waste management. The Trail Supervisor and the Chisos District Ranger will seek to install improved facilities, such as contained composting toilets.
- The Trail Supervisor will monitor backcountry trail toilets and provide for maintenance, cleaning, or replacement when necessary.

c. Backcountry Road Campsites

- Campsites exhibiting the most significant degradation are those most heavily used, by nature of being designated group-use campsites (K-Bar, Nugent Mountain, Hannold Draw), and those which concentrate several campsites at one location.

Existence of facilities at backcountry road campsites is contrary to the primitive experience which visitors expect and management should provide in Big Bend's backcountry. Human waste associated with the most heavily used backcountry road campsites, however, is a source of aesthetic degradation, health risk, and visitor complaints.

- The Division of Facility Management will install and maintain toilets at the three backcountry road group use campsites (K-Bar, Nugent Mountain, Hannold Draw).

Where more than one campsite exists at a single location, the sites will be separated. One of the sites will be relocated to another place in the general area. The purposes for this change (Section III.C.3.d) include reducing concentrations of human waste to levels that do not adversely affect the visitor experience.

Q. CAVE MANAGEMENT

1. Definition

For the purpose of this plan, caves constitute those subterranean cavities which require the use of artificial light for viewing or exploration.

2. Existing Conditions

The Big Bend region is one of nine karst (characterized by limestone solution) regions in the State of Texas. Due to the region's remoteness, organized speleological exploration has been minimal.

3. Use Limits

- a. Except for essential administrative purposes in support of bat species, caves with significant bat colonies will be closed to public use between May 15 and September 15 each year to prevent disturbance during reproductive periods.
- b. Speleological exploration of caves requires a Resource Activity Permit. Permit applications must be made to the Division of Science and Resource Management.

4. Research

The Chief, Division of Science and Resource Management, and the Park Scientist will seek the means to identify and inventory cave resources.

R. COMMERCIAL AND SPECIAL USES

1. Commercial Use

a. Mandate

Title 36, Code of Federal Regulations, requires that any business activity conducted within the park be under permit, contract, or other written agreement with the National Park Service.

b. Definition

Commercial use is engaged in when any or all goods, activities, services, agreements, or any other thing offered to park visitors and/or the general public for recreational purposes, which uses park resources, is undertaken for or results in compensation, monetary gain, benefit, or profit to an individual, organization, or corporation, whether or not such entity is organized for purposes recognized as non-profit under local, State, or Federal law.

c. Guidelines

- Any individual or organization wishing to conduct commercial activities within the park must submit an application to the park Superintendent. The Concessions Management Specialist represents the Superintendent in

administration and management of commercial activities in the park and on the Rio Grande Wild and Scenic River.

- Commercial use in the park must conform to *NPS-48, Concession Guidelines*, which is available for review in the Division of Administration at Park Headquarters. All pertinent Federal, State, and local regulations must be adhered to by commercial operations.

2. Special Use

a. Mandate

A variety of groups seek to use the park for purposes other than those for which the park was established, or to conduct events which may not be open or available to general park users. Examples of such uses are bicycle races, road rallies, weddings, commercial filming, and organized religious activities. Due to their uniqueness with respect to safety, liability, and effects upon park resources and other visitors, proposed activities must be assessed for appropriateness.

b. Guidelines

- Special use groups must have a Special Use Permit while conducting activities in Big Bend National Park.
- Special park uses must conform to *NPS-53, Special Use Guidelines*, available for review at the Division of Administration at Park Headquarters.
- Persons or groups seeking to conduct special use events or activities in the park should contact the Superintendent's Office for further information.

IV. RIVER USE

A. RIVER USE MANAGEMENT PLAN

The Rio Grande corridor is an immensely valuable and unique ecological system which represents the major riparian and aquatic habitat associated with Big Bend National Park. Due to the complex nature of threats to the river and its variety of existing and potential users, a separate *River Use Management Plan* is being developed. This section describes current, not proposed, river use regulations and policies which apply on the U.S. side of the international border. The river plan, scheduled for completion in late 1996, will supersede this section.

B. RULES OF RIVER USE

Regulations of river use are derived from *Title 36, Code of Federal Regulations*; Superintendent's Orders; and Commercial River Use License Conditions.

