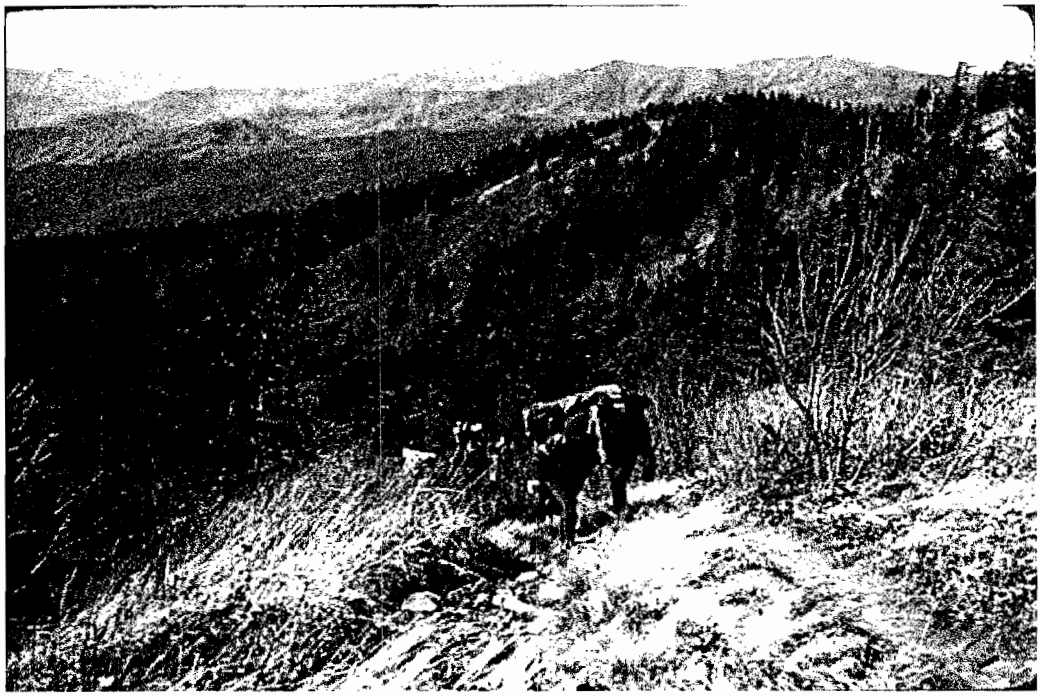
Backcountry Management Plan 2002



Great Smoky Mountains National Park

BACKCOUNTRY MANAGEMENT PLAN

GREAT SMOKY MOUNTAINS NATIONAL PARK

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1.0 INTRODUCTION

This document is an action plan for day-to-day backcountry management practices designed to protect the natural resources and values for which the Park was established. The plan specifies management actions to guide the wise use and maintenance of the backcountry trail and campsite system. These actions have been selected as those that most effectively and equitably preserve and perpetuate the Park resources for enjoyment of present and future generations. The actions described in this plan are the result of three decades of thoughtful management experience and several research projects here in the Smokies and in other national parks. Research projects have sampled public opinion as well as measured social and resource impacts due to visitor use of the Park backcountry. Various surveys of visitors have

measured backcountry visitor perception of various aspects of park management practices. Findings of these surveys were taken into account in development of this management plan.

A plan such as this is needed to guide the management of backcountry recreation due to the size and complexity of the Park and the demographics of Park visitors. In the late 1960's and early 70's it was not uncommon to find as many as one hundred forty people camped on a given night at popular locations such as Mt LeConte or Spence Field (1972 BMP and news release). During those times the Appalachian Trail within the Park was used extensively by the Boy Scouts of America to meet the requirements of an Appalachian Trail Patch. Consequently, large groups used the Park trail system and were permitted to camp in almost any location. During the period from 1972 until 1986 the backcountry use permit system evolved to become very much as it is today in 2001. This 2001 edition of the plan attempts to improve the educational and enforcement component of the permit system to better achieve the goals of the permit system, (2000 BC User Fee Study, p. 26 & 27). **The goals are to provide a high quality, backcountry visitor experience and to preserve the Park resources intact for enjoyment of future generations. The plan is designed to integrate the efforts of park rangers, trail maintenance employees and the park volunteer program** to achieve optimum efficiency in maintenance and management of the trail and campsite system.

Setting

The Great Smoky Mountains National Park ranges in elevation from 850 feet above sea level at the mouth of Abrams Creek to 6643 feet above sea level at Clingmans Dome. The Park contains 16 peaks that exceed 6000 feet elevation. The Smokies Range was considered by Professor Guyot and other early geographers to be the summit of the ancient Appalachian chain of mountains. Average rainfall in the highest elevations is about 80 inches per year with a climate similar to that of Maine and 55 inches annual rainfall in the lower elevations. There are four vegetation zones in the Park ranging from the lower elevation deciduous cove hardwood forest, to the pine/oak forest type on the dryer ridges, to the northern hardwood forest, to the spruce/fir forest of the highest elevations. These forests are punctuated by other vegetative phenomenon such as Beech Gaps, Heath Balds and Grassy Balds. The Smokies diversity of biological resources is unparalleled in the temperate regions of the world. The Park is situated within one-day drive of much of the population of the United States and therefore receives heavy visitation. Of the 10 million annual visitors to the Park many hundreds of thousands take short day hikes on the trail system. In year 2000 the park issued 13,052 overnight backcountry use permits to 34,515 people for a total of 77,463 camper nights in the backcountry. The bulk of these visitors stayed at the thirteen trail shelters on the seventy miles of Appalachian Trail along the crest of the Smokies and the nineteen other backcountry campsites that are permitted through the backcountry reservation system. The 900-mile Park trail system has nearly one hundred trailheads and twenty-seven park access points around the Park boundary. The trail system is served with fifteen trail shelters and eighty-eight designated backcountry campgrounds that have from one to eight campsites each.

1.1 **OBJECTIVE**

The primary objective of this plan is to provide for visitor enjoyment of the backcountry without unacceptable deterioration of natural and cultural resources. Of utmost concern are the following key goals:

- To set forth the Park program that regulates hiking, horseback riding, and camping for the purpose of containing resource impacts to an acceptable level in a wilderness setting.
- To provide backcountry visitors with a high quality backcountry experience.
- To establish an accountable trail maintenance program, the purpose of which is to maintain trails at an acceptable standard and develop funding strategies for maintenance.
- To document and specify procedures for opening, closing, monitoring and otherwise managing backcountry campsites and trails.
- To explain the program for management and maintenance of the Appalachian Trail consistent with the National Trails Act and in cooperation with the Appalachian Trail Conference.
- To describe Park practices governing structures in the backcountry.
- To describe the minimum requirements for use of motorized equipment in maintenance of trails and campsites.

1.2 FUNCTION

The Backcountry Management Plan will:

- Serve as an "action plan" for Park staff in their day-to-day management of backcountry use.
- Ensure effective compliance with administrative policies.
- Identify and justify appropriate programs that should be incorporated into the budgetary process to fully implement this plan.

1.3 GUIDELINES

The plan is written within the framework of existing legal and administrative guidelines, including the Park's enabling legislation, National Park Service management policies, the Superintendent's Statement for Management, Code of Federal Regulations-Title 36, the National Trails System Act of 1978 (PL 900543), and the General Management Plan for Great Smoky Mountains National Park.

1.4 **REVIEW**

The Backcountry Operations Specialist will review this plan every other year, in late winter. The Backcountry Specialist will involve district rangers, trail foremen, Resources Management Division personnel and the Compliance Management Board when considering changes to the plan.

Public input for management of the backcountry is encouraged and will be in compliance with Director's Order 12 as it interprets the National Environmental Policy Act. Efforts will be made to encourage involvement of other interested federal and state agencies, local conservation organizations, and other interested parties. News releases will be utilized, when appropriate, to summarize changes.

1.5 WILDERNESS PROPOSAL

In accordance with the requirement of the 1964 Wilderness Act the National Park Service conducted a wilderness suitability study of the Great Smoky Mountains National Park and submitted a wilderness recommendation. The 1974 Wilderness Recommendation proposing that 390,500 acres within the park be designated wilderness was transmitted to Congress by President Ford on December 4, 1974, accompanied by the Draft Environmental Statement 74-104 (DES 74-104). The recommendation did not pass Congress because of controversy about the North Shore Road. The recommendation was revised in November 1979 (GMP, P. 19), increasing proposed wilderness to 425,384 acres. The 52,286 acres of potential wilderness shown on the 1978 wilderness map is the 44,000 - acre former North Shore/TVA tract and the previously proposed buffer zone adjacent to the Cherokee reservation. (1978 map in appendix A) The additional acreage of recommended wilderness was land in the Cataloochee area around Canadian Top, land east of Mt. Sterling Road and the reduction of buffer zones adjacent to some park administrative roads. This 1979 Wilderness revision was never transmitted to congress and is proposed wilderness rather than recommended.

Assistant Secretary Herbst, by letter of May 11, 1978, to the Speaker of the House of Representatives and to the President of the Senate, recommended that congress defer action on the wilderness proposal until a 1943 agreement between the Department of the Interior, the Tennessee Valley Authority, the State of North Carolina, and Swain County, North Carolina, was resolved.

The 1974 wilderness recommendation proposed the use of small, motorized equipment for maintenance of the Appalachian Trail and the immediate removal of backcountry shelters. That proposal was changed by the 1982 General Management Plan that states visitor use and park management practices are to be of a transient nature and non-motorized except in extreme emergencies involving either human safety or critical resource protection needs. Trail shelters will be retained except where environmental deterioration is severe or need cannot justify retention. The trail shelters concentrate visitor use impacts and therefore serve as important tools in reducing impacts to vegetation and water quality in this heavily used wilderness corridor (Bratton 1978, Marion 1997).

Three Smokies wilderness bills were introduced to Congress in June 1987. (Appendix A provides background information concerning the congressional testimony and Park issues discussed). The NPS recommended 418,200 acres to be designated wilderness and 46,500 acres potential wilderness as shown on the 1987 wilderness map in appendix A. The potential wilderness was the former north shore TVA tract.

A package of wilderness recommendations, for 17 National Park areas was approved by the Director and Department for re-transmittal to Congress in 1999. This package included the 1974 Smokies wilderness proposal for 390,500 acres. The 1974 wilderness recommendation was used in this 1999 proposal because it was the only recommendation that had NEPA compliance documents. The 1979 and 1987 Smokies Wilderness proposals did not include compliance documents. However, the Council on Environmental Quality was unwilling to re-transmit the recommendation to Congress because the 1974 vintage compliance documents were outdated. In light of this 1999 decision by CEQ our current need with regard to Smokies Wilderness designation is to complete a current wilderness suitability assessment and proposal. In light of the difficulties encountered in the previous wilderness proposals we also need to resolve the North Shore Road controversy.

Until Congress designates wilderness in the Smokies, Directors Order 41 requires we manage the proposed wilderness in such manner that is does not lose the qualities that would make it eligible for designation as wilderness. Therefore, no temporary or permanent roads or structures can be constructed in the proposed wilderness boundaries.

1.6 Minimum Requirement Concept

The Wilderness Act of 1964 states in section 4(c) that "…*except as necessary to meet the minimum requirements for the administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area) there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation*…" within a Wilderness area. The Act allows for the administrative exception, but it is an exception not to be abused and to be exercised very sparingly and only when it meets the test of being the minimum necessary for wilderness. National Park Service Policy dictates that all management decisions affecting wilderness must be consistent with the minimum requirement concept.

