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RECREATION DEVELOPMENTS IN PUBLIC FOREST AREAS IN THE
UNITED STATES AND THEIR POSSIBLE APPLICABILITY TO
BRITISH CONDITIONS

By

Christopher Yarrow
B.Sc. (Hons.)

University of Wales

Presented in partial fulfillment of the requirements for the degree of
Master of Forestry

UNIVERSITY OF MONTANA

1966

Approved by:

Chairman, Board of Examiners

Dean, Graduate School

MAR 15 1966

Date
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Finally I must thank all my personal friends who have by their interest and companionship offered moral support far in excess of what they might imagine.

To all these people I do offer humble thanks.
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INTRODUCTION

Forests have probably provided the physical environment for outdoor recreation from the first leisurely use of the outdoors. In the sense in which we shall consider this type of environment, we may define a forest as "... a biological community dominated by trees and other woody vegetation ...." (75, p. 1). Such a definition does not negate the traditional use of the term, which usually includes open areas of land and water within the conceptual unit of the forest.

Forests as a Recreation Resource

Forests, as natural or artificially created entities, are sources of raw materials and other benefits to man, and as such are resources. Traditionally they have been a source of timber, food, pannage, and latterly, increasingly important suppliers of water and a recreation environment.

As with other sources, such as the oceans and grassland of the world, the various attributes of the forest are resources so long as they are of value to man. As did the spermwhale diminish in value as a source of oil with the discovery of petroleum, so have oak bark and acorns decreased or disappeared as supplies for the tanning or swine-raising industries. Consequently they can no longer be considered resources. Timber, due to the rapid growth of other building materials no longer plays such a dominant part as it once did in our attitudes of forestry.
Each product or attribute of forests is closely interrelated, both with the ecological aspects as well as the economic and social conditions of society and a change in any of these conditions will alter the equilibrium. In an open economy and a democratic state, such changes will cause the equilibrium to find its new level through the economic and governmental processes. The capacity for satisfaction is a product of both the resource and what is asked of it, within very wide limits. (Such limits would be extreme levels in population, availability of capital and environmental factors.)

We may thus consider the forest and its relation to society as an "open" system. In an open system of resources, the intensity of use of the resource, the money capital invested and the labor imputs may be considered to be largely interchangable. In the "closed system," the quantity of resource available would be limited, irrespective of money or labor imputs. In the sphere of the recreational use of land, the concern for unique natural areas has often been applied to the field of recreation to the extent that severe limitations of recreational opportunities have been forecast. Were recreation confined to unique natural areas, there would be reason for concern. However, as we shall see in the body of this work, the majority of recreation activities practiced in the United States and Great Britain\(^1\) are in areas already greatly modified by man, or could occur in artificially created environments. Practical landscape architecture provides in-

---

\(^1\)Great Britain, (or Britain) as used in this thesis refers to England, Wales and Scotland. Northern Ireland (which forms part of the United Kingdom with Great Britain) has been excluded.
numerable examples of landscapes, parks, and even ski slopes created out of mediocre or waste land. Provided capital is available, almost any reasonable demand for recreation can be met in both quality and quantity, and such provision is increasingly facilitated by an advancing technology.

The Place of Recreation in Society

Many fields are related to that of recreation, and they tend to cloud its value as a phenomenon in society. A treatise or more might be written on the spiritual and mental values attributable. Because these values affect the public's reaction to recreation plans, they cannot be totally ignored by the resource manager. The monetary value to a region or even a whole economy can be determined approximately, but such a value is of limited meaning due to its unclear relation to the imponderables mentioned above. Estimation of monetary values of recreation projects by cost-benefit relations, business created, consumers' surplus and other means might enable "rational" decisions to be made in the allocation of public funds (28). But, as with education, art and good health, the absolute worth of recreation is unknowable although undeniable.

Recreation in Forest Areas

in the United States and Great Britain

Generally speaking, the various governmental resource management authorities in the United States are committed to an expanding program of provision for public outdoor recreation. This is perhaps a natural result of the availability of vast areas of public land
within the government's control, and acknowledgement of its responsibilities in this field probably date from the granting of Yosemite Valley to the State of California in 1864. This area, set aside for public use, resort, and recreation, inalienable for all time, was perhaps the foundation stone of the National Park Service. This service is a distinctive contribution of the United States to world culture which has since been adopted in many other countries, but which has probably nowhere been so well developed or as well managed as in the United States (41).

Similarly, the vast areas of national forests have provided immense opportunities for outdoor recreation, and the United States Forest Service has for a long time recognized and catered for such activities.

Most states have developed state park systems, and provide a great measure of recreational facilities over the whole nation.

Not all these recreation units fall within the category of forest as defined above, but in considering systems of recreation management and techniques applicable to British forest areas, it is natural that we should look to the state parks, national parks and national forests of the United States. The applicability of these techniques depends on the relative values of the social, cultural and economic factors which make up the man-resource equilibrium.

In Britain the use of public forests for recreation has been largely eclipsed by the need to produce a strategic reserve of timber. Recent changes in defense policy, prices of lumber and land patterns, together with upsurging demands for outdoor recreation of all types have
led to the reconsideration of the interrelations of recreation and timber production. While the United States is investigating second generation problems such as over-use of recreation facilities, Britain finds itself without fundamental information regarding its demand or supplies (73, p. 35; 59, p. 11). Research and planning are both essential responsibilities of a resource authority if a satisfactory equilibrium is to be achieved, to the extent that the resource has been removed from the vagaries of an open economy and is subject to central control.

The Role of Recreation Developments

The present thesis concerns itself with the developments for recreation in public forest areas. Taken in its most narrow sense, "development" would limit us to the actual on-site modifications which convert an area into a recreation resource. Were we to limit ourselves to these physical manifestations we should produce a manual of site structures - a task carried out far better elsewhere.

In its broader sense, developments will also include organizational and management practices, and other adjustments to the social, cultural and economic forces acting within a society. It is these broader implications that will be used in our consideration of recreational practices throughout this work, although attention will be given to the on-site details.
Objectives of this Study

This study works from the hypothesis that the highly sophisticated methods for providing recreation opportunities developed in the United States are applicable to Great Britain.

The work involved a study of the literature related to recreation of the U. S. Forest Service, the National Park Service, the Oregon State Highway Commission Division of Parks and Recreation, and the California Department of Parks and Recreation. In the summer of 1965 a tour was made of recreation areas in the Western states. Although population pressures and land patterns in the Eastern states probably approximate more closely to those in Britain, we should realize that the recreation facilities provided in most of the areas considered are subject to very heavy use throughout the summer. In many cases their planned capacity is far exceeded.

Many of Britain's recreation problems have already been experienced in the United States. With modifications that take account of Britain's social, economic and cultural conditions, the developments for recreation now practiced in the United States could be used to meet Britain's needs.

In writing this thesis, the preferred American spelling has been used.
In this chapter we shall discuss the place of developments in the American recreation scene. As determined above, the actual on-site improvements in a recreation area are the physical manifestations of the policy and management of the organization responsible for the area. In a democracy such as the United States, the policies and work of a government authority reflect very closely the views and the needs of the people of that democracy.

Before we consider the role of on-site developments, we must therefore investigate the background social and economic factors which have contributed to the use of the area for recreation.

Public Use of Recreation Lands

The number of people making use of public lands for recreation has increased very greatly since the last world war for all governmental agencies. This is particularly true of both the national parks and national forests, federal lands administered by the National Park Service and the Forest Service respectively. Reference to Figure 1 will show that in the period 1945-1964 visits to all units of the Park Service have increased from 12 to 103 million. Over the same period
Figure 1. Total Number of Visits to National Parks and National Forests, 1945 - 1964

VISITS (millions)

attendance at areas within the national forests has increased even more rapidly, from 18 to 134 million. These areas are largely forested, and are subject to similar planning methods throughout each system. Other federal and non-federal public areas have shown similarly spectacular increases in use, and reference to these two systems is representative of recreational trends throughout the continental area of the United States (Fig. 1).

Activities Pursued

If we break down the data for visits to the national forests, we see that after "general enjoyment," picnicking is the most common primary purpose of recreational visits (see Table 1). The greatest percentage increase over this period, however, is for camping, which has increased almost ten times, closely followed by other general activities. Study of these relative increases is necessary to the adequate provision of recreation facilities, and to estimation of future trends.

Pattern of Visits

Visits to most outdoor recreation areas are not equally distributed throughout the year. In most of the northern states few people camp, picnic, or swim in the winter months, and we find that visits to forest areas in general peak during the mid-summer period.

Figure 2 shows such a distribution for the national parks. Visits in July are over six times as numerous as in January, and for any one area, such as Glacier National Park, the variation would be even greater.
Table 1. Forest Service. Total Visits According to Primary Recreational Purpose*  

<table>
<thead>
<tr>
<th>Activity</th>
<th>1946</th>
<th>1956</th>
<th>1964</th>
<th>Percentage Increase 1946-1964</th>
</tr>
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<tr>
<td>General Enjoyment</td>
<td>5.66</td>
<td>14.19</td>
<td>49.15</td>
<td>868%</td>
</tr>
<tr>
<td>Picnicking</td>
<td>3.84</td>
<td>12.82</td>
<td>20.56</td>
<td>538%</td>
</tr>
<tr>
<td>Fishing</td>
<td>2.92</td>
<td>9.50</td>
<td>19.35</td>
<td>663%</td>
</tr>
<tr>
<td>Hunting</td>
<td>1.30</td>
<td>4.44</td>
<td>10.82</td>
<td>832%</td>
</tr>
<tr>
<td>Camping</td>
<td>1.05</td>
<td>3.52</td>
<td>10.42</td>
<td>992%</td>
</tr>
<tr>
<td>Winter Sports</td>
<td>1.35</td>
<td>2.67</td>
<td>7.77</td>
<td>575%</td>
</tr>
<tr>
<td>Swimming</td>
<td>0.60</td>
<td>1.61</td>
<td>3.75</td>
<td>625%</td>
</tr>
<tr>
<td>Hiking and Riding</td>
<td>0.52</td>
<td>1.35</td>
<td>3.26</td>
<td>627%</td>
</tr>
<tr>
<td>Other</td>
<td>1.01</td>
<td>2.46</td>
<td>9.37</td>
<td>928%</td>
</tr>
<tr>
<td>Total</td>
<td>18.24</td>
<td>52.56</td>
<td>133.76</td>
<td>732%</td>
</tr>
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*Source: Forest Service Annual Statistical Reports

Estimates of Future Use

In planning areas for recreation, it is usually essential to have a fairly good forecast of the expected use within the planning period. As we have seen, over the past 20 years, most recreation activities have increased upward of five percent each year. Reference to past trends shows that the increase is variable, and unpredictable to a large degree of accuracy, even over short periods. Over the long period the degree of accuracy of forecast declines. In 1952, the Report to the Outdoor Recreation Resources Review Commission made

---

1The Outdoor Recreation Resources Review Commission was established in 1958 under Public Law 85-470.
surveys to determine the then current recreation activities. The ORRRC staff made projections for the years 1976 and 2000, and worked from the assumption "... that unfulfilled demand for an outdoor recreation activity is reflected in preferences for the activity, even though the person may not participate...." (107, p. 4). Their estimates for the
year 2000 were about three times the 1950 level for most activities (see Fig. 3). However, using the current rates of annual increase (about 10 percent), we would arrive at a figure around forty-five times the 1950 level. The difference between three and forty-five times shows our degree of uncertainty (43, p. 9). Similarly, projections by the Forest Service made in 1955 for the year 1958 were 24 percent below the actual use figures in 1958. This error illustrates well the difficulties of forecasting.

Causes of Increased Recreational Use

The causes of the increased use of outdoor recreation facilities since the last world war are complex, and a detailed discussion of these is outside the scope of this work. Those factors generally considered the most relevant are population growth, increase in the real per capita incomes, increased leisure, and increased travel facilities (28). All these are seen to continue to increase and were considered in the forecasts mentioned above (104).

Characteristics of Visitors and Trends in Recreation

The characteristics of such a heterogeneous group of people that use forest lands for a large variety of recreation activities are naturally very varied and fall within a wide range either side of the theoretical "average user." However, it is possible to discern general trends exhibited by the majority, and recognition of these commonly exhibited characteristics is useful to recreation management.
Driving for Pleasure
Swimming
Walking for Pleasure
Playing Outdoor Games or Sports
Sightseeing
Picnicking
Fishing
Bicycling
Attending Outdoor Sports Events
Boating other than Sailing or Canoeing
Nature Walks
Hunting
Camping
Horseback Riding
Water Skiing
Hiking
Attending Outdoor Concerts, Drama

All Activities (millions)


Figure 3. Number of Occasions of Participation in Outdoor Summer Recreation 1960, 1976 and 2000 estimates
Length of Stay

Over the period 1945-1964, the average length of stay at any one national forest area has declined from two days to just over one day. This is typical of most recreation areas, and reflects a different type of use.

Mobility

The increased mobility of the American population is marked, and reflects the better roads and vehicles, as well as the greatly increased car-ownership of post-war years. The increased mobility is also causative of decreased lengths of stay, and is probably aided by better equipment. A count of visitors to Grand Canyon National Park showed that between the years 1953-1963 the total number of people entering the Park doubled, but the number of people arriving by train decreased to one-seventh of the 1953 figure (102). These figures are probably typical of travel methods to most national parks.

Equipment

Apart from primitive "back country" users, such as those on foot and on horseback, the equipment used by recreationists has become increasingly sophisticated. Probably most noticeable is the massive increase in the number of travel-trailers, pick-up campers, and other mobile camping shelters that have steadily replaced the tent.3 These high-investment items allow the recreationist a greater degree of mobility and independence from facilities such as fireplaces

---

3See Appendix 1 for glossary of terms.
and toilets, but pose very significant problems in site layout which will be discussed in Chapter Two.

**Personal Characteristics**

With better health, easier travel, and greatly improved equipment, camping is no longer the prerogative of the young and hardy. Older campers are more frequent, and the most common group found camping is the family group, including even very young children. The existence of large numbers of these classes of user make special demands on areas, and include such needs as laundry facilities, and children's play areas (87, p. 29).

Personal characteristics also affect activities. The ORRRC studies found close correlations between personal incomes, education, age, sex, color, etc. of the individual and the recreation activities he participated in. For example, adult hunters are more likely to be rural "blue collar" workers, whereas wilderness users are more likely to be "white collar" and urban (15).

**The Concept of Recreational Capacity**

Recreational carrying capacity has been defined as "... the level of recreational use an area can withstand while providing a sustained quality of recreation..." (110, p. 3). If we can consider that the quality of recreation sites is limited largely by capital, then the lower limit of the "sustained quality of recreation" is a factor of what is an acceptable cost to the consumer. In this case, the cost to the recreationist may include fewer visits, regulation of
his movements and conduct within the area, the presence of alien structures (such as hardtop roads and barriers), and the opportunity cost foregone, such as loss of timber production.

**Quality of Experience**

Efforts to evaluate the quality of experience in recreational activities suffer the shortcomings of any attempt to place an objective rating on a largely subjective concept. To the extent that certain ideas of taste and beauty are fairly closely associated with a society, a physical environment can be given a "beauty rating."

Attempting to discover users' opinions and values is fraught with difficulties. Questioning people whilst they are engaged on the recreation activity is liable to biases such as weather conditions and the mood of the individual (72, 70). On the other hand, postal surveys result in quite different answers (113). Although they are an invaluable guide to recreation resource management, there are no generally accepted standard techniques for such surveys and consequently comparison of results between different surveys and different types of surveys are of somewhat limited value.

The views of pressure groups such as the Sierra Club and the Save-the-Redwoods-League are of value if it is recognized that their opinions are partisan, and not representative of society as a whole. It is unlikely that Sierra Club's preference for wilderness-type use reflects the views or even the needs of a very large proportion of American people, but their value lies chiefly in the balance they give to other opposing groups, such as the timber industry.

In the United States, the political process is greatly in-
fluenced by pressure-group politics. A group, such as the Redwoods League, can pressure law-makers into making laws which favor their group, often to the detriment of local timber interests, and vice-versa. The fault of the system is that the most vociferous minority often gets greatest representation.

Practical Implications of Capacity Concepts

We have seen that the use of forest and other areas has increased greatly in recent years. This use has led to great pressures being put on recreation areas available to the public, and resource authorities have naturally expressed concern. Pure weight of numbers has given many areas a "tattered" look due to declining plant vigor and also to insufficient capital imputs and design ingenuity. In the words of the Forest Service: "How can national forest recreation opportunities be made available to more people while still preserving most of the original attractiveness?" (90, p. 31). Even in wilderness areas, there are some parts showing bad wear from concentrated use, and problems include garbage disposal, overgrazing and trampling by horses, and human use.

With present technology, it is possible to simulate almost any level of quality. The recreational capacity is limited by the cost people are prepared to pay for a given level of quality. It was found that for three California forests the recreational capacity could be increased at least ten times without exceeding current design standards, and that the capital needed to make recreational opportunities fully available far exceeded the value of the timber foregone (3). Thus, in absolute terms, a shortage of capital rather than land is faced in the United States, especially when one considers that the
vast majority of users pursue mass recreation activities, such as camping and picnicking, for which facilities are easily fabricated, and lie within the field of landscape design. Preservation of the limited number of unique scenic areas, many of which receive large numbers of visitors, will depend increasingly on control of recreation activities permitted. It is in the provision of recreation opportunities and the protection of habitat values that the place of development lies.

The carrying capacity for recreation is thus not determined totally by an ecological limitation. The concept involves also financial and aesthetic considerations.

The Place of Developments

As stated in the section above, on-site developments have two main functions. Firstly, they may be used to protect the site so that it can withstand a greater use than it otherwise would. And secondly, they may increase or facilitate user enjoyment. Let us consider briefly these two functions.

A) Site Protection

Developments to give site protection go closely with site and regional planning. (These topics will be discussed later.) In order to allow recreational activities a large degree of freedom and a minimum of administrative regulations, many recreation authorities recognize that "... control of the public most often can be achieved by proper layout of sites and facilities, signing, etc...." (81). Methods for tactful control of the public include the strategic plan-
ning of shrubs, log barriers, paths, and roads laid out with the users' needs in mind, and of course, sign-posting.

"Site-hardening," or the treatment of an area so that some of its component parts can withstand heavier use can be accomplished by an increasing number of techniques. In addition to the use of gravel and concrete, other less ugly methods are possible. Some recent research has been conducted into the watering of areas, fertilizing, use of drought and wear-resistant shrubs and grasses, and the management of the tree canopy (82, p. 7). Much work needs to be done in this field, and present knowledge suggests the need to develop the vegetation of an area some years before its actual use by the public (90, p. 8).

The role of other improvements, such as toilets, garbage cans and fireplaces is obvious, and will be discussed in the next chapter.

B) Increase of User Enjoyment.

The quality of experience in a recreational activity was discussed previously. Quality, we found, was largely subjective, but much could be done by soliciting the views of the users themselves. Within the variation in the viewpoints it is possible to find norms, and in the provision of facilities for the convenience of the user, the planner is often guided by the knowledge (or hope!) that certain practices are more universally acceptable than others. Consequently, there is a tendency towards standardization in the planning of recreation areas. Provision of specially designed sites for different types of recreation is a desirable method of meeting the variation in the users' tastes (15). Unless the whole gamut of recreational experiences
is freely available to each user, it is inevitable that a distinct proportion of users will find some site developments undesirable. This is particularly true for people who frequent certain favorite areas, and return one time to find the area altered. (In two different studies in Oregon, the percentages of campers who had camped at the same area previously were both about 13 percent) (15, 62).

On the whole, as we have seen, the present day user is used to, and probably demands, more complex and sophisticated developments for his convenience and enjoyment than he did previously.

The Need for Planning and Research

From the data given earlier in this chapter, there is little need to further justify the importance and necessity of research into the needs and supply aspects of outdoor recreation. If a planner is to make rational decisions he must have the maximum possible information about and understanding of the units with which he is working.

Long Range Planning

In the United States the Outdoor Recreation Resources Review Commission had a threefold purpose:

"To determine the outdoor recreation wants and needs of the American people now and what they will be in the years 1976 and 2000.
To determine the recreation resources of the Nation available to satisfy those needs now and in the years 1976 and 2000.
To determine what policies and programs should be recommended to ensure that the needs of the present and future are adequately and efficiently met" (104, p. 2).
The report emphasized the need for carefully planned and co-ordinated efforts by all levels of government, and recommended a special agency for the job of coordination. The Bureau of Outdoor Recreation (B.O.R.) was set up and legalized under Public Law 88-29 in May, 1963. The functions of the Bureau include preparation of a Nationwide Outdoor Recreation Plan; the provision of technical assistance to the states and other governmental units; encouragement of interstate and regional cooperation; research and education; and the promotion of coordination among federal agencies (94, p. 7). Funds are available to aid states in their own state-wide plans, together with technical assistance.