1. Permits

- a. A Backcountry Use Permit is required for use of floating craft in the park and on the Rio Grande Wild and Scenic River, except for day-use of watercraft downstream from the park boundary (near the downstream end of Boquillas Canyon). Requirements of Section IV.B.2 (Required Equipment), must be met before a permit will be issued. River use areas are represented by codes for overnight permit purposes (Table VIII).
- b. There is no limit to the number of non-commercial river permits that may be issued. There are group size limits as specified in Section IV.B.7 (Groups and Commercial Use), below.
- c. When the river exceeds 2,000 cubic feet per second (cfs), or 6 feet on the Johnson's Ranch gauge, permits will be limited to the following boats in Santa Elena, Mariscal, and the Lower Canyons: inflatable rafts with a minimum of three air chambers (not counting thwarts) and minimum dimensions of 6 by 12 feet; rigid, decked canoes and kayaks that exclude water when used with a spray skirt; open canoes at least 50 percent filled with floatation; dories; and sport kayaks. This limitation will also apply when an upstream rise will cause any such section to exceed 3,000 cfs. It does not apply to parties portaging rapids of Class III or greater difficulty in Mariscal Canyon and the Lower Canyons.

2. Required Equipment

- a. Each person will have a U.S. Coast Guard approved personal floatation device (PFD), which is properly fitted, in serviceable condition, and

- a. From the Santa Elena Canyon entrance to the mouth of Alamo Creek (about 1.5 miles above Cottonwood Campground).
- b. From Talley to Solis, including Mariscal Canyon.
- c. Boquillas Canyon, from the canyon entrance to the canyon exit.

6. Vessel Capacities

No vessel shall carry more than a safe capacity load, in persons or total weight, taking into consideration water conditions, weather conditions, type of craft, and area of intended use.

7. Groups and Commercial Use

- a. Commercial users of the river, as with other parts of the park, may operate only with written authorization from the NPS. See Section III.R (Commercial and Special Uses) for general provisions of commercial use.
- b. For the purpose of this section, a start is defined as a river party's launch, or its entry from one river section (Table IX) into another.

Table IX: List of River Sections

SECTION LIMITS

- Lajitas to Santa Elena Canyon take-out
 - Santa Elena Canyon take-out to Cottonwood Campground
 - Cottonwood Campground to Talley
 - Talley to Solis
 - Solis to San Vicente Crossing
 - San Vicente Crossing to Boquillas Canyon Entrance
 - Boquillas Canyon Entrance to La Linda
 - La Linda to Dryden Crossing
 - Dryden Crossing to Fosters Weir
-

- c. On the Rio Grande Wild and Scenic River, downstream from Big Bend National Park, a group, organization, or commercial operator may start a maximum of 20 persons per day on each river section (Table IX). The 20-person limit does not include commercial guides.
- d. Within Big Bend National Park, except as stated below (Section IV.B.7.e), a group, organization, or commercial operator may start a maximum of 30 persons per day on each river section. The 30-person limit does not include guides conducting commercially licensed trips.

- e. On the Santa Elena Canyon takeout to Cottonwood Campground section, the Cottonwood Campground to Talley section, and the San Vicente to Boquillas Canyon Entrance river sections, the following use limits apply: a non-commercial group or organization may start a maximum of 45 persons per river group; no more than three starts per day may occur on each section by a single organization or group; and, multiple starts on a river section by groups under a single sponsor must be at least two hours apart.

8. Inner Tubes and Air Mattresses

Inner tubes are not allowed on the river in Santa Elena Canyon, Mariscal Canyon, and the Lower Canyons.

General river use regulations apply to persons floating on inner-tubes and air mattresses with the following modifications:

- a. Each person floating on an inner tube or air mattress shall wear a U.S. Coast Guard approved life jacket.
- b. Paddles are not required for inner tube and air mattress users.
- c. Pumps and patch kits are not required outside of Boquillas Canyon, the only major canyon where inner tubes are allowed. Pumps and patch kits are required in Boquillas Canyon if floaters are not in the company of vessels large enough to take them aboard.

9. Firearms

Firearms or explosives are not permitted.

10. Pets

Pets are not permitted on and along the river, except upon public roads and at backcountry road campsites.

11. Resource Protection

The following regulations protect natural resources of Big Bend National Park. Visitors are requested to observe them on the Mexican side of the river and on private land adjacent to the Rio Grande Wild and Scenic River as well.

- a. Charcoal fires may be used in any area of the river floodplain; wood fires may be used only in floodplain areas open to camping. Only dead and down firewood from the floodplain may be collected. All fires must be contained entirely in a firepan. All floatable fire remnants must be carried out as trash.