The minimum requirement concept enables managers to examine and document if a proposed management action is appropriate in wilderness, and if it is, what is the least intrusive equipment, regulation, or practice (minimum tool) that will achieve wilderness management objectives. The completion of this process assists managers in making informed and appropriate decisions concerning actions conducted in wilderness.

In wilderness, how a management action is carried out is as important, if not more important, than the end product. When determining minimum requirement, the potential disruption of wilderness resources and character will be considered before, and given significantly more weight than, economic efficiency and convenience. If a compromise of wilderness resources or character is unavoidable, only those actions that preserve wilderness character in the long run and/or have localized, short-term adverse impacts will be acceptable.

The Process

To apply the minimum requirement concept at GRSM, a Minimum Requirement Analysis will be completed for any management action, including but not limited to, natural and cultural resource projects, administrative facilities, trail and camp area projects and research, within the proposed and potential wilderness. It is the responsibility of the lead person for any proposed action to complete a Minimum Requirement Analysis Worksheet (GRSM-bc01). Depending on the level of review required, the Minimum Requirement Analysis Worksheet (GRSM-bc01) may be used alone or in conjunction with the other park review processes, such as Project Proposal or Flight Requests.

The Minimum Requirement Analysis is a two-part process. Part A helps determine whether or not the proposed management action is appropriate or necessary for administration of the area as wilderness, and does not pose a significant impact to wilderness resources and character. Part B describes alternatives for the proposed action in detail, and evaluates each, to determine the techniques and/or types of tools and equipment (minimum tool) needed to ensure that overall impacts to wilderness resources and character are minimized. The Minimum Requirement Analysis Worksheet (GRSM-bc01) and instructions for its completion can be found in Appendix L.

Recurring actions, such as spring trail opening, campsite rehabilitation and management prescribed fire, may be analyzed and the minimum requirement decision and specific guidelines documented in an approved management plan (e.g. Backcountry/Wilderness Management Plan, Fire Management Plan). This eliminates the necessity of the action being analyzed each time it is conducted. Any action not analyzed and approved in a current management plan, or any

deviations from an approved action and its specific guidelines, must be analyzed on a case-by-case basis. **Minimum Requirement Analysis forms that document pre-approved actions are found in appendix A.**

The minimum requirement concept is not intended to limit choices. It challenges managers to examine every planned management action to determine if it is appropriate and necessary in wilderness and to choose the best alternative that would least impact unique wilderness resources and character. The purpose and philosophy of wilderness must be considered when evaluating alternatives. Wilderness goals, objectives and desired future conditions must be well understood by anyone proposing and/or analyzing actions.

DECIDE TO KEEP WILDERNESS WILD

Does Your Decision:

*Consider the 1964 Wilderness Act and other legislation?

*Consider agency policy and your management plan?

*Support Wilderness as an entire resource rather than as a means of maximizing specific resources?

*Ensure that the effects of human activities do not dominate natural conditions and processes?

*Ensure that Wilderness is not permanently occupied or modified?

*Allow Wilderness to retain solitude, and elements of surprise and discovery?

*Consider Wilderness values before convenience, comfort, economical, or commercial value?

*Ensure that future generations will be able to enjoy the benefits of an enduring resource of Wilderness?

2. VISITOR ACTIVITIES AND USE LIMITS

2.1 GENERAL

Our backcountry use management system has evolved to be the one which best protects the natural and cultural resources of Great Smoky Mountains National Park while maximizing the opportunities for visitor enjoyment within the fiscal realities of the National Park Service. It is a goal to increase enforcement efforts and improve management of backcountry campsites as increased funding becomes available. More funding is also needed to better staff the Sugarlands permit office to assist with reservations and to establish a Limits-of-Acceptable-Change monitoring system for trails and campsites (Marion 1997).

Every opportunity is explored and accessed for financial support for backcountry use management. Research and experimentation is an integral part of our backcountry management program to continue to improve our stewardship.

2.2 SIGNS

Backcountry signs will provide clear information relating to points ahead, as well as distances, and will provide reassurance to hikers regarding their choice of routes. The guidelines contained in Appendix C are a means of promoting uniformity, clarity, simplicity, education, safety and economy.

Requests for signs shall be submitted on the Backcountry Sign Request Form (Appendix C). Routing of sign requests for new signs is through the District Ranger, District Trail Foreman and the Backcountry Operations Specialist, (BOS). Sign request forms for replacement signs can go directly to the BOS. The BOS ensures the signs are made and delivered to the trail foreman for installation using the work order request form.

2.3 **WOOD FIRES** (36 CFR 2.1[a][4], 2.13)

Wood fires are permitted at all backcountry campsites. The superintendent may authorize a temporary ban due to extreme wildfire danger. Wood fires are permitted in shelter fireplaces and in outside fire rings at shelters. Each shelter is limited to one centrally located metal fire ring.

Research and experience has shown that use of campfires is the single most damaging camper activity to the designated campsites, (Marion 1997 p. 60&61, Bratton 1978 p. 8). Damage to camping areas accumulates due to trampling of vegetation from wood gathering and chopping and sawing trees. When fire rings are not kept clean and ash builds up campers build new fire rings. As more area is burned with new campfires more soil is blackened and made undesirable for camping. As the area of blackened soil grows campers then move to new undamaged areas to camp and thus the campsite area grows larger each year. To mitigate this process it is the focus of the Adopt-A-Campsite program to clean out fire rings on a regular basis.

Long-term recommendations to prohibit wood fires at specific campsites will be initiated through the campsite evaluation process and reviewed by the Resources Management and Science Division and the Backcountry Operations Specialist. Recommendations will be based on level of use at the campsite, amount of wood available nearby and severity of vegetation damage. Educational efforts to reduce campfire use voluntarily are being initiated and will be evaluated for success through the campsite monitoring process.

Backcountry users will be encouraged to use lightweight backpack stoves and candle lanterns instead of wood fires as a means of promoting minimum-impact camping. Where wood fires are used, only dead-and-down wood will be utilized and the visitor will be encouraged to build small fires within established fire rings. Small metal fire rings are being used experimentally at selected campsites (Marion 1997 p. 76).

2.4 **HORSE USE** (36 CFR 2.16, 2.14 [a][6])

The limited amount of horse use at some backcountry campsites does not justify rationing use. Those sites receiving consistent use will be rationed and the capacity established for both horses and people based upon a determination of what the resource can tolerate. This determination is based upon the evaluation of results of backcountry campsite monitoring under the limits-of-acceptable-change program. The Great Smoky Mountains Trail Map lists campsite capacities. The addition of hitch racks, if deemed necessary, will be accomplished through the campsite evaluation process.

In order to comply with the General Management Plan, which requires that facilities for horseback riding be kept at 1975-1976 levels, the following constraints are imposed on concession contracts:

a. The total number of contracts (five) will not be increased (36 CFR 1.5). Commercial use authorizations involving the use of stock will not be issued.

b. The total number of horses allowed will not exceed the numbers established by the concession contracts. The Backcountry Operations Specialist will review any proposals to increase horse allotments in contract renewals.

Concession contracts for stable operations will require that the permittee maintain the trails used primarily by their operations. Specific trails, to be maintained, and equipment to be used are listed in the concession contract maintenance plan. (Appendix H).

*The Concession Management Specialist will work with each permittee to develop an assessment of maintenance needs and responsibilities based on use, number of stock, etc. Concession Management Specialist will monitor performance for compliance with each permit.

The following regulations are found in the Code of Federal Regulations and apply to all horse use:

a. Horses must be kept under physical control at all times; they may not be left to graze or water unattended (36 CFR 2.16 [d][g]).

b. Horses are not permitted within 100 feet of shelters or campsites (36 CFR 2.16 [g]).

c. Off-trail horseback riding is prohibited (36 CFR 2.16 [b]).

d. Grazing is not permitted; all food must be packed in. Hay is not permitted in the backcountry due to the likelihood of introducing seeds of exotic plant species (36 CFR 2.16 [g]).

e. Hitch racks, when available, must be used (36 CFR 2.16 [g]).

f. In the absence of hitch racks, horses must be tied to a line strung between trees in such manner that stock cannot damage tree trunks, tree roots, or other vegetation. Tying horses directly to trees is prohibited (36 CFR 2.16 [g]).

g. Horse manure that has accumulated from overnight tethering must be scattered away from the campsite (36 CFR 2.16 [g]).

h. Horses must not be tied closer than 100 feet from any stream or water source (36 CFR 2.16 [g]).

Additional, Park specific, regulations regarding use of stock are found in the current edition of the GRSM Superintendent's Compendium of Regulations.

2.5 **THE PERMIT SYSTEM AND RESERVATIONS** (36 CFR 1.5 and 1.6)

Since its inception in 1975, the reservation system has gained public acceptance as a means to control resource impacts and increase opportunities for solitude. Overnight users are required to obtain a (free) permit and to state their itinerary on the permit i.e. they must specify where they will camp each night of their trip. A permit becomes invalid if the trip varies from the specified itinerary.

Rationing of Site Use

Currently, the overnight occupancy of all shelters and those campsites that experience frequent overcrowding, and/or damage to resources is rationed through a reservation system. While it is possible that unlimited numbers of people could occupy a non-rationed campsite, it is expected that such overcrowding will be an infrequent occurrence. **Overcrowding of non-rationed sites can be discouraged by Park Rangers by posting a full notice on permit station bulletin boards when enough self-issue permits have been issued to cause an over-crowded condition to exist.** The practical capacity of a non-rationed campsite is equal to two people for each tent site in the campsite.

The use of a rationed site requires that a reservation be made with the Backcountry Reservation Office where a computerized listing of all rationed sites is maintained. Reservations may be made by telephone between 8:00 a.m. and 6:00 p.m. daily, and up to one month prior to the beginning of the trip. Once campers have selected an itinerary and made reservations for all rationed sites, they must write their own permit. Backcountry permit stations are established at logical public contact areas (i.e., ranger stations, visitor centers and/or campgrounds) listed in Appendix B. A description of the permit system and information about where and how to self-register is included in the Great Smoky Mountains Trail Map and is posted at permit stations. **Park Rangers are encouraged to assist visitors in choosing itineraries and in writing their permits when possible.**

Permits and Permit Stations:

Requiring backcountry camping permits ensures that visitors will come into contact with information that will educate/enable them to responsibly recreate in the backcountry. The permit itself contains regulatory information. In 2002 a new design of permit will go into service. The visitor copy of the new permit is 81/2" X 11". It contains educational information about regulations, trip planning, safety tips, food storage, ethics and minimum impact techniques for use of campfires and horses.
A new and standardized type of permit station will be installed Park wide in 2002. The standardized station includes three parts. Part 1 is a 4'X 8' porcelain-enamel wayside exhibit that explains designated campsites and the need for minimum impact use techniques. Part 2 is a 4' X 8' steel frame bulletin case that houses the instruction poster for completing permits. Part 3 is a dispenser for trail maps and permits. Also, beginning in 2002, visitors will be able to obtain backcountry permits on-line. This service is expected to be available on the park web site in July 2002. To be effective, backcountry permit stations must be kept neat and clean in appearance. The bulletin case must be kept free of superfluous information. Only the permit instruction poster and current safety and campsite closure information should be displayed in the case. Normally, the only item displayed in the bulletin case will be the instruction poster. This poster contains the information the visitor is supposed to read to obtain a permit. If the poster is the only item displayed the visitor will focus on it and not be sidetracked by superfluous information. Maps should not be displayed. Maps are available from the dispenser. A map on display will distract visitor attention from the poster. The backcountry permit station design and strategy is based upon information in the 2000 abstract from the trailhead bulletin board study by David Cole and Stephen McCool of the Aldo Leopold Wilderness Research Institute.