The work of the B.O.R. also includes a regular five-yearly survey, comparable in scope and magnitude to the ORRRC Report. Future demand will be estimated for the years 1980, 2000, and 2020 at the national level.

In the Forest Service a nation-wide survey was initiated in 1959 entitled "The National Forest Recreation Survey." In it, all areas of the National Forest system are evaluated to determine their recreation potential in terms of both quality and quantity. As in the B.O.R. studies, projections are made for 1976 and 2000 (87, p. 58).

**Flexibility in Planning**

The inadequacies of estimating future needs have been pointed out earlier in this chapter. Naturally, long-range planning is efficient in effort, and is especially important if land shortages and rising land prices indicate early land classification. But we have seen how relatively inaccurate forecasts of future trends can be, and that tastes are virtually unpredictable. Consequently, a degree of flexibility must be built into
plans, especially those with long-range implications. This points to a process of continuous planning with a flexible combination of labor, capital and land, in an expanding, open economy. Such flexibility will be expensive, but as a corollary to quality, it is the price of more closely meeting the needs of society (43, pp. 13-17).

Land Classification and Zoning

The zoning of land is basically a product of land shortage. It is largely the result of the realization that certain uses of the land resources are incompatible, and that unless land is set aside for specific uses, the land or the various activities, or both, will suffer.

In the United States the first action by Congress to set aside land specifically for recreation was in 1864 when it granted the Yosemite Valley to the State of California. Since that time many national parks have been set aside in the realization that their preservation as scenic wonders and uncontrolled use were incompatible.

Closely associated with the zoning of land are the concepts of classification and land management units. Classification is usually in terms of a particular end-use which in this case is the assessment of the land resource for recreation. Such a process is commonly associated with a survey, and may facilitate the planner's zoning the land into management units.

Let us examine some of the classifications that have been applied to recreation lands in the United States.

The ORRRC Classification

This system of classification was proposed in the report "Out-
door Recreation for America" (104, pp. 97-120) in 1962, and has become widely adopted. It now forms the basis of the Bureau of Outdoor Recreation's classification system, and also those of the Forest Service and the National Park Service.

There are six broad classes, which range from high-density use areas to wilderness. Most administrative units would probably include more than one class, and although the system is based largely on physical features, economic and social considerations also affect the class to which any area is designated.

The classification is given in Table 2, together with basic management guides, and indications of the use each area is suited to.

Management Units

Much could be written here about the various classes of management unit that have evolved in the field of recreation. Brief mention will be made of those classes directly related to forest lands, since reference will be made to them throughout this work.

National Parks:

National parks need not necessarily be in forested areas. (For example, the Grand Canyon National Park in Arizona is only partly forested. The major part is the rocky canyon.) However, they all have in common as the reason for their existence some outstanding natural feature, which, it is thought, should be preserved in perpetuity. Such areas would be classed as unique natural areas, or Class IV, and are of national importance. The value of national parks has been discussed at length elsewhere (97), and this includes opportunity for relaxation
Table 2. Bureau of Outdoor Recreation Classification System

<table>
<thead>
<tr>
<th>Class</th>
<th>Physical Requirements</th>
<th>Activities</th>
<th>Developments</th>
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<tbody>
<tr>
<td>Class I</td>
<td>- Attractive natural setting desirable, but man-made setting acceptable. No size criteria</td>
<td>- Intensive day or weekend type, e.g. swimming, picnicking.</td>
<td>- High degree of development. Often heavy investment. Facilities include roads, play fields, eating facilities.</td>
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<tr>
<td>High Density</td>
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<tr>
<td>Recreation Areas, e.g. Jones Beach, N.Y.</td>
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<tr>
<td>Class II</td>
<td>- May be naturally attractive, and should be adaptable to a wide range of opportunities Size - varied</td>
<td>- Intensive day, weekend and vacation types, e.g. camping, picnicking, swimming, nature walks.</td>
<td>- Generally less intensive than Class I. Facilities as I and others may range from simple to elaborate</td>
</tr>
<tr>
<td>General Outdoor Recreation Areas, e.g. Golden Gate Park, San Francisco.</td>
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<tr>
<td>Class III</td>
<td>- Varied and interesting land, lakes, streams, forests in a natural setting.</td>
<td>- Traditional recreation experiences in outdoors &quot;as it is&quot; often in conjunction with other resource uses.</td>
<td>- Access trails, roads, camp and picnic sites. Minimum sanitary facilities. Other uses modified to preserve. Natural setting</td>
</tr>
<tr>
<td>Natural Environment Areas, e.g. many national forest areas.</td>
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Table 2 - continued

<table>
<thead>
<tr>
<th>Class</th>
<th>Physical Requirements</th>
<th>Activities</th>
<th>Developments</th>
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<tbody>
<tr>
<td>Class IV</td>
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</tr>
<tr>
<td>Outstanding</td>
<td>Outstanding Natural features, of scenic, scientific interest, etc.</td>
<td>Sightseeing and other recreation activities Type of use limited by need of preservation.</td>
<td>Limited to preservation, access and safety facilities - should be kept away from immediate vicinity.</td>
</tr>
<tr>
<td>Natural Areas</td>
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<tr>
<td>Grand Canyon</td>
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<tr>
<td>National Park</td>
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<tr>
<td>Class V</td>
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<tr>
<td>Primitive</td>
<td>Extensive, wild, natural areas. Large enough for a &quot;wilderness experience.&quot; No roads.</td>
<td>Camping without mechanized transport.</td>
<td>No roads, or other permanent recreation facilities. No commercial exploitation.</td>
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<td>Areas</td>
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<tr>
<td>Bob Marshall</td>
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<tr>
<td>Wilderness</td>
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<td></td>
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<tr>
<td>Class VI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Historic and</td>
<td>Sites associated with history, tradition of enough significance for preservation.</td>
<td>Sightseeing, study.</td>
<td>Preservation or restoration of features. Access limited. Developments minimum, away from features.</td>
</tr>
<tr>
<td>Cultural Sites</td>
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<tr>
<td>Civil War</td>
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<tr>
<td>Battlefields</td>
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</table>
exercise, camping, etc. How these other needs are met will be discussed in Chapter Two. Generally these are channelled into Class II or III areas away from the unique parks.

State Park Systems:

The term "State Park" is a generic name for a large variety of areas of different uses, types, and significances. Usually, they are spacious areas and include scenic, scientific, archeological or some other recreational value. Frequently they are of state-wide significance, and administered by each state. Preservation of natural features is important, but use, especially for so-called "Recreation Areas," is paramount.

Not all state parks have a forest environment, and may range from alp to hot desert, from sea-shore to forest and canyon. Many classifications have been proposed, and a typical one is that of California, in which the state parks' system is divided into five classes: 1) state parks; 2) scenic and scientific reserves; 3) historical units; 4) state recreation areas; 5) state beaches (17). The equivalent ORRRC classes would probably be III, IV, VI, II and III respectively.

Parkways and Scenic Roads:

The concept of parkways is not new. The Blue Ridge Parkway, some 469 miles in length, connects the Shenandoah and Great Smoky Mountains National Parks, and was started in 1933. By 1964 there were nine parkways completed or in construction, with a total mileage of over 1,100 miles (98).

A national parkway has been defined as:

"... a federally owned, elongated park featuring a road designed for pleasure travel, and embracing scenic, recreational or historic features of national significance."
Access from adjoining properties is limited and commercial traffic is not permitted. A national parkway has sufficient merit and character to make it a national attraction and not merely a means of travel from one region to another. National parkways are authorized by special act of Congress for administration pursuant to the Act of August 25, 1916 (39 Stat. 535) as amended and supplemented."

In a country where driving for pleasure is one of the most popular recreational pastimes (see Fig. 3) provision of scenic roads is an asset to society.

National Forests:

The National Forests System includes some 154 national forests, 19 "National Grasslands," and various other properties, with a total area of 186.3 million acres. These are distributed mainly in the West, and owe their existence as units to the Forest Reserve Acts of 1891, 1897, and 1905 (87, p. 2).

The forests are very diverse, and their management includes recreation, water, forage, and wildlife values, as well as the production of timber, under the Multiple Use-Sustained Yield Act of June 12, 1960. Within the forests we find acres set aside for different types of recreation. These include water areas, general recreation areas, winter sports areas, and wilderness areas. The actual manner in which each of these is developed will be discussed in the next chapter.

Wilderness Areas:

The establishment of wilderness in the national forests is probably something uniquely American. Their object is to preserve unmolested large areas of land as they were prior to the advent of white man to North America. Very few such areas remain, and the strict
The concept of the wilderness started in the Wilderness Act of September 2, 1964. Previously, various wilderness-type lands of different kinds existed, but their management was not coordinated as it is in the National Wilderness Preservation System.

The wilderness and primitive areas are almost all in the Western states. On January 1, 1968, there were 36 areas comprising 14 1/2 million acres in 14 states (25, p. 31). This very large acreage is visited by less than a million people and about half such visits are in California and Maine. (The larger number of visits in these states results from larger adjacent population.) (Eld.)

Activities and structures prohibited in wilderness areas include commercial enterprises, roads, motor vehicles and any motorized equipment, motor boats, the landing of aircraft, and any permanent structures and installations.

The "wilderness experience" sought by users of remote back-country areas will obviously be somewhat subjective. The enjoyment of landscapes untrammelled by man can be achieved in any area, not covered by special classifications both inside and out of the national forests. In fact, to many urbanites, a walk 900 yards into the managed forest adjacent to a freeway can yield an experience as they desire (25, pp. 17-18).

Wilderness, as a useful concept, is considered a state of mind, which can be induced by manipulation of even small areas of land. The present concept of "nationally protected wild areas" has much promise for providing ordinary members of the public, unacclimated for long trips into large
areas, an opportunity to attain a "wilderness experience" (93, pp. 83-84). Small areas of natural, virgin, upland can be zoned so that for brief periods people can be quite near from the sights and sounds of civilization. Development would be limited to what is needed to direct and control human impact on the site, and would include trails, signs and a few simple structures. Since dozens of people would probably negate the functions of such areas, limitation of the number of people within the area might be desirable.

Efforts to Encourage Outdoor Recreation

In recent years, an increased emphasis on the provision of recreation facilities has been seen. "Operation Outdoors" in the national forests saw the construction of over 27,000 new campsites, 30 winter sports areas and 50 swimming sites in the period 1957-60. Even greater numbers of facilities will be constructed under the "Development Programs for the National Forests," which aims at a massive program of development over the ten years preceding 1966.

In the national parks, a program for providing increased facilities by 1966, known as "Mission-66" was superseded by an expanded program.

The inter-agency work of the Outdoor Recreation Resources Review Commission, and its successor, the Bureau of Outdoor Recreation, were established to assess needs and supplies for the recreation field, and to coordinate efforts to meet existing relations. It is yet to be seen how effective are the efforts at real land use planning. At least they could provide recent and up to date for the future.

...
population of the United States, within easy, safe traveling distance and within the means of all. At worst, the land could be covered with ill-conceived, stereotyped camp and picnic units with little merit other than that they meet the "expected needs."

We observe that the public land administrations are committed to an expanding program of recreation on the lands under their jurisdiction. Let us now consider the methods employed by some of these authorities.
CHAPTER TWO

ACTUAL DEVELOPMENTS FOR RECREATION ON FOREST LAND
IN THE UNITED STATES

This chapter covers the provisions made for various recreational activities occurring on forest land. Emphasis will be placed on areas with which the author is familiar, namely the western and northwestern states of the U. S. The approaches of the National Park Service, the Forest Service and the State Parks administrations of California and Oregon will be used to illustrate how the resource and the public may be managed to fulfill the needs of both public and resource. Since each development is a reflection of the authority's policy, this policy will not be spelled out unless it is of particular interest.

The recreational activities on forest land are many and various. For this reason, the activities and the areas devoted to them will be considered separately in the following order:

1) Campgrounds and Picnic Areas
2) Trailer Villages
3) Other Areas
   i) Water Areas
   ii) Winter Sports Areas
   iii) Wilderness Areas
   iv) Parkways and Trails
   v) Recreation Residences.

Items under sections 2) and 3) will be covered somewhat summarily, since, although related to forest lands in the broad sense, they are not dependent on a forest environment.
1). Campgrounds and Picnic Areas

The most striking feature of the camping and picnicking facilities provided on the forest areas visited is their almost universal similarity of appearance. Irrespective of the authority responsible, the land status, be it national park, national forest, or state park, both picnic areas and campgrounds are almost indistinguishable from each other. Also, apart from small details of design, such as signboards, the similarities of treatment between administering authorities usually outnumber the differences.

The reasons for these phenomena are manifold. Probably most important is that the policy on design and management originates at the administration's headquarters; for the National Park Service and Forest Service at Washington, for the state parks, at the states' capitol cities. Secondly, and probably of greater significance, each authority's lands are subject to similar pressures. A very mobile public recreates with little knowledge of, or even interest in whose responsibility is the resource. As the public becomes increasingly reliant on manufactured aids to its recreation, such as pick-up campers, ice-boxes, barbecue grills and flush toilets, so do the demands of recreation areas become more sophisticated and increasingly standardized. Thirdly, as demands become more standardized, site requirements become more uniform. Thus, planning is limited by both site and users, and its results reflect an inevitable sameness. And fourthly, planning criteria and practices are exchanged by park and recreation planners through such media as professional magazines.

We have seen above (Table 1) how greatly both picnicking and
coping have increased in recent years. In meeting these demands both the Forest Service and National Park Service have basically the same policies. These are to provide public use site facilities where they are essential for the use and enjoyment of the area. Both Services see such facilities necessary to prevent unsanitary conditions, pollution, destruction of the resource, and to assure the safety of the users. Due to the park's unique character line, the National Park Service is perhaps a little more conscious of limiting the impact of developed sites upon scenic and other values. People commonly like to picnic, exercise, and camp right next to the object of attraction, such as the very tree-lined road edges, or within forested valleys. Such concentrated use is often detrimental to the general public's enjoyment of the area, and can be actually dangerous to the resource and public. Camping under the California coastal redwoods is a case in point. As long ago as 1929 this concentrated use was seen as harmful to the trees, and possibly dangerous to the public (54). Because of the almost explosive increase in visits to such areas, future planning will encourage only day-use near these often-fragile areas. Overnight accommodation will be placed at some distance from them (62, 63, 84, 102).

The placing of picnic sites in the past has often been close to or associated with the placing of campites. This has enabled their use as overflow campsites, but this is seen as detrimental to such areas (87). However, since both picnic and campites are developed to meet the average weekend desires of public use (87), overcrowding or overflow are inevitable at peak use periods, unless divided by bridges. Thus, unless special overflow areas, such as open fields, are provided, it seems likely that the placing of campites and picnic areas will
continue to be closely associated (101).

Recreation Opportunities Provided

The recreational opportunities of forest lands are many and various. As we have seen, developments can enhance such enjoyment, and it is natural that for differing activities their concomitant developments will also differ. Several classifications of campsites have been made. In Region Six of the Forest Service (Pacific Northwest) five experience levels of camping have been distinguished, and five levels of development have been suggested (see Appendix 2). The following classification covers most types of campsite found in the areas under consideration.

1) Recreation campsites, with a forest atmosphere, but with many modern conveniences.
   a) Individual family campgrounds (may include facilities for trailers.)
   b) Group, or multi-family campgrounds.
   c) Organization campgrounds (for groups such as Boy-Scouts, Campfire Girls, etc.)

2) Overnight campsites - to meet the needs of the transient tourist - with varying levels of development - many state parks, N.P.S. and U.S.F.S. campsites.

3) Primitive campgrounds, with few conveniences.

4) Specialized trailer parks - overnight or destination. (See Section 2).

Naturally, such a classification is arbitrary, and many campsites would overlap, or fall into more than one category. Also, due to the general shortage of facilities in many areas, campsites are used irrespective of the purpose of their original design. However, such a break-down facilitates the understanding of the various recreation op-
opportunities provided, and some of these will now be discussed.

Recreation Campsites and Overnight Campsites

In the past, camping in forest areas was limited by transport difficulties. Poor roads and slow cars, greater reliance on public transport and perhaps a lesser desire to travel widely than there is at present caused people to stay at one campsite longer than they now do. In 1916 when Mather envisioned people coming to the national parks, he thought they should spend the whole summer there (53). How this has changed in Forest Service areas even since the last World War will be seen by comparing the ratio of man-days to number of visits. The average stay has declined from 2.5 days to a little over 1 day, a decline reflected in almost all recreation areas.

The change to a highly mobile camping public has been reflected in campground design. Easy access on surfaced roads is essential to people with camping-trailers, or station-wagons packed full of equipment. The provision of laundry facilities, hot showers, and piped water become near necessities to campers who spend eight or more hours each day traveling.

Thus, we find that the family recreation campsite and the overnight campsite are rapidly conforming to a mean. At few recreation areas is there any distinction made, and whether people stay one night or six is purely a personal decision.

The level of development can determine the type of recreation at a site. Some park services, such as that in California, distinguish three levels of development. Type A, the most elaborate, has flush toilets, piped drinking water, hot showers, laundry facilities, and in-
dividual camp units equipped with a table-bench combination, stove, and food storage cupboard. Road access is on surfaced roads. At the other extreme Type C has only chemical or pit toilets, a central water supply, and demarcated, but undeveloped camping areas. Access is by simple dirt road. Type B is intermediary.

In recent years, the rapid increase in the number of travel-trailers and pick-up coaches has placed heavy demands for highly developed campsites. Because many of these "recreation vehicles" are highly sophisticated, having flush toilets, showers, and requiring main electricity it is now common for campgrounds to distinguish between "tent sites" and "trailer sites;" in addition, these facilities will usually have "utility hookups." These consist of a water main, a 125 volt electric outlet, and a flexible sewage pipe, threaded to seal direct to the trailer drain (see Photo 1). The provision of these utilities adds about $1,000 to the cost of each site (see Appendix 5) and to recoup this extra cost the fees for use of these units is generally greater than the tent areas. Unfortunately, for any one season, week or night, the proportion of tent-campers to trailer or pick-up campers is unpredictable. Consequently, these facilities are either too plentiful or in short supply. In either case the needs of the campers are not being met. One solution is to develop all units to the trailer standard. This is costly in capital, and unless the tent campers are charged for facilities they do not need, liable to be expensive to operate. The other alternative is practiced by the National Park Service and the Forest Service. They develop most units as tent sites, and provide central sanitary stations for disposal of waste liquids. If a need is felt for elaborate trailer facilities, "trailer parks" are constructed
by concessionaires (see Section 2).

**Group (Multi-family) Campgrounds**

Group campgrounds are generally recreation campgrounds planned to accommodate groups of families. Usually a common car park is provided, with additional cooking facilities, tables, and a water-supply actually on the site. Group campgrounds are most common on the national forest and in many state parks.

**Organization Campgrounds**

The use of special campgrounds by organizations such as the Boy Scouts is seen as a legitimate use of Forest Service land. The type of campground differs from the multi-family campground in that greater emphasis is placed on the provision of recreational and service facilities.

At present (1965) some 570 organization campsites with a capacity of almost 75,000 are situated on the national forests, mainly in the Western states (87, pp. 38-39). All these sites are leased for a nominal fee, and constructed and run by private capital. The Forest Service stipulates planning requirements and assists in the selection of sites. No area is leased that is needed for general public use, or where suitable private land is available. Facilities required may include cabin dormitories, wash-houses and showers, amphitheaters and chapels, flagpoles, playgrounds, central cooking huts, etc., according to the type of group the site is intended to serve (83, 86).

The Forest Service sees the role of organization camps as an effective use of very small areas of the national forests, which can draw on adjacent forest land for many recreation opportunities.

2. Wheelbarrow for gear-carrying at a "Walk-in" campsite, away from the dust and sound of cars. Trails surfaced with bituminized asphalt. Oswald West State Park, Oregon.
The approaches of the National Park Service and some of the state parks authorities is more along the lines of the multi-family group sites outlined above (101).

**Primitive Campgrounds**

Hunting, hiking and riding are traditional uses of forest areas, especially in the western states. Until recently hunting camps and overnight stops at the trailside have been undeveloped. Hunters and hikers alike built their fires in the open, pitched tents, built meat stores, and cut wood as they needed them. In areas with heavy use, such uncontrolled treatment led to deterioration. With the needs of these users in mind, the Forest Service has developed sites both to protect the area and to convenience the users. Facilities provided would include pit toilets, fireplaces, hitching rails or corrals, and a water supply. However, even such "primitive" sites escalate to having refinements such as tables, bulletin boards, garbage cans, etc. (78, 87, pp. 46-48).