- b. Deposit trash, including cigarette butts and toilet paper, in appropriate waste containers at take-outs or subsequent points.
- c. Human waste must be buried six inches deep and at least 100 feet from the river or other water source, or be carried off the river and appropriately disposed of. A human waste disposal facility is provided at the Santa Elena Canyon take-out.
- d. The destruction, injury, defacement, removal, or disturbance of any natural, historic, or prehistoric feature is prohibited.

12. Alcohol

Consumption of alcoholic beverages in the Hot Springs Historic District is prohibited.

13. Incident Reporting

Report to the National Park Service any accident resulting in an injury, or property damage of \$100 or more.

14. Trespass

Respect property rights. Do not trespass onto posted private property.

C. RECOMMENDATIONS

The following, while not carrying the authority of regulation, are recommendations for visitor safety and protection of river resources.

1. Life Jackets

Personal floatation devices (PFD's) should be worn at all times and one extra jacket per vessel should be carried. Horse-collar or other Type II PFD's are not recommended, and do not meet equipment (Section IV.B.2) requirements for Santa Elena, Mariscal, and the Lower Canyons.

2. Survival Equipment

Each river party should carry and know how to use survival equipment adequate for the group size and excursion type. Recommended equipment includes: a first aid kit, extra water, sun protection, rain gear, a throw line, and an extra rope at least 50 feet long and 3/8 inch in diameter.

3. Craft Capacity

Safe capacity of inflatable rafts should be considered as one-half the manufacturer's rated load. If no such rating is found, the midline of the boat should be at least two inches above the water. The safe capacity for canoes is no more than two persons and 100 pounds of gear in Class III or greater whitewater.

4. Scouting Rapids

All major rapids should be scouted in advance. River parties should consider portaging them. All major rapids have portages at normal river levels.

5. Human Waste Disposal

Human waste should be carried off the river and disposed of properly. There is a human waste receptacle at the Santa Elena Canyon take-out.

6. Springs

Spring water may be contaminated and should be treated before drinking.

7. High Water

Because sudden river rises occur, camps should be well above the high water mark and away from side canyons or arroyos. Each boat should be secured separately with sturdy rope.

8. Theft Avoidance

Due to the potential for theft along the river, valuables should not be left at unattended campsites or in vehicles parked near the Rio Grande.

9. Emergency Markers

In event of an emergency, an "X" marked on the ground and visible from the air signifies a need for help. Two 3-foot by 10-foot strips of international orange colored material should be carried for this purpose. A signal mirror should also be carried.

10. Disposal of Waste Liquids and Fire Remnants

Strain particles from cooking and food liquid waste, then carry out the particles as trash. Pour liquids, including dishwater, into the river. Non-floatable fire remnants may be placed in the main river current or carried out as trash. A common method of separating floatable material is to place fire remains in a

bucket of water, remove the floating material to a garbage sack, then pour remainder of contents in the main river current.

V. PLAN REVIEW AND UPDATE

The Chief, Division of Science and Resource Management, will update the *Backcountry Management Plan* every three years. Such updates will receive complete park and regional review prior to final approval by the Superintendent.

VI. LIST OF PREPARERS

The following were instrumental in preparing the Draft Big Bend Backcountry Management Plan and Environmental Assessment

Raymond Skiles
Jim Walters
Butch Wilson
Phil Koepp
Carl M. Fleming
Jeff Selleck
Mary Kay Manning
Betty Alex
Kenneth Grigsby
Big Bend National Park management and staff reviewers
NPS-Southwest Regional Office staff reviewers

APPENDICES

APPENDIX A: OVERNIGHT BACKCOUNTRY VISITOR USE DATA, 1980 - 1994

YEAR	OVERNIGHT HIKER DAYS	OVERNIGHT BACKCOUNTRY ROAD DAYS
1980	20,638	23,524
1981	23,811	23,443
1982	23,442	18,186
1983	22,102	19,270
1984	22,864	17,688
1985	19,599	19,171
1986	21,797	25,122
1987	19,818	22,552
1988	22,066	25,304
1989	19,587	24,026
1990	23,139	22,142
1991	21,577	22,993
1992	24,008	26,751
1993	29,125	27,102
1994	28,113	25,771

APPENDIX B: BACKCOUNTRY ENTRY/EXIT PERMIT CODES

BACKCOUNTRY USER ENTRY/EXIT PERMIT CODES

RIVER FLOATERS

A60 - Lajitas
51 - Santa Elena Canyon Exit
A62 - Cottonwood Campground
A63 - Talley
A64 - Solis
A65 - San Vicente Crossing
A66 - Hot Springs
A67 - Boquillas
A68 - Stillwell Crossing
A69 - La Linda
A70 - Maravillas Creek
A71 - Dryden
A72 - Langtry
A99 - All Others

