

GUIDANCE FOR LOCATING AND DESIGNING A.T. SHELTERS AND FORMAL CAMPSITES



- Review Draft, 9/22/2006 – forward comments to jmarion@vt.edu

INTRODUCTION

This draft Appalachian Trail Conservancy (ATC) guidance is provided to Appalachian Trail (A.T.) clubs seeking to replace or add shelters or formal camping areas. It integrates and replaces previous guidance contained in pre-existing documents: Local Management Planning Guide (ATC 1997), Checklist for the location, design, and maintenance of campsites and shelters on the Appalachian Trail (Proudman 1989), Appalachian Trail Fieldbook (Burchard and Proudman 1982), and Guidelines for sanitation, water supplies, and overnight facilities along the Appalachian Trail on National Forest lands (ATC undated).

Shelters and formal camping areas are viewed as essential facilities for accommodating overnight visitation along the A.T. These facilities help to avoid or minimize associated camping impacts to natural and cultural resources and separate campers from each other to limit crowding and conflicts. Camping shelters have a long tradition of use along the A.T. and are generally simple structures with three sides and a roof. Some consider shelters to be visitor amenity facilities not essential to the accommodation of overnight use, particularly in designated Wilderness. However, research in Great Smoky Mountains NP suggests that shelters provide a significant resource protection function by concentrating camping activities to a limited area, in contrast to more extensive trampling that would alternately occur on numerous campsites (Marion & Leung 1997). Formal camping areas provide an alternative to shelters, or they can be located adjacent to or more distant from shelters. Shelters and formal camping areas are preferably located near dependable water sources and away from roads or other developments. Informal dispersed visitor-created campsites also provide for overnight visitation, though this guidance does not address their management.

The decentralized nature of A.T. management and decision making has permitted wide latitude in the location and design of shelters and camping areas in the past. This has led to the construction of shelters near roads that became “party destinations” for youth, alcohol and drugs, and to a wide range of shelter sizes, designs, and construction materials. Some have four sides with doors and windows, capacities range from 6 to over 40, including some with two stories and covered decks, and construction materials include native logs and rocks, rough-hewn boards, concrete blocks, and plywood T-111 siding. Recent trends towards larger shelters with fancy architectural designs and features that are decidedly visitor amenities (showers, swinging porch benches, solar lights, and picnic pavilion style decks) have persuaded many of the need for new uniform guidance. Such amenities cater to hiker comfort and convenience, and while they may be welcomed or requested by some hikers they serve no resource protection function. More importantly they begin to transform the A.T. hiking experience from one that emphasizes intimate contact with primitive nature to a “cabin camping” experience where visitors are physically separated from nature and the weather, which is “outside” and unimportant.

The increasing size and capacity of shelters has also become a growing trail-wide concern. The intended A.T. experience, emphasizing solitude, primitive experiences, and natural quiet (reflected in the documents cited earlier), is being transformed incrementally and without conscious forethought to one characterized by socializing with others in developed facilities. Large-capacity shelters have profoundly altered the nature of “camping” experiences, promoting a social experience that appeals to different types of hikers and degrades the experiences of hikers who prefer solitude. In the spirit of the traditional A.T. culture of decentralized decision making, this guidance intends to be persuasive rather than authoritarian, continuing pre-existing approvals incorporated in the ATC Shelter Approval Checklist. The persuasive approach is reflected primarily in the addition of the following section on Available Guidance, which reviews relevant recommendations for managing overnight camping at shelters and formal camping areas from several pre-existing ATC documents.

GENERAL GUIDANCE

A preferred method for encouraging greater consistency in trail-wide decision making is the development and communication of shared goals and objectives. This section assembles statements from pre-existing ATC, land management agency, and club documents most relevant to guiding decisions related to the use and design of shelters and formal campsites.

Appalachian Trail Conservancy

The ATC’s former Board of Managers approved the best available vision statement defining the desired A.T. “Trail Experience” in 1997:

“The sum of opportunities that are available for hikers on the Appalachian Trail to interact with the wild, scenic, pastoral, cultural, and natural elements of the environment of the Appalachian Trail, unfettered and unimpeded by competing sights or sounds, and in as direct and intimate a manner as possible. Integral to this Trail Experience are opportunities for observation, contemplation, enjoyment, and exploration of the natural world; a sense of remoteness and detachment from civilization, opportunity to experience solitude, freedom, personal accomplishment, self-reliance, and self discovery; a sense of being on the height of the land; a feeling of being part of, and subordinate to, the natural environment; and opportunity for travel on foot, including opportunities for long-distance hiking.”

This statement defines the A.T. hiking experience as one emphasizing intimacy with natural environments and recreational experiences featuring contemplation, solitude, and self-reliance. A strict interpretation of this vision statement suggests that shelters are inconsistent with this guidance because they separate and insulate hikers from the natural environment, and encourage more social and less self-reliant experiences. However, the intent to maintain a system of formal shelters and campsites is affirmed in the ATC *Local Management Planning Guide* (ATC 1997, Chapter 2 (F), *Overnight-Use Areas*):



“Since 1925, ATC policy has supported "a connected series of primitive lean-tos and camps" as an integral part of the Trail experience. ATC policy is to perpetuate and improve the shelter and campsite system with well-located, -designed, -constructed, and -maintained facilities.”