The National Park Service sees "back-country" use by hiking as one of the ideal ways of appreciating national parks. Situated along the often elaborate system of foot trails are simple campsites, with facilities limited to a pit toilet and fireplace. Water may be out of a stream, or lake. It is the belief in the "aristocracy of sweat" that prevents such areas from being made accessible by road. (The developments in wilderness will be further discussed in Section 3.)

Some "Walk-In" campgrounds have been established in some state parks. The aim again is to encourage people out of their cars and to experience the serenity of camping away from the dust and noise of
motorized transport. A good example is the Oswald West State Park in Oregon, where campsites near the seashore are accessible by way of surfaced trails. Camping equipment can be carried on the wheelbarrows provided at the roadside carpark, a 1/4 mile walk from the campsites. This type of facility is a good attempt to bring a wildlands experience within the range of a normal family unequipped for rigorous hiking, and as such should be experimented with by other recreation authorities (see Photo 2).

Specialized Trailer Parks

This type of development will be discussed under Section 2.

Some Planning Considerations

In the planning of campgrounds and picnic areas (and other recreation areas), very similar approaches are found in each of the recreation authorities under consideration. The reasons for this have been outlined above, and so a generalized picture will be representative of the contemporary planning ideas.

Zoning

The concept of zoning, discussed in Chapter One, is axial to the layout of campgrounds and picnic areas in U. S. forest areas. Roadside zones, trail zones, and waterfront areas are protected and preserved for public use and enjoyment wherever possible (81, 83). This protection is facilitated by the acceptance of (and quite likely, demand for) camping units which are placed no closer than 100 feet to such features.
Photo 3. Typical Campground Layout.
Note individual camping units separated by planted shrubs and parking areas are metalled spurs. Communal facilities off-right, in center of loop.
Humbug Mountain State Park, Oregon.

Photo 4. Typical Trailer Unit.
Note good natural screening between units, parking spur with graded chips, and movable table.
Jesse Honeymán State Park, Oregon.
Camping Units

By the creation of camping units, the public is automatically directed into camping at certain locations. The spacing and location of the units allows control of the pressure the land receives, and provides a particular type of environment for the camper (see Photos 3 and 4).

Picnic Units

Picnic units may also be provided, and have the same objectives as camping units. However, due to the greater density often desired at picnic areas, centralized parking, and the provision of tables and stores over a somewhat communal area, the concept of a "unit" is less important.

Facilities at Units

The higher the level of development at each unit, the costlier is the construction and maintenance. The provision is thus a compromise between the convenience of the camper and cost of development. By careful planning it is possible to provide communal facilities such as toilets, water taps, etc. within easy distance of each unit (see paragraph on "Standards" below.) The facilities provided at each unit and communally for some authorities are given below.

Unit Layout

The arrangement of facilities within each camp or picnic unit varies somewhat between authorities and from one area to another, but as pointed out earlier, there is a tendency towards monotony of appearance. The layout of a typical camping unit is given in Photo 4.

The most common variation in campsite layout is the type of parking place. In the past the "parking spur" at an angle (about 45°) to the road has been preferred to the "parking loop" parallel to the
Photo 5. Registration Board.
Note loop layout. Also, the signs of heavy wear (poor ground vegetation.)
Old Faithful Campground, Yellowstone National Park.

Photo 5. Electric Cooking Unit and Sink.
A useful facility at picnic areas. Note the sturdy wooden tables placed around the area, limiting formal use pressure.
Ona State Park, Oregon.
road. This was because less land was used and consequently less paving was necessary, and because the spur was more easily located in areas on uneven topography. The change in preference to the loop type has been the result of the large increase in the number of camping trailers. Most recreationists find a drive-through parking space much easier to use than attempting to back into a parking spur.

The arrangement of tent area, fireplace and table will depend largely on the configuration of the site. Generally the table and fireplace are located between the parking space and tent area. This facilitates easy access between the "kitchen" and the "larder" (usually the rear end of the family vehicle), and allows a greater degree of privacy for the tent by placing it well back from the road.

Table 3 Facilities Provided at Camp and Picnic Units. Four Authorities*

<table>
<thead>
<tr>
<th>Facilities at each Unit</th>
<th>N.P.S. Camp Picnic Site</th>
<th>Forest Service Camp Picnic Site</th>
<th>California State Parks Campsite Type A Site</th>
<th>California State Parks Type B Site</th>
<th>California State Parks Type C Site</th>
<th>Oregon State Parks Camp Picnic Site</th>
<th>Oregon State Parks Picnic Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table-bench</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Fireplace, barbecue</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Tent or trailer area</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Individual car park</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>?</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Utility hook-ups</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Site number marker</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Free firewood</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>?</td>
</tr>
<tr>
<td>Food cupboard</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>

Communal Facilities

| Toilets                 | +                       | +                               | +                                       | +                                | +                                | +                                | +                                |
| Handbasins              | +                       | +                               | +                                       | +                                | ?                                | ?                                | -                                |
| Laundry facilities      | -                       | -                               | -                                       | -                                | +                                | -                                | +                                |
| Drinking water          | +                       | +                               | +                                       | +                                | +                                | +                                | +                                |
| Sanitary station        | +                       | +                               | -                                       | ?                                | ?                                | +                                | ?                                |
| Showers                 | -                       | -                               | -                                       | +                                | -                                | +                                | -                                |

*Source: References 17, 18, 20, 63, 88, 91, 92, 101, 103. Also by visiting areas.

(+) item present.
(-) item absent.
Principles of Camp and Picnic Ground Layout

Several planning principles are common to each of the recreation authorities under consideration. These principles are usually laid out in the service planning manuals, which are used by the landscape architects designing the recreation areas (17, 84, 101). A few of these principles will be listed.

A. Site Protection

1). Buffer strips are established to preserve natural features and to avoid their overuse.

2). Vehicular access is limited to road and parking zones. This access is controlled by the strategic placing of barriers, such as posts, kerbing and rocks.

3). Vegetation cover, as part of the natural scene, is protected.

4). The use an area receives is limited by controlling the number of units, or by limiting available parking space. This capacity should be in relation to the season-long carrying capacity per acre. Quality of experience should also be taken into consideration.

5). The carrying capacity is increased by planned "hardening" of the area. This is effected by paving surfaces in the area of heavily used improvements - for example, gravel around toilets or drinking fountains.

6). Existing vegetation may be supplemented by planting, to improve the amenities and to protect the site.
B. Facility Orientation

1). Approach roads are usually short and inconspicuous, and a single entrance - exit road is generally preferred.

2). Interior roads are laid out to provide a safe and effective flow of traffic and people. Three types of road systems are usually considered:

a) Loop roads, with a single entrance and exit. These are most common on broad sites, and a one-way flow of traffic is possible. Most commonly a campsite consists of several of these loops, each with some 1-3 dozen units. By sign-posting it is possible to segregate trailers and tents, and to develop different loops to meet their specific needs. The addition of new loops enables reasonably easy expansion of areas to increase their capacity (see Photos 3 and 5).

b) Dead-end roads are sometimes necessary on confined sites such as narrow valley bottoms or ridges. Such roads must be two lane, which is a disadvantage due to the speeding they encourage and the greater dominance a wide road has over other features.

c) Combination road systems are usually applied, in order to meet the requirements of the site and to give variety to the area. Generally the best road is the shortest that will serve the purpose (and if the purpose is to maintain aesthetic values of the area, it will seldom be straight, and therefore cannot be the shortest.)

3). The placing of camp and picnic units on the loop system facilitates provision of communal facilities within a given maximum distance of each of them. The desirable maximum distances, the number of facilities per head etc. are termed "development standards," and form an important part of most authorities' planning manuals.
Development Standards

Development standards are determined measures of the quality of development and can apply to both what is provided and to the arrangement of such facilities. Often these standards are considered as ideals, or at least the minimum levels to be attained. Naturally, as the needs of the public change, and ideas in recreation management evolve, the standards laid out in the planning manuals become obsolete, and so are usually under periodic revision.

Development standards lend themselves to tabulation. Hence comparison between authorities is easy, but meaningless unless other factors are taken into consideration. For this and other reasons, application of such standards should be cautious, and they would better be considered as guidelines rather than absolute directives. Too often the appearance of a campsite betrays planning in the office with little knowledge of the peculiarities of the site. Geometrical distribution of units all identical with one another promotes little sense of the freedom necessary for many people in their recreation. And yet so common is this pattern of planning becoming, that with the nation-wide acceptance of similar standards and planning criteria, it is often necessary to read the sign-posts in order to ascertain in which part of which site and in which state one is! However, if used cautiously, standards are a useful tool for planning and management. The standards currently adopted by the National Park Service, the Forest Service and the State Parks of California and Oregon are tabulated in Appendix 3.
Number of Units per Acre

As stated above, the number of camp or picnic units per acre can be a direct means of controlling the pressure an area receives. From Appendix 3 we see that the number of camping units varies from 2.5 to 7.5 per acre. This large variation reflects the different policies of the authorities administering the areas. The National Park Service aims at limiting the impact of its developments on the national scenes, and so has a high density of camp and picnic sites. On the other hand, the Forest Service has a larger acreage of less scenic land at its disposal, and can afford to have a much lower density. Reference to the table in Appendix 4 will show the approximate dimensions of sites for different densities per acre. Usually, the standards given are in terms of number of sites per usable acre. Thus, stream and lake-side zones would be excluded from the determination of the usable acreage of an area. On the other hand, communal facilities such as access roads, toilets, administrative buildings, are included in this standard, and so the actual area of each unit is not as large as indicated.

Picnic units are usually less spacious than camping units, and the standards vary from 4 to 35 per acre. Again, the Forest Service contends that solitude is an important ingredient in the picnicking experience, and spaces its units out at only 4 per acre. On the other hand, some of the parks authorities have very high densities in picnic areas by providing centralized parking and foot access to the units. Centralized parking enables a higher number of people to be accommodated by virtue of the decreased area taken up by roads and parking spurs.

In areas subject to very heavy use, site deterioration is a
serious problem. Some campsites in the national parks are filled to
capacity for three months in the year, and soil compaction and litter
removal are inevitable. This is reflected in die-back of the trees and
an almost complete absence of ground vegetation. The solution to this
problem lies in wider spacing of units, "hardening" of the area, and
greatly increasing the number of sites available to the public (see Photo 5).

The degree of crowding that the public desires is a variable
often overlooked in the past. It would seem that it varies greatly be­
tween individuals, and that many people actually prefer to be camping
within seeing and hearing distance of other campers. Campsites, it has
been argued, which cater for those with "Campurbia"\(^1\) tastes should be
run by civil and sanitary engineers, and are quite different from the
naturalist-oriented recreation areas which the National Park Service
sees as desirable (48).

**Minimum Desirable Size of Site**

Both the building and running costs per unit of camp and picnic
sites are reduced by increasing their size. On the other hand, large
picnic and campsites probably have less appeal for the user, and so size
should be a compromise of economics and aesthetics. The minimum size of
campground considered economical varies greatly, from 10 units to 200
units. It is Forest Service policy to provide a certain proportion of
small sites, and thus maintain a high quality of recreation experience
and over half its sites have fewer than 1,000 visits per year (87, p. 35).

\(^1\)Campsite areas catering for mass outdoor recreation, the
camping equivalent of suburbia.
"Flip-top" cast iron fireplace. A comprehensive unit, allowing several different cooking temperatures, as well as an open fireplace for warming. Lake Mead National Recreation Area.

Barbecue-type fireplace. Owing its popularity to low fuel consumption of wood or charcoal, and decreased fire risk. Folsom Lake Recreation Area, California.
Number and Spacing of Communal Facilities

The number of toilet fixtures, and their spacing are relatively constant for most authorities. Naturally, it is undesirable to have toilet and washroom facilities overcrowded, and their number is generally in fixed proportion to the number of people they must serve. Similarly the distance that people will walk in order to use a toilet is limited, and most authorities consider this to be in a maximum of 300 feet.

Water supplies are usually essential to camping and picnicking, and their provision at frequent intervals around the site is a convenience to the users. This convenience is usually limited by cost. (Its supply to each unit would add about $250 to the cost per unit.) Consequently, water taps are placed within 100-300 feet of most units.

Principles of Facility Design

The design of the facilities and their layout at camp and picnic area receive close attention in the planning of most recreation authorities. In the planning manuals of both the Forest Service and the National Park Service it is specifically stated that facilities must harmonize as closely as possible with the landscape (83, 101). In all cases this calls for the practice of the best principles of engineering, architecture, and landscape architecture. These include close attention to functionality and safety, coupled with simple, inconspicuous and natural design. Easy maintenance and low-cost servicing receive especial attention nowadays.

Details of facilities provided are given in Appendix 7.
Note simple design and wooden barriers controlling access.
Paul M. Dimmick State Recreation Area, California.

Photo 10. Log Barriers at a Parking Spur.
Placed to prevent wheeled vehicles from moving off surfaced area. Note also the fixed wood and concrete table, and parking room for two vehicles.
Gallatin National Forest.
Administration of Camp and Picnic Areas

We saw in Chapter One that the development of facilities plays an important role in the protection of recreation areas, and in the control of the users. Now let us look briefly at how the administration of these areas effects these goals.

Length of Stay

Nearly all campsites have limitations on the length of stay of campers. These vary from seven days in the most frequently used areas of the national parks and most state parks to 30 days at some of the lesser-used areas. These limits may be subject to lengthening in the off-season.

Use is on a "first-come-first-served" basis, except for group camp and picnic units, which can usually be reserved. Registration is obligatory in most areas, and produces useful statistics for the planners. In the national parks, those camping at unsupervised campsites must obtain fire permits on entry to the park. In this way false fire alarms may be avoided.

Supervision

Personnel of the recreation authority are usually on duty at the larger campsites and some of the picnic sites to register people, answer questions, and generally administer the areas. The national parks' "Rangers" are familiar figures, and provide a seven-day, 16-hour a day service. At large campsites, they are in the ratio of one per 70 units in the peak season. This figure does not account for interpretive personnel.

As numbers of tourists increase and administrative problems
multiply, so do the management tools become more refined. Most supervised units of a park system are in direct telephone or radio contact with one another, and also many of the vehicles.

**Interpretation**

Nearly all recreation authorities have developed programs for interpretation of the wonders of Nature to eager recreationists. All work from the assumption that "... a visitor's trip is meaningful and enjoyable in almost direct proportion to what he understands about the area he is visiting...." (87, p. 86).

This assumption, in itself, is debatable, but for many, holds a large measure of truth.

The National Park Service was probably the first to employ interpretation as one of the regular features provided by a recreation authority. From the earliest days campfire programs of talks and songs have been a tradition. Nowadays, audio-visual aids play an increasingly important part, and amphitheaters seating up to 700 are built at some of the more popular areas, with facilities for slide and movie projection, public address systems, and special-effects lighting. At other areas, less formal campfire circles have programs, or are built simply to provide a focal point (101).

In addition to being purely informative, interpretation programs are seen as a form of park preservation. By instilling a sense of responsibility it is hoped that visitors will be less likely to scatter litter or damage important features (1).

The problem of vandalism is nation-wide. Generally, it is found that damage is directly proportional to the nearness of large towns.
In California, beach areas are particularly susceptible (20). Regular inspection and the presence of a resident caretaker seem to be the most commonly adopted and successful measures.

Many state parks systems are providing interpretive programs. The Oregon State Park user survey (see Table 4) showed that the most frequently requested improvement was an evening program at campsites.

Table 4. Recreation Activity Preferences in 19 State Parks in Oregon, 1964

<table>
<thead>
<tr>
<th>Day Visitors</th>
<th>Order of Preference</th>
<th>Campers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sightseeing</td>
<td>1</td>
<td>Camping</td>
</tr>
<tr>
<td>Picnicking</td>
<td>2</td>
<td>Sightseeing</td>
</tr>
<tr>
<td>Swimming &amp; Sunbathing</td>
<td>3</td>
<td>Swimming &amp; Sunbathing</td>
</tr>
<tr>
<td>Camping</td>
<td>4</td>
<td>Fishing</td>
</tr>
<tr>
<td>Fishing</td>
<td>5</td>
<td>Hiking</td>
</tr>
<tr>
<td>Hiking</td>
<td>6</td>
<td>Picnicking</td>
</tr>
<tr>
<td>Boating</td>
<td>7</td>
<td>Boating</td>
</tr>
</tbody>
</table>

Most frequently asked for improvements

<table>
<thead>
<tr>
<th></th>
<th>Day Visitors</th>
<th>Campers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children's Play Areas</td>
<td>1</td>
<td>Evening Program</td>
</tr>
<tr>
<td>Evening Program</td>
<td>2</td>
<td>Children's Play Area</td>
</tr>
<tr>
<td>Park Information</td>
<td>3</td>
<td>More Trails.</td>
</tr>
</tbody>
</table>

Other interpretive facilities provided by most authorities include museums, nature trails, lectures, informative brochures, bulletin boards, tape recordings, conducted tours, wayside exhibits (including models of local features) and several others. Each of these may be utilized to illustrate and clarify points of interest, and can contribute largely to the users' enjoyment of an area.

As with all other developments, there is a danger that they

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might become too numerous or out of place, and thus dominate the area. With this in mind, the various authorities are to be congratulated in that fine design and siting have always been employed, and although interpretation is often at a rather low level, a reasonable level of decorum is prevalent.

Cost of Developments

As we have seen above, there is a tendency for recreation areas to become more sophisticated in the facilities they provide. Unsurprisingly, this trend is reflected by the greater cost of development and maintenance of these areas.

An itemized table of costs for various camp and picnic site facilities is given in Appendix 5. It will be seen that the price for buying and installation of items varies largely, and where available, maximum and minimum figures have been given. Factors affecting the cost will include the size of the area, the quality of the items installed and the accessibility of the area. These factors have already been discussed. The cost per camping unit, including roads and communal facilities, varies from $800 to $2000. If individual trailer hook-ups are provided, this adds about $1000 to the cost of each unit.

The cost of running recreation areas accounted in 1964 for almost 50 percent of the total budget for the Oregon State Parks Commission (63).

Fees as a Means of Defraying Cost

From the inception of regular management of the national parks, fees have been considered a legitimate means of defraying the cost of
running the parks. Rather, the first head of the National Park Service, considered in 1916 that parks should ultimately cover the cost of their administration and protection, and that Congress should be requested to appropriate funds only for their improvement. At that time very high auto fees and a limited Service administering a few parks made this feasible (53). Since then, a rapidly-expanding tourist trade has put severe strains on most authorities' abilities to expand the services provided, with the result that fees can only partly meet the total budget.

For the whole Oregon State Parks system, the ratio of fees to expenditures is 1:4 (63). For California, where fees are substantially higher, this ratio is nearer 1:3 (20).

It is most authorities' policy to charge for services rendered. Reference to Appendix 6 will show how these charges vary. The National Park Service charges only for admission to the parks, and for special services (such as concessionaires' services.) The Forest Service charges in some areas for camping and picnicking. Group picnicking and camping are charged on a pro rata basis. In nearly all cases, the Oregon State Parks are cheaper than those in California. This could reflect the former state's policy towards encouragement of tourism within its boundaries, and the lower cost of living.

Season tickets are available for both federal systems. An innovation in 1965 was the introduction of the Land and Water Conservation Fund sticker, whereby the occupants of a vehicle could visit any federal area after the expenditure of only $7. Money so raised is to be spent on State recreation projects, and it was hoped to realize
$35 million. Sales proved disappointing and between two and nine million is expected (55, 77).

Generally, outdoor recreation is seen as a healthy pastime, and worthy of subsidizing by Government. Other means of raising money include bonds, concessions, and taxes (in and out-of-state). Discussion of these is outside the scope of this thesis.

2). Trailer Villages

As we have seen in Chapter One and Section One of the present chapter, there has been a tremendous influx of trailers into national parks and other recreation areas. Due to their size and specialized requirements, it has become the policy of the national parks and the Forest Services to provide the special facilities for trailers at so-called "Trailer Villages."

Due to budgetary limitations both services prefer that the costly facilities be provided by private capital, and be run by concessionaires.

In design, trailer villages are the least rustic of the recreation facilities provided. For this reason they are usually segregated from tent campsites, and it is National Park Service policy to site them well away from any area of outstanding beauty.