OVERNIGHT BACKPACKERS

Route 11 (Persimmon Gap to Panther Junction)

110 - Route 11 Roadside
111 - Hannold Draw
112 - Fossil Bone Exhibit
113 - Dagger Flat Road
114 - Nine Point Draw Road
115 - Dog Canyon Turnout
116 - North Rosillos Road

Route 12 (Panther Junction to Boquillas Canyon)

120 - Route 12 Roadside, Panther Junction to RGV
121 - K-Bar Road
122 - Glenn Spring Road North of Glenn Spring
123 - Dugout Wells
124 - Boquillas Canyon Road
125 - Marufo Vega Trailhead

Route 13 (Panther Junction to West Entrance)

130 - Route 13 Roadside, Panther Jct. to Basin Jct.
131 - Route 13 Roadside, Basin Jct. to Ross Maxwell Jct.
132 - Grapevine Hills Road
133 - Paint Gap Road
134 - Croton Springs Road
135 - Rt. 13, Ross Maxwell Jct. to N. end of Maverick Rd.

Route 14 (Basin Junction to Chisos Basin)

140 - Route 14 Roadside
141 - Chisos Basin

Route 15 (Ross Maxwell Junction to Santa Elena Canyon)

150 - Route 15 Roadside
151 - Blue Creek Ranch Turnout
152 - Lower Burro Mesa Pouroff Road
153 - Chimneys East Trailhead
154 - Mule Ears Trailhead
155 - Castolon to Santa Elena Canyon Roadside

Old Maverick Road

160 - Old Maverick Roadside
161 - Chimneys West Trailhead
162 - Terlingua Abaja

River Road

170 - River Road, East of Talley Junction
172 - Solis
173 - Talley
174 - Black Gap Road, including Elephant Tusk Trailhead
175 - Dominguez Spring Trailhead
176 - River Road, West of Talley Junction

Glenn Spring Road

122 - Glenn Spring Road, North of Glenn Springs
171 - Glenn Spring Road, South of Glenn Springs

Old Ore Road

180 - Ore Road, North of Telephone Canyon
181 - McKinney Springs
182 - Ore Road, South of Telephone Canyon
183 - Telephone Canyon Trailhead
184 - Ernst Tinaja

Others

190 - Lajitas (for Mesa de Anguila trips)
191 - Juniper Canyon Trailhead
192 - Chisos Zone, other
193 - South Zone, other
194 - East Zone, other
195 - West Zone, other
196 - North Zone, other

BACKCOUNTRY ROAD CAMPSITE USERS

Rt. 11 (Persimmon Gap to Panther Junction)

111 - Hannold Draw
113 - Old Ore Road, North End
114 - Nine Point Draw

Rt. 12 (Panther Junction to Rio Grande Village)

121 - K-Bar Road
122 - Glenn Springs Road
170 - River Road, East End
182 - Old Ore Road, South End

Rt. 13 (Panther Junction to West Entrance)

132 - Grapevine Hills Road
133 - Paint Gap Road
134 - Croton Springs Road
160 - Maverick Road, North End

Rt. 15 (Ross Maxwell Drive)

176 - River Road, West End
161 - Maverick Road, South End

APPENDIX C: SOLO HIKER OR BOATER INFORMATION SHEET

**SOLO HIKER OR BOATER
INFORMATION SHEET**

due out _____

This information sheet is designed for your safety and to assist searchers should you become lost or injured. Please take the time to fill it out completely. Please print legibly.

PERSONAL INFORMATION:

Name _____ Height: ____ ft. ____ in. Weight ____ pounds
Age ____ Sex M F Race _____ Color of: Hair _____ Eyes _____
Medications: yes no Explain _____
Special health problems: yes no Explain _____
Where is your vehicle to be parked? _____

CONTACT IN CASE OF AN EMERGENCY:

1. Name _____ Address _____ _____ _____ Phone #: home _____ work _____ Relationship _____	2. Name _____ Address _____ _____ _____ Phone #: Home _____ Work _____ Relationship _____
---	---

RECOMMENDED EQUIPMENT: (Check those you have)

_____ Water - How much? _____ Compass _____ First Aid Kit
_____ Food - How much? _____ Matches _____ Flashlight
_____ Hikers or River Guide _____ Topographic Maps