Additional clarification is provided in Chapter 2(I), *Managing the Trail for a Primitive Experience*, including five questions as an aid for evaluating the potential effect of management actions on the primitive quality of the Trail:

Trail improvements, including shelters, privies, bridges, and other facilities, should be constructed only when appropriate to protect the resource or provide a minimum level of public safety. Design and construction of these facilities should reflect an awareness of, and harmony with, the Trail's primitive qualities. Materials and design features should emphasize simplicity and not detract from the predominant sense of a natural, primitive environment.

The ATC should take into account the effects of Trail-management programs and policies on the primitive and natural qualities of the Appalachian Trail and the primitive recreation experience the Trail is intended to provide. Although these guidelines are intended to apply primarily to the effects of actions or programs on predominantly natural, wild, and remote environments along the Trail, they may apply to certain pastoral, cultural, and rural landscapes as well. Even in sections of the Trail that do not pass through remote or primitive landscapes, care should be taken not to inadvertently overdevelop or improve the Trail tread or facilities in these environments.

- 1) Will this action or program protect the A.T.?
- 2) Can this be done in a less obtrusive manner?
- 3) Does this action unnecessarily sacrifice aspects of the Trail that provide solitude or that challenge hikers' skill or stamina?
- 4) Could this action, either by itself or in concert with other actions, result in an inappropriate diminution of the primitive quality of the Trail?
- 5) Will this action help to ensure that future generations of hikers will be able to enjoy a primitive recreational experience on the A.T.?

Other relevant ATC publications include the a *Checklist for the location, design, and maintenance of campsites and shelters on the Appalachian Trail* (Proudman 1989), the *Appalachian Trail Fieldbook* (Burchard and Proudman 1982), and Report 16, *Guidelines for sanitation, water supplies, and overnight facilities along the Appalachian Trail on National Forest lands* (ATC undated). The most relevant excerpt from the “Checklist” is:

“Use rustic design in all phases, including

- Rough cut materials or native materials, except for the floor. Floors should have a smooth, planed finish.
- Stain or paint with “woods” colors; brown, dark green or gray. Do not use gloss-finish paints. Assure the roof and flashing are flat, muted and nonreflecting (especially if it can be seen from a distance).”



Appalachian Trail Fieldbook:

“Heavy use of non-designated campsites along the Trail may indicate that existing sites are inadequate, poorly maintained, or poorly designed. The possibilities for constructing new sites and redesigning, relocating, or repairing existing overnight facilities should be evaluated to identify ways to reduce trail-side camping impacts. Unwanted trail-side sites deteriorating the surrounding area should be barricaded with brush, cleaned of litter, cleared of fire rings, and, sometimes, posted with “No Camping” signs.”

This guidance, and similar statements in Report 16, recommends developing formal campsites in areas where informal (visitor-created) trail-side sites begin to proliferate. A principal advantage is that formal campsites can be located in places that limit site expansion and resource impacts, and visitor crowding and conflicts. Report 16 states that:

“Designated campsites should include no more than a raised tent pad (only where necessary), a fire ring, a privy, and a water source (with some minor modification to improve the collection of water).”

“To foster the “sense of the wild and primeval” as part of the Trail experience, evidence of campsites (including facilities and resource impacts) should not be visible from the A.T. Campsites should be a minimum of 100 feet from the Trail footpath and surface water.”

“To meet traditional goals for the A.T. experience, new shelters built along the A.T. should be of rustic design and constructed of native or rough sawn materials. Planed lumber (except for sleeping platforms) and modern “stick”-frame construction should be avoided in shelter construction. Acceptable developments at shelter sites would include a fire ring, a privy, and a water source. As with campsites, shelters should be located out of sight of the Trail footpath and at least 100 feet from the Trail footpath and any surface water.”

Land Management Agency Guidance

Shelters and campsites located on federal or state lands must comply with guidance contained within their agency enabling legislation, management policies and guidelines, and planning documents. Beginning with the federal agencies, the National Park Service (NPS) Management Policies (NPS 2001) specify that in backcountry settings the number and type of facilities:

“will be limited to the minimum necessary to achieve a park’s backcountry management objectives and to provide for the health and safety of park visitors.”

However, the A.T. *Comprehensive Plan* (NPS, Appalachian Trail Project Office, 1981) notes the historical precedence of shelters:



“Shelters are a tradition on the A.T., but use of the Trail should not depend on them. No attempt is made to provide such amenities for every potential user, so each person must be prepared to without them. Shelter density and design should be consistent with a sense of the natural.”