2.6 CROSS-COUNTRY PERMITS

The purpose of cross-country permits is to provide wilderness travelers "opportunities for solitude or a primitive and unconfined type of recreation" as mentioned in the Wilderness Act. The cross-country permit is not intended as a means to circumvent the designated campsite system. The itineraries are to be truly cross-country, not a trail hike. Trails may be used intermittently, but greater than 60% of the trip must be off-trail. Since the permittees are wishing to be "unconfined" by designated campsite, they are also to be "unconfined" by trail.

The cross-country permit is an option that is easily abused and rangers should interview candidates for such permits to assist them in finding a suitable trip. The interview should serve to find the experience the visitor is seeking and match a trip to suit their need without compromising the integrity of the permit system.

Most people asking for a cross-country permit are actually looking for solitude, not unconfined travel. Suggest lesser-used trails like Lakeshore Trail, Old Settlers Trail, Balsam Mountain Trail and Spruce Mountain Trail where they likely will not see many people. **Reference to cross-country permits will be omitted from public information such as the Great Smoky Mountains Trail Map**. Cross-country permits are not a means to accommodate overflow camping on holiday weekends when all designated sites in the park are full.

Cross-country permits shall be issued only by permanent Park Rangers. District and Backcountry Rangers must be notified when cross-country permits are issued for their area.

All cross-country trips are governed by the following restrictions:

a. Maximum party size is four people and use of horses or other stock is prohibited.

b. Camping locations must be at least:
*100 feet from the nearest surface water (36 CFR 2.10).
*One-half mile from any designated trail (36 CFR 1.5).
*One mile from any designated road (36 CFR 1.5).

c. Camping in spruce-fir, beech gaps, or on grassy or heath balds prohibited (36 CFR 1.5).

d. Duration of stay at each location cannot exceed one night and the same location cannot be used a second time on the same trip.

e. Wood fires are prohibited (36 CFR 2.13).

f. Campers are required to obliterate all traces of human presence upon leaving a cross-country camp (36 CFR 2.10 [b][2]).

g. Camping locations for each night should be as closely pinpointed as possible using natural landmark or map coordinates, and trips are expected to follow the designated itinerary as closely as possible.

2.7 APPALACHIAN TRAIL THRU-HIKERS

Because the Appalachian Trail (AT) is an entity that exists both within and outside the Park, it must be recognized that hikers often plan long distance trips. The AT thru-hiker comes to the Smokies because the AT is here, not necessarily because he or she specifically wants to traverse the Park.

Appalachian Trail thru-hikers as defined by GRSM are persons who are hiking the AT from a starting point at least 50 miles south of the Park to an end point at least 50 miles north of the Park, or vice-versa. Many intend to hike the entire length of the 2000-mile trail from Springer Mountain, Georgia, to Katahdin, Maine.

Thru-hikers are required to comply with all backcountry regulations, including the mandatory backcountry use permit, with the following exceptions:

*A deviation from the normal permit procedure allows all thru-hikers an open-permit for seven nights with the stipulation that they will be required to utilize the available bunk space in shelters.

*They are not required to designate which shelter they will occupy on a given night.

*If a shelter is full, thru-hikers may camp in the immediate vicinity, within sight of the shelter on previously impacted sites. No other tent camping is permitted on the AT in the Park. Except at the experimental campsite at Birch Spring. (see Campsite Management 2.8).

*Campers may not stay more than one consecutive night at a specific shelter, regardless of whether or not bunk space is available.

In order to minimize the need for thru-hikers to camp outside shelters, six bunk spaces will be withdrawn from availability (i.e., not subject to reservations) at all AT shelters during the period of heavy south-to-north traffic (March 15-June 15). These space assignments are subject to change, upon recommendation of the Backcountry Operations Specialist, should current use patterns justify alterations. **Backcountry Rangers will make every effort to intensify spring patrols along the AT to monitor the effectiveness of the established quotas and to provide recommendations for changes to suit the needs of the backcountry hiker.**

Thru-hiker permits can be obtained from:

- Southbound thru-hikers: Backcountry permits can be picked up at the U.S. Forest Service Ranger Station at Hot Springs, North Carolina.

- Northbound thru-hikers: Backcountry permits can be picked up at the National Park Service self-registration station on the AT where it crosses N.C. 28 near Fontana Marina.

Refer to Appendix (I) for further information concerning thru-hikers.

2.8 **CAMPSITE MANAGEMENT**

All designated campsites are identified in the field by a campsite marker (Appendix C). The only improvements permitted at backcountry campsites are fire rings, single-pole hitch racks, food storage devices, and, under extreme circumstances, toilets.

The location and design of selected campsites is being evaluated according to recommendations from the 1997 campsite study report. The purpose is to study the effectiveness of campsite design to encourage campers to select appropriate tenting, eating and campfire locations. See section 2.12 and appendix B, Marion backcountry campsite report of 1997.

Length of stay in the backcountry is limited to thirty consecutive days and a total of sixty days per calendar year. A person may stay three consecutive nights at a campsite, but may not stay two nights in a row at a shelter.

While party size is limited to a maximum of eight people, campsite capacities of fewer than eight people may be established for environmentally sensitive areas in order to keep impacts to an acceptable level. Groups composed of more than eight individuals must divide into smaller parties **with different camping itineraries.** Large groups from a common point of origin camping together attain a level of social interaction that disturbs the wilderness values of solitude and natural sounds. There are two exceptions to this party size limit. One is for trail or campsite work project crews where more than eight people are needed to carry out the work. The second exception is for the Great Smoky Mountains Institute backpacking classes held annually. The nature of the curriculum and the direct NPS control of group leadership as they are an extension of the NPS education program negates the eight person requirement. These groups may be as large as 12 persons. Any other group with some unique circumstances requiring more than eight people must be approved by the CRO. These circumstances would be rare and no example set-of-circumstances can be visualized.

Backcountry users are required (36 CFR 2.13 [a][1] compendium) to use established fire rings rather than making their own. As a matter or routine, rangers should eliminate surplus and/or illegally established fire rings in order to control campsite sprawl. Parties are required to pitch their tent or sleep within the impacted area that outlines the boundary of established visitor use for the site.

Numerous backcountry visitor impact studies conducted in the Park have identified the zone above 4,000 feet, and its associated soils and plant communities, as being particularly sensitive to backcountry use (Bratton 1978, Williams 1995). This sensitivity will be taken into consideration in campsite management, whether it is reflected in maintenance of established campsites, relocation of sites, addition of new campsites to the backcountry inventory, or changes in type of use. Provisions made for visitor use will not preempt our mandate to preserve and protect the natural resources of the Park's backcountry (NPS Mgmt. Policies 2001, 8.2.2).

Food storage cable systems are located at all but three of the campsites or shelters. Davenport Gap and Tricorner shelters do not have areas for cable systems and campsite 47 has a bear pole. Use of the storage system for all odorous items is required at night and whenever the items will be left unattended. The GRSM wildlife branch is responsible for maintenance of these storage systems.

2.9 **SHELTER MANAGEMENT**

Shelters provide a means of confining impacts and are an alternative to closing an area or reducing the number of people allowed at the site. The fifteen trail shelters currently in the Park are in locations that have been demonstrated through sustained use levels to require the use of shelters for reducing recreational impacts.

The overnight capacity of each shelter is determined by the number of bunks it contains and the prevailing sanitary conditions as documented by the limits-of-acceptable-change campsite monitoring system (see section 2.11). Wood fires will be discouraged, but not prohibited, at all shelters due to limited availability of firewood and the heavy overnight use they receive (Bratton 1978 and Marion 1997) Resource impacts from firewood gathering are under continuous evaluation.

The Appalachian Trail shelters are maintained by cooperative agreement with the Smoky Mountains Hiking Club and the Appalachian Trail Conference.

A regulatory sign shall be posted by Smoky Mountains Appalachian Trail maintainers, and the National Park Service on an inside wall of all shelters to call attention to special site-specific as well as backcountry related regulations (Appendix B). A special metal warning sign is posted upon an exterior shelter wall stating: Warning. Do not cook or eat in this shelter. Food odors attract bears.

Chain-link fencing has covered the front wall of the current stone shelters since the 1960's. According to numerous reports from the public and ATC Ridgerunners the fencing rather than protecting visitors from bears has provided an opportunity for some visitors to feed bears through the fence and obtain close-up photos of the bear. Once the shelter becomes full for the night any more hikers arriving at the shelter have to sleep outside with the food conditioned bear that has lost it's natural fear of human beings. Once the bears become so bold as to endanger the public they must be destroyed. Park policy has been since 1999 to remove the shelter fencing each time a shelter is rehabilitated. It is thought that the removal of the fencing plus the addition of food storage cables at each shelter will provide the necessary conditions for visitors to keep food from wildlife and thereby improve the safety of visitors, bears and other wildlife. Fencing was removed from Icewater Shelter in June 1999 and from Peck's Corner Shelter in June 2000. There have been no reports of bear with human conflicts at either shelter since the fencing was removed. The current practice will be to monitor bear activity at a shelter during the spring and summer months and if no activity is observed or reported the fencing will be removed from selected shelters each year. Fencing will not be removed if bears are currently active at a shelter. Tricorner and Davenport Gap Shelters will keep the fencing until a food storage system can be devised for those two sites.

2.10 **SANITATION** (36 CFR 2.14)

The primary concerns regarding backcountry sanitation involve the need to prevent the accumulation of human and horse waste, garbage and trash from reaching obtrusive levels; to avoid contamination of water resources; and to prevent conditioning of wildlife to human food sources.

Litter Control

Litter will be removed from within the campsite and extending at least 25 feet beyond the impact zone of all campsites and shelters. It is intended that this effort be conducted **monthly between March 1 and October 31. Illegal fire rings will also be destroyed and ashes in designated fire rings scattered** so as to render them inconspicuous in the environment.

Park staff litter control efforts at all shelters will be supplemented by a volunteer program consisting of a sign posted inside each shelter asking occupants to police the area before they leave and to carry out any trash they find. Appalachian Trail Conference Ridgerunners will routinely carryout trash from the A.T. shelters and solicit campers who are leaving the backcountry to assist by carrying out small bags of trash. Backcountry campsite cleaning is accomplished through the Adopt-A-Campsite Program as coordinated through the VIP Coordinator position. The backcountry campsite, limits-of-acceptable-change evaluation process will be used to analyze the effectiveness of this program.

All garbage and trash should be packed out (36 CFR 2.10 [2]).

Management of Human Waste

The "cathole" method will be encouraged as the primary means of human waste disposal. Human waste shall be buried four to six inches deep and at least 100 feet from the nearest camping area or source of surface water. "Cathole" and sanitation instructions are posted at each trail shelter.

Should visitor use at a particular campsite or shelter become such that the "cathole" method is insufficient to accomplish acceptable sanitary standards, defined as follows.

*Visual obtrusion is minimal and readily biodegrades so as to be virtually unnoticeable.
*No odor is detectable along latrine trails.
*No significant surface accumulation of human fecal matter along latrine trails is evident.

Then the following alternatives will be implemented in the order shown.