DESCRIPTION OF OTHER EQUIPMENT:

Boot size _____	Backpack _____ color _____	Hat _____ color _____	Boat _____ color _____
*Sole type _____	Tent/Shelter _____	Shirt _____	P.F.D. _____
Make _____	Poncho _____	Pants _____	

PREVIOUS HIKING/CAMPING OR RIVER EXPERIENCE:

Within Big Bend N.P. or other desert areas (trails, routes, etc.) _____

I UNDERSTAND THE INHERENT DANGERS OF HIKING OR BOATING ALONE WITHIN BIG BEND NATIONAL PARK. I WILL RETURN MY PERMIT UPON LEAVING THE BACKCOUNTRY OR RIVER. I UNDERSTAND THAT MY FAILURE TO RETURN THE PERMIT MAY RESULT IN AN UNNECESSARY SEARCH.

Permittee signature: _____ Date: _____

Other comments: _____

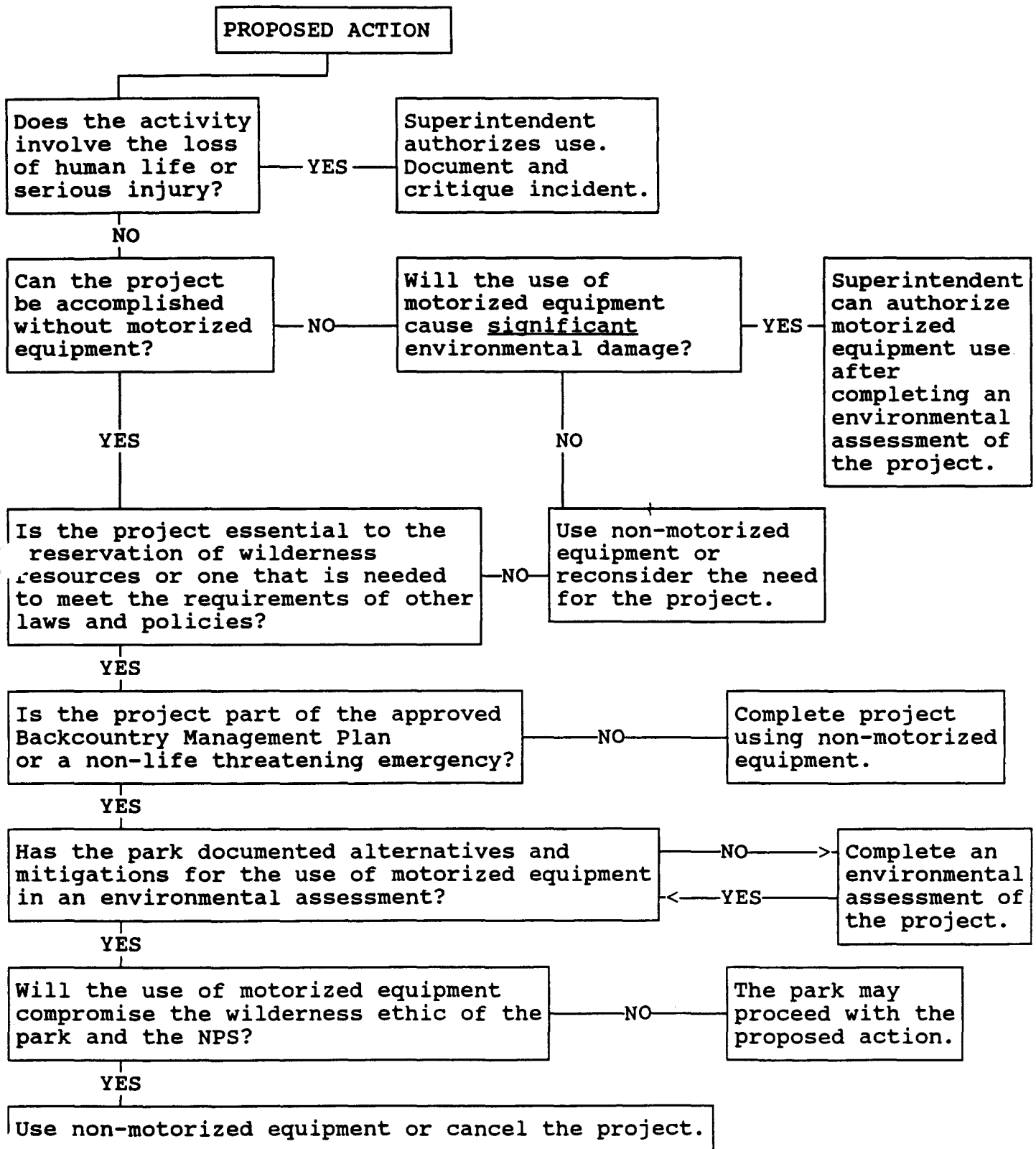
*Please use back if necessary for more detailed travel information or an unusual itinerary.