The Comprehensive Plan states that facilities such as shelters and formal campsites can “help limit impact on fragile sites or help concentrate use into areas which can then be managed more intensely, contribute to preservation of the natural areas through which the Trail passes, as well as aid the hiker.” In July 1986, the NPS Appalachian Trail Park Office adopted the following regulation under 36 CFR 2.10: "On NPS-acquired Trail lands, camping will remain dispersed except where camping is limited to specific camping and/or shelter sites by ATC member Trail clubs in their local management plans and these plans are endorsed by ATC."

U.S. Forest Service (USFS) regional manuals also include some guidance, as illustrated in “*Regional Standards and Guides for Region 8*”:

“Trail shelters and related facilities will be managed, constructed and maintained in accordance with ATC’s *Overnight Use Principles* and the responsible A.T. club local management plan. Primitive camping will be encouraged at appropriate sites, but not within 100 feet of the Trail.”

Guidance may also be found in the management plans of federal and state agencies that manage lands bisected by the A.T. corridor. Consult agency staff to determine which plans are applicable, for example, National Parks have General Management Plans and Backcountry or Wilderness Management Plans. Management of U.S. Forest Service lands are guided by Forest Plans, which may contain shelter or campsite directives. For example, the George Washington National Forest Plan (USFS 1993) states:

“Facilities are limited to shelters, privies, stiles, spring boxes, registers, trailheads, and other facilities mutually agreed to by the Conference, Clubs, and the Forest Service.”

“Where feasible, locate new shelters no closer than two miles from open roads and other access points.”

Federally designated Wilderness areas have special agency policies and management plans. For the NPS, guidance is provided in Reference Manual #41, Wilderness Preservation and Management (NPS 1999). Wilderness areas are managed to provide outstanding opportunities for solitude and primitive, unconfined types of recreation (section 6.4.3). Construction of new shelters is not generally allowed, though existing shelters may be maintained or reconstructed if the facility is determined to be necessary to achieve wilderness management objectives (section 6.3.10.3). Campsite facilities may include a site marker, fire rings, tent sites, food storage devices, and toilets if these are determined to be necessary for the health and safety of visitors or the preservation of wilderness resources and values. Toilets can be used only where their presence will resolve health and sanitation problems or prevent serious resource impacts (section 6.3.10.3). Only signs needed for visitor safety or to protect wilderness resources are permitted (section 6.3.10.4).



USFS guidance is provided in their manual #2300-90-2, Recreation, Wilderness, and Related Resource Management (USFS 1990). No new camping shelters may be constructed, though those that existed at the time of designation may be maintained if allowed by specific legislation, or until they require extensive maintenance (sections 2323.13 & 2323.13b). Generally, facilities are installed only as a last resort and only for protection of the wilderness resource. Managers are directed to relocate or remove existing campsites to allow maximum opportunity for solitude and to minimize the evidence of human use. The “cat hole” method of human waste disposal is recommended, though pit or vault toilets may be used as a last resort. Sign use should be minimal; justified for either the routing or location of the traveler or the protection of the wilderness resource.

Finally, guidance from both agencies specify that management decisions affecting wilderness resources or visitor experiences must be consistent with the minimum requirement concept (NPS 1999, section 6.3.5). This concept is applied as a two-step process to determine:

- 1) 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; and
- 2) The techniques and type of equipment needed to ensure that impact to wilderness resources and character is minimized.

State and local guidance must also be investigated and followed. For example, local building codes, sanitation regulations, and fire laws must be complied with and state agencies must approve shelters and campsites on state-owned lands (ATC 1997).

Volunteer Trail Club Guidance

As directed by Congress, the Comprehensive Plan for the Appalachian Trail (NPS 1981) prescribes a “Cooperative Management System” of partnerships with individual trail clubs and agency partners in a decentralized consultation and decision-making process. Currently, there are 30 trail clubs that manage and maintain separate Trail segments in cooperation with the ATC and agency partners. As described in the ATC’s Local Management Planning Guide, each club must prepare an approved management plan for their trail segment(s). These plans often include area-specific guidance on managing overnight visitation at both shelters and campsites. For example, plans may designate areas that are closed to camping, open to dispersed camping, designated campsites, or campfire prohibitions. Trail clubs also maintain inventories of overnight use facilities and track their condition over time. Maintenance plans for shelters and action plans for constructing new shelters are also developed by local trail clubs.

Shelter Approval Process

Construction of shelters and large formal campsites require approval by both the ATC and land management agencies. The ATC *Local Management Planning Guide* (ATC 1997, Chapter 2 (F), *Overnight-Use Areas*) states:



Shelter Review Procedure - ATC's Regional Partnership Committee Chair will consult with the club proposing the shelter...to assess the basic soundness based on ATC's *Shelter Approval Checklist* (Appendix J of the Local Management Planning Guide). The RPC Chair approves proposals contingent on approvals by the landowning agency and state/local permits. This policy is necessary for new shelters or large campsites with more than one pit privy and applies to all club sections and all ownerships crossed by the A.T.”