*Temporary closure; reopen when conditions improve and re-evaluate; reopen as rationed site or with reduced capacity.
*Install a toilet system appropriate to site-specific environmental conditions.
*Permanent closure.

A metal sign is posted on each shelter to notify visitors of this policy to close a shelter if toilet paper and waste accumulate to an unacceptable level. The signs were approved and came into use in 2000 because sanitary conditions indicated our education efforts through ridgerunners, literature and the general informational signs in the shelters were not enough.

Toilet systems will be installed only when: (1) closing a shelter or campsite is not a practical solution; (2) the "cathole" method of disposal has **proven** inadequate; (3) the NEPA process permits installation; and (4) the means exists to ensure long-term maintenance. Alternative site-specific systems will be used at shelters where the soil profile is not favorable for pit toilet installation.
(The "moldering privy" has been demonstrated to be the preferred type toilet in our environment).
Standard composting toilets require more maintenance than the volunteer programs or employees have been able to provide during the eight-year period of experimentation on the Appalachian Trail (7/93-7/2000) at Mt Collins and Icewater Springs Shelters. Pit toilets have also proven to be unacceptable because they are impractical to keep clean and attract large numbers of flies. The pits are a problem because archaeological compliance is required under Director's Order 12 and NEPA for each new pit to be dug.

Recommendations for toilet installation will be submitted via the Backcountry Campsite Evaluation form (Appendix K.6). Recommendations are subject to approval by the Superintendent upon recommendation of the Backcountry Operations Specialist.

Currently there are six moldering privy's on the A.T. in the Park. These are located at Tricorner Knob, Peck's Corner, Icewater Springs, Mt. Collins, Double Springs Gap, and Spence Field Shelters. The replacement of the pit toilet with a moldering privy at Mt. LeConte Shelter is expected in year 2002.

Existing toilets that are unjustified will be removed.

Management of Horse Waste

In order to mitigate sanitation problems caused by the presence of horses, horse users will be required to keep their stock at least 100 feet away from shelters, cooking and sleeping areas at campsites, and surface water. Manure will be scattered away from campsites and hitch racks. Should horse manure accumulations become unacceptable, as documented on the backcountry campsite evaluation form (appendix K 6) the following measures will be implemented, in the order shown:

*Temporary closure; reopen when conditions improve and re-evaluate;

*or reopen with reduced horse capacity;

*or, Permanent closure to horses.

Related Human Sanitation Concerns

Camping within 100 feet of a flowing stream, river, or body of water is strictly prohibited (36 CFR 2.10 [3]). Polluting or contaminating Park waters or water courses is also prohibited (36 CFR 2.14 [6]); therefore, bathing or washing of utensils in surface water will be discouraged since flagrant acts can be construed as violations. Use of soap will be discouraged in the backcountry. Biodegradable soap should not be used at the water source – it should be used to wash at least 100 feet away from a stream or other water body, as it must be processed through soil to biologically degrade.

2.11 **CAMPSITE MONITORING AND EVALUATION**

Campsites will be monitored according to an established method to measure resource impacts and ensure impacts remain within acceptable limits of change. A desired standard is to evaluate all campsites once every other year between June 1 and September 15. When evaluations are accomplished they will include:

*A Backcountry Campsite Evaluation form (Appendix K.6).

*A plane table map (scale: 1 foot = 1 mm).

*Color photographs (not slides) taken from the same photo-points each survey using 35 mm, 800 ASA film.

2.12 **NEW CAMPSITES AND CAMPSITE RELOCATIONS**

The recommendation to install a new campsite (including the relocation of an existing campsite) will generally be initiated using the Backcountry Campsite Criteria form (Appendix K.7). The Backcountry Operations Specialist will recommend a campsite capacity based upon the vegetation type, topography of the area and social carrying capacity that appears acceptable. Each proposal is subject to approval by the Superintendent upon recommendation of the Backcountry Operations Specialist (see Appendix K.7 for a list of documentation requirements).

2.13 **CAMPSITE CLOSURES – TEMPORARY**

Temporary closures must be recommended at the district level and approved by the Chief Ranger. Some possible reasons might be bear problems (consult with the Park's Wildlife Biologist), treacherous stream crossings, wildfires, or ongoing search and rescue missions.

The Communications Center shall be notified immediately so that no additional reservations are accepted and all park personnel can be informed of the closure via special announcement.

District Rangers are responsible for signing the campsite and trailheads and junctions leading to it in accordance with Park standards. The date and reason for the closure should be indicated on the signs. Permit writing stations will be posted and staff at visitor centers will be notified.

2.14 CAMPSITE CLOSURES – PERMANENT

Consistent with applicable legislation and federal administrative policies, the Superintendent has the authority to establish use limitations and area closures (36 CFR 1.5, 1.7). Closure recommendations will be initiated at the district level and must include:

*Recommendation for Backcountry Campsite Closure form (Appendix K.8).

*Backcountry Campsite Criteria form (Appendix K.7) which was filled out when the campsite was established (or the form completed in 1980).

*The most recent Backcountry Campsite Evaluation form (Appendix K.6) and attachments.

A recommendation for permanent campsite closure will be reviewed by; the appropriate District Ranger, the Backcountry Operations Specialist and the Chief Ranger with the final determination to be made by the Superintendent.

As soon as a closure has been approved, the Backcountry Operations Specialist working with the appropriate district rangers, maintenance and resource management personnel will implement and/or coordinate the following rehabilitative procedures:

*Remove all signs at the site and on the trail that refer to the site.
*Obliterate all fire rings, remove ashes and spread them out over the ground at least 50 feet from the edge of the campsite.
*Carry out all litter.
*Remove and disguise all signs of past use to the extent feasible.
*Bare soil areas will be scarified to a depth of approximately one-inch to improve the seedbed.

2.15 COMMUNICATING ABOUT DECISIONS AFFECTING CAMPSITES

Upon completion of review and subsequent approval, the Backcountry Operations Specialist will notify the following regarding changes in campsites:

*All Park personnel via the daily report.

*Division of Resource Education (for update of the next edition of the trail map).

*Appropriate local interest groups (Smoky Mountains Hiking Club, Appalachian Trail Conference, etc.).

*Issuance of a press release through the Public Affairs Office, as deemed necessary.

3. TRAILS PROGRAM

3.1 TRAIL MAINTENANCE

Background:
The Park's backcountry trail system consists of those trails listed in the current maintenance inventory (appendix D). For the most part the trails are also identified on the Park Trail Map
(appendix M). A Park trail maintenance staff of five full-time, ten subject-to-furlough and twelve seasonal employees maintain approximately 900 miles of trail and seventy cemeteries. Over half of the trail system consists of old road grades

that were converted into trails, consequently they were never designed to meet trail standards for purpose of maintenance and sustainability. Many trails have never had proper water control established.

General trail condition has declined over the past decade to the point of crisis management. Budget conditions have not allowed trail maintenance to keep pace with climatic effects and wear and tear from recreational use. In recent years the Park trail crews have found themselves moving from one trail repair project to another to repair unsafe conditions from landslides, uprooted trees, storm damage and erosion. Routine trail maintenance has been neglected due to lack of staff and funding while crews have tried to keep all the trails open and safe.

Several supplementary trail programs have been used to assist Park trail crews with the workload. Volunteer programs and Student Conservation Association (SCA) trail crews have been employed but only with marginal benefit and results. Volunteer programs need more supervision and management than the Park has to provide. Most volunteers are not of the physical stamina required to do the heavy brushing and digging necessary to keep pace with a trail crew. The volunteers are not available on a regular schedule that is necessary to integrate them into the day-to-day work schedule. Those who are available are retired persons who do not have the stamina required to keep pace with the trail crew or to complete the heavy trail work. The trail crews have been able to provide support for two SCA crews per summer but the time commitment to support these crews has seldom been productive in reducing the backlog of trail work. The Adopt-A-Trail Program provides some valuable assistance in keeping water drainage open and flowing. The Adopt-A-Campsite Program is helping to keep campsites clean. Both of these adoption programs could become very effective if there was someone to coordinate the volunteer efforts by creating project work groups from among the cadre of adopters and leading work projects for trail and campsite work. The Backcountry Horsemen of North Carolina and the Smoky Mountain Trail Riders assist in spring trail clearing each March and April. There are currently 101 certified chainsaw operators within the Park Volunteer Program. Many trails and virtually all backcountry campsites have been adopted. The Smoky Mountains Hiking Club and the Appalachian Trail Crews have contributed 17,300 hours in the year 2000 to maintain the 71 miles of the A.T. and the twelve Appalachian Trail Shelters in the Park. Trail conditions on the A.T. have improved significantly over the past six years due to this successful partnership.

Maintenance Strategy:
The trail foremen are formulating two work lists annually that list project work in addition to the annual routine trail maintenance planned for all trails. These work lists are to prioritize work and to identify projects for special funding. List # 1 is, heavy brushing backlog, tread repair and water bar installation projects. The work projects on list number one are to be completed by Park trail crews, contract trail crews hired from USFS contract lists or by SCA crews. List #2 identifies major projects such as slide repair, re-routes, cribbing, turnpike and step placement. The project work on list number two could be completed by a park trail construction crew formed by members of both park trail crews. This crew is being formed on a trial basis for 2002. Priority for repair will be determined based upon the amount of use the trail receives, the importance of the trail as a connecting link in the overall trail system or as a destination route to a primary Park feature such as Abrams Falls. The Appalachian Trail and the trails to Mt. LeConte have the highest priority due to their level of use and economic benefit to the community and park. Three wilderness technicians are needed to coordinate, organize and supervise the army of Adopt-A-Campsite and Adopt-A-Trail Volunteers. These three technicians will also complete the monitoring programs for the trail signs and limits-of-acceptable- change program for backcountry campsites and trails. The wilderness technicians are to be supervised by the Park Backcountry Operations Specialist. An increase to base funding will be needed to acquire these three new employees.

A base funding of 1.5 million dollars annually would be required to hire and sustain the core of trail maintenance and packing operation needed to adequately maintain the trail system in the Park. Trail work is planned and supervised by one foreman in North Carolina and one in Tennessee. The trail crews currently work out of two work centers, Sugarlands and Oconaluftee. Optimally there should be a work crew stationed in Cosby, Sugarlands, Cades Cove, Deep Creek, Oconaluftee, Hazel Creek and Cataloochee. The trail employees would be two full time foremen, four full time trail workers, one full time animal packer with two helpers and twenty-eight subject-to-furlough trail workers with no seasonal workers.

Maintenance Methods

Motorized equipment is approved for use on trails located outside of proposed wilderness boundaries as needed and approved by the Chief of Maintenance. The National Park Service **minimum requirement analysis worksheet** (appendix L) will be used to evaluate use of motorized equipment on trails located within the proposed wilderness boundaries. **The MRA worksheet will be attached to project proposals for approval by the park Superintendent.**

MOTORIZED EQUIPMENT EXCEPTION:
Motorized equipment will be used in the natural environment zone type I (proposed wilderness boundaries) on a strictly regulated basis in order to comply with the intent of the Wilderness Act. The use of motorized equipment will be planned so as to be as unobtrusive as possible and must first be approved by the Superintendent on an individual request basis

using the minimum requirement analysis worksheet, (Appendix L). However, **the Park trail crew has standing approval for use of handheld motorized equipment during normal work hours on Monday through Thursday each week.** Noise impact to visitor experience is less on weekdays because backcountry visitor use is lightest during the week. This approval is in the interest of safety and reducing resource impacts by providing expeditious removal of trail obstructions. Limited trail crew staff and a large trail system necessitate this leniency. Once Park base funding has been attained to hire the core trail maintenance staff required to properly maintain the trail system using non-motorized tools this exception will be reevaluated. **The Park Superintendent will open a chainsaw window each spring for trail opening during which times certified trail volunteers are authorized to use chainsaws for trail clearing. At other times of the year the authority to approve use of handheld motorized equipment on the Appalachian Trail by the volunteer cooperators who maintain the trail is delegated to the Backcountry Operations Specialist. Permission will be granted on a case-by-case basis and subject to the conditions of the approved minimum requirement analysis worksheet found in appendix A of this plan.**

Other motorized equipment will be used subject to Superintendent's approval for new trail construction and major trail rerouting or rehabilitation. The primary justification will be to accomplish major relocations of poorly routed or significantly impacted trails, which, if not addressed, will result in continued erosion damage and resulting threats to visitor safety. All work of this nature will be forwarded through the Compliance Management Board.