*Provide boot print on additional sheet

APPENDIX D:

**DECISION TREE FOR MINIMUM TOOL WILDERNESS
MANAGEMENT**

**DECISION TREE FOR
MINIMUM TOOL WILDERNESS MANAGEMENT**



APPENDIX E: BACKCOUNTRY CAMPING CONTROL CHARTS

<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <div style="display: flex; justify-content: space-between;"> <div> VEHICLES/PERSONS SITE CODE FIRES HORSES *ROAD ACCESS </div> <div> PRIMITIVE ROADSIDE CAMPSITE CONTROL CHART ONE PERMIT (SINGLE PARTY) PER SITE *Access Codes: A=All, HC=High Clearance, 4x4=Four Wheel Drive N=Not Allowed </div> <div> MONTH _____ YEAR _____ </div> </div> </div>		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	TOTALS						
		RIVER ROAD EAST	GRAVEL PIT	HC	4	N	GP1	2/10																										GP1					
				HC	6	Y	GP2	2/10																										GP2					
				HC	N	Y	GP3	2/12																										GP3					
	HC		N	Y	GP4	3/15																										GP4							
	LA CLOCHA	HC	N	Y	LC1	2/10																										LC1							
		HC	2	N	LC2	2/8																										LC2							
	SOLIS	HC	N	Y	SO1	2/12																										SO1							
		HC	N	Y	SO2	3/15																										SO2							
		HC	N	Y	SO3	3/15																										SO3							
		HC	6	Y	SO4	2/12																										SO4							
	FRESNO	HC	N	N	FR1	2/8	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	FR1	
	ELEPHANT TUSK	4x4	N	N	EL1	1/6																													EL1				
	TALLEY	HC	N	N	TY1	2/8																												TY1					
		HC	N	Y	TY2	2/8																												TY2					
		HC	N	Y	TY3	3/12																												TY3					
		HC	4	Y	TY4	2/8																												TY4					

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		VEHICLES/PERSONS						PRIMITIVE ROADSIDE CAMPSITE CONTROL CHART																															MONTH _____ YEAR _____	
		SITE CODE						ONE PERMIT (SINGLE PARTY) PER SITE																															TOTAL	
		FIRES																																						
		HORSES																																						
*ROAD ACCESS		HC	N	Y	WO1	2/8	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	WO1		
RIVER ROAD WEST	WOODSON'S	HC	N	Y	WO1	2/8																														WO1				
		HC	N	Y	WO2	3/12																														WO2				
	DOMINQUEZ TRAILHEAD	HC	4	N	DT1	2/8																														DT1				
		HC	4	N	JE1	2/8																														JE1				
	JEWELS CAMP	HC	4	N	JE2	3/12																														JE2				
		HC	4	N	LP1	3/12																														LP1				
	LOOP CAMP	HC	4	N	LP2	2/8																														LP2				
		HC	4	Y	JR1	2/10																														JR1				
	JOHNSON'S RANCH	HC	2	Y	JR2	2/8																														JR2				
		HC	N	Y	GA1	1/6																														GA1				
BLACK DIKE	HC	N	Y	BD1	2/10	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	BD1			
	HC	4	N	BA1	2/10																															BA1				
	4X4	6	Y	BA2	1/6																															BA2				
OLIVER MAVERICK	TERLINGUA ABAJA	HC	2	N	TA1	2/8																													TA1					
		HC	4	N	TA2	2/8																													TA2					
		HC	2	N	TA3	2/8																														TA3				
		HC	4	N	TA4	2/8																														TA4				
CHIMNEYS	HC	N	N	CH1	1/6																														CH1					

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VEHICLES/PERSONS
SITE CODE
FIRES