The NPS has also adopted a compliance review process:

“Environmental Compliance - On NPS corridor lands, new shelters and large campsites with more than one pit privy must be evaluated by the NPS in an environmental assessment prior to any clearing, excavation, or construction by the club. Improvements to existing shelters and installation of new campsites with one pit privy do not normally require an environmental assessment; they are "categorically excluded" from compliance with NEPA (Federal Register, Vol. 49, No. 194, October 4, 1984).”

Similar environmental reviews may be required by other federal and state agencies. Contact them early and allow at least six months for their reviews. Also contact County offices to procure all necessary local building permits and check zoning requirements to avoid conflicts with counties and towns. ATC staff can provide additional information and assistance.

SPECIFIC GUIDANCE

This section provides more specific guidance on topics like shelter/campsite numbers and capacity, location, site design, shelter/campsite design, sanitation, maintenance, and visitor use management. Generic guidance is provided where possible, but the A.T. crosses diverse environments, from pristine wilderness, to backcountry, to highly accessible frontcountry. Sometimes the type of setting or area should influence the type and design of facilities so this section begins by defining desired condition statements intended to influence facility-related decision making.

Desired Condition Statements

The ATC’s “Trail Experience” statement (see pg 2) provides a “shared vision” of the desired A.T. visitor experience that the Trail community seeks to provide. In the absence of such a statement or compliance with it, local decisions could vary considerably, leading over time to substantial differences in how various portions of the A.T. are managed. While the “Trail Experience” statement is helpful, it describes only the recreation experience and applies to the entire A.T. It could be made more explicit by describing supporting prescriptive desired condition statements to address natural, social and managerial settings for different types of environments or areas along the A.T. The natural setting relates to the quality of natural resource conditions. The social setting relates to the quality of social conditions relative to the potential for solitude (e.g., crowding/conflicts with other visitors). The managerial setting refers to the



perceived presence or obtrusiveness of management actions, including regulations, facilities, and signs.

This document seeks to provide more specific guidance by offering descriptions of desired condition statements for each of these settings for three general types of environments or areas (Frontcountry, Backcountry, and Wilderness) found along the A.T. (Table 5). Frontcountry areas are close to roads and developed areas, are very accessible and often support high visitation. Backcountry areas are more remote, environmental settings are more natural, and visitation is often intermediate except near accessible attraction features. Wilderness areas are either federally designated or listed as Wilderness Study Areas. When designing a shelter or formal campsite, trail clubs should consult with the ATC and their land management partners to determine which type of area the proposed development falls within. Then consult Table 5 for desired condition statements describing the resource, social, and managerial conditions that the A.T. community seeks to sustain for that type of area. Adherence to this more explicit guidance can help promote more consistent decision-making for each type of area along the A.T.

Shelter/Campsite Numbers and Capacity

In the 1970's, shelters accommodated a majority of overnight visitation in most areas along the A.T. Currently, ATC staff estimate that huts and shelters accommodate about 60% of the overnight visitation, less in popular sections, more in remote sections. A survey of A.T. overnight visitors found that 56% stayed in huts and shelters, 12% camped near shelters, 23% stayed in a designated camping area or tent site, and 9% camped elsewhere along the trail (Manning et al. 2000). It is clear that more A.T. visitors are now camping outside of shelters and that both the number and proportion of visitors who do so will continue to grow in the future. Furthermore, there appears to be a consensus within the A.T. community that campsites, rather than expansion of the shelter system (numbers or sizes), should accommodate future increases in overnight visitation.

Shelters are a traditional feature of the A.T. and they will remain so. However, their numbers have increased 14% from 1971 (N=237, 8.6/mile) to 2006 (N=271, 8.02/mile), in part due to an increase in the length of the A.T. In addition, replacement shelters are nearly always larger than their predecessors, so shelter capacity has been increasing, though there are no accurate data to document the extent of this trend. In particular, the larger shelter capacities and the occurrence of tent platforms and campsites near shelters are creating crowded and noisy camping settings. According to a recent survey of A.T. visitors, 10% found crowding to be "A big problem" at shelters and about one-third of hikers saw more people than they preferred to see camping within sight and sound of them (Manning et al. 2000). Hikers reported that they preferred to see an average of three other parties of people camped within sight and sound of them and that nine other parties were the maximum that should be allowed.

The consensus view from a 2003 collaborative study of camping management (Marion 2003) and from the A.T. Stewardship Council is that increasingly crowded conditions associated with large shelters and co-located campsites is undesirable and inconsistent with the desired Trail Experience. The sights, sounds, and smells of people replace the sights, sounds, and smells of nature at high visitation shelters, forcing visitors to listen to or join in the conversations of others. Obtaining a good night's sleep is difficult due to late evening conversations, snoring, escapades



Table 1. Desired condition statements for three settings and three types of areas.