3.2 **TRAIL MANAGEMENT**

New Trails and Reroutes

The originator of the proposal for a new trail or major rerouting and/or the District Ranger will provide the following:

*A Request for Environmental Compliance Assessment (appendix L)
*A map depicting the project.
* A funding source for the proposed project.

The proposals will be reviewed in the following order:

District Ranger, Backcountry Operations Specialist, District Trail Foreman, Chief of Maintenance, Resources Management Specialist, Chief Ranger, and the Compliance Management Board

Final approval of new trails or major reroutes is by the Superintendent.

The following critical factors must be considered in the planning and/or construction of new trails:

1. Where possible, trails will not be routed through:
   *Spruce-Fir Forests,
   *Heads of drainage, or
   *Balds.
2 Trails will not traverse habitat of federally listed, endangered species until the consultation requirement with USFWS has been met, according to section 7 of the Endangered Species Act.
3 Dead end trails should not be constructed (except those that have very significant points of interest).
4 Low elevation routes, below 4000 feet, are preferred.
5 Where possible, trails will be routed through dry, well-drained areas.
6 Construction material should consist of native material from the trail vicinity.

*All trees to be used for construction will be randomly selected well out of sight of the trail and will be flush-cut to minimize visual impact.
*Rock will be obtained well out of sight of the trail and signs of its removal disguised.
*Soil will be obtained from dispersed areas so as to minimize visual impacts.
*Trees larger than 3 inches dbh cut between April 1 and November 15 must be checked for the endangered Indiana Bat before cutting the tree. (per USFWS-memo)
*Before cutting Yellow Birch, Spruce, Fir or Hemlock trees in elevations above 4500 feet and above 4000 feet in narrow north facing valleys they must be inspected for nests of the endangered Northern Flying Squirrel. (per 1999 Trails EA)
*When using rock from Spruce-Fir Forest the area must be inspected for the Spruce-Fir Moss Spider. (per 1999 Trails EA)

The decision to use non-native material will be based upon the unavailability of suitable native material and must comply with the following criteria as closely as possible.

*The material should blend aesthetically with the environment.

*Safeguards should be taken to guard against the introduction of exotic plants.

Bridges

Fording backcountry streams is viewed as part of the overall wilderness experience. The need for bridges over stream crossings will be determined on a case-by-case basis. The primary consideration will be visitor safety rather than convenience; therefore, only those streams that regularly present a significant hazard to the public will be considered for bridge installation. Bridge designs should be as unobtrusive as possible, and will often be no more than a single footlog with a single handrail.

Requests for bridges will generally be initiated at the district level via the Work Request form (Appendix K.4) and will be reviewed by the following:

District Ranger
District Trail Foreman
Backcountry Operations Specialist who will consult with Resources Management Staff
Chief Ranger
Chief of Maintenance

Scenic Trail Vistas

In the interest in managing for natural conditions in a wilderness setting, scenic vistas will not be cleared in the backcountry.

Temporary Trail Closures

Trails may be temporarily closed to hikers and/or horses due to seasonal drainage problems, hazardous trail conditions, the presence of threatened or endangered species, wildlife protection, large windfalls, or any other complicating factors which make travel unsafe or cause excessive resource damage.

Recommendations for non-emergency temporary closures that are recurring, cyclic in nature, and that can be scheduled, will be initiated by memorandum with a map attachment. The proposal will generally originate at the district level and be reviewed by the following:

District Ranger
District Trail Foreman
Backcountry Operations Specialist who will consult the Resources Management Staff
Chief Ranger
Chief of Maintenance

Final approval is by the Superintendent. If approved, the area signing for the temporary trail closure will be the responsibility of the District Ranger.

The District Ranger may execute a temporary trail closure for emergency safety or law enforcement reasons. Notification of emergency closures will be made to the Communication Center, Backcountry Operations Specialist and the Chief Ranger.

Permanent Trail Closures or Horse/Hiker Use Change

A recommendation for a permanent closure or a change in status of horse/hiker use will be by memorandum with a map attachment to be reviewed by the following people.

District Ranger
District Trail Foreman
Backcountry Operations Specialist who will consult the Resources Management Staff
Chief of Maintenance
Chief Ranger
Compliance Management Board

The Backcountry Operations Specialist will communicate with special interest groups for input as deemed appropriate. **If the compliance management board determines the scope of the closure requires an environmental assessment per Director's Order 12, the Backcountry Operations Specialist will initiate the EA process.**

The procedure for permanent closure of trails will include:

*Placement of standard signs to indicate a permanent trail closure. The signs will remain in place for one calendar year.

*Blocking both ends of the trail with brush a minimum of 30 yards into the closed area to discourage further use.

The Backcountry Operations Specialist is responsible for implementing the closure and updating the Park Trail Inventory with the Park Maintenance Division.

3.3 APPALACHIAN TRAIL MANAGEMENT IN GRSM

By law, the overall responsibility for administration of the Appalachian National Scenic Trail rests with the Secretary of the Interior, and is carried out by the NPS through the Appalachian National Scenic Trail Office in Harper's Ferry. The sections of the A.T. located in Shenandoah and GRSM are administered by those two parks.

In 1981 the NPS completed a Comprehensive Plan for the A.T., which established the framework for a cooperative management system, a unique partnership between public and private groups. Under this plan the NPS has entered into a Memorandum of Understanding (MOU), with the Appalachian Trail Conference (a not for profit organization), which delegates various management responsibilities between public and private management partners. Under this MOU, in 1996, GRSM entered a Cooperative Agreement with the ATC and the Smoky Mountains Hiking Club. The cooperative agreement specifies the responsibility of each partner in the day-to-day management of the trail. Here is an outline of the major points of agreement:

1. GRSM retains all legal authority for the lands under its jurisdiction.
2. GRSM will notify all partners of new or significant changes in management activity in the A.T. corridor, and provide opportunity for the partners to have input before changes would be implemented.
3. GRSM retains responsibility for fire suppression, visitor use management, law enforcement, emergency medical services and search and rescue operations.
4. GRSM delegates day to day management, maintenance and monitoring of the A.T. in the Park to the Smoky Mountains Hiking Club and ATC. This delegation is thoroughly described in a Local Management Plan. The plan is on file in the office of the GRSM Backcountry Operations Specialist. This day- to-day management is coordinated through the Backcountry Operations Specialist.

The Hiking Club has a number of on-going projects and programs to carry out their responsibilities. These are coordinated through the Backcountry Operations Specialist. Here is a listing of the current projects and programs:

1. **The Ridge Runner Program** is a hiker education program to teach Leave-No-Trace principles to A.T. hikers and monitor hiker activities and trail conditions. These duties are performed by a Ridgerunner. The Ridgerunner is a paid employee of the ATC who works in VIP status for the Park. There are usually two Ridgerunners who stay on the A.T. in the Park, Thursday through Monday, March 1 through August.
2. **Caretaker Program**. Caretakers are volunteers who are stationed at specific locations to provide hiker education and LNT information and perform minor maintenance functions. There will be a caretaker at Fontana Dam from March through May each year. This caretaker works in concert with the Ridgerunners for Thru-Hiker management. The Fontana Caretaker provides shelter vacancy information and provides hikers with trail information to assist Thru-Hikers to spread themselves out along the trail to avoid overcrowding at the shelters.
3. The club maintains moldering-composting privies at Icewater, Mt. Collins, Spence Field, Double Spring, Peck's Corner and Tricorner Shelters.
4. The Club has a structural organization that oversees all the routine maintenance of the trail such as tread repairs, water control, brushing and clearing windfalls. The Park is responsible for sign maintenance.
5. The Club makes special request for Park Service assistance when the scope of the project is beyond their capability.
6. Annual update of the Local A.T. Management Plan.
7. Each year the club has a goal to rehabilitate one trail shelter. The rehabilitation is in accordance with the approved 1997 shelter design by Architect Philip Royer.

3.4 MOUNTAINS-TO-SEA TRAIL

The Mountains-To-Sea Trail is a segment of the North Carolina Trails System. It is a 1000-mile trail that begins at Clingmans Dome Trailhead and ends at Jockey's Ridge State Park on the Outer Banks. At the date of this writing, 06/01/01, the trail is not completely finished. There are some missing links. The section from Clingmans Dome to Mingus Mill was signed in August 2000. The trail was officially dedicated in September 2000. From Mingus Mill, the next completed segment is at Balsam Gap on the Blue Ridge Parkway. It follows the Parkway north almost to Virginia before heading east across the Piedmont.

The route from Clingmans Dome to Mingus Mill follows existing park trails. From Clingmans Dome follow the Appalachian Trail north to Fork Ridge Trail to Deep Creek Trail to Martin's Gap Trail to Sunkota Ridge Trail to Thomas Divide Trail to Newton Bald Trail to Mingus Creek Trail to Newfound Gap Road at Mingus Mill. The trail name is listed as a destination on the Clingmans Dome Trailhead sign. Each intersection of the route has an eight-inch tall carsonite

marker affixed to the trail signpost. This marker has the M-T-S Trail logo and an arrow indicating direction of travel. In addition to the marker, there are a few white blaze marks on either side of the intersection that indicate the trail route. The white blazes are two-inch diameter dots painted on trees. There is a volunteer organization that will perform maintenance along the trail if requested by the park. The Backcountry Operations Specialist is the park liaison with the Mountains-To-Sea Organization. The trail in its entirety is managed by the North Carolina Trail Coordinator, a part of the North Carolina State Park System.

3.5 SUPPLEMENTARY SOURCES OF LABOR

Outside labor sources such as volunteers (Adopt-A-Trail Program, etc.), organized youth groups (Student Conservation Association, Youth Conservation Corps, etc.), Appalachian Trail Conference Konnarock trail crews, and other organizations (hiking clubs, equestrian groups, conservation organizations, etc.) can be valuable assets to the trails maintenance program. The work selected for these groups should be closely coordinated by the Park Trail Maintenance Foremen, or Backcountry Operations Specialist in case of the Adopt-A-Trail Program, to ensure compatibility with the overall trail maintenance program for the park. All volunteers must sign a Volunteer Agreement with the Park VIP Coordinator. The agreement must list specific work to be performed. Whenever practical, these groups should be worked in remote locations were they are particularly cost-effective. Organized crews that have experienced supervision and are available for more than two weeks should be used for labor-intensive projects, whereas crews available for less than one week, or that lack experienced leaders, should be assigned routine maintenance (e.g., brushing, water bar cleaning, etc.).