The planning criteria for trailer villages are similar to those for campsites, except that a higher overall density and standard of development are planned. Unfortunately, in their desire to limit the size of trailer villages, and to keep down the road building, planners often tend to overcrowd these areas, and many are in danger of becoming slums.
A typical unit includes a pull-through parking area long enough to take both trailer and car (about 55 feet); a patio, hard-surfaced or of gravel; utility hook-ups of water, electricity and drainage; and an area of grass or other vegetation. All circulation roads are designed to accommodate the largest trailers and have large-radius curves and low grades.

Communal facilities are limited to those needed by owners of less equipped trailers. Comfort stations, laundry facilities and showers are such items (101). Grouping of units, as round a hub, permits the maximum use of costly facilities.

Fireplaces are not essential, since almost all trailers have adequate cooking equipment. Their provision would be more for social functions, or if for cooking, the barbecue-grill type would be more appropriate.

Fees for use of lots in trailer villages are generally higher than those for ordinary campsites, and reflect the greater cost for the provision of the sophisticated facilities and the need for a private concessionaire to make a profit.

With the increasing standard of living and greater disposable incomes for recreation, it seems likely that the number of trailers will increase. Unless recreation authorities see fit to dictate otherwise, we shall see greater numbers of trailer villages at recreation areas, and a decrease in the subsidy to such facilities.

3). Other Areas

The recreation pursuits associated with water and winter sports
areas have all increased rapidly since the last war (see Chapter One). Likewise, wilderness, parkways and trails play an important part in the recreation scene in the United States. However, as stated previously, these areas are not dependent on the forest environment for their recreational value in many cases. But because their existence impinges upon the sphere of forest land management, they will be discussed very briefly.

1. Water Areas

Water, we have seen, is a major and central attraction in many recreation areas. Western man seems to have a natural affinity for water. For him it has been a source of food, of sport, of fertility, and of inspiration. Small wonder is it, then, that we find American man repairing to water areas at every opportunity, and demanding to fish, swim, water ski, boat, or simply sit and look.

Under pressure for competing uses of water areas, their management becomes increasingly difficult and necessary. This we have seen to be the case for other recreation areas. Let us examine how this is managed by various authorities.

Regulations

Regulations regarding life-jackets and other safety requirements for boats have been formulated and enforced at the federal level by the U. S. Coast Guard Service, and apply to all "navigable waters." In addition to these, States and management agencies enforce others.

The National Park Service works from the policy that:

"... the waters of the national parks must be used in such a manner that no single activity or use of water resources will impair or seriously conflict with other basic park values" (101).
Photo II. A State Park Swimming Beach.
Swimming permitted only while lifeguard is on duty.
Log boom delimits area for non-swimmers.
Jesse Honeyman State Park, Oregon.
Thus, water skiing, aquaplaning, boat races, regattas and other spectacular types of water recreation are not allowed in the national parks. Water skiing is allowed, however, in Recreation Areas administered by the National Park Service, but only away from water travel routes.

The Forest Service considers that regulations and limitations should be used sparingly, and that control is best achieved by proper layout (81).

Zoning

Zoning in water recreation areas is a management tool of great importance, due primarily to the great incompatibility of the various uses any area receives. Most commonly, bathing beaches are delimited by floating buoys, and no craft is allowed within 500 feet of the area. Swimming beaches preferably have good accessibility, a sand or gravel base, sloping underwater about 7%, and a water temperature in the summer of at least 68°F (20°C.) Usually life-guards are provided in areas of heavy pressure (see Photo 11).

Boat Launching

The Forest Service and the National Park Service both provide boat-launching facilities. Ramps are provided where pressure is heavy, the season is long, or the access difficult (87). In layout, launching areas have common principles, and include a fairly narrow ramp, or series of ramps, sloping at about 10% and situated in sheltered water. A most important feature is the need for large car-parks to accommodate both cars and boat-trailers.

In areas of heavy use, a full-scale marina might be necessary. These are generally expensive, and operated by a concessionaire.
Fishing

Fishing accounts for one sixth of the primary purpose visits to national forests (Ibid., p. 45) and is a rapidly-growing pastime. Seasons, catches, etc., are subject to state laws, but may be modified, as in the case of Yellowstone National Park.

Picnicking and Camping

Picnic facilities are usually essential by water areas, and are often associated with swimming and boating beaches. Campsites are particularly useful in association with marinas.

Use Pressure Standards

As in the planning of other recreation areas, standards for use-pressure of water areas have been proposed. At present, little agreement seems to have been reached as to what standards are desirable, and their applicability will depend on the size, configuration, depth, water quality, etc., of each lake or river.

In general, only 70% of a lake is usable for boating. Lakes of less than 50 acres are unsuitable for high-powered boats. Water skiing requires about 20 acres per boat, whilst fishing requires about 1 acre per boat. A working rule of thumb for mixed boating is 5-10 acres of water per boat (112).

11. Winter Sports Areas

We saw in Chapter One that skiing has shown a high rate of growth over the past few years. This great increase has been accommodated largely on national forest land. At present there are in the national forests some 196 areas with 655 ski lifts, and a capacity at any one time of 242,000 (87, p. 38). Naturally, skiing is limited by both topo-
graphy and climate, although artificial slopes have been constructed in non-mountainous areas. In the Eastern states much smaller slopes are used than would be considered suitable in the West, due primarily to the absence of large mountains.

**Ski Areas**

Most skiing takes place at developed ski areas. Developments at such areas include cleared ski runs, usually of different degrees of difficulty, chair and other lifts, rope-tows, lodges, car-parks, and other facilities. Such facilities are not considered fitting to the status of the national parks, although cross-country skiing and motor-sledding are encouraged (103).

In the national forests, ski areas are built and operated by concessionaires. Sites are selected by the Forest Service, and regional as well as local needs are considered. With the availability of rapid air transport, good ski areas can command a clientele from a radius of over 1,000 miles. Usually the areas are designed by the Service personnel, who agree with the operators on standards of safety, etc. Standards for tramways have been laid out explicitly by the American Standards Association, and these are adopted in all ski area plans.

**Use Pressure Standards**

As in other areas there are some rule-of-thumb guides for the use a ski area can sustain. An average skier skis between seven and ten thousand vertical feet per day. For area of ski run, one acre can support about 20 skiers at any one time. Usually this limit is not reached, since the lift capacity is often limiting (112).

**Other Winter Sports**

It seems that Americans love to mechanize their sports. Following
the massive increase in power boats, the trail scooters, we see in the last year or two a rapid increase in the sale of motorized sleds. These open up new activities for winter sports, activities not limited by towropes or high degrees of skill. If this activity increases largely we may see a demand for cross-country trails or even snow race-tracks!

Bob-sledding and lugging are activities with little or no following at present. An increase in these sports would illustrate well the unpredictability of recreation activities.

Ice-fishing is an example of winter time use of water areas, but is a use calling for few developments.

iii. Wilderness Areas

The concept of wilderness was discussed in Chapter One, and the type of facilities found at "primitive campgrounds" were outlined briefly in Section One of the present chapter. As we saw previously, no developments have a place in the wilderness by virtue of its designation. But rather than provide for the comfort or convenience of the traveler, wilderness developments are mainly to protect the area (92).

By virtue of the size of many wilderness areas (the Bob Marshall area is close to one million acres), visitors must camp out. The prohibition of motorized equipment precludes motoring through in a single day. Frequently people travel by horse, and many "dudes" enter with the aids of outfitters. Horse use may physically affect vegetation very greatly, especially where packers use the same areas for camping over extended periods of time. Provision of corrals by the Forest Service would both facilitate the handling of stock, and enable protection of fodder by rotational grazing.
Trails fall within the designation of developments that are both necessary and convenient. Until the use of the aeroplane for administrative purposes, all management access had to be by trail. These trails are now used mainly by the visitors. A true wilderness would have no trails, nor directional markers, but both are necessary to enable the public to have a "wilderness experience." An attempt is made to keep trails as naturalistic as possible by avoiding large-scale earth work, concrete culverts, etc., but the purist could still take exception to the stumps along the way.

Whether the Forest Service should provide "developed" campsites is a debatable issue. By provision of even the simplest facilities, the wilderness atmosphere might be lost for some. Also, the establishment of campsites tends to encourage users to set objectives for each day's journey, so that concentration of use is encouraged. On the other hand, fireplaces prevent scarring of the ground, and hitching-racks prevent the damage to trees and soil caused when stock is tied to trees. Provision of tables is usually seen as unnecessary and garbage pits only encourage users to leave material (89).

Pack stations, consisting of unloading and stockholding facilities, are a virtual necessity at entrances to wilderness areas and road-heads. If not provided officially, like many of the facilities described above, it is likely that the users will construct their own. Mushrooming of haphazard structures is difficult to control once started, and can detract greatly from the natural beauty of an area.

iv. Parkways and Trails

The place of trails as a means of access to wilderness and to
national park "back-country" has already been described. Another type of trail has come into being in recent years. This is the cross-country trail which enables walkers or riders to travel long distances following a scenic feature such as a divide, or one that simply keeps away from civilization. A famous example is the Appalachian Trail, which traverses eight national forests and twelve Eastern states (87, pp. 48-49). In the West, we find the Californian Riding and Hiking Trail. The authority to construct such a trail was vested with the California State Parks Commission by an Act of 1945. A 3000 mile route has been suggested, and over one third has already been constructed. Developments include a minimum tread width of 30 inches in a 20-foot right-of-way, with overnight camps every 15-20 miles. These camps have stoves, tables, a water supply, sanitation and a corral. Progress is limited by difficulty in acquiring the rights of way (18, p. 16).

Nature Trails

Nature trails have been established in many forest areas, and are a product of the various interpretation programs referred to previously. Usually they are short walks through an area of beauty or interest, and reference is made to items along the way. These trails are self-guiding, either with numbered posts which refer the visitor to an informative leaflet, or (less frequently) illustrative signs are posted adjacent to the objects of interest.

Such nature trails are found increasingly at state parks, the national parks, in national forest camp and picnic sites and in private forests, where companies with an interest in good public relations are providing recreation facilities.
Scooter Trails

A fairly new pastime is that of driving scooters (and jeeps!) along forest trails. Under the Wilderness Act (1964) motorized equipment was banned from wilderness. To accommodate this sport, the Forest Service has been considering construction of special scooter trails in its forests. These could be planned to cater for motorized sleds in winter. One problem here is attempting to determine how permanent are sports such as these, since no authority wishes to invest money in developments catering for a transitory fad.

Parkways and Scenic Roads

Developments on parkways include provision for overnight stops, "overlooks," or places people can stop, exercise, and take advantage of scenic points, and service areas. As in national parks, advertisements are banned, together with most commercial activities. Land-use, where the parkways run through private land, is restricted to certain types by the purchase of "easements."

The Forest Service policy is to develop some scenic roads as rapidly as possible, in addition to its normal multipurpose roads. It justifies this action by reference to the Multiple Use-Sustained Yield Act of 1960 (87, p. 75).

The purpose of such scenic roads is to "aid enjoyment of scenic beauty wherever it is feasible and justified by the recreational traffic ...." (Ibid.). Amenities provided include picnic sites, campgrounds, rest stops, visitor information centers, and other facilities at appropriate locations.

A recently made suggestion has been for developing "Multiple Use Highways" by applying the principle of multiple use to the rapidly
growing system of highways. The proposal includes purchase of rights-of-way for some thousands of feet on either side of the freeway. In this area could be built a continuous complex of recreation facilities, which would, in effect, concentrate visitors. As people become more geared to the automobile as a way of life, the provision of readily available recreation areas throughout the nation might hold great promise (2).

v. Recreation Residences

The provision of sites for summer homes has been a traditional use of national forests. The number of such homes almost doubled in the period 1940-1964, to a total of 19,342, but few new sites are being offered, and many are being cancelled. This is particularly true in the more populous areas, and is a result of the need for lake shorelines, choice areas for public recreation. New sites are now limited to Alaska and deep in some of the Western forests. Elsewhere, no sites are being offered (84, 87).
The particular practices of the social sciences or applied technology of any one country have limited applicability in another country. This is true for many reasons, but is especially true in the administrations whose realms are broad, and cover such fields as multiple resource management, economics, demography, pure and applied sciences, and other studies. The reasons center around the fact that a particular practice in resource management is the result of a dynamic interplay between cultural, economic and political forces, few of which may be similar in both of the countries under comparison.

In attempting to assess the value and the applicability of the developments for recreation in forest areas in the United States to the conditions obtaining in Britain, many factors could be considered. The scope of this work must limit the number of such factors considered to those likely to be most relevant to the field. Other forces will be covered briefly or omitted, but I must stress that their small coverage in no way implies their irrelevance.

As in previous chapters of this work, these topics will be considered under separate heads.
Demographic Factors

The most striking difference between Great Britain and the United States is one of relative size and population. Britain's area is similar to that of the state of Oregon, and has some 87,312 square miles. Its population of 52.7 million in 1961 makes it one of the most densely populated countries in the world, with over 550 persons per square mile, or nine times that of North America (19). This population is more slowly growing than that in the United States, and is expected to increase at less than 1% per year (10).

Population Distribution

The majority, some four-fifths, of the population lives in towns. Indeed, only seven urban areas contain half the population. Thirty million people live in the oblong strip of the 1,200 square miles containing London, Birmingham, Liverpool, Manchester, and the cities of S.W. Yorkshire (9). (See also map in Appendix 11). This uneven distribution of population causes severe land pressures for housing, agriculture, and other land uses in the southern and central parts of England, while rural depopulation is a problem in large areas of central Wales and the Highlands area of Scotland. The shift to the towns gained impetus with the Industrial Revolution, and still continues. Efforts to revitalize regions have included the afforestation of rural areas with declining populations in order to provide employment, and the establishment of a Minister for the North-East. (The role of forestry will be discussed later.)

The effects of Britain's large population, concentrated in big
urban areas, on the provision of outdoor recreation, are not dissimilar to those found in the United States. There is a great shortage of recreational space within the towns and also in their immediate environs. As we shall see in Chapter Four, the provision of Green Belts has done little to help this problem, although if they were developed for recreation, could do much to help preserve the more pristine areas in the national parks. Congested roads, not built for the massive number of private cars now on the road (see below,) make recreation trips to countryside slow and tedious. And most of the national parks and forests are concentrated in the west, at some distance from population centers.

Financially, the imbalance in population throws heavy burdens on rural areas. The 25 percent of the cost required for improvements in the national parks is often too much for rural areas where the tax base is low. Since much of the recreational demand comes from urban areas, regional planning and financing is indicated.

Economic Factors

In terms of material wealth, the British people are poorer than citizens of the United States. Coupled with lower incomes, the high cost of land, housing, and many luxury items cause real incomes to be about half those for comparable employment in the U. S.

However, a steady increase in production per head of goods and services (main factors in the Gross National Product) is giving higher real incomes, and the current increase is about 3 percent per annum. The Index of National Income was, in 1962, 150% of the 1945 level.

The rise in incomes has shown interesting trends in the field
of personal spending. In the period 1958-1962 the average consumer expenditure has risen 12 percent. Expenditure on food has risen only 7 percent but for luxury items such as cars and motor-cycles, expenditure has increased 40 percent (10). These relative figures indicate a greater disposable income, which is being spent, in the main, on luxury items, and travel.

Car Ownership

As in the United States, the number of cars per head of population is increasing, coupled with a steady decline in the reliance on public transport. Apart from making severe demands on the road network, the greater mobility that car ownership allows has a great impact upon recreational resources. Day and weekend outings become more frequent, and more extensive. Despite the slow roads, it is possible to reach most parts of the country within a few hours' driving, especially if night-driving is practiced. Moreover, the public is no longer confined to where a train or bus has a route, or where it can walk, and even remote areas see large numbers of people at weekends (16, p. 35).

The number of private cars and motor cycles rose from two million to five million between 1939 and 1959 (31, p. 23). By the summer of 1962, there were six million cars and 1.9 million motor cycles (26). This figure is expected to double by 1970, and nearly treble by 1981, when there will be as many cars as there are families (16-18 million) (7).

Despite the increasing car ownership, the car has yet to become the way of life in Britain as it is in the United States. Walking is far more popular than in the States (see below,) and large numbers of
people are still reliant on public transport. I hope to show that this is probably a cultural difference, which has considerable bearing on the sort of recreation facilities required.

**Land Patterns**

The history of land management and ownership in Britain and the United States are strikingly different. Whereas the major part of land in Britain has been under private ownership for several centuries, the land in the United States, especially in the West, has been controlled primarily by the federal and state governments. In Britain, there is no public domain, i.e., unclaimed territory. The largest single landholder, the Forestry Commission, holds only 7-8% of the land (51, 73, p. 37).

**Land Scarcity**

With a population density of over 500 persons per square mile, land in Britain is both expensive and in short supply. The hardwood forests that once covered most of the country have largely been cleared for agriculture, the latter being one of the most intensive in the Western world. As a result of the shortage of land, about half Britain's food is imported.

**Forestry**

Timber production is perhaps the main purpose of forestry in Britain due to the great dependence on imported wood. Domestic production gives only ten percent of the country's wood requirements, and it is the basic policy of the forestry commission to increase this pro-
duction some threefold in the next 50 years. Consequently, its activities have been concentrated on the afforestation of hill country, no longer needed for sheep farming, with exotic species, and on the conversion to productivity of some woodlands, declared by two world wars. (The effects on the country's amenities will be discussed below.) The Forestry Commission's debt to the state, including interest, since the beginning of its activities in 1910 is about $100 million (33, p. 37).

The Forestry Commission's activities are greatly limited by financial forces. Thus, in the field of recreation, we should expect to see minimal cost developments until such time as it operates at a profit, unless room is made for provision of facilities with private capital. Even so, the Commission is loathe to devote productive acres to recreational needs, and at present few plantations or woodlands are set aside purely for recreation.

Private woodlands are predominantly in small blocks and scattered throughout the countryside. As hardwood areas, sometimes vestigial remains of the forests of yore, they play an important role in the English landscape. Their use is often closely integrated with the needs of local agriculture, and in many areas, their sporting value often outweighs their timber production. In 1953 there were 8,818,000 acres of private woodlands, almost exactly the same area as under plantations on Forestry Commission land.
proportion of farms are small (the average size of all holdings is only 70 acres.) A closely integrated system of livestock and arable farming contributes to the very varied landscape. As with forestry, the effects of farming on the amenities will be discussed later.

Cultural Factors

This heading covers a host of subjects and only those most pertinent to the provision of recreation facilities in forest areas can be discussed.

Holiday and Recreation Patterns

Traditionally, the British people go to the seaside for their holidays. Since no part of the country is more than 70 miles from the sea, this involves no great traveling, although in the past most people used public transport. In 1955 a British Travel and Holidays Association survey showed that 72 percent of people who took holidays in the United Kingdom went to seaside resorts. The seaside is still popular, but increasing car ownership has given rise to other forms of holiday, such as caravanning (106, p. 7). Also, a greater number of people are traveling abroad, chiefly to the Continent. In the period 1951-1964, the number of trips abroad increased threefold from 1.5 to 4.9 million. Over this same period the number of holiday trips in Britain increased from 25 to 31 million (13).

Another factor typical of holidays in Britain is the increasing number of "additional holidays." These have increased from 1.5 to 5.5 million over the period 1951-1964, and their average length is seven days, compared with an average of ten days for the main holiday (Ibid).
While the months in which the main holidays are taken are very similar to those of the United States, with 80 percent in the three months of June, July, and August, the additional holidays are spread more evenly through the year, and 66 percent are in the nine months of September to May. These reflect the fairly equable (but wet) climate throughout most of the year, and the Government's efforts to extend the tourist season.

Outdoor Recreation Pursuits

Coupled with the large increase in additional holidays and increased car ownership, both of which point to briefer touring holidays (69), the post-war years have witnessed a large increase in participation in outdoor pursuits. Table 5 gives the estimated numbers of people pursuing various activities, together with the probable increase over the last ten years.