Setting	Type of Area		
Natural	Frontcountry	Backcountry	Wilderness
<p><i>Contact with developed environments</i></p> <p><i>Change to natural characteristics of the landscape</i></p>	<p>Roads or developed areas are often within sight or close by.</p> <p>Predominantly retain the existing character of the landscape with changes to provide visitor facilities to protect the resources and accommodate visitor use. The natural features of the landscape should be central, though management features will be obvious to visitors.</p>	<p>Roads or developed areas are occasionally in sight or close by.</p> <p>Predominantly retain the existing character of the landscape with changes to provide limited visitor facilities to protect the resources and accommodate visitor use. The natural features of the landscape should be central, though management features may be obvious to visitors.</p>	<p>Roads or developed areas are rarely in sight or close by.</p> <p>Predominantly retain the existing character of the landscape with changes permitted only where essential for protecting natural resources and visitor safety. The natural features of the landscape should be central, with changes that are highly rustic and subtle.</p>
Social	Frontcountry	Backcountry	Wilderness
<p><i>Site Capacity</i></p> <p><i>Level of contact with other visitors</i></p> <p><i>Time required</i></p> <p><i>Level of effort, risk and knowledge required</i></p>	<p>High, maximum campers per single location: 35</p> <p>Probability of encountering others is high, particularly near popular access points and features. However, solitude and natural quiet can generally be found for those who seek it.</p> <p>Moderate - considerable day use often occurs along with overnight visitation.</p> <p>Visitors feel like they are in "nature" but not too far removed from the developed environment. Moderate effort or challenge possible that requires some outdoor skills.</p>	<p>Moderate, max. campers per single location: 25</p> <p>Probability of encountering others is moderate, with occasional periods of high activity and interaction. Solitude and natural quiet can always be found for those who seek it.</p> <p>High - mostly overnight visitation, often on short trips.</p> <p>Primarily self-directed visitor experience in primitive backcountry settings. High degree of challenge and risk that requires experienced outdoor skills.</p>	<p>Low, maximum campers per single location: 15</p> <p>Probability of encountering others is low. High likelihood of experiencing solitude and natural quiet.</p> <p>High - predominantly overnight visitation, often on long-distance trips.</p> <p>Highly self-directed visitor experience with a high degree of risk, challenge, and wilderness knowledge required.</p>



Setting	Type of Area		
Managerial	Frontcountry	Backcountry	Wilderness
<p data-bbox="203 338 318 369"><i>Facilities</i></p> <p data-bbox="203 772 383 905"><i>Level of contact with agency or club staff</i></p>	<p data-bbox="418 338 724 737">Shelter and campsite facilities are constructed from rustic natural materials. The need for greater camping capacity may necessitate co-locating formal campsites in the area, or when essential, by constructing two shelters at one location or elsewhere along the trail.</p> <p data-bbox="418 772 724 936">High contact with outreach/enforcement staff and frequent exposure to informational signs.</p>	<p data-bbox="760 338 1081 737">Shelter and campsite facilities are constructed from rustic natural materials. Use of dimensional lumber is minimized. As a general policy, the need for greater camping capacity will be addressed by adding formal campsites rather than increasing shelter numbers or sizes.</p> <p data-bbox="760 772 1052 905">Moderate contact with outreach or enforcement staff; limited posting of information.</p>	<p data-bbox="1107 338 1429 737">Trail, shelter, and campsite facilities are constructed using rustic natural designs and materials. Use of dimensional lumber is avoided or limited to essential components. Campsites are not co-located with shelters and shelter capacity will not be increased over current levels.</p> <p data-bbox="1107 772 1399 936">Low to no contact with outreach or enforcement staff; information predominantly at wilderness boundaries.</p>

involving food and boots thrown at small and large four-footed night-time visitors, and a parade of the “barely awake” making early morning excursions down ladders and across bodies to relieve bladders. Other common problems include having to wait in lines at the privy and water sources and threatened visitor safety due to increasing numbers of food-attracted wildlife.

These problems are addressed by new site capacity guidance (see Table 5, Social Setting) establishing maximum overnight visitation capacities for each type of area for each shelter (including nearby campsites) and formal camping area. Capacity estimates for shelters can be calculated at one person per 15 ft², capacity for campsites is best estimated by observing the typical number of campers in the area on high, but not peak, use nights. While no changes are required of existing shelters, new shelters must not exceed the total capacity of the type of area they are located within. In general, no new shelter should exceed a capacity of 15. In backcountry and frontcountry areas additional capacity should be accommodated by campsites, however, in frontcountry areas a second shelter can be built in the same area if deemed necessary. Locations that currently exceed capacities can be made compliant by applying site ruination or closure techniques described in Marion (2003) Appendix 2, pages 106 and 109 (available online, see reference listing).

This guidance also freezes A.T. shelter numbers at current (2006) levels. Old shelters can be replaced but new shelters can be built only when relocations add trail miles (1 shelter/8 new trail miles). Exceptions to this shelter/campsite capacity guidance are possible but require a proposal stating why the exception is deemed necessary and its unanimous approval by the responsible trail club, land management agency, ATC Vice Chair, and ATC Regional Representative.