4. BACKCOUNTRY STRUCTURES

NPS Management Policies include a provision for patrol cabins and related structures in wilderness when needed to administer the wilderness resource. In the park, cabins have played an important role in effective trail maintenance, law enforcement patrol, exotic hog reduction, backcountry research, and search and rescue operations.

Mount Cammerer Lookout is maintained as a historic structure as provided for in Director's Order #41 and consistent with the National Historic Preservation Act and Wilderness Act.

Structures currently being maintained for administrative purposes include:

*Mount LeConte NPS cabin – not in proposed wilderness
*Lower Hazel Creek bunkhouse – not in proposed wilderness
*Upper Hazel Creek bunkhouse – not in proposed wilderness
*Pecks Corner/Hughes Ridge bunkhouse – wilderness – used for A.T. maintenance and patrol.
*Shuckstack tower (radio repeater) - wilderness
*Cove Mountain tower (radio repeater) - wilderness
*Mount Sterling tower (radio repeater) - wilderness

Backcountry structures will be reviewed on an as-needed basis to ascertain the justification for continued intrusion on the wilderness of the park. The decision to either keep or remove a structure will ultimately be made by the Superintendent.

Reservations for use of the cabins/bunkhouses must be coordinated through the appropriate maintenance secretary to avoid overcrowding and/or conflicting use.

Properly located shelters can also be beneficial in backcountry areas where visitor dispersal is not practical. The rationale for the shelters is to reduce overall environmental damage by confining impact to smaller areas. The shelters along the AT, at Laurel Gap, Mt. LeConte and Kephart Prong will remain open to public use due to level of use and forest type. **No new shelters will be built (GMP, 1982).**

5. BACKCOUNTRY PATROL AND REPORTING

NPS law enforcement policy is set forth in NPS-9 and is detailed in Chief Ranger's Directives. Backcountry law enforcement patrols have two basic purposes:

*To minimize environmental and social impacts caused by human use.
*To minimize safety hazards to visitors.

The National Park Service will maintain law and order, protect persons and their property and protect park resources through the enforcement of applicable laws and regulations. Although the Park can do a great deal through pubic education to minimize violations and abuse resulting from ignorance, any management policy which results in restriction of a person's activities in the backcountry will require enforcement to garner respect for the rules. **Experience has shown that face-to-face law enforcement contacts in the field are an important part of the overall effort at minimizing human impacts.**

Trail Patrols

A great deal of education can be accomplished through routine trail patrols. This activity provides contact with a good sampling of park users and minimizes the total impact of "a little bit of damage by a lot of people". District Rangers should ensure that designated campsites are patrolled when permit or reservation data indicate they should be full. **Visitor activities with the greatest adverse environmental impacts shall receive the greatest emphasis in law enforcement contacts (horses, campfires, use of designated sites).**

The following points are offered as obvious, but sometimes overlooked, components of backcountry trail patrols:

*Schedule trips for appropriate times (not mid-day) and avoid duplication.

*Contact **all** observed visitors and provide them an opportunity for dialogue.

*Check all backpackers for a valid permit. Issue permits for those without one and revise permits for "off-schedule" hikers if they request an acceptable change and issue citations for flagrant violations.

*Perform minor maintenance, within time and ability constraints, including:

(a) Cleaning up campsites.
(b) Destroying illegal and/or surplus fire rings.
(c) Removing all litter; excessive amounts should be stockpiled and arrangements coordinated with VIP Coordinator and/or trail crew animal handler for timely removal.
(d) Accurately report the location, size, and degree of obstruction of all windfalls to the District Ranger or Trail Foreman.

Reporting System

A Backcountry Patrol Report should be completed after each patrol and submitted for review within three days after completion of the trip. Backcountry patrol reports will be reviewed by the District Ranger and kept on file for three years by the District Backcountry Ranger. The trail report should be annotated to document action taken in reporting maintenance and wildlife management needs. Examples of action taken are completing work request forms, bear management forms or notification of urgent trail or backcountry campsite problems to trail foremen, VIP Coordinator or Communications Center.

It is important that every public contact employee be kept advised of backcountry conditions. This can be accomplished to a degree by reporting significant situations to the Communications Center for inclusion in the daily morning report. *Report immediately to the Communications Center urgent items of interest. (e.g., bear incidents, high water crossings, etc.).

Standards for Backcountry Campsite Management and Patrol

- Backcountry patrols should be scheduled for weekends and holidays.
- Appalachian Trail patrols should be daily from March 1 through May.

- Rationed campsites should be checked when the reservation office indicates the site is fully reserved or when they have cause to think there are over-sized parties in the camp.

- The practical capacity of a non-rationed campsite is equal to two people for each tent space the campsite has.

- Permit boxes should be checked each afternoon to determine space availability for each area campsite.

- The bulletin board at the permit station should be posted to show space availability. If a campsite is at or near capacity it should be checked by a ranger or campground visitor use assistant.

- Early morning campsite checks are most effective. Checking the camp early provides the opportunity to check compliance with regulations for food storage, horse tethering, campfire use, sanitation practices and permits/reservations.

- Morning patrols also provide the opportunity to locate out-of-bounds campers. It is also more reasonable to escort parties out of the backcountry when they are rested and it is daylight on those occasions when it is necessary to revoke a permit.

- Adopt-A-Campsite volunteers should visit every campsite at least monthly to clean out fire rings and destroy unauthorized fire rings. They should visit busy campsites more frequently as they see the need.

- Backcountry Rangers should attempt to get to know the campsite and trail adopters in their area.

- Backcountry Visitor Use Assistants should maintain contact with all the campsite and trail adopters in their area. They should call campsite adopters that have not submitted a report within six weeks.

- Backcountry Visitor Use Assistants should plan and implement campsite improvement work trips, organizing and leading volunteer work groups to perform the work. Backcountry rangers should be invited to assist in planning and implementation of the projects.

6. DAY USE

Although not all inclusive, visitor statistics on day use activities have been collected in certain areas of the park. Information obtained from these efforts will be incorporated into the Park planning process whenever possible. It is recognized that a day use monitoring system is needed throughout the Park, particularly if attempts to relate visitor use to resource impact are to be achieved. Information obtained would also be invaluable to the planning process in attempts to manage the activities of differing and oftentimes incompatible user groups. In this regard, it is the goal of the Park to establish and maintain a day-use-monitoring-system at the most appropriate trailheads to accurately assess the total backcountry user population.

As with overnight backpacker use, efforts should be made to disperse day-use hikers. Public information media (publications, etc.) should emphasize lesser-used trails as opportunities for quiet appreciation of the natural scene. If suitable trailhead parking is available, employees should consider using a lesser-used trail when planning an interpretive walk.

7. EDUCATION

Minimum impact or "Leave-No-Trace" (LNT) methods of camping and hiking will be stressed to all backcountry users. This includes proper sanitation measures, wise use of water sources, limiting the use of wood for fires, campsite etiquette, stock use etiquette, and respect for other users. Additional topics will emphasize such safety topics as:

*Hypothermia and fatigue;
*Storm hazards (lightning and hazardous stream crossings);
*Proper food storage;
*Behavior when encountering bears and other wildlife;
*Behavior around pack-stock and horseback riders; and,

*What to do when lost.

The possibilities for conveying messages are almost limitless, but primary media should include:

*Backcountry use permit *Park newspaper *Park trail map *Visitor centers

* Bulletin board and wayside exhibit at permit stations

*Press releases *Informal visitor contacts * Folio

8. RESEARCH

Research is recognized as an important part of backcountry management. Scientists can contribute to design and implementation of monitoring programs and in making recommendations for mitigating adverse impacts. Identified research needs should be submitted to the Chief of Resource Management and Science. Project statements are then developed from this information for inclusion in the budgeting document used to request research funding.

At a minimum, research topics covering backcountry issues should include the following:

*Social studies research designed to assess amount of backcountry use and interaction among user groups and compatibility of use in relation to resource protection objectives.

*Natural science research designed to inventory backcountry resources being used by visitors including topics such as vegetative cover, geology, topography, species distribution and habitat utilization, soils, hydrology, and others.

*The development of mechanisms such as: trail inventories, trail maintenance work logs, and trail and campsite impact measurement processes to quantify resource impact.

*The development of Geographic Information System capabilities in order to relate the amount, type and location of visitor use to natural resources being impacted.

*The development of planning processes and control strategies to mitigate adverse impact.

Appendix B

Contents:

1. Research Data relevant to the Backcountry Management Plan

    - Backcountry management of visitors & campsites, Hammitt and Cole
    - GRSM Backcountry campsite management discussion
    - Conclusion and summary of 1997 Marion Campsite research Report
    - Conclusions about bulletin boards @ backcountry permit-stations
    - Data summary from various backcountry studies
    - Results of Strategic Plan of 1995
    - Literature Cited

2. Locations of backcountry permit stations

Standards for Backcountry Campsite Management and Patrol

- Backcountry patrols should be scheduled for weekends and holidays.
- Appalachian Trail patrols should be daily from March 1 through May.
- Rationed campsites should be checked when the reservation office indicates the site is fully reserved or when they have cause to think there are over-sized parties in the camp.
- The practical capacity of a non-rationed campsite is equal to two people for each tent space the campsite has.
- Permit boxes should be checked each afternoon to determine space availability for each area campsite.
- The bulletin board at the permit station should be posted to show space availability. If a campsite is at or near capacity it should be checked by a ranger or campground visitor use assistant.
- Early morning campsite checks are most effective. Checking the camp early provides the opportunity to check compliance with regulations for food storage, horse tethering, campfire use, sanitation practices and permits/reservations.
- Morning patrols also provide the opportunity to locate out-of-bounds campers. It is also more reasonable to escort parties out of the backcountry when they are rested and it is daylight on those occasions when it is necessary to revoke a permit.
- Adopt-A-Campsite volunteers should visit every campsite at least monthly to clean out fire rings and destroy unauthorized fire rings. They should visit busy campsites more frequently as they see the need.
- Backcountry Rangers should attempt to get to know the campsite and trail adopters in their area.
- Backcountry Visitor Use Assistants should maintain contact with all the campsite and trail adopters in their area. They should call campsite adopters that have not submitted a report within six weeks.
- Backcountry Visitor Use Assistants should plan and implement campsite improvement work trips, organizing and leading volunteer work groups to perform the work. Backcountry rangers should be invited to assist in planning and implementation of the projects.

Backcountry Management of Visitors & Campsites

The evolution of backcountry use management in GRSM has followed a pattern outlined in the text "WILDLAND RECREATION ECOLOGY AND MANAGEMENT" by William E. Hammitt and David N. Cole, 1987.
Guidance from chapters 11 and 12 of this text are presented here along with footnotes demonstrating GRSM backcountry management progression in concert with these guidelines.

Chapter 11, Visitor Management

It is useful to distinguish between visitor management techniques and site management techniques. However, the distinction between the two is not perfect. Site manipulation can be a potent means of managing the amount and distribution of visitor use, and manipulation of where visitors go can be an effective means of managing site condition. Visitor management is regulation, information and education designed to influence the number, type and behavior of visitors. Site management is management of where use occurs, as well as physical manipulation of the resource.