Table 5. Estimated Participation in Various Outdoor Recreation Activities

<table>
<thead>
<tr>
<th>Number and Activity</th>
<th>Increase over Period 1954-1964</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 million fishermen</td>
<td>50%</td>
</tr>
<tr>
<td>1 1/2 million family campers</td>
<td>370%</td>
</tr>
<tr>
<td>Youth Hostel Visits 1 million</td>
<td>6%</td>
</tr>
<tr>
<td>overnight stays</td>
<td></td>
</tr>
<tr>
<td>750,000 golfers</td>
<td></td>
</tr>
<tr>
<td>500,000 sailors</td>
<td>80%</td>
</tr>
<tr>
<td>400,000 shooters</td>
<td>35%</td>
</tr>
<tr>
<td>350,000 skiers</td>
<td>220%</td>
</tr>
<tr>
<td>(100,000 skiing in Britain)</td>
<td></td>
</tr>
<tr>
<td>150,000 riders (horses)</td>
<td>20% - 270%</td>
</tr>
<tr>
<td>100,000 affiliated naturalists</td>
<td></td>
</tr>
<tr>
<td>35,000 &quot;serious&quot; cyclists</td>
<td>-50%</td>
</tr>
<tr>
<td>34,000 members Amateur Rowing</td>
<td></td>
</tr>
<tr>
<td>Association</td>
<td></td>
</tr>
<tr>
<td>20,000 gliders</td>
<td></td>
</tr>
<tr>
<td>11,000 affiliated mountaineers</td>
<td></td>
</tr>
</tbody>
</table>

We see that fishing appears to be the most popular activity, closely followed by camping and youth hosteling. Very large increases in participation in family camping, skiing and caravanning have occurred. Each of these could be accommodated on forest land, and use figures at forest campsites reflect the increased participation in these activities. Overall, the number of camper-nights at forest camps has more than doubled in the last eight years (49).

The overall estimation of demand for outdoor recreation by the year 2000 is three times the present level (68, p. 22). This, it seems, is a direct use of the ORRRC estimates, and would probably be on the conservative side.

**Weekend Recreation**

With the increasingly universal five-day week, a greater proportion of the population is able to take advantage of the weekend for outdoor recreation. It enables them to take advantage of good spells of weather, which are virtually unpredictable. Unsurprisingly, a recent survey found considerably more campers at a forest campsite on sunny days (73).

Because of the difficult traveling conditions, people tend to travel relatively short distances at weekends. A survey carried out at Whitsun, 1963 (the Monday being a statutory holiday) found that 45 percent of motorists stayed within a radius of 25 miles from home, and a further 25 percent traveled less than 50 miles (69, p. 7). Similarly, a survey of some 30 commons in all parts of England showed an average distance traveled by Sunday motorists of only 12 miles. These two statistics indicate that for day travel people are not prepared to spend
long periods traveling. For weekends and long (three-day) weekends, the
distance traveled is likely to be longer. In either case the distances
involved are considerably less than those in the United States.

Recreational Organizations

There are many organizations devoted to outdoor pursuits and
they closely approximate the roles of pressure groups such as the Sierra
Club and the Save-the-Redwoods-League in the United States. These
British counterparts organize outings and rallies for their members,
circulate information, such as camping-sites, and protect the collective
interests of their members. For example, the Camping Club of Great
Britain and Ireland obtained exemption from the licensing provisions of
the Health Act, and the Town and Country Planning and Caravans Sites
Acts for its own campsites (21).

The Caravan Club, Ltd. aims to maintain the right for limited
period pitching in country districts of high amenity value wherever the
landowner or occupier will permit. These would include casual sites,
night halts, organized touring sites, in addition to commercial "holiday-
camp" sites. This Club's sites are exempted from the Caravan Sites and
Control of Development Act, 1960, and the club played a leading part in
formulating the Bill (23).

The chief organization concerned with the interests of the
walker is the Ramblers Association. Like the afore-mentioned clubs, it
has also played a leading role in pressuring for the rights of the walker
and other users of the outdoors.

The membership of these three organizations is given in Figure 4,
and they illustrate large increases in outdoor recreation demand since
It will be observed that the greatest numerical gains have been in the Camping Club, and the least in the Ramblers Association. These figures obviously account for only a small proportion of the people engaged in these relative activities, and it is likely that walkers are less inclined to join an organization because theirs is a more independent pastime.

**Tourism - Domestic and Foreign**

Britain now ranks as one of the leading tourist countries in Europe. Although it is difficult to compare statistics, Britain is in third place in terms of money spent internally by visitors from abroad, and if payment to British carriers is included, Britain occupies first place (14, p. 6). This combined figure in 1963 was $870 million, 77 million of which was in U. S. dollars. Tourism is Britain's fourth largest industry, and her biggest single dollar earner. Although no specific value has yet been attributed to outdoor recreation, any actions in this field that affect Britain's potential as a tourist country could be of significant financial influence.

The British Travel and Holidays Association is Britain's national tourist organization, which aims at promoting domestic as well as foreign travel within the country (14, p. 1). It is responsible for advertising, publicity, research and organization of the tourist industry, and most of its efforts are aimed at the foreigner.

Surveys carried out by the BTHA showed that only 1-5 percent of foreign visitors camped, and that the numbers using youth hostels were
Figure 4. Membership of Three Recreation Organizations
1946 - 1964

The straight line graphs for each organization are diagrammatic. In the case of the Camping Club, the actual curve is also given for comparison.

1 Source: Information from each club.

2 The straight line graphs for each organization are diagrammatic. In the case of the Camping Club, the actual curve is also given for comparison.

up to 14 percent. The 40,000 Europeans camping each year in Britain generally wish to tour rather than stay in one place, and camping is seen as an economical means of accommodation. The BTBA suggests that efforts should be made to establish campsites with such tourists in mind - by siting them on main tourist routes, and by adequate facilities of a high standard. It suggests that the minimal requirements are pro-
per signposting, adequate road access, supervision, drinking water, toilets, hot and cold water, grass tent areas, and hard standings for trailers, refuse and litter disposal, electric lights, and adequate fire precautions. Also desirable would be a shop, restaurant and laundry sinks (12, p. 9).

The need for tourist facilities for domestic users is as important as for foreigners, although destination campsites might be of greater importance than transit camps to the former group. At present the number of campsites and picnic sites owned by public bodies is pitifully small in relation to the importance of tourism. The economic effect of tourism on local areas may be very important, especially when their other industries, such as slate-quarrying or sheep-farming are declining. As has often been pointed out (61, 14), the benefits of tourism are widely spread throughout the population; it is not just the hotel owners or amusement halls that benefit.

The Place of Amenity in the Landscape

There are probably few words in the English language more loosely used than the word "amenity." Coming from the Latin Amoenitas, or pleasant, it is now used in England to denote any sort of interest in a place, and any inherent value that transcends monetary considerations. It can refer to the beauty of a scene, or include the actual benefits of an area. Naturally a word with such a wide usage and subjective basis is plagued with various and often conflicting interpretations. A woodland full of dead and deformed trees might be an "amenity" to the artist and the bird-watcher, but it is more likely to be a liability to its owner.
There is in Britain very strong feeling amongst a large and powerful minority for the appearance of landscapes and townscapes, and the artifacts affecting them. Seldom does a day pass without a letter, news article or editorial appearing in the "Times" on some aspect of town and country planning, or threatened change to the landscape.

This interest is witnessed by the massive array of organizations devoted to the English scene. Best known is, perhaps, the Council for the Preservation of Rural England, to which no less than 176 organizations are affiliated, with a combined membership reckoned in millions (52).

One pair of authors, Lowenthal and Prince, has analyzed the British (and in particular, the English) obsession with the appearances and uses of the countryside, and divided their concern into several categories (51). Living in a landscape almost universally altered by man, the English find beauty in the harmony of appearance. This "facadism" and need to camouflage extends to screening factories with trees, or in architecture the facing of buildings with stone. Put most aptly "... the English are averse to blatant commercialism...." (ibid., p. 201). Neon advertising lights are banned in many towns, and it is small wonder that a recent survey found that people would not tolerate tea and ice-cream kiosks at forest beauty-spots (113).

The harmony of uses in this crowded island often matters more than the actual uses. An anti-litter campaign for years has had the slogan: "Keep Britain Tidy" - not clean, safe, or healthy. "To the English, the absence - or at least the concealment - of disfigurement and squalor often matters more than the presence of beauty" (51, p. 200). Thus, objection to caravan sites in areas of natural beauty is far less
strong if the site is screened from sight, or if commercialism is kept to a minimum.

Together with the highly prized value of appearances, the English are blessed (or cursed!) with the love of "antiquarianism." Inheritors of a long history studded with tradition, the English have a habit of seeing landscapes through their past associations, - an evaluation of places according to their connections with history. Thus, "... if the Dartmoor we have known and loved is to be preserved, the prison must be preserved too. It is now part of Dartmoor's traditions, history, appeal, fascination, and character...." (108). A monstrous, ugly building becomes one of the "amenities" of a wild moorland by virtue of its age and the aura with which it has shrouded itself and the surrounding countryside.

Resistance to change of landscapes, as well as of ideas, appears to be inbred in the English character. Those who would afforest certain upland areas meet similar opposition as those who felled the areas some 150 years ago. This opposition is heightened by the common practice of afforesting with conifers"... instead of the broadleaved species of trees, the appearance of which most people preferred...." (47). There is, however, evidence to indicate that under certain circumstances, such as in mountainous areas, conifers are preferred by the majority (113).

Another property of the "amenity concept" that Lowenthal and Prince discuss is that of the "picturesque." This extends further than the love of chocolate-box type cottages to the desire for overall conformity to a "planned disorder." Such an art reached its climax in the era of the eighteenth century landscaped gardens, - of idealized nature as depicted by such artists as Lorrain, Poussin and Rosa. Regimentation
of things bucolic is detested. All must appear the result of happy accident.

Tidiness, in addition to requiring the absence of litter, also implies a tending of all aspects and components of the landscape. Land which is not well cared for, areas of briar and scraggy coppice and untended patches are termed "derelict," and deplored by most people. The concept of wilderness, at least in small areas near inhabited regions, is virtually absent, and a recent survey showed very little demand for the establishment of forest wildernesses (113). This does by no means require land to be in productivity. The thousands of miles of road verges throughout the country are accepted as unproductive, and each year large amounts of money are spent on their trimming.

Forestry and Amenity

This topic is somewhat tangential to the main theme of the present work, but it deserves brief explanation if solely because it has been foremost in many of the dealings between the Forestry Commission and the British public.

Objections to the work of the Commission have been raised by all sections of the public, right from the beginning of state forestry. Such was the objection to afforestation in the Lake District (now a national park) that in 1936 an agreement was drawn up between the Commission and the Council for the Preservation of Rural England, not to plant a large central area of the Lake District.

The early work of the Commission admittedly did show little regard for the appearance of the forests created. Plantation outlines were rectangular, and laid out irrespective of topography; large areas
were covered by a single species, and little regard was given to the access needs of the public.

Several authors have pointed out that the public's ideas on how forests should appear are often conflicting and irrational (32), and certainly the forestry profession is not unanimous in its views. However, certain practices are generally considered less likely to offend the public, and these include the merging of species boundaries, leaving indigenous hardwoods on the skyline and rocky outcrops, underplanting scrub hardwoods by conifers to effect a gradual change of species, etc. (32, 47, 71). Since the Commission is now charge to take amenity and the beauty of the countryside into account, it now appears to be embarking on a program in which amenity considerations do receive some attention.

The extent to which the Commission, and through the governmental process, the public, are prepared to modify the economic raising of even-aged coniferous pulp and timber species remains to be seen. The Commission is in no way in a dictatorial position, and the more it considers of the actual wishes of the public rather than its preconceived views of their wishes, the less costly will such modifications be (74, 113). As the country's largest land user, the Commission's potential effects on the landscape are appreciable, especially when we consider that a large part of people's objections to land use were a direct objection to change.

Access to the Countryside

Except in the case of the large towns, access to the country-
side is fairly good compared with many areas in the United States. Rigorously controlled zoning laws make the town-country boundary precise, and few towns have peripheries eroded by junkyards and used car lots. The towns are densely populated, and fairly small, and in many towns with a population of 50,000, it is possible to walk to open countryside within 25 minutes from any part of the urban area (16, p. 3).

The famous English country lane pervades most agricultural parts of the country in a dense network, so that walking, driving and cycling for pleasure are common pastimes. Coupled with this ease of access on well-metalled roads, the British enjoy the right of access to much private land. In the laws of property, the rights of the public and the individual are closely intermingled. Public "rights of way" have been established over the centuries and allow foot or equestrian access on narrow pathways, through crop fields, woods and in some cases even private gardens. The law is very lenient. Even if the individual wanders off the path trespass is not indictable unless persisted in or if damage is proven.

In the words of the Ramblers Association, "... large areas of private land are only tolerable so long as there are some public rights..." (65, p. 7). It was to maintain or increase in certain areas such as the national parks, the public's right of access to private land that the National Parks and Access to the Countryside Act was passed in 1949. This Act, fought for by the Ramblers Association, requires all County Councils to survey, record and report all established footpaths and bridlepaths in their county. Such a record could do much to further the legal rights of the walking public, and
to prevent disappearance of footpaths under the plough or fence due to the carelessness of farmers.

Access is not always freely available on much land by virtue of the public's ignorance and the official policy of some land owners. One-third of a sample who had been in forest park in Britain were unaware of their right of foot access on Forestry Commission roads. This ignorance is hardly surprising since the Commission makes little effort to publicize this right, mainly through fear of damage to the plantations (113). Although many coniferous forests become assets to the scenery in mountainous areas, hikers often object to afforestation programs because access to walking areas is decreased or made more difficult. To this extent much could be done by the Commission to increase the availability of its lands to the public without undue expense or loss of productivity of timber.

Attitudes to Developments for Recreation in Forest Areas

From the above discourse several points become readily apparent. Firstly, the British people show an especial interest in the appearance of their country, and the way in which it is run. Secondly, within the scope of the previous remark, the attitudes held by different members of the public are varied and often opposing, but that satisfactory arrangements are usually made exemplifies the amazing talent for compromise. It is as though "multiple use" were a natural state of mind and part of the way of life, and is perhaps why a large amount of criticism has been directed at the Forestry Commission's single-use approach to timber production. And thirdly, we immediately
realize that very little has been done to gather information into the viewpoints of various sections of society or of the demands or sources of supply of recreation opportunities. The need for research into the recreation field will be discussed later in this chapter.

Reactions to Campsite Development

One feels that the general dearth of campsites in Britain has caused people either to accept gladly whatever is available, or not to go camping in the first place. On the other hand, there is a possibility that culturally the British are against being pampered in an activity, which for many is an opportunity for self-reliance. Let us examine some of the information available.

Very few studies have been carried out to determine the view of campers and other users of forest areas. The Sindens have maintained that in assessing the value of forest areas and forestry practices for amenity and recreation, the actual tastes of the users should be a criterion rather than the forester's opinions (74).

In a study of campers at the Forestry Commission campsite in the Snowdonia Forest Park in 1963, the Sindens found that only a small proportion (12 percent) had camped in Europe, and the remainder would thus be unfamiliar with the high standard of facilities provided at many European campsites (73, p. 36). The survey showed that relatively few wanted facilities that would improve their comforts - items considered indispensable at U. S. forest campsites. Less than half (43 percent) wished for electricity outlets, 24 percent wanted picnic tables and benches, and only 16 percent wished for fireplaces.
Facilities preferred by the majority were relatively simple. Cold showers were thought desirable by 91 percent; a shop by 88 percent; hot water by 84 percent; and naturalist facilities (such as interpretive signs, warden, etc.) by 66 percent. Sixty-nine percent showed a desire for new, similar sites, particularly near big cities (72).

Throughout the survey drinking water and toilets were excluded, since they are requirements at any site. Most of the facilities suggested are provided at Forestry Commission sites (see Chapter Four), but the limited list suggests simple tastes in campsites.

The bias towards rather spartan recreation conditions was borne out in the results of a postal questionnaire conducted by the author in early 1964 (113). The questionnaire concerned itself mainly with the appearance of woodlands, but also investigated people's reactions to campsites and other developments. At "beauty spots" only a minority desired elaborate facilities such as picnic tables and rustic benches. There was a positive aversion to such commercial developments as tea and ice-cream kiosks, and only a minority desired formalized car-parks. On the other hand, litter-bins and toilets were considered essential by the large majority.

Of the stratum that had camped at Forestry Commission campsites, the large majority were in favor of this type of campsite. Those who were against such sites were against commercialization of the forest. However, half the non-campers in the sample were against such sites, and the overwhelming majority were against caravan (trailer) sites. These views bear out the points made earlier, namely that a strong concern is felt for the appearance of the countryside. The view of the Council for the Preservation of Rural England is that each campground
and caravan site should be considered on its own merits (30).

The facilities aimed at by tourist organizations such as the Caravan Club and the Camping Club are usually along the lines of those offered by the Forestry Commission. Naturally, facilities for caravans are more elaborate, especially for destination-type sites. However, one of the main aims of each organization is to guarantee certain minimum standards at sites they recommend to their members, and to keep their own sites up to standards that exempt them from the various planning Acts (21, 23). Also, the Club considers that provision of "Organized Touring Sites" in national parks and Areas of Outstanding Natural Beauty should be provided for bone fide tourists rather than for residential use (23, p. 5).

Research into Forest Recreation

The present chapter (and Chapter Four also) illustrate the present lack of knowledge in many spheres of the recreation field in Britain.

The "Countryside in 1970" conference in 1965 pointed out that it is not difficult to gather facts through expanded research, provided authorities using the facts would state clearly their requirements (68, p. 27). This they gave not yet done.

We saw above that monetary considerations due to uneven distribution of population point to regional or national planning. So far no national recreation plan has been formulated, nor any body created with the responsibility of making one (such as the Bureau of Outdoor Recreation in the United States.) At present any planning that is done is
at the local level by County Councils. These are often ill-equipped and lack professional staff with time or training to meet the problems.

The extent to which a governmental body can dictate to the public on policies concerning land use is difficult to determine. As yet there are few precedents for recreation planning. The establishment of the national parks was not a drastic step in the context of the Town and Country Planning Act of 1947, which has very wide and deep-reaching results for land use. The fact that the National Parks Commission owns no land, has had slow progress in determining rights of way, and has fallen behind in the provision of the recreation facilities foreseen at their conception all point to a political climate that prefers governmental encouragement to authoritarian direction.

The pre-conference report of the "Countryside in 1970" conference felt that the time was ripe, if not overdue for large-scale action, and it saw the main difficulty as one of getting action rather than agreement (68, p. 44). But before any planning action can be considered, a nation-wide research plan is needed, similar to that carried out by the ORRRC in the United States. Until the knowledge that such a report would uncover is made available, only tentative suggestions can be made as to what recreation developments are applicable. These suggestions will be made in Chapter Five.
CHAPTER FOUR

A SURVEY OF FOREST LAND IN BRITAIN

PROVIDING RECREATION OR WITH A POTENTIAL SOURCE

In this chapter we shall investigate the various classes of forest land in Britain and consider their roles as recreation resources. As in our consideration of different recreation land classes in the United States, not all the areas we shall include are totally dominated by forest, but their relation to forests and their similarities as recreation resources merit their inclusion.

In Chapter Three various social, cultural and other factors that affect both the present recreational patterns of land use within Britain and possibly the applicability of U. S. practices were discussed. Consequently to avoid duplication, the present chapter will be largely restricted to a description of the different land classes and the actual developments for recreation.

The areas to be considered will be organized under the following headings: 1) Forestry Commission. 2) National Parks Commission. 3) Other Areas.

1). The Forestry Commission

Since 1920 the Forestry Commission has been Britain's official agency for the growing of timber. Started as a means of building up a strategic reserve against future wars, it has now changed its emphasis towards the growing of timber economically to help meet Britain's balance
of payments. Other benefits are seen to include the provision of employment as a means of stemming rural depopulation, and the provision of recreational opportunities, and increasing the beauty of the countryside (35). It is with the recreational opportunities that we shall concern ourselves. In 1963 the Commission had 2,553,000 acres under its control, or almost five percent of the total area of Great Britain. Two-thirds of this area, of 1,752,000 acres were under plantations, which approximately equalled the woodland acreage under private ownership.

Camping

It is only in fairly recent years that the Commission has provided for camping in more than token manner. Because of a predominantly private land ownership, campers have in the past camped on farms with the permission of the owner, and in the wilder mountainous areas, often without such permission.

Several factors have increased the amount of outdoor recreation since the last war, especially over the past decade. Coupled with these factors, the shift to a more general land management program has emphasized the need for more official campsites on Forestry Commission land.

There are about ten campsites run by the Commission, excluding the New Forest (in which the public is allowed to camp at large.) All the organized campsites are set in areas of fine scenery, and most are associated with the Forest Parks. A brief description of some of their main characteristics will help us determine later how applicable the American practices might be.
The most striking difference that somebody familiar with forest campsites in the United States would find is the general openness of the actual campgrounds. Usually the area is a field or clearing in the forest, relatively level and with most parts accessible by a gravel road, often laid out on the periphery of the site. There is no concept of "units" in the American sense, although capacity is generally given in terms of the number of tents and/or caravans (trailers) the area can hold. Caravan parking is done usually under the supervision of a resident camp-warden but tent campers camp where they will. The growth of the grass is usually strong enough to tolerate "unhardened" pitches for both caravans and tents. Shade in a climate as damp and chilly as that of Britain is not important, although some sites would be improved by trees and shrubs to decrease wind exposure and give privacy.