Shelter and Formal Campsite Location

Preferable locations for shelters and formal campsites are:

- ✓ *Near permanent sources of clean water* – A permanent source of clean water is a nearly essential requirement. The highest mid-slope location within a drainage that retains flowing water during drought periods is best. Springs are preferred over small streams but they must have a dependable flow history over several years. Land within the drainage above the site should be in public ownership and have no human habitations or grazing. Water potability testing is recommended (contact local or country health authorities). Ask for a sterile water collection container and collection/transport procedures. Where possible, shelters and campsites should be located more than 30 yards from water sources.
- ✓ *Remote from motorized access* – Locate at least two miles from roads, including ORV use areas, to deter vandalism and their use by non-hikers.
- ✓ *Out-of-sight from the A.T.* – The best locations are not visible from the A.T. but remain within a 5-10 minute walk without steep descents or ascents.
- ✓ *In mid-slope positions* – Avoid ravines and depressions that can be seasonally wet and subject to cooler temperatures and lack of sun exposure. Similarly, ridge tops can be windy and prone to lightening strikes. Flat valley bottom or ridge top locations have poor drainage and allow the rapid proliferation and expansion of campsites and trampled areas. Placement on small flat areas within mid-slope positions enlists the sloping topography to concentrate foot traffic on the intended use areas. If naturally occurring flat sites cannot be found then create gently out-sloped benches for shelter and camping sites using side-hill construction practices described in Marion (2003) App. 2, pp 99-102.
- ✓ *Trampling resistant and expansion proof* – Minimize the loss of vegetation from trampling by choosing locations that: 1) have limited expansion potential due to topography, rockiness, or dense vegetation cover, and 2) have very sparse vegetation cover or grassy cover instead of broad-leafed herbs (e.g., sunnier locations). See Marion (2003) App. 2, pp 94-97 for additional guidance.
- ✓ *Protective of visitor safety and sensitive natural or cultural resources* – Avoid locations close to waterfalls and mountain, ridge, and cliff tops to promote visitor safety, and locations near sensitive natural and cultural resources to promote resource protection.

Site Design

Design the site to:

- ✓ *Prevent erosion* – Anticipate traffic patterns and design the site and trail layout to avoid the proliferation of visitor-created trails and erosion. A linear layout of the shelter and campsites along the contour promotes use of provided trails. Refer to additional site design guidance in Marion (2003) App. 2, pp 99-101.



- ✓ *Protect water sources* – Build a covered stone water box or cistern at the spring or in the stream just above a durable access point. A firmly secured PVC pipe can facilitate the collection of clean water. Use a permanent marker to write the following message on two sides of the pipe: “Treat or boil before drinking.” Route water access trails away from the stream or spring above the collection point. Design and maintain water access trails to prevent erosion.
- ✓ *Promote solitude* – Limit shelter capacities to <10-15 where possible, constructing two separated shelters where additional capacities are needed. When campsites are co-located with shelters locate them outside the view shed of the shelter front and separate individual campsites by more than 30 yards where possible.
- ✓ *Promote visitor safety* – Face shelter opening away from prevailing winter season winds, preferably to the south and east.

Shelter/Campsite Design

Design the shelter/campsite to:

- ✓ *Emphasize primitive, rustic qualities* – Use rustic architectural designs and primitive materials where possible for shelters, e.g., sides consisting of logs, rough cut wood, or natural stone. Use of planed, dimensional lumber should be minimized and limited to less visible places, except for flooring. Colors of roofing or paints (see Maintenance) should be natural to limit visibility through the woods. Concrete footers should be hidden by facing them with natural stone.
- ✓ *Emphasize resource protection, not visitor convenience, in shelter designs and facilities* – Use the minimal design necessary to concentrate sleeping and cooking activities in a small shelter “footprint.” Features such as large covered decks, windows, hanging chairs, showers, and wood stoves are considered inconsistent with the intended A.T. Trail Experience, even in Frontcountry settings. In Wilderness, shelter designs and associated facilities must be reduced to the absolute minimum required for resource protection. See Marion (2003) App. 2, pp 102-105 for further discussion.
- ✓ *Maximize lifespan and minimize maintenance* – Provide several inches of separation between the ground and wood and/or use pressure treated lumber. In the south, use metal flashing at key places as a termite barrier. Provide adequate overhangs to keep wood sides dry and overlap roofing to prevent rot in supporting wood. Slope the land uphill from the shelter to divert water flow around the shelter area and install broad and deep drainage channels armored with rock to capture and divert roof water. Use only galvanized or plated hardware and nails.
- ✓ *Minimize fire danger* – Campfires should be restricted to firmly anchored metal fire rings/grates of a small diameter to discourage dangerous and fuel-consuming bonfires. Consult local Fire Marshall for approval, where necessary. Avoid or minimize use of masonry.