HORSES

*ROAD ACCESS

PRIMITIVE ROADSIDE CAMPSITE CONTROL CHART

ONE PERMIT (SINGLE PARTY) PER SITE

*Access Codes: A=All, HC=High Clearance, 4x4=Four Wheel Drive

N=Not Allowed

MONTH _____ YEAR _____

ROAD ACCESS						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	TOTALS		
GLENN	NUGENT MOUNTAIN	HC	4	N	NM1	2/6																															NM1		
		HC	4	N	NM2	2/6																														NM2			
	GROUP	6	N		3/20																																GROUP		
SPRINGS	PINE CANYON	HC	4	N	PC1	2/6																															PC1		
		HC	4	N	PC2	2/6																														PC2			
		HC	N	N	PC3	1/4																															PC3		
		HC	N	N	PC4	2/6																															PC4		
ROAD	RICE TANK	HC	N	N	RT1	2/6																															RT1		
		HC	N	N	RT2	2/6																															RT2		
	JUNIPER CANYON	4x4	N	N	JC1	1/4																															JC1		
		4x4	4	N	JC2	1/4																																JC2	
GLENN SPRING		4x4	N	N	GS1	2/8	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	GS1	
		HC	4	N	GS2	2/8																																GS2	
OLD	CANDELILLA	HC	N	N	CA1	2/8																															CA1		
	ERNST TINAJA	HC	N	N	ET1	2/10																																ET1	
		HC	N	N	ET2	2/10																																ET2	
ORE	LA NORIA	HC	N	N	LA1	1/6																																LA1	
		HC	N	N	LA2	1/6																															LA2		
ROAD	ERNST BASIN	4x	N	N	EB1	2/12																																EB3	
	WILLOW TANK	4x	2	N	WT1	1/8																																WT1	
	TELEPHONE CANYON	4x	N	N	TC1	1/6																																TC1	
		4x	4	N	TC2	2/12																																TC2	
	ROY'S PEAK	4x	N	N	RP1	2/6																																RP1	
	McKINNEY SPRING	HC	4	N	MS1	2/6																																MS1	

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HIGH CHISOS USE AREA CONTROL CHART

MONTH _____

YEAR _____

AREA	SITE CODE	P/T*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	TOTALS
JUNIPER FLAT	JF1	4/1																																JF1
	JF2	6/3																																JF2
	JF3	6/3																																JF3
BOULDER MEADOW	BM1	4/2																																BM1
	BM2	4/2																																BM2
	BM3	4/2																																BM3
	BM4	4/2																																BM4
	BM5	6/2																																BM5
PINNACLES	PI1	4/1																																PI1
	PI2	6/2																																PI2
	PI3	15/5																																PI3
TOLL MOUNTAIN	TM1	4/1																																TM1
EMORY PEAK	EP1	6/2																																EP1
BOOT CANYON	BC1	6/2																																BC1
	BC2	12/5																																BC2
	BC3	4/2																																BC3
	BC4	6/2																																BC4
COLIMA	CO1	15/5																																CO1
	CO2	3/1																																CO2
	CO3	4/2																																CO3
JUNIPER CANYON	JC1	6/2																																JC1

*P/T= PERSONS/TENTS

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HIGH CHISOS USE AREA CONTROL CHART

MONTH

YEAR

AREA	SITE CODE	P/T*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	TOTALS
NORTHEAST RIM	NE1	5/2																																NE1
	NE2	6/2																																NE2
	NE3	6/2																																NE3
	NE4	10/5																																NE4
	NE5	6/2																																NE5
SOUTHEAST RIM	SE1	6/2																																SE1
	SE2	6/2																																SE2
	SE3	10/5																																SE3
	SE4	6/2																																SE4
SOUTHWEST RIM	SW1	6/2																																SW1
	SW2	3/1																																SW2
	SW3	10/4																																SW3
	SW4	4/1																																SW4
BLUE CREEK	BL1	4/1																																BL1
	BL2	4/1																																BL2
LAGUNA MEADOW	LM1	6/2																																LM1
	LM2	10/5																																LM2
	LM3	6/2																																LM3
	LM4	6/2																																LM4
LAGUNA WEST	LW1	4/2																																LW1
	LW2	4/1																																LW2
	LW3	4/1																																LW3

*P/T= PERSONS/TENTS

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ZONE/USE AREA, CODE, CAPACITY			BACKCOUNTRY USE AREA (OPEN CAMPING) CONTROL CHART																												MONTH _____		YEAR _____	
ZONE C - CHISOS			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	TOTALS
LOWER JUNIPER	CO3	30																																
DODSON	CO4	40																																
BLUE CREEK	CO5	20																																
WARD SPRING	CO6	10																																
ASH SPRING	CO7	40																																
WRIGHT MOUNTAIN	CO8	30																																
HAYES RIDGE	CO9	30																																
ZONE S - SOUTH			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
MULE EARS	S01	18																																
UPPER SMOKY	S02	35																																
LOWER SMOKY	S03	40																																
DOMINGUEZ	S04	40																																
ELEPHANT TUSK	S05	40																																
PETITS	S06	25																																
MARISCAL MOUNTAIN	S07	35																																
TALLEY MOUNTAIN	S08	30																																
CHILICOTAL	S09	50																																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	