"Standards" of design, discussed at length in Chapter Two, are more permissive, or in some cases, virtually absent. The variation in the capacity and other features will be seen by reference to Appendix 8, which has been drawn up from observed statistics of a limited number of campsites. We see immediately the large variability in capacity per acre, and the tremendously increased density at which people camp. This high density (50 tents or caravans per acre) reflects the low-cost of establishment, ($50-$280 per pitch, compared with $800-$2,000 in the U. S. - see Appendix 5.) It also reflects a shortage of land, or at least a reluctance to devote land permanently to camping, a high ecological carrying capacity (a factor of the damp climate), and a
public that tolerates or enjoys crowded camping.

In recent years various planning Acts have determined the provision of facilities in the interests of public health, and new sites will be built to these standards. Chiefly, they concern the provision of sanitary facilities in terms of number of people (37).

**Facilities Provided**

The second feature that would strike the visiting American camper is the general paucity of the facilities provided. The attitudes to campsite development were considered in the previous chapter, but suffice it to say here that a lower standard of comfort amongst British campers is generally accepted.

Since no camping units are laid out, tables and fireplaces are not usually provided. In some areas the rainfall is too high to make open-fire cooking practicable (such as 90 inches per annum at Ardgartan), and where they are provided they are on stone hard standings, to minimize the fire risk (38).

Garbage cans are provided freely, and their large number reflects both concern for litter and the absence of fireplaces in which litter can be burned.

Water taps are provided around the site, but are usually less than one per acre.

Washing facilities include basins and showers, and hot water is usually obtainable on a coin-in-the-slot basis. Although laundry facilities are not a standard convenience, drying rooms are often available, and their need reflects the dampness of the climate.

At some sites (such as at Kielder campsite) a wet-weather shelter
is provided. Such a facility provides a focal point to the campground, and allows opportunities for wet-weather recreation such as dances, sing-songs, etc. Some static demonstrations on forestry topics may be provided by the Commission. These are generally the only provisions made for amusement or interpretation at the campsites.

Fees

Fees have not, in the past, been adequate to recover expenses at most campsites (38). In the Spring of 1965 they were raised to meet rising costs of management and to cover new developments (64). The cost at each campsite is usually standard, and the highest costs charged are:

<table>
<thead>
<tr>
<th></th>
<th>per night</th>
<th>per week</th>
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<tbody>
<tr>
<td>Car and tent or caravan</td>
<td>6/- (87¢)</td>
<td>36/- ($5.04)</td>
</tr>
<tr>
<td>Tent only</td>
<td>1/6/- (21¢)</td>
<td>10/- ($1.40)</td>
</tr>
<tr>
<td>Motor cycle and tent</td>
<td>4/- (56¢)</td>
<td>24/- ($3.36)</td>
</tr>
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When we compare these charges with those in comparable situations in the United States (Appendix 6), it is obvious that the British charges are not appreciably cheaper, especially when the general wage level is considered.

Use Data

Over the past eight years the number of camper nights spent in Forestry Commission camps has more than doubled to a level of well over 300,000 per annum (49, 64). Year by year figures for the increase are not available for the whole country, but some data are available for the past nine years at individual campsites. The use figures for three Scottish campsites are shown diagrammatically in Figure 5. Most striking is the year to year variation in attendance figures at each area. This fluctuation is due largely to the vagaries of the weather.
Figure 5. Annual Use at Three Forestry Commission Campsites 1956-1959

Source: Forestry Commission correspondence (37, 38, 39).

1 Source: Forestry Commission correspondence (37, 38, 39).

2 Person-nights.

3 Visitors.

4 Visitors or person-night.
The good summer of 1959 was reflected in increases at both Ardgartan and Glenmore.

The massive increase experienced at Glenmore since 1962 is due to the opening of a ski resort, resulting in almost 7,000 people camping in April.

The distribution of visits throughout the year reflects the holidaying patterns (see Chapter Three,) and is very similar to that experienced in the United States (Figure 2.) Figure 6 shows the distribution of visits for two Scottish campsites. Between the months of May and October, both figures are very similar. The peculiar rise for the Glenmore site coincides with the last month of the ski season, when large numbers camp at the foot of the ski slopes. When the snow has gone, the number of visits falls back to a normal May value (38).

There is little information available on the characteristics of campsite users, due mainly to the absence of surveys. One limited survey in 1963 showed that 80 percent of the users at one forest campsite were on holidays of longer than three days, and over half were planning to stay at that site one week or more. (The limit of stay at some areas, e.g. Glenmore, is 14 days.) The most popular activities in a preference question were picknicking (84 percent); photography (83 percent); town visits (81 percent), and walking (67 percent) (72, p. 122).

Other Activities

Many recreation activities other than camping take place in the forests, for which few formal developments have been made. Perhaps the most popular activity is hiking, particularly in some of the "Forest Parks." Of a total Forestry Commission estate of over two and
a half million acres, only one million and three quarters are actually under plantations. The majority of the remainder is upland "unplantable land" used only for rough grazing, and usually treeless, but providing excellent walking country.

Forest vantage points are seldom advertised, and a regular system of rootpaths is lacking (11, p. 33). In a questionnaire to
visitors at a forest park, one of the most commonly expressed desires was for more forest footpaths and signposts (113).

Access within the forests is limited to foot or horse-back, and no wheeled transport is allowed on Commission roads. Fear of trespass could well be a factor limiting the numbers of walkers and others who would enjoy the public forests, and will continue so long as a negative approach to the problem is maintained. As I pointed out elsewhere, (Ibid.) positive encouragement of the public into old stands of timber (in which the fire risk is low) might well decrease the overall risk of fire, the main reason for the Commission's present position.

Few facilities have been provided for picnicking in the state forests. In Britain this activity is largely informal, and it is probable that the sophisticated facilities seen in American forests would not be required. Vandalism has been cited as a good reason for not providing such facilities (71). Again, picnicking is an activity that easy access and parking facilities would greatly encourage.

Coupled with walking, nature study is an activity for which few provisions have been made in Forestry Commission areas. Some nature trails have been constructed in very recent years, but few interpretive facilities have been provided, even at campsites in the Forest Parks.

Hunting is limited on Forestry Commission land to a systematic control of deer and past species. In a few areas shooting rights are leased to individuals or syndicates, but the state forests do not correspond to the national forests of the United States as public hunting areas.

Fishing is in a position similar to that of hunting.
Often individuals hold hunting or fishing rights on land leased to the Commission, or rivers in the valley bottoms run over private grounds, the owners of which have riparian rights. Because there is no state fish and game service devoted to sport, the amount of good inland fishing available for the public is small (although as we saw in Chapter Three, fishing is perhaps the most popular single recreation activity - see Table 5.)

Summer cottages are rented in increasing numbers on forest lands whilst having a "country retreat" gains popularity. Such cottages are usually old shepherds' houses left vacant by rural depopulation. Because they involve no outlay of Commission funds, they form a valuable form of income to a forest system still financially much in the red. However, such an income is limited by the number of cottages available and to the best of my knowledge, the Commission does not plan to supplement them by building or by the leasing of lots for building (45, p. 439).

It is obvious from these remarks that the recreational use of public forest land in Britain is largely unorganized and unchronicled. In the absence of data on use figures, evaluation of a resource is difficult and of dubious value.

2). The National Parks Commission

The National Parks Commission was set up under the National Parks and Access to the Countryside Act, 1949. It is the governmental body responsible for selecting areas for national parks, selection and
and designation of Areas of Outstanding Natural Beauty, and for making reports to the Minister of Land and Natural Resources proposing the establishment of Long Distance Footpaths and Bridleways. In addition, it acts as a general advising authority on the effects on natural beauty of proposed developments anywhere in England and Wales.¹

The areas designated as National Parks, unlike their counterparts in the United States, are not zoned to any one exclusive use. No change in land ownership occurs, and the parks remain areas of countryside, characterized by fine scenery, and in which people both live and work. Towns, and even industrial developments such as the oil refineries at Milford Haven in the Pembrokeshire Coast National Park, occur within the Parks, and are analogous to the private inholdings and industrial workings such as the uranium mine at the Grand Canyon National Park in the U. S.

Naturally, over most of the parks farming and forestry are practiced as they were before designation, and in very few cases do these land uses change as a result of designation.

At present ten areas have been designated as National Parks, seven in England, and three in Wales. Their distribution, which is predominantly in the western side of the country, is shown on the map of Britain (Appendix 10). Their areas and estimated populations are given in Appendix 8. The combined area of 5,254 square miles is approximately nine percent of the area of Britain, and their combined population of 259,100 is only half of one percent of the total popu-

¹The National Parks Act does not apply to Scotland, except for part three, which relates to Nature Conservancy (56).
lation of Great Britain. In the main, then, the parks are located in unpopulated areas. However, some of the northern parks have large populations in their proximity. The Peak District Park with an area of 542 square miles is almost encompassed by large towns such as Manchester and Sheffield, and has over 16 million people within 50 miles of its boundaries. Visits to this area are in excess of four million per year, and all but 100,000 are day visitors (40).

The designation of National Parks has a twofold purpose. Firstly, to ensure preservation and enhancement of the natural scene; and secondly, to promote facilities for outdoor recreation (7).

Let us consider each of these objectives and how closely they have been met.

Preservation and Enhancement of the Natural Scene

Briefly, the main way in which the national parks maintain a degree of natural beauty is by imposing on the designated areas planning laws more strict than those covering the rest of the country. A specially constituted planning authority is responsible for each park, and includes planners from the local country councils, representations of amenity groups, and appointed Commission representatives.

When the national parks were first envisaged in their present form (5), a capital expenditure of 9 1/4 million pounds ($25.9 mil) over ten years was proposed, with an annual expenditure of 750,000 pounds ($2.16 mil) at the fully operative state. By March, 1962, over ten years after the Commission's formation, the ten park authorities had spent only 114,000 pounds ($319,200). Of that 80,000 pounds had been spent on two parks, leaving less than 40,000 pounds for the other eight (67).
This money, in the form of Exchequer grants, is used to finance approved projects up to the rate of 75 percent. The remaining 25 percent must be met by the local authorities of private organizations. Such projects would include the removal of eye-sores, such as derelict pit-heads, and War Department emplacements, the preservation or planting of trees, the use of local materials in buildings, the grounding of power transmission lines and the provision of recreation facilities.

The 25 percent to be raised by local bodies, such as the county council in the area concerned or by a farmer wishing to put up a building, is often excessive, especially in depressed areas of low population which, as we shall see, most of these areas are. For various reasons, the Exchequer grants have not been as large as formerly anticipated, and so many of the projects within the parks have been of limited scope.

Naturally, most of the activities are of a negative character. The effects of putting transmission lines underground, or the prevention of ugly buildings and the like will not be very obvious. When the economic requirements of an area must take precedence as in the Milford Haven oil refinery example, some people will naturally take exception, although special care is taken to minimize their impact by landscaping.

In considering the type of national parks it is possible to have and their place in the general resource management of the country, we should remember the smallness of Britain, and the large size of its population. It is both economically and socially undesirable to sterilize ten percent of the country's area, especially when Britain can supply only one-half its own foodstuffs and less than ten percent
of its wood requirements. Should a time come when rural depopulation reaches the state that the parks' land is no longer productive, or commercial forestry in these areas is unnecessary, it would be possible to set aside the parks as natural environment areas similar to the national parks in the United States.

Facilities for Outdoor Recreation

Perhaps the parks' most valid contribution to the provision of facilities for outdoor recreation is the establishment within the minds of both the public and the land owner of the public's *de jure* right of access to the countryside where previously it had been only *de facto*.

Part five of the National Parks and Access to the Countryside Act was intended to give the public the right to walk at large on "open country," defined in the Act as land consisting "wholly or predominantly of mountain, moor, heath, down, cliff or foreshore" (57). This right of access would be in addition to the normal right to wander on private land (see Chapter Three) and would be without any fear of trespass.

The local authorities responsible for negotiating access agreements or for making access orders have been criticized for their slowness to enter access agreements and reluctance to use their compulsory powers (66). Although funds are available for compensation for damage resulting from access agreements or orders, such as the disturbance of grouse or shooting moors, no claims had been made by July, 1964 (Ibid). As we have seen, in some areas the 25 percent cost of these activities may be burdensome, and over many areas *de facto* access already exists, so that the impulse to legalize the walking habits for
a large number of non-local people is not pressing. On the other hand, such legal agreements would be subject to bylaws aimed at protecting it, as well as its being patrolled by wardens (31, pp. 30-1).

Compared with the national parks of the United States, few developments have been made in the British parks for the benefit of visitors, and in many areas the recreation patterns are very similar to those obtained prior to their designation. It is under the aegis of planning that most of the benefits accrue, and thus are not directly obvious. Critical areas may be protected by the prevention of a caravan site, or its relocation in less a pristine place; access to open countryside might be made available with the needs of the hiker in mind rather than those of the agricultural community.

Due to the dispersed nature of the parks' planning and administration, few centralized records exist for achievements at the various parks. Greatly understaffed, and largely voluntary, planning authorities are unable to make such details available. Consequently, I am unable to give precise information on each park. In the main, though, it is possible to say that facilities have been confined to the provision of car-parks, information centers, and the organization of warden services.

There are often many caravan sites and campsites within the parks originating from before designation. Often the caravan sites are large, especially near the sea, and are of a semi-permanent nature. Because small sites are uneconomical, the large size is to be expected. The Caravan Sites and Control of Development Act (1960) proposed a licensing system to regulate the establishing and operation of such sites. However, the need for touring and holiday-camp types of caravan
site is evident, and provision of a sufficiently large number of authorized sites near to, but outside critical areas has been proposed (31, p. 23). A more definite policy towards both campsites and caravan sites and other types of accommodation is necessary. With regard to caravanning, six of the ten parks have no special regulations yet. In only the Peak District Park has a site been specifically devoted to touring caravans, and in the Lake District Park, individual touring caravans must be parked discreetly to avoid marring the scenery. In Dartmoor such vehicles are discouraged, mainly because of the steep, narrow roads (24).

In considering such facilities, we must remember that land uses, roads, and the general ways of life of the parks were usually established long before national parks were even conceived. Any plans for recreational use of such areas must be imposed on the way of life already existing, and until such time as the recreational needs become more pressing, it is natural that the local needs will dominate.

The park authorities can provide accommodations, but only where there is a known demand not met by private enterprise. In the Peak Park, only one campsite and one caravan site have been constructed by the park authorities, mainly as examples of the standards to be aimed at by private enterprise (40, p. 43). If such sites are the type demanded, their construction by the authorities should continue, and be run perhaps by concessionaires.

Fees

There are no entrance fees for the national parks, since there is a large resident population, and no controlled access points (57). Fees for the use of private camp and caravan sites vary with the individual
site, and there is no overall policy on such prices.

Use Figures

Because of the resident populations and the absence of controlled access points, no exact use figures are available for the number of visitors that any park receives.

Threats to the National Parks

As we have seen, the British national parks are primarily zoned areas of countryside in which a large number of activities take place. If the parks are to be preserved as unique examples of natural beauty, we should recognize that certain forms of use can be viewed as threats to the fulfillment of this objective.

Minority groups, such as the Ramblers Association, who were instrumental in the formation of the parks, see activities which affect the walker detrimentally as threats to the parks. For them, afforestation by the Forestry Commission and private individuals often limits the accessibility of upland areas, as we have already seen. They see the agreement in 1961 by the National Parks Commission, Timber Growers Association, the Forestry Commission, and other bodies for voluntary consultation with the park planning authorities regarding new proposals for planting in the parks of limited value due to its legal invalidity (67). The Forestry Commission, we have seen, is prepared to modify its management practices in the interests of amenity, but whether such modifications are sufficient or whether commercial forestry is compatible with national parks at all needs serious rethink.

In a similar vein, other land uses, such as arable farming, grouse management and the like, ought to be reconsidered in their relation to the needs of the users as well as those of the farmers and landowners.
The needs of industry, on the other hand, do not fit so easily into the rural scene. Very few people accept overhead transmission cables as contributing anything to a landscape, and for many their presence is intolerable. Yet the country's electricity needs double every ten years, and the trend towards nuclear power stations situated in remote areas, as in the case of the Trawsfynydd reactor in the Snowdonia National Park, only multiplies the difficulties of keeping landscapes unmarred. To what extent the public is prepared to pay for the grounding of cables, at seventeen times the cost of the overhead type, remains to be seen. It does seem inevitable that if the country is to avoid disappearing under a web of wire, it must pay for such improved practices.

As in the United States, increasing requirements for water necessitate creation of reservoirs. They decrease both the land available and its access, and are detrimental to the hiker. Much can be done to mitigate ugliness by good design and planning, and it is possible that with control over pollution, the reservoirs could become great recreational assets to a people as devoted to water areas as the Americans. Again, much imagination and sound planning are essential.

Overuse dogs attractive areas the world over. Within some of the British parks are areas which are Britain's closest equivalent to wilderness, but whose heavy use would destroy a "wilderness experience" in the usual American sense. At weekend periods it is often necessary to wait in turn in order to climb some of the more popular rock faces in Snowdonia. Fortunately, such areas can withstand heavy use from the ecological standpoint, but mounting numbers pose real problems.

The rise in car ownership and leisure are posing problems similar
to those seen in the American parks. Increasing hordes of people on roads built for agricultural use limit enjoyment and points to improved roads or some form of regulation. Much could be done by building by-passes around parks to relieve them of commercial and non-tourist traffic. Naturally, the hikers are against scenic roads, or the provision of facilities for motorists (37), but if a census were conducted, it is probable that the vast majority of users are reliant on road access for a major part of their enjoyment. Obviously, if the rural atmosphere is to be maintained, cars should not be allowed off the surfaced roads. Much could be done to encourage and enable the not-so-fit to unspoilt places away from the roads, and cable-cars, pony treks and the like come to mind. In this respect, the threat of the mass-user is identical to the situation in the United States.

3). Other Areas

Between them, the National Parks and the Forestry Commission estate occupy only fourteen percent of the area of Great Britain. Thus, a large area of countryside is left unaccounted for. Within the remainder lie considerable areas of fine scenery, much of it wooded, and much more easily accessible than some of the national parks. Let us consider some of the classes of land, and how they might be valuable as recreation resources.

Areas of Outstanding Natural Beauty

In addition to the normal national parks, the National Parks and Access to the Countryside Act makes provision for recognition of
fine scenery and its preservation. These areas are designated "Areas of Outstanding Natural Beauty" (A.O.N.B.) and as such, consultation by the local county council of the National Parks Commission is necessary when a development plan is prepared or altered. No special administrative arrangements for planning exist, and the normal provisions of facilities for outdoor recreation, except access agreements, do not apply.

Exchequer grants up to 75 percent are available for changes in authorized land use or for compensation where buildings are altered or removed. In addition, as in the national parks, tree preservation orders, tree-planting for amenity and the improvement of derelict land are eligible for grants. About 20 A.O.N.B.'s are in existence or planned.

As in the case of the national parks, an A.O.N.B. suffers from lack of rigorous control and the absence of state-owned land. Except for the possibility of improved access, the recreational opportunities in these areas is not likely to be improved, unless there is strong local pressure.

**Long Distance Routes**

The object of a Long Distance Route is to provide a continuous right of way along which the public may make extensive foot (or horseback, when the route is a bridleway) journeys, without having to use roads used by vehicles. So far about ten such paths have been approved, and others surveyed, but only one, the Pennine Way, has been completed. This route, conceived first in 1935 by the Secretary of the Ramblers Association, was completed only in 1964, and is 250 miles long. It wanders from one side of the Pennine ridge to the other, and makes diversions for food and lodging. It is mainly on open moorland, and
provides a unique experience for the hardy walker (56).

As in other areas under the jurisdiction of the Parks Commission, progress in negotiating the rights of way is very slow, and is hindered by the complexities of land ownership. Few are on forested land, and so are of only tangential interest to this paper.

Nature Reserves

The Nature Conservancy was established in 1949 to set up nature reserves in which preservation of natural areas and scientific research could take place. In 1960 there were some 80 nature reserves managed directly by the Conservancy; seven local reserves established with the Conservancy's advice, but managed by local authorities under the National Parks Act; and seven Forest Nature Reserves, managed jointly by the Conservancy for Crown Estates (33, 58).

Within these reserves, because of the almost universal modification of land by man and consequent interference with the "balance of nature" conservation demands active management of plant and animal populations if they are to survive. Management might include burning, scrub removal, protection of species, control of predators, and the exclusion of man.