- It is important to temper a concern for resource protection with a concern for promoting recreational opportunities.
- Use should be limited only after a thorough analysis shows that it is the only way to avoid both unacceptable levels of impact and a program of restrictions that would eliminate much of the joy of visiting the area.
- Use reductions in high use areas are a justifiable means of avoiding crowding but are less useful in avoiding ecological impacts. Where implemented, they must be complemented with a use concentration program to have any ecological benefit at all.
- Entry quotas are not as efficient as fixed itineraries in controlling use levels at popular interior locations.
- Five general guidelines to consider when limiting use: **These guidelines were met at GRSM on the dates listed in bold type below each guideline.**

1. Start with an accurate base of knowledge about use, users and impacts.

(1970 ranger report documents. 1975 Penn State Visitor Use Study. 1978 Bratton Study. 1983,1986 Renfro Studies. 1989 backcountry Survey. 1993 Trails survey. 1994 Campsite study. 1995 GRSM Strategic plan. 2000 Backcountry User Fee Study. 30 years of accumulated experience @ GRSM) Components of this 2002 mgmt Plan use info. from these sources as guided by the Hammitt/Cole text.

2. Reduce use levels only after less restrictive measures have failed to solve the problem**.**
   (Ranger reports from 1970 and **1977-1986 reservation system.)**
3. Combine rationing techniques (e.g., issue half of the permits through advance reservation and half first-come, first-served on arrival) to minimize and equalize costs to users and administrators.
   (established the1986 modified reservation and self-registration system)
4. Establish a system that tends to allocate permits to those people who place the highest value on the permit. **(reservation sites, 1986 to present)**
5. Monitor the use limitation program to make sure it is solving the problems and is fair.
   (The 2000 Fee Study assessed public, special interest group and employee assessment of the current system. This 2002 system includes changes to improve in the areas noted as deficient in the fee study and in the 1995 Strategic Plan and the 1997 Marion campsite report.) The information management component in the 2001 system draws from the McCool/Cole report, of 2000.

Chapter 12 - SITE MANAGEMENT

In addition to visitor management, campsite management can do much to keep impacts within acceptable limits. When developing site management plans, it is important to strive to maintain a natural appearance. **Even in wilderness, however, managers should not be paralyzed by a concern with avoidance of engineering if it is the only means of avoiding equally "unnatural" resource damage.** Curiously, many managers in wilderness have little problem with highly engineered trails, but they resist similar engineering levels for campsites and stock use areas. The obtrusiveness of site manipulation must be carefully weighed against the obtrusiveness of site impacts, e.g., **large areas of bare soil, numerous fire scars, hatchet chopped trees, trees chewed by horses.**

- Because tree regeneration is sharply curtailed on campsites, it is wise to locate campsites in stands of relatively young, long-lived trees that are not susceptible to disease. The ten tree species most able to withstand recreational impacts as listed in the text are Hickories, Persimmon, Sycamore, White Ash, Beech, Sassafras, Buckeye, Yellow-poplar, Dogwood and Blackgum.
- The durability of ground cover vegetation is much less important because, with heavy use, even resistant ground cover is unlikely to survive.
- In more developed situations an important aspect of user behavior control is to keep the site attractive.
  (**Keeping campfire rings cleaned out is an important aspect of site attractiveness)**

- The complete prohibition of campfires to control the associated impacts should be considered a last resort and only after considering less restrictive alternatives.

  In the Smokies we will promote desired campfire policies, educate users of campfire impacts, encourage use of lightweight stoves and candle-lanterns and at some campsites require use of communal campfires.

  Use of 25-inch diameter metal fire rings permanently mounted should encourage use of smaller fires and less wood gathering and will fix the site of the campfire unless the rings are not kept clean.

  The rings will not have a grate on top in order to discourage the use of fires for cooking. Wildlife managers suspect campfire pits and associated food residues are the initial source of our wildlife-human conflicts in the backcountry and front country campsites.

GRSM CAMPSITE MANAGEMENT DISCUSSION

Designating backcountry campsite locations has been demonstrated to be the most effective means to control unacceptable levels of undesirable change to Park resources from backcountry camping.
(p. 262 & 263, Wildland Recreation Ecology text by Hammitt & Cole, 1987 & 1997 Marion Campsite Report)

Thirty years of a dispersed camping policy at Shenandoah National Park combined with an educational information program about low impact camping failed to control impacts at an acceptable level. In 1999, Shenandoah NP moved to a policy of designated campsites in heavily used areas.
(Hammitt & Cole Text 1987,p. 259)(Marion 1997) (SHEN/WMP1998).

During the same 30 years, Great Smokies practiced a designated campsite policy, with shelter only camping permitted on the A.T. Reservations were required for the busier campsites and all shelters. Studies showed greatly reduced vegetation impacts at the shelters during this period, (Bratton, 1978 & Marion, 1997). Camping impacts to vegetation were also controlled at an acceptable level in areas off limits to camping.
Findings in Marion's 1997, campsite report indicate unacceptable impacts to campsites were primarily due to poorly specified tent, campfire and tethering sites and lack of consistent, effective enforcement.

OPPORTUNITIES FOR SOLITUDE

Marion also noted an adverse effect of the Smokies backcountry campsite system is the reduced opportunities for camper solitude. Solitude is a primary objective for many backpackers in the Smokies according to a 1989 backpacker survey. The same survey indicated there are wide differences in the definition of solitude among Smokies visitors. Many backpackers were willing to accept and enjoyed some social interaction with other like-minded visitors. Apparently their definition of solitude was one of comparability. If they encountered fewer people than found in their daily routine this equated as solitude. Indeed the social aspect of hiking is very much a part of the Appalachian Trail "thru-hiker" experience. Marion suggests we can improve the social aspects of the Smokies camping experience by relocating and designing campsites that offer camper solitude. Marion suggests we level tenting spots on sites with gently rolling terrain. The tent spots are to be separated by enough distance to allow for solitude. The rolling terrain would not invite campers to use any area for tents other than the leveled spots. The difficulty with this proposal is providing for food storage that would be used by campers in such a dispersed setting. One method is to provide a centralized cooking, eating and campfire area that is located adjacent to the food storage cable system. Campers would then be directed to keep sleeping areas separate from cooking and eating areas and if campfires are to be used they would be restricted to the centralized metal fire ring. An experimental campsite of this design was established in November 2000 at Birch Spring on the A.T.

Opportunities for solitude can be improved by **consistently enforcing** the campsite use limits at rationed sites and shelters. Campers will have the opportunity to disperse themselves to less busy sites if bulletin boards at permit registration stations are better managed by **daily posting information** about non-rationed sites that already have several permits issued for a given night. There are many opportunities for solitude in the Smokies as many of the trails and campsites receive light to moderate use except for holiday weekends and spring break during March and April.

REDUCING RESOURCE IMPACTS

Unacceptable resource impacts resulting from use of campfires and horses can be reduced by:

- **Improving the presentation of information**
- **Improving the cleanup of fire rings**
- **Consistent enforcement that targets misuse of horses and campfires**

Appendix B – Backcountry Management Plan, GRSM - 2002

Conclusions about bulletin boards at permit stations

(to improve backpacker compliance with permit requirements and LNT practices)

Concluded from the paper presented by McCool and Cole in volume 4 of
"Wilderness Science Conference 2000".

- Do not put a map on the bulletin board. People will read the map and not the permit instructions.
- Place only permit instructions on the board plus a section titled CURRENT NOTICES.

According to McCool and Cole:

- 64% of hikers will stop at a bulletin board. Only 70% of those will read more than the map.
- 42 people out of 100 will read the board for an average of five seconds per message. They are scanning for some specific item of information. If they find it they will take time to read it.
- Those who read will choose to read only the messages they deem relevant to their visit.
- . Most do not view minimum impact information as relevant. Minimum impact information should go with them on the map and permit because it is not the sort of information they will read and absorb from the bulletin board

The **CURRENT NOTICES** section is for information hikers have said they need and therefore will take time to read.

We learned from the 1983, 86 and 89 backcountry visitor surveys at GRSM the types of information backpackers say they need.

- **current updates on weather,**
- **campsite occupancy information**
- **water availability**
- **bear activity.**

Visitors surveyed in the study also said they need simple permit instructions and better planning information.

Information needed for trip planning and registration is found in the instruction poster and on the "carry with you" items; the map and permit.

Therefore, according to this research, if on the bulletin board, we give them only what they said they wanted in the GRSM studies more of them will read it and follow instructions. The map and permit can provide the other pertinent information.

SUMMARY OF DATA - from the 1983 and 1986 backcountry camper study and the 1989 backcountry camper perceptions survey. Sample size allowed for a plus or minus precision of 3.5%. **Backpackers were interviewed in backcountry campsites 47 through 50 at Smokemont area, 57 through 60 at Deep Creek, 23, 24, 26, 27 and 28 near Elkmont and Appalachian Trail shelters from Icewater to Russell Field.**

- On weekend nights the no-show rate at shelters was 33%. On weeknights it was only 4%. No show rate at shelters is twice that of campsites. Overcrowding at shelters occurs mostly on weekends.

- Under self-registration, 61% said they needed more information before setting out on their hike.

This information is current weather, campsite occupancy, water availability and bear activity. They needed simpler permit instructions and some trip planning assistance.

- Over half report having difficulty getting through to the reservations phone line.

- Over half reported overgrown trails as a problem.

- In 1986, 79% noticed litter. 95% said they would be willing to carry it out if it was bagged up for them and it was on the last day of the trip. In 1983, 82% noticed litter and 90% were willing to carry it out.

- In 1989 36% noticed maintenance problems on their trip. Visitor experiences were most adversely affected by:

1. Unburnable trash, cans and bottles around the fire pit and campsite
2. Horse parties along trails
3. Improperly disposed of human waste
4. Trail signage

- 24% of all backcountry campers were on their first trip to the Smokies.

- 56% of those first timers were camped illegally vs. 18% of those who had been here before.

Camped illegally means some form of permit violation.

RESULTS OF THE STRATEGIC PLAN OF 1995

In 1995 a comprehensive study of the Park backcountry maintenance and management system was completed. The product of this study is the document titled "A STRATEGIC PLAN FOR MANAGING BACKCOUNTRY RECREATION IN GREAT SMOKY MOUNTAINS NATIONAL PARK". This Strategic Plan recommended a variety of ideas for improving the stewardship of the Park backcountry resources.

In 1996 Park management began review, consideration and implementation of the plan. Some of the ideas presented in the plan have been adopted. Other of the suggestions were experimented with and found to be unworkable as suggested but were modified to fit within management constraints. This 2002 Backcountry Management Plan revision reflects many of the tenants from the Strategic Plan.

A summation of suggestions from the plan is listed here along with a few comments about implementation.