- ✓ *Minimize campsite proliferation/expansion* – Employ side-hill campsite design practices where possible, or use site closure/ruination practices to deter these problems in flatter terrain (see Marion (2003) App. 2, pp 99-102).
- ✓ *Minimize use of tent platforms* – Employ side-hill campsite designs where possible, even in most rocky areas where soil can be obtained from wind-thrown trees or borrow pits. Tent platforms are unnatural, expensive, and require maintenance.
- ✓ *Ensure food protection from wildlife* – Consider and install appropriate facilities where necessary to prevent wildlife from obtaining human food. Examples include within-shelter hanging devices, bear poles, cable systems, or steel food storage boxes.

Sanitation

Toilet facilities should:

- ✓ *Be located in well-drained soils* – Unless a vault toilet is used, the site should be more than 200 feet from all water sources and the shelter or campsites, and preferably downhill. Perform a percolation test by digging a hole and filling it with water. The hole should drain readily within a short time. Look for areas with deep soils and water tables (>4 ft) where the digging is easiest.
- ✓ *Follow applicable state and ATC guidance* - Consult and follow all state regulations for pit toilet use. Consult the ATC publication “Backcountry Sanitation Manual” (ATC and Green Mtn. Hiking Club 2002) for further guidance and options.
- ✓ *Protect human and wildlife safety* – Pits and bins receiving human waste should be inaccessible to wildlife and flying insects, with openings only through a covered and screened vent stack and waste entry hole with a self-closing lid. Retired privy sites should be filled with soil and mounded at least 12 inches above grade to allow for settling.

Maintenance

Perform routine maintenance to:

- ✓ *Minimize soil erosion* – Maintain trails within the site and to the water source to minimize soil erosion. Water source trails are often steep and have fall-line alignments. If alternate alignments are impractical (i.e. visitors won’t use them) then install sufficient rockwork to limit erosion. Inspect shelter/campsite areas carefully for signs of erosion and install drainage swales or water bars to avoid further erosion.
- ✓ *Limit fire danger* – Clear wind-thrown trees and other flammable materials away from the shelter.
- ✓ *Maximize facility lifespan* – Check all wooden structures annually for signs of mold and rot and repair roofing or paint to prevent further deterioration. Inspect and repair other damage as needed.



- ✓ *Preserve the natural appearance of facilities* – Use clear or semi-transparent flat (non-reflecting) paints with natural colors to preserve wood in shelters.
- ✓ *Maintain clean site appearances* – Dig out all fire grates, remove trash and scatter coals/ash in off-site areas. Pick up all litter and discarded food; clean the shelter.

Visitor Use Management

Manage visitor use to:

- ✓ *Avoid or minimize resource and social impacts* – Communicate *Leave No Trace* practices (see attached suggested guidance).
- ✓ *Minimize use of regulations* – Preserve visitor freedom by employing educational options first, and regulations if problems are not resolved. Potential regulations to consider include limiting camping in shelter areas to shelters and formal campsites, prohibitions of campfires, and hanging food bags in bear country.



Draft Shelter and Campsite Use *Leave No Trace* Practices

PLAN AHEAD AND PREPARE

- If you are traveling in a group of more than 5, please consider camping away from the immediate vicinity of the shelter, leaving the shelter for use by lone hikers and small groups.

TRAVEL AND CAMP ON DURABLE SURFACES

- While hiking, stay on the trail, never shortcut switchbacks. Take breaks off-trail on durable surfaces.
- To minimize impact and preserve the natural environment, restrict activities to areas where vegetation is already absent, or to pristine sites that are unlikely to be discovered and reused.

DISPOSE OF WASTE PROPERLY

- Never burn, bury, or leave litter or food anywhere. **PACK IT OUT.**
- Use the privy for human waste ONLY (feces). DO NOT fill with trash. If facilities are unavailable, dispose of human waste (feces) by burying in a cathole, 6-9” deep, 4-6” wide and at least 200’ from water sources, trails and shelters.
- Leave the fire ring clean by removing all trash and scattering unused wood, cold coals, and ashes away from camp.
- Wash dishes, bodies, and clothing away from water sources – minimize use of soap.

LEAVE WHAT YOU FIND

- Never build structures or alter shelters in any way.
- Never damage live trees or plants.
- Leave plants, cultural artifacts and other natural objects where you found them for others to enjoy.

MINIMIZE CAMPFIRE IMPACTS

- Use stoves for cooking – if you need a fire, build it only in existing fire rings using only small dead and downed wood. Burn all wood to ash.

RESPECT WILDLIFE

- Our goal is ZERO RODENTS at shelters. You can help: Store all food out of reach of animals. Don’t discard or drop any food, even a few noodles or pieces of granola are a large meal for mice. Clean up spills completely and pack out all food scraps.
- Bear sightings are *increasing* at shelters and campsites – even small food rewards teach them to associate humans and camping areas with food. When that happens, they are often killed to protect human safety.

BE CONSIDERATE OF OTHER VISITORS

- Be courteous to other hikers. A.T. shelter space is available on a first-come, first-served basis *regardless* of the type of hiker or length of their hike.
- Respect others by keeping loud voices and noise to a minimum
- Let nature’s sounds prevail: NEVER use cell phones or audio equipment in the presence of other hikers.
- Limit-of-stay is TWO NIGHTS.
- Travel in groups of 10 or fewer hikers overnight; or 25 or fewer if day hikers.