As has been pointed out (46, p. 130) in the United States more stress is put on the use of natural areas for recreation. In Britain, on the other hand, there is greater emphasis on scientific research, in some cases to the complete exclusion of the public. This severe approach could result from the scarcity of natural areas, however.

Many areas are managed under a "multiple use" type of program, and livestock grazing, timber production, sport, public recreation and
even military enterprises may occur on parts of the nature reserves.

Public outdoor recreation is allowed in some areas, but no provisions are made for it. Camping is allowed, for example, at the margins of the Cairngorms Nature Reserve, but no facilities are available, nor a charge made or records kept of the number of visitors. Thus, it is not possible to compare their value as recreational resources with the National Wildlife Refuges in the United States, where attendance has increased fourfold over the past twelve years (95).

While it is unlikely that the nature reserves will ever provide for mass recreation, their value in providing naturalist facilities is great (in addition to the inestimable scientific value), and they could play a very real part in the total recreation complex of the nation.

**Green Belts**

A Green Belt has been defined as "... an area of land, near to and sometimes surrounding a town, which is kept open by permanent and severe restriction on building...." (4). Their purposes are usually to limit the expansion of a town; to act as a buffer to stop towns merging; and to preserve the special character of a town.

The first established Green Belt in Britain was that of London as a result of the "Green Belt (London and Home Counties) Act," 1938. The concept was incorporated into the Town and Country Planning Act, 1947, and in the case of London in the 1944 Greater London Plan. This allowed for a belt around the Metropolis of six to ten miles in width.

The planning of a belt implies strict control, prohibiting new buildings in the zone, except for gaps in villages and buildings associated with agriculture. It also encourages decentralization of towns,
a particularly important feature in the crowded South East.

The use of green belts by the public is no more guaranteed than elsewhere, and the value of such a zone is that it preserves countryside per se. Naturally, such areas will be used by the townsmen under the normal processes of access. However, much could be done to aid their development for recreation by legislation along the lines of the Areas of Outstanding Natural Beauty, or by the outright purchasing of tracts for public parkland or recreation areas. We have seen in the last chapter that transport is hampered by poor traffic conditions. Recreation areas adjacent to towns could be excellent for the provision of facilities for day and weekend use, and would relieve pressures on other areas, and on the overcrowded transport system.

At present the Green Belts are anachronistic, in that they have not succeeded in maintaining open land. Against the planners' intentions, golf courses, airports, cemeteries, etc., have been made. The real country atmosphere often has not been preserved, and the needs of the city dwelling recreation seeker have not been met (106, p. 30).

An interesting modification of the Green Belt idea is evidenced by the case of Stevenage, a "New Town" in Hertfordshire. This town, built since the last war, includes some areas of woodlands within its boundaries. These are officially managed, in conjunction with aid from the Forestry Commission, to preserve a vital visual amenity amidst the housing areas, as well as their being productive. At present, access is restricted to rides and a network of footpath and cycleway systems (76). Such a system of woodlands could be of very great value in the future and be able to provide urban-oriented outdoor recreation, such as campsites, picnic areas and other recreation facilities (106).
Commons

Commons in Britain date from a period prior to the Inclosures Acts and represent "... a last reserve of uncommitted land in England and Wales, and ought to be preserved in the public interest...." (6).

Commons are usually privately (or corporately) owned and vary in size from that of a village green to the New Forest, with 45,000 acres. The total acreage amounts to about 1.5 million acres, or four percent of the total land area.

Usually certain persons have rights, such as pasturage, fuel-gathering, etc., and such rights pertain to property. For example, a certain cottage may allow its tenant or owner the right to graze 20 sheep. Commons are open to the public and form large recreation areas. However, their development for recreation is not possible due to the corporate ownership, and the innumerable laws pertaining to each area.

Like the Green Belts, commons are largely anachronistic, and meet the needs of neither the commoners nor the general public at all efficiently.

Private Land

The majority of Britain lies in the hands of private owners. Such is the complexity of this ownership and the factors related to it, that it is outside the scope of the present work except where it relates to previously mentioned categories.
CHAPTER FIVE

CONCLUSIONS, AND POSSIBLE APPLICABILITY OF U. S. PRACTICES TO BRITISH CONDITIONS

In Part One we saw what developments for recreation had been made in forest areas in the United States, at both the administrative and the field levels. The factors affecting the type of developments were discussed, together with the role such developments played. In Part Two we reviewed the present situation in Great Britain, and discussed the various factors which might affect the direct applicability of the American practices to British conditions.

In general, the on-site facilities provided for recreation in forest areas in the United States are suitable for application in Britain. We saw how similar the trends are in recreation in each of the two countries and how the forest recreation resources are put to similar pressures. However, the cultural, social and economic differences outlined in Chapter Three indicate that direct application might not be feasible, desirable, or in the best interests of the nation, and modification of many of the practices might be necessary.

The absence of intensive recreational use and the provision of recreational facilities in Britain might be seen as advantageous to the resource manager. With little traditional public use of forests by large numbers of recreationists, a fair measure of latitude is possible. In the present somewhat unclear future of outdoor recreation in British forests, "... the only probability is that the facilities furnished by the foresters can have considerable influence on future demand, be-
cause experience has a good deal to do with creating taste...." (45, p. 439). The British public, as we discussed earlier, is largely unacquainted with European or American standards of tourism and tourist facilities. Consequently, within the limits bounded by outrageous taste, the recreation manager has a fairly free hand at imposing different levels of recreational activity. In a position such as this, an abundance of enlightened good taste is needed, together with a knowledge well tuned to the cultural, social and economic realities of the society.

Let us review some of the developments in American forests, and by relating them to the factors previously discussed, attempt to determine what is suitable and what might be modified to suit the recreation needs in Britain.

1). Campgrounds and Picnic Areas

The basic planning concept in American campsites, namely the "camping unit" based on the needs of a single family group would probably be an unsuitable development for most British areas. Firstly, it limits the capacity of an area to a strict figure, and is inflexible to changes. In Britain the "carrying capacity" of most campsites is limited by cultural rather than ecological factors. The humid climate provides lush grass growth, so that over-use is not as great a problem as in arid areas. Secondly, the construction of such units is expensive. If the public is to pay for facilities at camp areas, provision against inclement weather might be more welcome. As in America, the attendance throughout the year is subject to great fluctuation, so that provision
of units for the average number of users would be unsatisfactory in many respects.

Site Layout

The principles of site layout, on the other hand, might be directly applicable. Methods of spreading the load at picnic areas and campsites by easy access to all parts, and the zoning of fragile and unique parts such as stream-sides and lake fronts against overuse could be copied profitably. Demarcation of "camping areas" which hold a varying number of users would meet the requirements of good management and the hyper-sensitive consciousness of appearances on the part of the British public. The stereotyped loop and parking-spur arrangement found at most sites in the United States could thus be easily avoided.

Due to the smallness of the landscape and the general crowdedness of the country as a whole, a greater density of users per unit area than in America is both desirable and accepted. So that a campsite or picnic site fits the landscape, its overall size should be limited, depending of course on the topography.

Design Characteristics

Such is the variability of the British landscape that large differences in land use practices and building materials are an integral part of the enjoyment of travel. To preserve the regionality characteristic of land use throughout the country, developments for recreation should closely reflect the locality in both styling and materials. A woodland environment virtually demands intimate treatment, with little intrusion by man-made artifacts. Open, blustery moorscapes
might benefit from a more harsh treatment, with stone buildings, and wide vista camping areas. The types of vegetation cover will depend largely on that existing naturally. However, artificial planting could do much to improve both the appearance and the functioning of the site. The tree cover so predominant and carefully maintained for its shade at many campsites in the U. S. would be of less value for its shade than for the privacy and shelter from wind in Britain, where the cold, damp climate makes people prefer sunny locations.

Planning of these areas demands intimate knowledge and appreciation of the landscape, and the way of life. Nation-wide standards are useful to the extent that the public's health and comfort is maintained, but they are only a background to the job of planning. Appreciation of a harmonious landscape is a national characteristic. The planned haphazardness of the pastoral scene, so carefully cultivated by the eighteenth century landscape architects, is still cherished, and standardized elements, be they camp units, sign-posts or litter-bins have as much relevance as would a fun fair in the middle of the Grand Canyon.

Facilities Provided

If we concede the above characteristics, what facilities should be provided? We saw that the limited investigations carried out into the requested facilities pointed to rather spartan requirements, and a self-reliant approach on the part of the British camper. Tables, fireplaces, electrical outlets and the like were thought unnecessary. On the other hand, toilets, drinking water and litter bins are probably essential at all but the most primitive campsites. Communal facilities such as showers, a shop and naturalist information would increase the
convenience of the users and be generally appreciated.

The increasing numbers of trailers and "dormobiles" indicate a trend towards the more mechanized camping habits seen in the United States. Except for established trailer villages, provision of the "hook-ups" - water, electricity and sewage is probably too expensive a luxury at present. Provision of sanitary stations of the U. S. type would be sufficient, and would probably be the only facility additional to a normal tent campsite. Extra screening from the surrounding countryside might also be necessary, due to the public's dislike of trailers per se.

Interpretation

Interpretation by both the Forestry Commission and the National Parks Commission is still in its infancy. Either could expand towards the highly professional information and entertainment program of the U. S. National Park Service, with their provision of museums, nature walks, slide-shows, etc., or at the other extreme they could provide no facilities at all. Experimentation with the sort of facilities most appreciated is necessary, since there is little tradition of this type of service. However, our present knowledge of the British dislike of patronizing officialedom and limited public budgets both point to informal, small-scale facilities along the lines of local naturalist guide-books, nature trails and some displays.

Fees

Fees for the use of campsites have increased recently at Forestry Commission areas in the hope of meeting the cost of establishment and maintenance. The state forests do not yet operate at a profit, so it is perhaps unreasonable to expect recreation facilities at areas
to be subsidized greatly. So long as the facilities at areas remain relatively modest, the policy to cover the cost by fees is permissible. However, the tradition of cheap or free camping might prevent people from wishing to pay an economic price if facilities became more elaborate. (A condition obtained now at some American state parks.)

**Types of Campground**

As in the United States, the requirements of different types of area are varied. At present, the Forestry Commission seems to have concentrated on destination-type campsites, with conveniences such as drying-rooms, showers and wet-weather shelters. There appears to be no primitive campgrounds, unless one considers the whole open countryside as one large camping area. (In mountainous regions, camping by the roadside or anywhere is very common with members of the walking and climbing fraternities.) If some trails systems (see below) were developed, campsites and shelters similar to those found in the U.S. national parks backcountry would seem appropriate in the state forests. At present the position of the person who hikes to the more remote parts of the state forests and who camps is somewhat unclear.

The important place of tourism, both domestic and foreign, points to the need to establish campsites of the overnight variety on many of the tourist routes throughout the country. Such sites need to be geared to motorists, with easy road access, hardened sites, and communal facilities including showers, laundromats, and even a restaurant. Location of this type of site might be particularly valuable near towns frequented by tourists, similar to the municipal campsites found in Europe and notably absent at present in Britain.

Due to the difficulties of parking travel trailers, a more
positive approach is necessary to trailer campsites over the whole country, and particularly in the national parks. This topic will be further discussed in the next section.

The provision of group campsites along the lines of those of the U. S. Forest Service would probably be of value to youth organizations such as the Boy Scouts. Use of ordinary public campsites or parts of such sites is generally undesirable, and not geared to the organizations' needs.

2). Trailer Villages

The large permanent resort-type trailer sites that exist in many seaside areas are obviously outside the scope of this thesis. What we must consider is whether the sophisticated trailer villages now seen in some of the American national parks, state parks, and forests are suitable to the equivalent areas in Britain.

As in America, it is good planning to separate tents from trailers since the latter somewhat destroy a rural setting, and their needs are different. In addition, the public's reaction to such sites is far from favorable, and the trailer sites need to be well-screened and away from outstanding scenery.

As with tent campsites, the facilities available will depend on the type of site - whether it is a destination (recreation) site, or an overnight transit site. The former would need to be more spacious and elaborate, with hookups to individual trailers. The latter type could be geared to a higher turnover of users, and sited on tourist routes, and need not have such extensive recreational facilities.
If trailer villages are to be built on Forestry Commission land or in national parks, design characteristics should be established by the authorities concerned, with consultation with trailer organizations, so that a precedent for high standards can be created. Under the present conditions, it is probably desirable that such developments be constructed and run by concessionaires.

3). Other Areas

Because the following classes of recreation area are not directly related to forest lands, we shall discuss them more briefly than the two categories covered above.

1. Water Areas.

As in the United States, the British have a great fascination for water, reflected by increasing numbers of sailors, fishermen and other recreational water users.

Much of the activity is accommodated around the coastline, but inland water areas are being used increasingly. This is especially true of old gravel pits, which when flooded, provide good sailing lakes.

The water areas associated with public forest lands do not appear to be used as fully as the demands indicate. Very often mountain lakes are not easily accessible, or reservoirs used for water supplies are strictly zoned against other uses. It may well be that the additional cost of purifying this water if recreational use were allowed might be easily recouped in user fees.

The concepts of zoning developed in America for different uses on the same lake or river, should be easily applicable to the British
Swimming in many mountain lakes might be limited by low water temperatures, and the exclusion of power boats on municipal water reservoirs might be necessary in order to prevent oil pollution. However, sailing, boating and fishing deserve consideration as compatible uses of reservoirs.

Under the present situation, optimum fishing is nowhere near achieved for a large proportion of the country's estimated three million fishermen. To provide equable fishing opportunities for this large population the riparian laws which give land owners sole right to fishing and navigation on waters on their lands would have to be changed, and a governmental body responsible for fish and wildlife control be set up.

The trend towards provision of small boat launching facilities and American-style marinas is already seen at many areas on the coast. With the greater use of inland areas, we should expect a similar situation in these areas (16, p. 44). In the past, boating has been a relatively inexpensive activity, largely unhampered by regulations or burdened by taxes, licensing systems and the like. If we account for a possibly greater independence of attitude amongst British recreationists, we might conclude that facilities rather less sumptuous and costly than those in America might be required. It is an unfortunate tendency that when opportunities are liberalized, that is, made available for a greater section of society, the general price level rises. This is, perhaps, the cost of greater flexibility to the needs of a nation.
2. **Winter Sports Areas**

The massive increase in the number of skiers in Britain reflects a development of European tastes. The suitability of areas in Britain for skiing is limited by a moist, maritime climate and topography. Few areas are sufficiently removed from the sea or high enough to provide reliable conditions, and those that have been developed are all in the far north of England or in Scotland.

In considering suitable developments for these areas, we should remember that the traditional European ski areas, Norway and Switzerland, offer perhaps the world's best conditions, and are only five to eight hundred miles away. Thus, skiing opportunities in Britain should rely on convenient, but cheap facilities.

The needs of all ski areas are similar. Cleared slopes, with some type of lift are a first requirement. Under British conditions, the less expensive rope and T-bar type of lifts are probably more appropriate than chair lifts or gondolas. Ski lodges and accommodation would probably be self-supporting, and would benefit from summer trade.

We might conclude that facilities along the lines of ski areas in the eastern states might be most appropriate.

3. **Wilderness Areas**

Britain lacks areas of wilderness in the American sense of the word. However, there are some areas of limited extent - ten to fifteen miles across on which there are no roads and few signs of human use.

With the declining hill sheep industry, it could be feasible to zone such areas as wilderness, many of which fall in existing national parks, and restrict all commercial use, motorized access, etc. How-
ever, it is likely that the present situation is acceptable to the hill walker, climber and camper, and the extent that it is possible in such a crowded country, a wilderness experience is obtained currently.

The concept of "micro-wilderness" described in Chapter Two might be more applicable, and could be associated with the Nature Reserve type of use. Probably the biggest problem would be that of limiting the number permitted access, although people would quite readily accept strict regulations regarding use. If associated with national parks, micro-wilderness could play a valuable part in the recreational and educational role of these areas.

4. Parkways and Trails

As stated previously, there is probably a real need for parkways and scenic roads in both the national parks and the Forestry Commission areas. It is not likely that roads of the type seen in the States, with large easements for thousands of feet on either side, are possible. However, roads could be specifically constructed or zoned so that they accommodated the needs of the tourist.

The present exclusion of wheeled vehicles from Forestry Commission roads is probably correct in the more crowded parts of the country, and in small forests. But in many of the larger forests, access to scenic areas on a few roads developed to accommodate light traffic would do much to mitigate the complaint that the state forests are countryside, quite cut off from the public.

The administrative process for obtaining rights of way for hiking trails obviously needs speeding up. The Pennine Way trail took 15 years to negotiate, and it seems unlikely that the trails planned will be
obtained any more quickly.

The provision of trails similar to those in the U. S. national parks backcountry would be of great value in the British forest and park areas, especially if linked to form a network with the Long Distance Routes. The provision of primitive campsites and other accommodations would be necessary, together with facilities for pony-trekking. Use of this type of facility would most closely approximate the wilderness visits possible in the United States.

The provision of Nature Trails depends largely on the approaches to interpretation held by the resource manager. They are a relatively inexpensive facility which could be provided in conjunction with picnic sites and campgrounds, and if an administration were toying with the idea of more elaborate interpretive facilities, they would provide a valuable pioneer type of project.

5. Recreation Residences

The present situation was made clear in Chapter Four regarding the leasing of sites or cottages on forest land. We saw that planning regulations restrict this type of development, especially in national park areas. The current low levels of public use of forest areas might tempt us into leasing of land for private developments, especially since they would be profitable. However, the present situation in the United States should act as a warning that a greater public good might be obtained by maintaining areas for the general public to use. Also, in a country as crowded as Britain, the maintenance of countryside free from buildings is probably essential to the provision of a meaningful recreation experience.
SUMMARY

In general, the developments for recreation adopted in forest areas in the United States are applicable to Britain. Their applicability necessarily centers on social, cultural and other differences which distinguish the two nations.

With the present available information, there are strong indications that the recreation needs in Britain will mirror those which have occurred in recent decades in the United States. The need for research into recreation needs, future trends, and the methods of meeting these needs is obvious. The various governmental land resource authorities are in a position to effect such research and planning. In an age of rapidly changing technologies and social patterns, research and planning are essential forms of insurance against future misallocation of a nation's resources.


38. ————. Personal Communication. 1965.
54. Meinecke, E.P. "A Report upon the Effect of Excessive Tourist Travel on the California Redwood Park. Department of Natural Resources, Division of Parks. 1929?"
133

75. Stevenage Development Corporation. Personal Correspondence. 1965.
82. Ibid. Region 1 Supplement. No. 493. 1962.
84. Ibid. Amendment No. 9, 1963.
93. Conversation with Mr. E. Sluster, Forest Service Region 1 H.Q. Missoula, Montana. 1965.
APPENDIX 1

Glossary

"Blacktop." (US) - Road Metalling, Tarmacadam.

"Campurbia." (US) - Campsites in which natural setting is not apparent; user-oriented campsites. Usually crowded.

"Caravan." (Eng.) - Travel trailer, house trailer.

"Dormobile." (Eng.) - Van (Micro-bus) specially adapted for camping in.

"Dude." (US) - Guest at a ranch or on a pack trip; an easterner.

"Kiosk." (Eng.) - Booth, usually of light construction, for retailing of refreshments.

"Litter-bin." (Eng.) - Garbage can.

"Pick-up Camper." (US) - Light truck with prefabricated unit designed for camping attached to body.

"Ranger." (US) - Forest Service or National Park Service officer.

"Recreationist." - Individual participating in outdoor recreation.

"Rest Room." (US) - Toilet, lavatory.

"Sanitary Station." (US) - Unit for the disposal of sewage, usually at campsites.