1. A backcountry coordinator position is needed to provide focus and specialized expertise in backcountry management. (The position of Backcountry Operations Specialist was established in 1996.)
2. The park needs a comprehensive listing of all park trails with statistical data to be used for work planning and tracking. (Trail foremen and Backcountry Ops. Specialist perform this task)
3. A process is needed for selecting actions such as maintaining, reconstructing, redesigning or closing trails. (Described in 2002 Backcountry Management Plan section 3.0)
4. Maintenance needs to:
   a. track work needs and completion (MAXIMO Program – 2002)
   b. expanded training for trail crews (initiated 2000 and continuing)
   c. expanded funding for trail maintenance – (a $285K base funding increase effective fy2001)
   d. increased trail work opportunities for volunteers(VIP coordinator position established,1995)
   e. provide park-wide coordination of trail maintenance (Chief of Maintenance filling this role assisted by Backcountry Operations Specialist)
5. Review and consideration for a number of trail and campsite suggestions listed on pages 96 through 111 has been on-going since 1996. Many were addressed in a trail rehabilitation project covered by a 1999 environmental assessment. Park Maintenance Chief and Trail Foremen assessed the trails mentioned in the report and video taped the field trips documenting decisions.
6. Concerns about effects of official "Wilderness" status needs to be addressed.
7. The Park needs to implement a Limits-of-Acceptable-Change (LAC) decision making process for trails and campsites that includes a monitoring system to trigger management actions prescribed in the LAC process. (to be implemented in 2002)
8. There is a lack of partnership between the hiking and equestrian communities. (A partnership was developed in 1996 when a Memorandum Of Agreement was signed between four trail riding clubs, the A.T.C. and the Smoky Mountains Hiking Club for mutual maintenance and stewardship on the Appalachian Trail in the Park.)
9. There was a perceived lack of public participation in Park management efforts. (cooperation between the Appalachian Trail Conference, Smoky Mountains Hiking Club and trail riding clubs has been greatly improved since 1996.) (A scoping of public opinion was completed in 2000 and published in a report from the cooperative studies unit of Virginia Tech. The results of this study were used to guide decisions to improve the backcountry permit and reservation system in 2001). (the 1999 trail rehabilitation EA and 1983,86,89 visitor surveys provided public participation).(The 2001 G. Smoky Mts. Horseback Rider Survey by N.C. State Univ. Dr. Moore)
10. There is a need to coordinate the Park trail map and signs. (accomplished with printing of 6/2001 edition of the Park Trail Map)

Location and description of backcountry permit stations

- Each station has a trail map dispenser, an instruction poster and a listing of backcountry regulations. Some have pay phones as listed here.

1. **Oconaluftee Visitor Center** – located in room beside the restrooms at the back of the visitor center. Phone in front of visitor center.
2. **Sugarlands Visitor Center** – enter the door to the left of the main entrance to vc. Pay phones available along the vc parking lots. This station is staffed most days from 8 to 4:30.
3. **Twenty-mile Ranger Station** – located on the bulletin board in front of the station. No phone.
4. **Fontana Boat Dock** – located on a bulletin board at the intersection of the Appalachian Trail and the driveway to the boat dock. A pay phone is at the dock. Directions to the boat dock: arriving on highway 28 from Stecoah (from Bryson City direction) turn right at the stop sign on highway 28. At the stop sign a sign lists destinations as top of the dam, boat dock and riding stables. Follow signs to boat dock and find the bulletin board alongside the road as you enter the driveway to the dock.
5. **Fontana Hilton shelter** – there is a bulletin board with permits & information for thru-hikers only. This shelter is located at the Fontana Dam Picnic Area, which is near the top of the dam. There is a pay phone near the restrooms at the visitor center at the dam, hikers must walk past the visitor center to cross the dam into the Park. (This station may be relocated to the pay phone area)
6. **Deep Creek Campground Office** – located on the porch of the campground office. There is a pay phone at the station.
7. **Cataloochee Ranger Station** – located on a bulletin board at the driveway to the ranger residence and office. No phone.
8. **Big Creek Ranger Station** – located on a bulletin board in the hiker parking lot at the driveway to the Big Creek Ranger Station. There is a pay phone beside the bulletin board.
9. **Cosby Campground Office** – located on the porch of the campground office. There is a pay phone at the station.
10. **Greenbrier Ranger Station** – located on a bulletin board in front of the station. There is a pay phone at the welcome center on highway 321 at the Park entrance, one mile from the ranger station.
11. **Elkmont Campground** – located in a kiosk across the driveway from the campground office. Pay phones are beside the permit station.
12. **Cades Cove** – located on the bulletin boards at the campground office porch. There are pay phones on the porch.
13. **Abrams Creek Ranger Station** – located on a bulletin Board on the road in front of the ranger station. No phone available.
14. **Great Smoky Mountains Institute @ Tremont** – Permits available on back of bulletin board in front of store. The pay phone is inside the store lobby.

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BACKCOUNTRY SIGN STANDARDS

OBJECTIVES

From the standpoint of signing, hiking trails are like miniature highways. People travel them to get from one place to another and wrong turns can waste valuable time and energy. Inadequate or inaccurate information can turn an otherwise enjoyable trip into a frustrating attempt to find one's destination and may even result in a lost hiker. The two principle sources of information available to backcountry hikers are the Great Smoky Mountains Park Trail Map and the backcountry trail signs. This standard addresses backcountry signs. The intent is to provide a basis for deciding how they should be constructed and installed.

The primary objectives of this standard are to:

1. Ensure that backcountry signs convey accurate information about trail names and distances to hikers.

2. Ensure agreement between the backcountry signs and the Great Smoky Mountains Trail map.

3. Provide a means of ensuring parkwide uniformity in the construction and installation of attractive backcountry signs.

BACKCOUNTRY SIGN REQUESTS AND REVIEW

1. Backcountry sign requests will be routed through the appropriate district ranger and district trails foreman to the backcountry operations specialist for approval.

2. The backcountry operations specialist provides final review and approval for all backcountry sign requests.

BACKCOUNTRY SIGNS

A. PLACES WHERE BACKCOUNTRY SIGNS MAY BE USED:

1. Trailheads:
   Signs at trailheads will include the following:

   a. navigational sign bearing the trail name and appropriate destinations and mileages on that or intersecting trails.
   b. trail regulations sign
   c. additional regulatory signs, if necessary.

2. Trail Junctions:
   Signs at trail junctions will include one or more navigational signs and regulatory signs, if needed.

3. Backcountry Campsites:
   Signs at backcountry campsites will use the tent symbol and the site number.
   Shelters will be identified with metal fabricated signs attached to the stonework. These signs will provide user/etiquette information.

4. Hazardous Areas:
   Hazardous areas, such as waterfalls, may be judged sufficiently Hazardous to warrant placement of special warning signs. The Safety Committee will make recommendations regarding these signs. Final approval will be subject to the Backcountry Operations Specialist in cooperation with Trail Foreman and District Ranger.

5. Geographical Features:
   Significant geographical features may bear an identifying sign (i.e., Spence Field, Charlies Bunion, etc.). Elevations will not be included. These features should be well known landmarks identified on 7.5 minute USGS quadrangles.

B. TYPES OF BACKCOUNTRY SIGNS

1. Navigational Signs at Trail Junctions:

a. Construction:

2" oak lumber

b. Installation:

Signs will be fastened to a single 4 X 4 treated wooden post, using 3/8" carriage bolts, with nuts countersunk in the wood and ends flush. The top of the post will be chamfered on all four sides, leaving a blunt top. If two signs are attached to the post, a 2" gap will be left between the signs. Generally, no more than two signs may be attached to one post. The bottom of the lowest sign will be 30" above trail tread. A round post may be used for intersections where signs on a 90 degree angle do not align with the trail.

c. Finish:

Post and signs will be left unfinished.

d. Text:

1. Upper case letters and numbers will be 1-1/2" high; lower case will be 1"high. Each character will be routed 3/16" deep, with a flat bottom groove. Each stroke of the upper case letters will be 3/8" wide; lower case letter strokes will be ¼" wide.

2. The name of the trail will be centered across the top of the sign and written in 1-1/2" capital letters. The top of this line will be 2" below the top edge of the board.

3. The campsite symbol and number (e.g., **A** 38) will be used instead of the word "campsite". This symbol will be 1-1/2" high. Shelter names may be used as destinations.

4. Mileages will be indicated to the nearest tenth of a mile. Kilometers will not be shown.

5. The text will be written in lower case letters, except for the first letter of each word, which will be upper

case. Names and symbols will be blocked and centered underneath the trail name, with 2" margins on both ends and the bottom of the board.

6. Arrows may point left, right, or up. Arrows will be the same height and width as upper case letters, and cut the same way.

7. Significant geographical features, or trail junctions, within 10 miles of the sign, may be included in the text. The sequence of destinations will be according to increasing distance from the sign.

8. No more than five destinations will appear on one sign.

9. Where the destination listed is a trailhead, the word "trailhead" will generally be used, e.g., Fighting Creek Gap (trailhead)

10. The Appalachian Trail may be used as a destination. The "AT" abbreviation will not be used.

11. Where maintained trails intersect clearly defined Manways, old road beds, railroad grades, etc., a navigational sign may be used. The purpose of this sign would be to indicate the route of the maintained trail. The text of the sign would simply be the trail name, e.g., Lakeshore Trail --->.

2. Navigational Signs at Trailheads:

These signs will be painted warm brown enamel, with white lettering. The posts will be stained American walnut. The construction, installation and text will be the same as for Navigational Signs at Trail Junctions. Signs will be placed parallel to the road, so the text can be read from the road. Directional arrows will normally not be used.

3. Trail Regulation Signs:

a. Construction:

Metal “Trail Regulations” sign, manufactured by Parrott Screen Printing, Inc., Knoxville, Tennessee. Pre-printed metal sign that measures 10” high and 8” wide.

b. Installation:

Attached to post with ¼” carriage bolts with nuts countersunk. Attached to the Trailhead sign post 3 inches below the Trail sign.

c. Finish:

The metal sign is preprinted with brown lettering on a white background.

d. Text:

4. Regulatory Signs Prohibiting Horse Use, Pets or Bicycles:

a. Construction:
Preprinted metal sign.

b. Size:
Approximately 8” square.

c. Installation:
Signs will be fastened to a single 4” X 4” treated wooden post using two ¼” carriage bolts, with nuts countersunk and ends flush, or attached to the post of an existing, navigational sign. It should be placed beneath the navigational sign.

d. Finish:
Preprinted brown sign with white symbol.

e. Text:
Horse/rider symbol with red slash.

5. Regulatory Signs Prohibiting Camping:

Construction, size, installation and finish will be the same as for regulatory signs prohibiting horse use.

a. Text:
Camping symbol with red slash.

6. Regulatory Signs, miscellaneous:

The need for other regulatory signs, such as bear warnings and fishing closures, etc., will be evaluated on a case-by-case basis.

7. Backcountry Campsite Signs:

a. Construction:

The campsite number and symbol will be routed into the center of the top of a 4" X 4" post. The top will be beveled at a 45 degree angle. Each number will be 1 ½", routed 3/16" deep, with a flat bottom groove. The symbol will be approximately the same size as the numbers.

b. Installation:

The top of the post will be 30" from the level of the trail. The post will be placed adjacent to the campsite.

c. Finish:

Unfinished.

8. Hazardous Area Signs:

a. Construction:

2" oak lumber

b. Size:

The sign will be large enough to accommodate the message, with a 2" border all around.

c. Installation:

Signs will be fastened to a single 4" X 4" treated wooden post, using 3/8" carriage bolts, with nuts countersunk in the wood and ends flush. The top of the post will be chamfered on all four sides leaving the top blunt.

d. Finish:

These signs will be painted brown, with orange and white lettering.

e. Text:

1. The word "WARNING" will be centered across the top of the sign and painted orange.

2. A standardized message will be used when hazards are of a similar nature. The lettering will be white.

C. GENERAL STANDARDS

1. Signs will not be attached to trees.

2. Sign posts will be treated with chromated copper arsenate (CCA), LP-22 for ground contact.

3. Sign posts will not be cut on site.

4. Elevations signs will not be used.

BACKCOUNTRY SIGN REQUEST FORM
(copy attached)

Backcountry Sign Standards, appendix C:

RECOMMENDED BY:

_____

Backcountry Operations Specialist Date

CONCURRED BY:

_____

Chief Ranger Date

APPROVED BY:

_____

Superintendent Date