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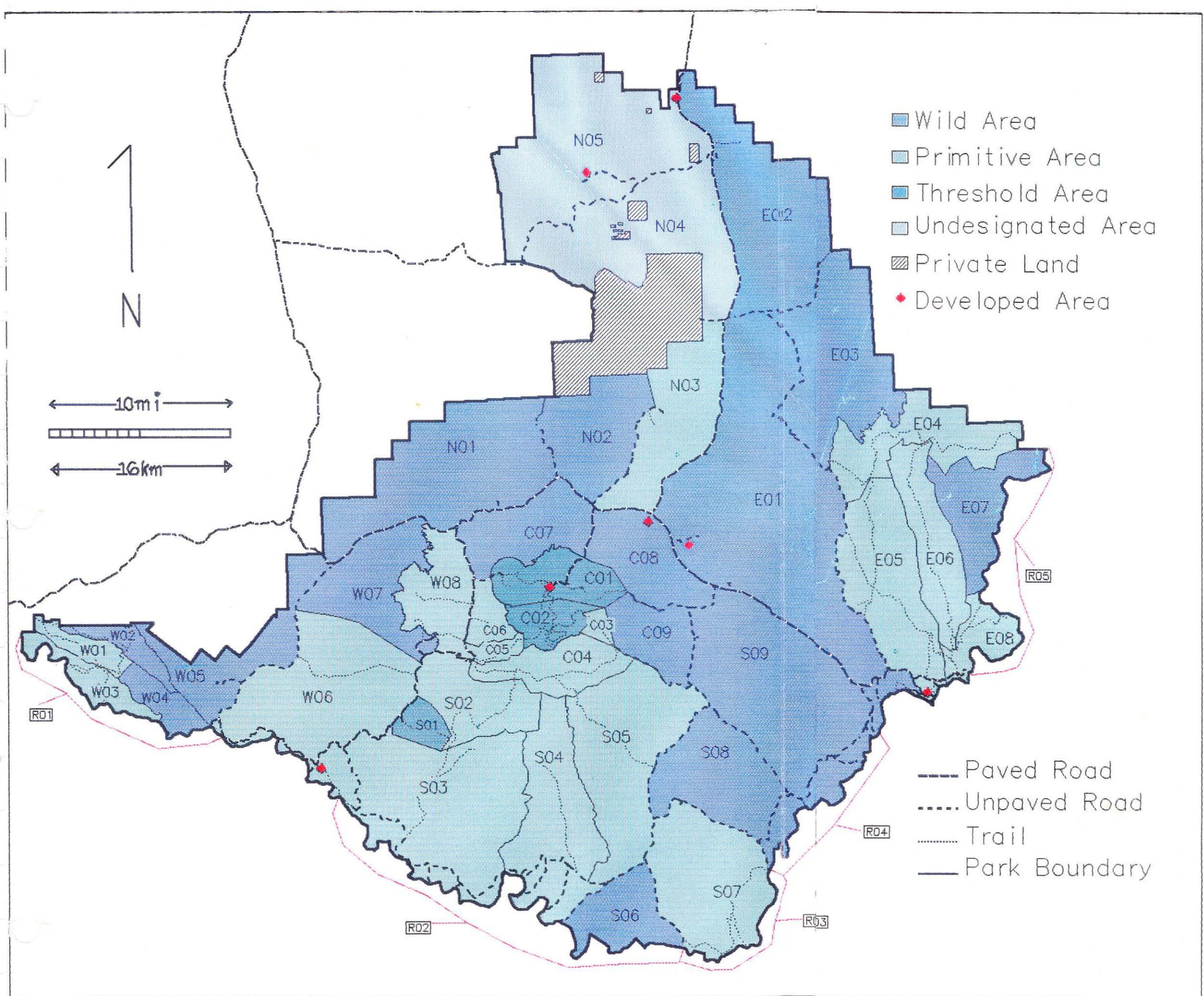


Figure 4: Use Areas, Management Designations, and Permit Codes Map