"Trailer Village, Park." (US) - Site designed for trailers (caravans) usually non-residential.
### Experience Levels in Camping

<table>
<thead>
<tr>
<th>Recreation experience for people LevelModification of sites</th>
</tr>
</thead>
</table>
| Provides a forest environment not appreciably modified from the natural. Maximum opportunity at development sites for experiencing solitude, testing skills, and compensating for the routines of daily living. User senses little regimentation. The feeling of accomplishment associated with physical exertion is a key sensation at this level.  
Site modification kept to minimum. Rustic theme followed in design of improvements. Controls and regimentation held to a minimum and kept subtle. Use of synthetic materials avoided. No motorized access provided. Family unit spacing extended to minimize contacts with others. |
| Provides the same forest environment and same opportunities to satisfy most of the basic needs of the user to the same intensity as level 1. The sense of achievement associated with physical exertion. However, is less important to the user at this level than at level 1.  
Same site modification, improvement designs, and materials used as at level 1. Motorized access to site may be either auto, bus, air, scooter, or other. Surfacing usually limited to use of native materials on roads. |
| Provides a forest environment moderately modified from the natural. A blending of opportunity both to socialize and to find a degree of solitude is important. User is most comfortable when he senses that controls and regimentation have, to some degree, been provided for his safety and well-being.  
Site modification moderate. Contemporary-rustic design of improvements. Natural materials mostly used. Road surfacing may be asphalt. Designs based on use of wood. Spacing between family units about 100'. |
| Provides a forest environment which is pleasing and attractive but not necessarily natural. Opportunity for true solitude is not desired by user. Socializing with others a very important part of the experience. Desire to test outdoor skills mostly limited to the camping experience itself.  
Site heavily modified. Extensive surfacing of roads, trails, and living areas. Architecture may be contemporary. Traffic controls and regimentation obvious to user. Spacing of family units may be closer than at level 3. Plant species used are native to the environment. Artificial. |

(contd.)
APPENDIX 2 - Continued

Experience Levels in Camping

<table>
<thead>
<tr>
<th>Recreation experience for people</th>
<th>Level</th>
<th>Modification of sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>User comforts are important. Experience level provides a contrast to daily living but to a lesser degree than at levels 1-3.</td>
<td>4</td>
<td>screening and shading may be used.</td>
</tr>
<tr>
<td>Provides a forest environment which is pleasing and attractive to the beginning camper. Opportunity to socialize with others very important. Needs relating to compensating experiences and to solitude still present but important to a lesser degree than at levels 1-4. Important that it be obvious to user that he is in safe situation where he will not be called upon to skills undeveloped as yet.</td>
<td>5</td>
<td>Site heavily modified. Synthetic materials commonly used. Large areas surfaced to withstand heavy use. Close spacing of family units. Grass seeding and watering of site to increase capacity for use. Plant materials foreign to the environment may be used.</td>
</tr>
</tbody>
</table>

From Forest Service Manual
June 1965 2314.2--2
R-6 Supplement No. 135
APPENDIX 3

Camp and Picnic Site Development Standards for Four Recreation Authorities

<table>
<thead>
<tr>
<th>Item</th>
<th>N.P.S.</th>
<th>Forest Service</th>
<th>California State Parks</th>
<th>Oregon State Park</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. Camping Units per Usable Acre</td>
<td>6</td>
<td>2.5 - 4</td>
<td>4 - 6</td>
<td>7.5</td>
</tr>
<tr>
<td>No. Picnic Units per Usable Acre</td>
<td>10 - 15</td>
<td>4</td>
<td>10 - 35</td>
<td>10 - 15</td>
</tr>
<tr>
<td>Minimum desirable size of campgrounds units</td>
<td>90 - 120</td>
<td>10 Units (3 acres)</td>
<td>100 - 200</td>
<td>100 - 200</td>
</tr>
<tr>
<td>Minimum desirable size of picnic sites</td>
<td>90 - 120</td>
<td>units (6-12 acres)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toilets. No. of sites per fixture (approx.)</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Maximum distance from toilet to any unit feet</td>
<td>300 - 500</td>
<td>300 feet</td>
<td>300 feet</td>
<td>300 feet</td>
</tr>
<tr>
<td>Water Supply. No. of units per hydrant (Camp)</td>
<td>4-5</td>
<td>4</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>(Picnic)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum distance from hydrant to any unit feet</td>
<td>150 feet</td>
<td>300 feet</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1Source: Data from National Park Service Forest Service California State Park Department Oregon State Highway Commission
### Appendix 4

**Area and Spacing per Site for Various Densities of Sites in a Camp or Picnic Area**

<table>
<thead>
<tr>
<th>No. Sites per Acre</th>
<th>Area per Site (Sq. feet)</th>
<th>Side length of Square Site (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>43,560</td>
<td>209</td>
</tr>
<tr>
<td>2</td>
<td>21,780</td>
<td>148</td>
</tr>
<tr>
<td>3</td>
<td>14,520</td>
<td>121</td>
</tr>
<tr>
<td>4</td>
<td>10,890</td>
<td>104</td>
</tr>
<tr>
<td>5</td>
<td>8,712</td>
<td>93</td>
</tr>
<tr>
<td>6</td>
<td>7,260</td>
<td>85</td>
</tr>
<tr>
<td>10</td>
<td>4,356</td>
<td>66</td>
</tr>
<tr>
<td>15</td>
<td>2,571</td>
<td>51</td>
</tr>
<tr>
<td>20</td>
<td>2,178</td>
<td>47</td>
</tr>
</tbody>
</table>

**Note:** This table gives the size of camp or picnic sites for various numbers per acre, assuming site of equal size and square in layout. Thus the side length of the site area gives the approximate spacing, center-to-center, that could be expected. Interspersion of usable by non-usable land would increase the spacing. Roads would account for 10 - 20% of the area devoted to each site, depending on number of sites per acre, road-width and lay-out.
### APPENDIX 5

**Cost of Development of Camp and Picnic Sites in the United States***

<table>
<thead>
<tr>
<th>Item</th>
<th>Max.</th>
<th>Min.</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table &amp; bench unit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wood</td>
<td>$48</td>
<td>$25</td>
<td></td>
</tr>
<tr>
<td>Wood and concrete</td>
<td>70</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Fireplace</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iron and concrete</td>
<td>35</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Barbecue type</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barriers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wood (per foot)</td>
<td>3</td>
<td>-</td>
<td>log fixed to concrete post</td>
</tr>
<tr>
<td>Kerbing on asphalt (per foot)</td>
<td>.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site preparation (per acre)</td>
<td>500</td>
<td>70</td>
<td>variation due to terrain and access</td>
</tr>
<tr>
<td>Plants for screening (per plant)</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Garbage cans</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal</td>
<td>10</td>
<td>5</td>
<td>substantial stands necessary</td>
</tr>
<tr>
<td>Bear proof</td>
<td>40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sanitary dumping Station</td>
<td>1,500</td>
<td></td>
<td>includes loop road, tanks, signs</td>
</tr>
<tr>
<td>Toilets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(per seat) pit</td>
<td>500</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>Comfort Station</td>
<td>22,000</td>
<td>10,000</td>
<td>Cost depends on facilities provided. (Usually 3 toilets, 3 basins/sex.) May include showers and laundry.</td>
</tr>
<tr>
<td>Signs (each)</td>
<td>8</td>
<td></td>
<td>$1.75 per site</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(continued)</td>
</tr>
</tbody>
</table>

(-) denotes no data available  
** Includes installation costs

*Source: National Park Service, Bureau of Reclamation, Oregon State Parks Commission, Montana State Parks*
## Cost of Development of Camp and Picnic Sites in the United States

<table>
<thead>
<tr>
<th>Item</th>
<th>Max.</th>
<th>Min.</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utility hook-ups</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(per site) (water, electricity, sewage)</td>
<td>$1,000</td>
<td>-</td>
<td>may include hard-top</td>
</tr>
<tr>
<td>Trailer power hook-up</td>
<td>250</td>
<td>-</td>
<td>includes meter</td>
</tr>
<tr>
<td>(per site)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roading (blacktop)</td>
<td>35,000</td>
<td>5,000</td>
<td>cost depends largely on terrain</td>
</tr>
<tr>
<td>(per mile)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trails - per mile</td>
<td>1,800</td>
<td>600</td>
<td>3-4 ft. width</td>
</tr>
<tr>
<td>(dirt-covered)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(asphalt)</td>
<td>23,000</td>
<td>3,000</td>
<td>5 ft. width</td>
</tr>
<tr>
<td>(wood walks)</td>
<td>31,000</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Outlay per camp unit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No utility hook-ups</td>
<td>2,000</td>
<td>800</td>
<td>cost depends on size of campground, location, topography, etc.</td>
</tr>
<tr>
<td>With utility hook-ups</td>
<td>3,000</td>
<td>2,000</td>
<td></td>
</tr>
</tbody>
</table>
### Fees Charged for Camp and Picnic Areas

<table>
<thead>
<tr>
<th>Facility</th>
<th>N.P.S.</th>
<th>Forest Service</th>
<th>California State Parks</th>
<th>Oregon State Parks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Camping</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Car with tent/night</td>
<td>x¹</td>
<td>free or 50¢</td>
<td>$2</td>
<td>1.50</td>
</tr>
<tr>
<td>Car with trailer/night</td>
<td>x</td>
<td>free or 50¢</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>Trailer Village (with utilities)</td>
<td>$1.75</td>
<td>?</td>
<td>$2.50</td>
<td>1.50</td>
</tr>
<tr>
<td><strong>Group Camping</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Per person/day</td>
<td>x</td>
<td>$0.50</td>
<td>?</td>
<td>.25</td>
</tr>
<tr>
<td><strong>Picnicking</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Per vehicle</td>
<td>x</td>
<td>free or 50¢</td>
<td>.50</td>
<td>free</td>
</tr>
<tr>
<td><strong>Group Picnicking</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Per person</td>
<td>x</td>
<td>approx. 10¢ Adults: $0.25</td>
<td>Youths: $0.10</td>
<td>free</td>
</tr>
<tr>
<td><strong>Season Ticket</strong></td>
<td>$2 per</td>
<td>$2 per</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nat. Park</td>
<td>Nat. Forest</td>
<td>None</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td><strong>For All Federal Areas</strong></td>
<td>Land and Water Conservation Fund Sticker:</td>
<td>$7 per car.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹x denotes charge included in entrance fee.
²See Table 3 for explanation.
³Source: Various authorities' publications.
DESIGN OF RECREATION FACILITIES IN THE UNITED STATES

Below is given the design details of some of the on-site facilities commonly found at campsites and other outdoor recreation areas in the United States. As in other sections of this thesis, the information relates to the National Park Service, the Forest Service, and the parks systems of Oregon and California.

Materials and Colors

Seldom are any materials or colors absolutely banned from use, although their applicability depends largely on the siting and the function intended. For example, wooden construction is generally more suitable in a forest environment, whereas stone, concrete and even asbestos might be more suitable on the sea-shore or in a desert area. All authorities under consideration have preferences for subdued and pastel colors, with browns and greens the most popular. The Forest Service bans bright colors, and considers stains preferable to paints. In many cases, stains can be easily incorporated into wood preservatives, and their dual treatment is an economic saving. With the greater acceptability of modern designs and techniques, the previously rigid regulations are becoming more flexible.

Details of Facilities Provided

The style, materials, colors, etc., of facilities provided by different authorities vary. Below are given descriptions of some of

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1The information in this Appendix relates to Chapter Two.
APPENDIX 7 - continued

The table-bench combination is almost symbolic of recreation developments in American forests. Unless available, few Americans would consider an area developed at all, and many would take exception to sitting on the ground to picnic. The number of designs is very large, but they are all of the same basic styling (see photo 4) - that is a table 6-10 feet long with bench seats either side. Often they are of all-wood construction; others are concrete, or concrete and wood, or metal and wood. The stouter types are generally unmoveable, and hence their siting is important. Moveable tables are of lighter construction, cheaper, and permit the user to arrange his site to meet his own requirements - e.g. put the table in the shade on a hot day. Conversely, moveable tables are more subject to vandalism, such as burning over the fire-place, or even total removal!

Fireplaces

The main function of a fireplace is to contain a fire, both to prevent its spreading, and to avoid multiple scarring of the ground, by successive users. Types provided vary enormously, from a simple circle of stones at a primitive site, to elaborate stone, cement and iron cooking-ranges at group picnic sites. The type most common at family picnic and camp units is a metal grill anchored on a concrete base (see photo 4).

No matter what type is provided, none is ideal and each has its band of champions and antagonists. For cooking, many of the fixed-grill
types are too high, so that a veritable bonfire is necessary in order to boil a kettle. A type coming into favor with many authorities and users is a hinged or "flip-top" cast iron fireplace on a concrete base. A wide range of temperatures is possible, a good draught encouraged, and it can be hinged up to give space for a warming fire (see photo 7).

Another form of fireplace that is gaining in popularity is the barbecue type. This consists of a fire-box and grill situated about three feet from the ground on an iron post. It can be turned into the wind, and is at a height that obviates bending down to cook. Its popularity is due to the prior familiarity of large numbers of suburban dwellers, for whom barbecuing steak on the patio is a popular pastime. With the recreation site administrators it owes its appeal to its small consumption of wood, its ability to use charcoal (carried by many users), and its decreased risk of spreading fire or ashes (see photo 8).

**Fuel**

Both the Forest Service and the National Park Service supply firewood at most camp and picnic sites. Where in short supply, the Park Service may request concessionaires to sell it. In the California State Parks it is sold in bundles.

In the national parks, wood must often be brought in considerable distances, since it is generally the Service's policy not to cut timber within the parks. To cut costs, encourage users to be sparing, and to prevent wholesale removal of logs in car trunks, the wood is usually supplied in large logs, for the user to split for himself.
Electric Cooking Facilities

An alternative to cooking on open fires is the provision by some state park services of electric hot-plates, operated on the dime-in-the-slot basis. These are probably a gratefully received addition in group picnic sites, where cooking is probably of greater importance than the "play" aspect of campfires (see Photo 6).

Toilets

Toilets were perhaps the first "amenities" provided at recreation areas. Even before the last war they were considered an essential, if not the most important development in national parks! (96). Since those days they have faded into the background and are euphemistically called "rest rooms" and "comfort stations."

At all public areas, the design of sanitary facilities must be up to standards set by the U. S. Public Health Service. These specify standards of cleanliness, ventilation, etc.

The type of toilet provided depends largely on the number of people to be accommodated, and the accessibility of the location. Remote, trailside campsites usually have chemical toilets, and serve both sexes. Less remote areas may have either chemical or pit toilets. The pits need servicing at least once a season and are of concrete or steel construction.

The trend in all areas is to provide flush toilets, both to meet a more demanding public, and to limit long-term maintenance and operating costs. The situating of multiple facilities under one roof lowers the per-item cost, and limits the number of buildings at a
recreation area. Consequently, we find at the most highly-developed areas "utility buildings", with toilets, hand-basins, and hot showers for each sex, together with common laundry facilities, and even coin-in-the-slot automatic washing machines. Such facilities greatly help people on an extended camping vacation, especially those with children (see photo 9).

So far, it has been National Park Service and Forest Service policy not to provide hot showers or laundry facilities or even hot water at federal expense, even though these could be operated on a paying system. Where thought necessary, concessionaires have been permitted to operate them, usually with other facilities such as shops, restaurants, etc. A charge of 50¢ for each is commonplace. These attitudes towards encouraging spartanism in the traveling public might change, especially since hot water, showers, and laundry facilities are provided at many state parks.

Numbers of facilities and their distribution are given in Appendix 3.

Sanitary Stations

"Sanitary stations" is the term applied to the facilities for disposal of the toilet wastes from trailers and pick-up campers. Usually they consist of a concrete apron over a cesspit or drain, and flexible hose for flushing the trailer's system and the apron. Usually the drain has a cover.

Provision of a sanitary station at a campground permits the use by trailers and campers, which, as we have seen are increasing in
numbers each season. It provides a very economical alternative to the installation of sewer hook-ups at the camping units, and for most users is an acceptable means of waste disposal. Unless provided there is a danger that campers may dispose of waste on the ground, and produce very unsanitary conditions.

**Garbage Cans**

Garbage cans are provided even at the most remote camp and picnic areas. They are seen as a necessary evil, and increasingly so, due to the growing trend for food and other material to be wrapped in large quantities of paper, tinfoil, and plastic.

The two federal services encourage campers to burn whatever is burnable, but even so, large quantities of trash are produced. Emptying of garbage cans is an expensive item, especially in the more remote areas.

Usually, garbage cans are situated within 150 feet of any unit, near the road (to facilitate easy servicing). Despite this indulgence in the public, removal of litter from the whole area is an unfortunate necessity. The grey squirrel who could once cross from Atlantic to Pacific jumping from tree to tree could now perform this feat by jumping from beer-can to beer-can.

**Water Taps**

Usually potable water is freely available at all sites. The distribution of water taps at sites has been discussed above. They are situated on wooden or concrete posts, and often associated with soak-aways or waste-water drains. Due to heavy use and splashed water, the immediate
neighborhood of taps is usually graveled or surfaced.

**Roads**

The purpose and layout of roads have been discussed above. Suffice it to say here that the more heavily an area is used, the more its roads take on the appearance of public highways. Not only do they become wider (12 feet and 20 feet width for single and two-way roads respectively), but their surface needs hardening. Although most authorities prefer to design facilities which blend in with the scenery, expensive paving with bituminous asphalt is considered necessary to prevent dust and expensive maintenance.

With the increase in the size and numbers of trailers, the grade and radius of curves must be kept within strict limits. Usually these are 10 percent and 50 feet respectively.

**Barriers**

Barriers are to prevent wheeled transport from leaving the paved roads and parking places are seen as necessary for the preservation of vegetation, especially in heavily used areas. Natural features, such as rocks, trees and stumps are used wherever possible, but usually supplemented by artificial ones. Barriers include wooden and concrete posts, wooden logs anchored on posts, concrete or stone kerbing, and other combinations. If too many of a single type are used, the area may resemble a grave-yard (see photo 10). If obvious, (and the Forest Service is often most guilty on this count), it would seem that the concept of freedom is diminished. For this reason, the utilization of ditches, fallen trees and road kerbing merits greater investigation.
Screening, and Other Vegetation Treatment

Where vegetation at camp and picnic sites is lacking or insufficient for adequate screening between units, many authorities supplement it by planting. By decreasing the foot-traffic between units, the California Parks Service find that planted vegetation retards the deterioration of the site (20). Both they and the Oregon State Parks Service like to have such vegetation established before the opening of an area. To encourage plant growth, and to protect plants in their early years, wooden fencing is often used either side of these vegetation barriers, and are kept in place for about five years.

An indication of the public's desire for privacy is the erection of canvas screens by campers at sites where vegetation is lacking.

In heavily used areas, grass is often sown, and regularly watered. Some park planners have gone so far as to include watersprinklers in the design of camp and picnic grounds.
### APPENDIX 8

**Approximate Campsite Standards for Two Forestry Commission Campsites**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Tents and/or caravans per usable acre.</td>
<td>50</td>
</tr>
<tr>
<td>No. of garbage cans per acre.</td>
<td>7 - 8</td>
</tr>
<tr>
<td>No. of water taps per acre.</td>
<td>1/3 - 1/2</td>
</tr>
<tr>
<td>No. of sites per toilet fixture.</td>
<td>6 - 9</td>
</tr>
</tbody>
</table>

1Source: Data obtained by analysis of Forestry Commission information on 3 campsites.
### Area and Population of the Ten National Parks In Great Britain

<table>
<thead>
<tr>
<th>Park and date of establishment</th>
<th>Area in sq. miles</th>
<th>Estimated population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak District (1951)</td>
<td>542</td>
<td>43,500</td>
</tr>
<tr>
<td>Lake District (1951)</td>
<td>866</td>
<td>44,000</td>
</tr>
<tr>
<td>Snowdonia (1951)</td>
<td>845</td>
<td>30,000</td>
</tr>
<tr>
<td>Dartmoor (1951)</td>
<td>365</td>
<td>28,500</td>
</tr>
<tr>
<td>Pembrokeshire Coast (1952)</td>
<td>225</td>
<td>22,200</td>
</tr>
<tr>
<td>North York Moors (1952)</td>
<td>553</td>
<td>23,000</td>
</tr>
<tr>
<td>Yorkshire Dales (1954)</td>
<td>680</td>
<td>19,300</td>
</tr>
<tr>
<td>Exmoor (1954)</td>
<td>265</td>
<td>14,400</td>
</tr>
<tr>
<td>Northumberland (1956)</td>
<td>398</td>
<td>2,500</td>
</tr>
<tr>
<td>Brecon Beacons (1957)</td>
<td>515</td>
<td>31,700</td>
</tr>
<tr>
<td>All National Parks</td>
<td>5,254</td>
<td>259,100</td>
</tr>
<tr>
<td>Totals for England and Wales</td>
<td>58,020</td>
<td>45,755,000</td>
</tr>
<tr>
<td>Totals for Great Britain</td>
<td>87,812</td>
<td>52,700,000</td>
</tr>
</tbody>
</table>

1Source: H. C. Darby, 1961, p. 27

The National Parks Act does not apply to Scotland, except for Part Three which relates to Nature Conservancy. Consequently, there are no National Parks in Scotland.
APPENDIX II

Map of England and Wales

National Parks, Associated Establishments, and Major Population Centers

Source: From Darty, H.C. (31).