1-800-332-4100 (<http://www.LNT.org>) for further information

LITERATURE CITED



Appalachian Trail Conference. (Undated). Guidelines for sanitation, water supplies, and overnight facilities along the Appalachian Trail on National Forest lands. Appalachian Trail Conference, Report 16 by the Trail Facilities Task Group, Harpers Ferry, WV.

Appalachian Trail Conference. 1977. Appalachian Trail overnight use management principles. Appalachian Trail Conference, Use-Problem Work Committee, Harpers Ferry, WV.

Appalachian Trail Conference. 1997. Local Management Planning Guide. Appalachian Trail Conference, Harpers Ferry, WV.

Appalachian Trail Conference and Green Mountain Hiking Club. 2002. Backcountry sanitation manual. Appalachian Trail Conference, Harpers Ferry, WV.

Birchard, William and Proudman, Robert D. 1982. Appalachian Trail Fieldbook: A Self-Help Guide for Trail Maintainers. Appalachian Trail Conference, Harpers Ferry, WV.

Forest Service. 1990. Recreation, Wilderness, and Related Resource Management. USDA, Forest Service, Washington Office. Rpt. #2300-90-2.

Forest Service. 1993. George Washington National Forest Plan. USDA, Forest Service, George Washington National Forest, Roanoke, VA.

Leave No Trace Center for Outdoor Ethics. 2006. Pamphlets, booklets, and other materials available from the Leave No Trace Center for Outdoor Ethics. 1-800-332-4100 (<http://www.LNT.org>)

Manning, Robert E., William Valliere, James J. Bacon, Alan Graefe, Gerard Kyle and Rita Hennessy. 2000. Use and users of the Appalachian Trail: A source book. USD1, National Park Service, Appalachian National Scenic Trail, Harpers Ferry, WV.

Marion, Jeffrey L. 2003. Camping Impact Management on the Appalachian National Scenic Trail. Appalachian Trail Conservancy, Harpers Ferry, WV. 109 pp.
http://www.appalachiantrail.org/atf/cf/{D25B4747-42A3-4302-8D48-EF35C0B0D9F1}/AT_Camping_Impacts.pdf

Marion, Jeffrey L. and Yu-Fai Leung. 1997. An assessment of campsite conditions in Great Smoky Mountains National Park. U.S. Department of the Interior, National Park Service, Great Smoky Mountains National Park, Gatlinburg, TN, Research/Resources Management Report. 127 pp.

National Park Service. 1981. Appalachian Trail Comprehensive Plan. USD1, National Park Service, U.S.

National Park Service. 1999. Reference Manual 41: Wilderness preservation and management. USD1, National Park Service, Washington, DC.

National Park Service. 2001. Management Policies. USD1, National Park Service, Washington, DC.

Proudman, Robert. 1989. Checklist for the location, construction and maintenance of campsites and shelters on the Appalachian Trail. Appalachian Trail Conference, Harpers Ferry, WV.



ATC SHELTER APPROVAL CHECKLIST (Draft)

Shelter Name: _____
 A.T. Maintaining Club: _____
 Submitted by: _____ Date: _____
 Agency Partner: _____
 New Site? _____ New Shelter at an Existing Campsite? _____ Replaces Existing Shelter? _____
 New Shelter and New Campsite? _____
 Is this proposal identified in the club Local Management Plan? Yes ___ No ___
 Is this proposal identified in the club Trail assessment? Yes ___ No: ___

Project Description

Project Description (Type of shelter; construction; etc. Use additional sheet if needed) & Cost Est.:

Name of next shelter/overnight site and distance from the proposed site:
 North: _____ South _____
 Distance of proposed site from the A.T. (if on a side trail): _____ miles.
 Distance from nearest open road: _____ miles. Describe the situation:
 Distance from nearest road open only for administrative use: _____ miles. Describe the situation:
 Describe the location of the water source relative to the shelter site:
 Existing privy? Yes ___ No ___ New privy? Yes ___ No ___ Type: _____

Agency Approvals

USFS/NPS NEPA compliance: Information submitted to agency? _____ EA completed? _____
 State/Local Agency Approval Received: Yes ___ No ___ Not Needed ___ Describe:
 Agency engineering approval: Yes ___ No ___
 Biological evaluation completed ("T&E" species review): Yes ___ No ___
 Cultural resource evaluation completed: Yes ___ No ___

Attachments

- _____ Map of project location (use NPS segment map, USGS quadrangle, guidebook map, *etc.*)
- _____ Site plan (showing side trail, shelter, tent pads or platforms, privy, water source, *etc.*)
- _____ Shelter design (sketch or, if available, detailed plans)
- _____ Materials list
- _____ Other:

Approved by:

President of A.T. Club Date

Agency Partner Representative Agency Date

ATC Reg. Partnership Committee Chair Date

